Racks & Integrated Cabinets for Business-Critical Continuity™

Knürr IT Special Catalog

Networks and Data Centers

As at: July 2012

EMERSON™
Network Power

Emerson Network Power

Business-Critical Continuity™- so your success continues

Core competencies:

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power
- Infrastructure Management & Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

No company, no matter how big it is, can afford business-critical system failures.

Over the years we at Emerson Network Power have acquired unique know-how, and with our name we represent reliable rack systems, power supply, precision cooling, connectivity and integrated solutions. We can consequently ensure that you generate optimum benefits from your technology investments.

Thanks to Emerson Network Power's technology range and expansive competencies, the entire bandwidth of company-wide solutions is supported for today's critical business requirements. Customers all over the world build on our support for future-proof investments, because they know that we offer globally specific innovations and optimized solutions from one single source – supported by reliable local service and support.

We can ensure the stable operation of your network infrastructure – regardless of whether voice, data or multimedia content are transmitted.

This is based on a proven, comprehensive portfolio of products, services and systems which supports a multitude of computing, telecommunications, health care and industrial applications. This creates a foundation of trust that is only possible with a partnership with Emerson Network Power.

Our assignment is to prepare you for the unknown and the unexpected. We show you the way against the background of dynamic changes in your business environment. And we help you to master the requirements this entails and avail of the greatest possible benefits from your technology investments. This is what we mean by Business-Critical Continuity™.

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*For decades now **Emerson Network Power** has been a recognized global leader in the business-critical systems segment. The most successful companies in the world build on our solutions, technologies and services.*

Market-leading data center technologies for your company.

Business information is more important today than ever for companies of every size. Data centers form the backbone for business processes to run on. And the same challenges appear in absolutely every data center. Increasing heat densities. Growing requirements for reliable power supply. Faster technological change. Cost pressure and lack of space.

Knürr provides comprehensive products and services for all requirements –from compact racks and computer rooms, right through to global data centers.

On the basis of the specific requirements of different data centers, Emerson Network Power has developed a specific, ready-made solution – rack systems with integrated thermal management, power supply, cooling and monitoring. We also provide optional services and on-site expertise and support. We consequently ensure that you can easily order, configure, manage and implement your Knürr solution with no problems whatsoever.

Integrated solutions. Integrated benefits. Integrated energy efficiency.

Together with Knürr and other divisions, only Emerson Network Power can provide the benefits of a fully integrated and prefabricated solution that covers all requirements – from the rack right through to the entire room. With us you get all your products and services from one single source. You can also rest assured that all components interact with one another perfectly.

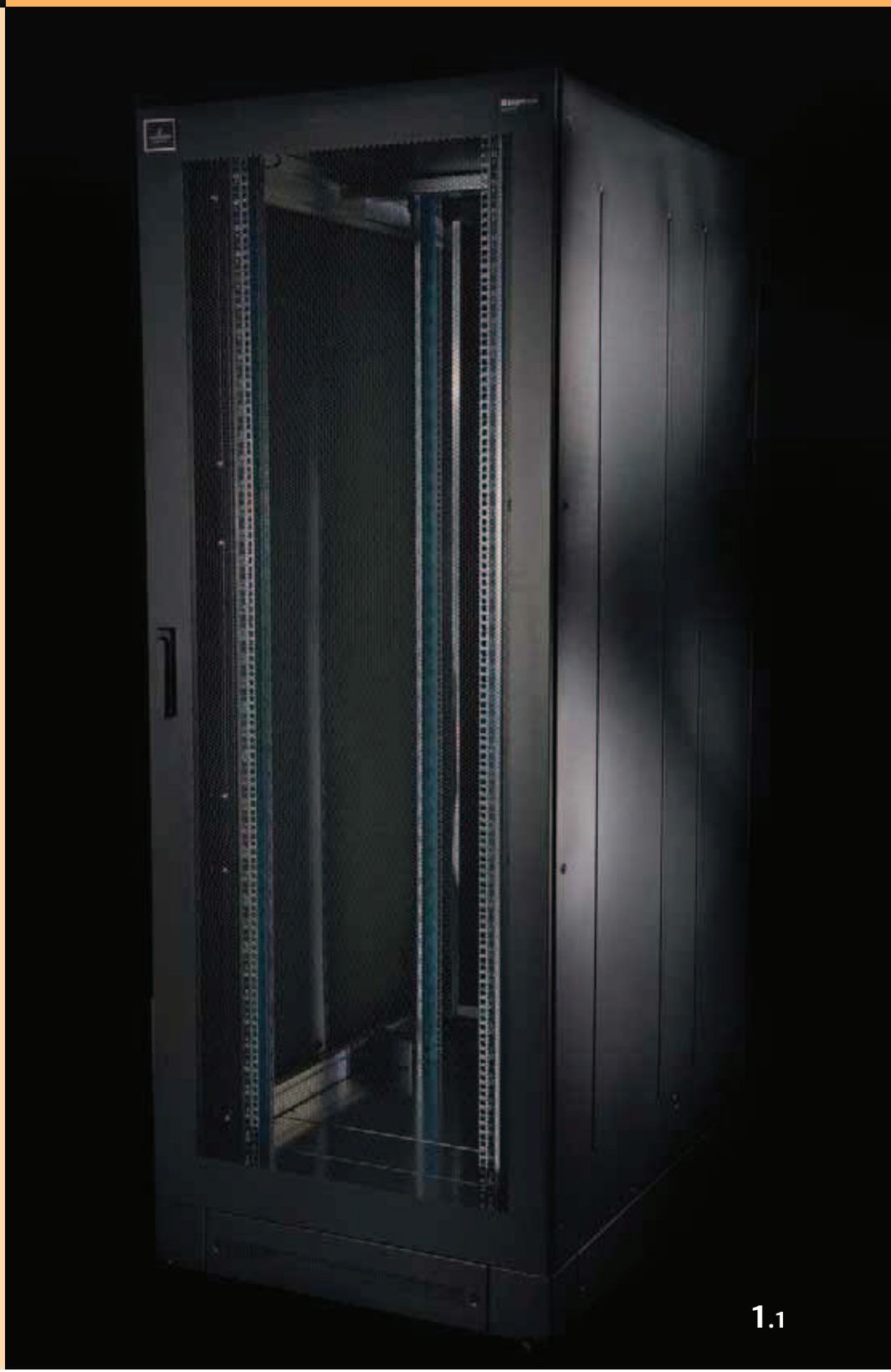
- Reliability — Proven business-critical technologies that minimize failure sources (single points of failure) guarantee the greatest possible reliability for your IT systems. You can rest assured that your infrastructure is in good hands.
- From one single source — One central provider for the provision, configuration, installation and support of your products and technologies – a call is all it takes.
- Integration — From the rack through to the entire room – our products and services form one entirely integrated holistic system. All ready-to-use products that carry our name are configured for optimum interaction.
- Technical support — Where required on-site and factory-side support are provided by application specialists. In terms of numbers alone Emerson Network Power has the world's strongest team of customer service specialists, trained directly in the factory. They have the know-how and product knowledge to guarantee the highest possible availability, and in emergencies they will ensure the fastest possible recovery.
- Flexible configuration options — Your IT requirements change continuously. Our products and technologies can be flexibly adjusted and provide you with a cost-effective option to support your growth – so the unexpected won't upset your course.
- Energy efficiency — This has always been one of our obligations for our customers, which is why we provide "Green IT" solutions that set standards on the ITC market. The result – a data center infrastructure that stays abreast of current and future requirements.

Knürr DCM®

19” Server Rack System

19” Heavy Duty Rack

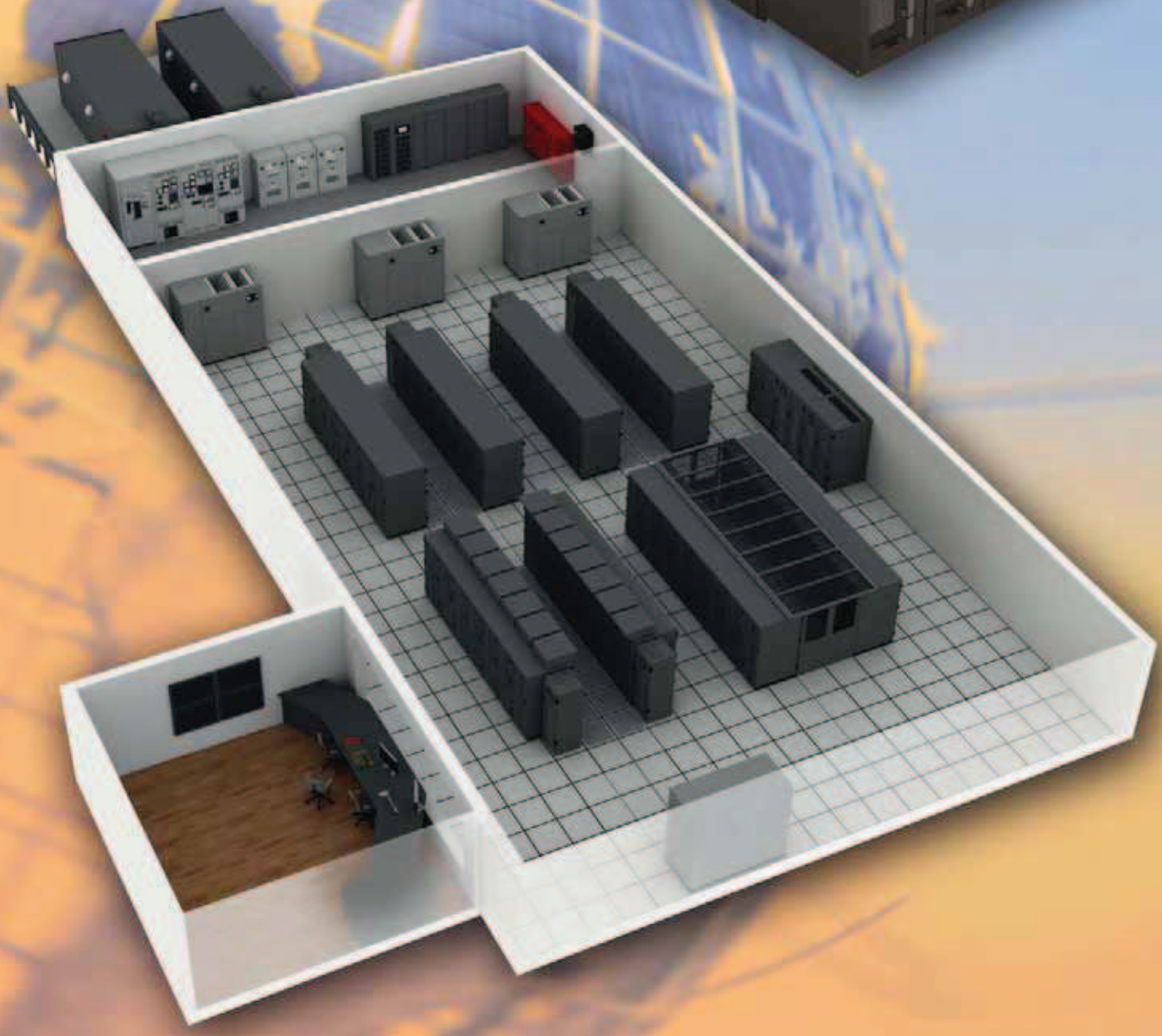
1.2 to 1.9



Knürr DCM® conquers the world

Standardization in the data center begins with the Knürr DCM®!

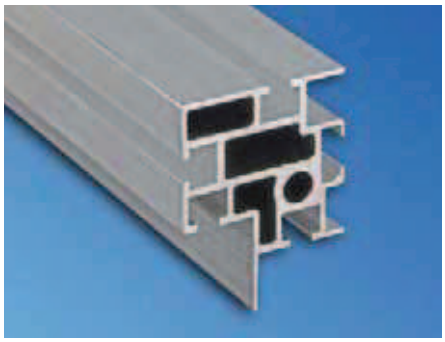
The Knürr DCM® is the modular building block for all "in the row" applications of Emerson Network Power's products. This means that linked racks in a rack suite work in perfect unison, as server racks, power racks, or as storage racks.



Knürr DCM® – impressive rack dimensions

The right rack size for every application

- **Knürr Data Center Module**
  The Knürr DCM® is the globally available rack from Emerson Network Power. Available all over the world for standardized data center planning.
- **Global standard**
  The 2,000 mm height and 1,100 mm depth rack version is the global platform for rack suites at Emerson Network Power. Cooling racks, power racks and server racks on the basis of the Knürr DCM® platform guarantee integration into the rack suite.
- **Metric measurements**
  For global application
- **Stable and secure**
  DCM® earthquake-tested version available on request.



1 DCM20059

3 DCM20030

Knürr DCM®
Strong points

1 **New Heavy Duty Rack**
Increased stability over the classic Miracel® for static load of 1,500 kg and more.
Use of recently designed more stable extrusions and new, heavier duty corner joints.

2 **Threaded connection system**
Dismantling the rack guarantees easy accessibility, even to the most restricted areas.

3 **Light aluminum frame**
Easier, lighter transport due to lower weight

4 **Convenient**
Door mounting without tools

5 **Low heavy duty castors**
Rack can also be safely equipped and conveniently pushed as required

Integrated tilt restraint
Quick and easy and easy installation and deinstallation

6 **Cable management**
Guaranteed orderly and space-saving cable management.
Adjustment to installation site; cable management can be selected from an extensive range of accessory components.

7 **Biggest possible perforation**
For improved airflow

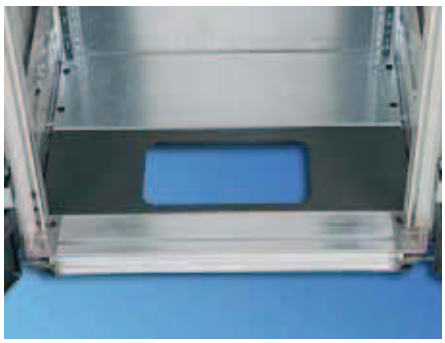
No more depth braces
PDUs and cable management can also be housed in the space between the 19” level and the side panel

8 **Depth-adjustable air separation**
Cold/warm separation seals on the side panels and can therefore simply be shifted in depth

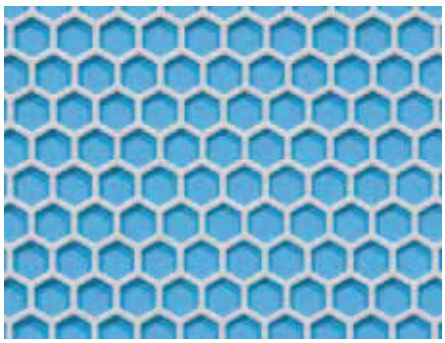
2 DCM20008

4 DCM20006

5 DCM20028



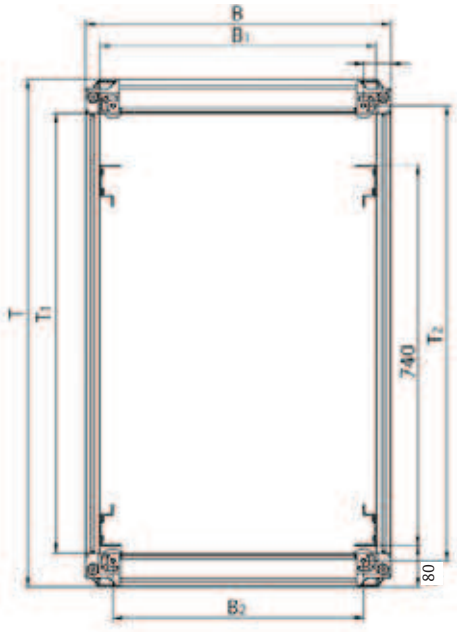
6 DCM20027

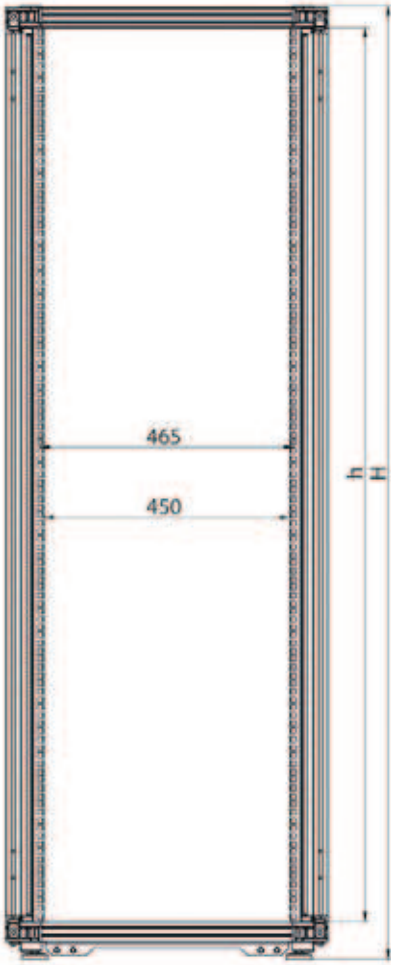


7 MIR20265

8 DCM20000

Knürr DCM®
Technical data





DCM

Material
- Extruded aluminum
- Corner piece, die-cast aluminum
- Covers, sheet steel, zinc-passivated
- Sheet steel doors

Installation dimensions in acc. with IEC 60297
- Height: 42 U / 47 U (1 U = 44.45 mm)
- Width: 482.6 mm (19" construction)

Space solution
- Front jumpering space, 80 mm
- Door opening angle – 130° in the rack suite and 180° as individual rack

Configurations
- Stationary, on leveling feet
- Mobile with castor mounting an leveling feet

Finish /Color
- Basic rack, polished
- Visible surface of covers, powder-coated, dark gray RAL7021

Static load rating
- 15,000 N (stationary model)
- 10,000 N (mobile model)

Tests according to version
- IP test in acc. with DIN EN 60529
- Equipotential bonding and grounding in acc. with:
  DIN EN 60950-1/A11
  IEC 60950-1
  UL 60950-1
  CAN/CSA C22.2 No. 60950-1

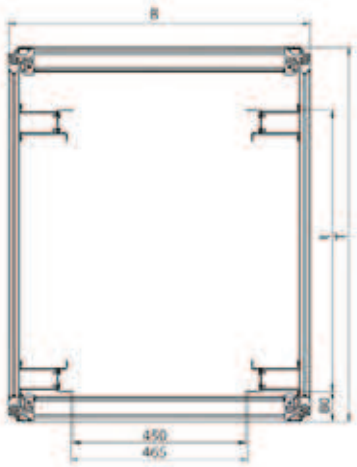
Further standards and tests on request.

Rack suites
To create a rack suite with "n" racks, you require:
- n-1 racks without side panels and 1 rack with side panels
- In a rack suite, per connection you require one set of rack connectors

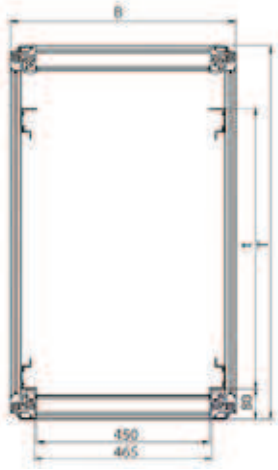
Nom. dim.	W	W_1	W_2	D	D_1	D_2
W 600 / D 1000	591	535	485	986	856	885
W 600 / D 1100	591	535	485	1086	956	985
W 600 / D 1200	591	535	485	1186	1056	1085
W 800 / D 1000	791	735	685	986	856	885
W 800 / D 1100	791	735	685	1086	956	985
W 800 / D 1200	791	735	685	1186	1056	1085

Nom. height	H	h
H 2000	1996	1872.60
H 2200	2218	2094.85

DCM20003



DCM20063 **Cross section width 800 mm**



DCM20062 **Cross section width 600 mm**

Knürr DCM® 19" Heavy Duty Server Rack
Width 600 and 800, stationary

- Perforated front door
- Perforated rear double door
- Special 19" server extrusions for mounting all trade standard 19" servers
- Components in acc. with IEC 60297
- Cable entry via top cover and bottom cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling

Jumpering space
At the front: 80 mm

Load rating
15,000 N static

Protection rating
IP 20

Tests
- Equipotential bonding and grounding in acc. with DIN EN 60950
- IP test in acc. with DIN EN 60529

Airflow circulation
- Perforation: 83 %

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Doors, sheet steel, powder-coated texture
- Covers, zinc-passivated sheet steel, powder-coated texture
- EIA racks sheet steel 2,5 mm, zinc-passivated

Color
Visible surface of covers
RAL 7021 dark gray

Supply schedule
1 basic rack
4 19" server extrusions, sheet steel incl. U marking
2 side panels with quick connectors
1 top cover with cable entry (three-piece sliding plates, can also be opened completely)
1 front door, single, perforated with handle and mounting for cylinder lock
1 rear door, double, perforated, sheet steel, with handle and mounting for cylinder lock
4 leveling feet
1 complete earthing test

How supplied
Assembled

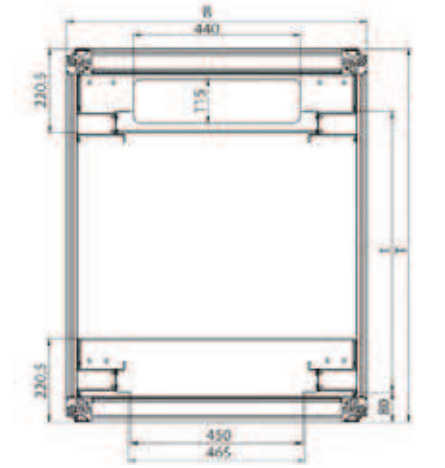
Note
Also order mounting adapters for 19" server extrusion for mounting Knürr accessories.
(See page 1.9)

W	H	D	U	d	Model	Order no.	UP
600	2000	1000	42	740	Stationary, with side panels	**DB6ECGSSCFBXXX8**	1 unit
600	2000	1100	42	740	Stationary, with side panels	**DB6FCGSSCFBXXX8**	1 unit
600	2000	1200	42	740	Stationary, with side panels	**DB6GCGSSCFBXXX8**	1 unit
600	2200	1000	47	740	Stationary, with side panels	**DD6ECGSSCFBXXX8**	1 unit
600	2200	1100	47	740	Stationary, with side panels	**DD6FCGSSCFBXXX8**	1 unit
600	2200	1200	47	740	Stationary, with side panels	**DD6GCGSSCFBXXX8**	1 unit
600	2000	1000	42	740	Stationary, no side panels	**DB6ECGSSCFXXXX8**	1 unit
600	2000	1100	42	740	Stationary, no side panels	**DB6FCGSSCFXXXX8**	1 unit
600	2000	1200	42	740	Stationary, no side panels	**DB6FCGSSCFXXXX8**	1 unit
600	2200	1000	47	740	Stationary, no side panels	**DD6ECGSSCFXXXX8**	1 unit
600	2200	1100	47	740	Stationary, no side panels	**DD6FCGSSCFXXXX8**	1 unit
600	2200	1200	47	740	Stationary, no side panels	**DD6GCGSSCFXXXX8**	1 unit
800	2000	1000	42	740	Stationary, with side panels	**DB8ECGSSCFBXXX8**	1 unit
800	2000	1100	42	740	Stationary, with side panels	**DB8FCGSSCFBXXX8**	1 unit
800	2000	1200	42	740	Stationary, with side panels	**DB8GCGSSCFBXXX8**	1 unit
800	2200	1000	47	740	Stationary, with side panels	**DD8ECGSSCFBXXX8**	1 unit
800	2200	1100	47	740	Stationary, with side panels	**DD8FCGSSCFBXXX8**	1 unit
800	2200	1200	47	740	Stationary, with side panels	**DD8GCGSSCFBXXX8**	1 unit
800	2000	1000	42	740	Stationary, no side panels	**DB8ECGSSCFXXXX8**	1 unit
800	2000	1100	42	740	Stationary, no side panels	**DB8FCGSSCFXXXX8**	1 unit
800	2000	1200	42	740	Stationary, no side panels	**DB8GCGSSCFXXXX8**	1 unit
800	2200	1000	47	740	Stationary, no side panels	**DD8ECGSSCFXXXX8**	1 unit
800	2200	1100	47	740	Stationary, no side panels	**DD8FCGSSCFXXXX8**	1 unit
800	2200	1200	47	740	Stationary, no side panels	**DD8GCGSSCFXXXX8**	1 unit

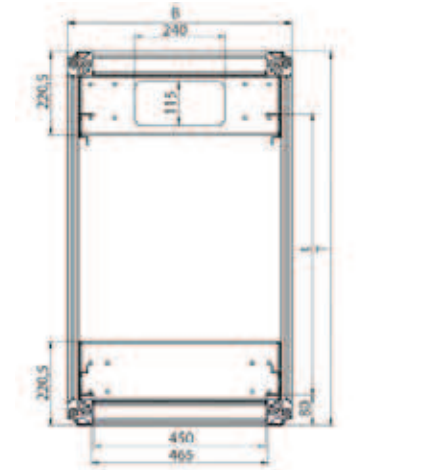
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

DCM20022



DCM20065 **Cross section width 800 mm**



DCM20064 **Cross section width 600 mm**

Knürr DCM® 19" Heavy Duty Server Rack
Widths 600 and 800, mobile

- Perforated front door
- Perforated rear double door
- Special 19" server extrusions for mounting all trade standard 19" servers
- Components in acc. with IEC 60297
- **Mobile, heavy duty castors** with high floor clearance
- Cable entry via top cover and bottom cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling

Jumpering space
At the front: 80 mm

Load rating
15,000 N static
10,000 N mobile in data center with load

Protection rating
IP 20

Tests
- Equipotential bonding and grounding in acc. with DIN EN 60950
- IP test in acc. with DIN EN 60529

Airflow circulation
- Perforation: 83 %

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Doors, sheet steel, powder-coated texture
- Covers, zinc-passivated sheet steel, powder-coated texture
- EIA racks sheet steel 2,5 mm, zinc-passivated

Color
Visible surface of covers
RAL 7021 dark gray

Supply schedule
1 basic rack
4 19" server extrusions, sheet steel incl. U marking
2 side panels with quick connectors
1 top cover with cable entry (three-piece sliding plates, can also be opened completely)
1 front door, single, perforated with handle, mounting for cylinder lock
1 rear door, double, perforated, sheet steel, with handle and mounting for cylinder lock
2 castor mounts with heavy duty castors with integrated cable entry
4 leveling feet
1 complete earthing test

How supplied
Assembled

Note
Also order mounting adapters for 19" server extrusion for mounting Knürr accessories. (See page 1.9)

W	H	D	U	d	Model	Order no.	UP
600	2000	1000	42	740	Mobile, with side panels	**DB6ECGSSCRBXXX8**	1 unit
600	2000	1100	42	740	Mobile, with side panels	**DB6FCGSSCRBXXX8**	1 unit
600	2000	1200	42	740	Mobile, with side panels	**DB6GCGSSCRBXXX8**	1 unit
600	2200	1000	47	740	Mobile, with side panels	**DD6ECGSSCRBXXX8**	1 unit
600	2200	1100	47	740	Mobile, with side panels	**DD6FCGSSCRBXXX8**	1 unit
600	2200	1200	47	740	Mobile, with side panels	**DD6GCGSSCRBXXX8**	1 unit
600	2000	1000	42	740	Mobile, no side panels	**DB6ECGSSCRXXXX8**	1 unit
600	2000	1100	42	740	Mobile, no side panels	**DB6FCGSSCRXXXX8**	1 unit
600	2000	1200	42	740	Mobile, no side panels	**DB6GCGSSCRXXXX8**	1 unit
600	2200	1000	47	740	Mobile, no side panels	**DD6ECGSSCRXXXX8**	1 unit
600	2200	1100	47	740	Mobile, no side panels	**DD6FCGSSCRXXXX8**	1 unit
600	2200	1200	47	740	Mobile, no side panels	**DD6GCGSSCRXXXX8**	1 unit
800	2000	1000	42	740	Mobile, with side panels	**DB8ECGSSCRBXXX8**	1 unit
800	2000	1100	42	740	Mobile, with side panels	**DB8FCGSSCRBXXX8**	1 unit
800	2000	1200	42	740	Mobile, with side panels	**DB8GCGSSCRBXXX8**	1 unit
800	2200	1000	47	740	Mobile, with side panels	**DD8ECGSSCRBXXX8**	1 unit
800	2200	1100	47	740	Mobile, with side panels	**DD8ECGSSCRBXXX8**	1 unit
800	2200	1200	47	740	Mobile, with side panels	**DD8GCGSSCRBXXX8**	1 unit
800	2000	1000	42	740	Mobile, no side panels	**DB8ECGSSCRXXXX8**	1 unit
800	2000	1100	42	740	Mobile, no side panels	**DB8FCGSSCRXXXX8**	1 unit
800	2000	1200	42	740	Mobile, no side panels	**DB8GCGSSCRXXXX8**	1 unit
800	2200	1000	47	740	Mobile, no side panels	**DD8ECGSSCRXXXX8**	1 unit
800	2200	1100	47	740	Mobile, no side panels	**DD8FCGSSCRXXXX8**	1 unit
800	2200	1200	47	740	Mobile, no side panels	**DD8GCGSSCRXXXX8**	1 unit

DCM20037

DCM® Heavy Duty Plinth, stationary, height 100 mm

- Stationary
- Cable entry possible from all sides
- Panels front and rear with vent slots and installation option for filter mat

Load rating
10,000 N static

Material
Sheet steel

Finish
Powder-coated texture, RAL 7021

Supply schedule
4 plinth corners with leveling
2 plinth panels with slots
2 plinth panels closed on the side
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
600	100	1000		**01.147.738.8**	1 unit
600	100	1100		**01.147.739.8**	1 unit
600	100	1200		**01.147.740.8**	1 unit
800	100	1000		**01.147.746.8**	1 unit
800	100	1100		**01.147.747.8**	1 unit
800	100	1200		**01.147.748.8**	1 unit

DCM20037b

DCM® Heavy Duty Plinth, stationary, height 200 mm

- Stationary incl. leveling option
- Cable entry possible from all sides
- Panels front and rear with vent slots and installation option for filter mat

Load rating
10,000 N static

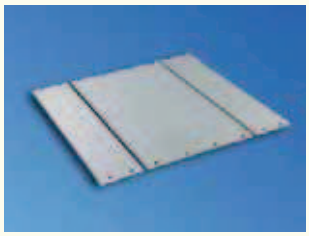
Material
Sheet steel

Finish
Powder-coated texture, RAL 7021

Supply schedule
4 plinth corners, incl. leveling feet
8 panels
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
600	200	1000		**01.147.788.8**	1 unit
600	200	1100		**01.147.789.8**	1 unit
600	200	1200		**01.147.790.8**	1 unit
800	200	1000		**01.147.796.8**	1 unit
800	200	1100		**01.147.797.8**	1 unit
800	200	1200		**01.147.798.8**	1 unit


DCM20032

DCM® Bottom Cover, 3-piece

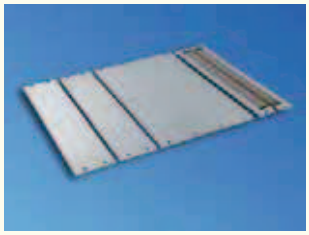
- For covering the rack underside
- For flexible cable entry on the front and rear
- For racks **with** castor mounting

Material/finish
Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
3 bottom covers
2 mounting brackets
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
600		1000	No cable entry	**01.147.834.0**	1 unit
600		1100	No cable entry	**01.147.835.0**	1 unit
600		1200	No cable entry	**01.147.840.0**	1 unit
800		1000	No cable entry	**01.147.838.0**	1 unit
800		1100	No cable entry	**01.147.839.0**	1 unit
800		1200	No cable entry	**01.147.844.0**	1 unit


DCM20035

DCM® bottom cover for cable entry with rubber sealing

- For covering the rack underside
- With rubber sealing for flexible cable entry on the front and rear
- For racks **without** castor mounting

Material/finish
Sheet steel, 1.5 mm, zinc-passivated
Sponge rubber, 50 mm x 50 mm

Supply schedule
1 cable entry
3 bottom covers
2 mounting brackets
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
600		1000	With cable entry	**01.147.846.0**	1 unit
600		1100	With cable entry	**01.147.847.0**	1 unit
600		1200	With cable entry	**01.147.852.0**	1 unit
800		1000	With cable entry	**01.147.850.0**	1 unit
800		1100	With cable entry	**01.147.851.0**	1 unit
800		1200	With cable entry	**01.147.856.0**	1 unit

DCM20026

Tilt Restraint for DCM®

- Quick and easy mounting and removal
- Integrated in the DCM rack
- Use only as required

Supply schedule
2 anti-tilt restrainers

How supplied
Flat-packed kit

W	H	D	U	Model	Order no.	UP
					01.147.641.9	1 unit

DCM20052

DCM® Mounting Adapter for 19" server extrusion

- For mounting Knürr standard components (storage shelves, drawers, slot-in runners, keyboard runners, etc.) in 19" installation space

Material
Sheet steel, zinc-passivated 2,5 mm

Supply schedule
4 adapters

W	H	D	U	h	d	kg	Model	Order no.	UP
44	44	44	1					**01.147.640.9**	1 set

DCM20077

DCM20076

DCM® PDU Bracket

- For orderly cable management in the rack
- For hanging in trade-standard PDUs without tools
- Especially ideal for Knürr and Liebert PDUs

Material/finish
Sheet steel 1.5 mm, zinc passivated, powder-coated

Color
RAL 7021 dark gray

Dimensions
L 150 x W 28 mm

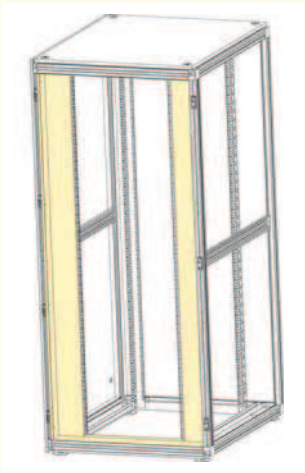
Supply schedule
1 PDU bracket
Mounting material

How supplied
Flat-packed kit

W	H	D	U	Model	Order no.	UP
150	2000	25	41		**01.147.816.8**	1 set
150	2200	25	47		**01.147.817.8**	1 set

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound


LUF20033a

DCM® air partitioning, closed

- Quick and easy cold/warm area separation upgrade in the rack
- Side panels closed
- Screwed on the side on the 19" extrusions
- Sealing to the side panels or to the same level in the linked rack with foam elements, consequently stepless depth adjustable

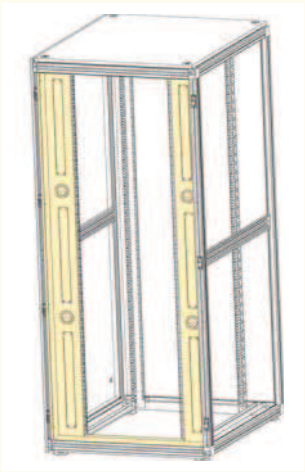
Material
Sheet steel

Cross brace finish/color
Powder-coated texture, RAL7021 dark gray

Supply schedule
2 side panels (W800 only)
2 foam vertical
1 panel, bottom
1 with foam, top
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
600	2000	20	No cut-outs, for racks with castor mounting	**01.147.898.8**	1 unit
600	2000	20	No cut-outs, for racks without castor mounting	**01.147.901.8**	1 unit
600	2200	20	No cut-outs, for racks with castor mounting	**01.147.899.8**	1 unit
600	2200	20	No cut-outs, for racks without castor mounting	**01.147.902.8**	1 unit
800	2000	20	No cut-outs, for racks with castor mounting	**01.147.889.8**	1 unit
800	2000	20	No cut-outs, for racks without castor mounting	**01.147.895.8**	1 unit
800	2200	20	No cut-outs, for racks with castor mounting	**01.147.890.8**	1 unit
800	2200	20	No cut-outs, for racks without castor mounting	**01.147.896.8**	1 unit


LUF20033b

DCM® air partitioning with 3x 1 U panels, vertical

- Quick and easy cold/warm area separation upgrade in the rack
- Side panels with 2 cut-outs each for cable routing
- 3 x 1 U cut-outs, covered with panels
- Screwed on the side on the 19" extrusions
- Sealing to the side panels or to the same level in the linked rack with foam elements, consequently stepless depth adjustable

Material
Sheet steel

Cross brace finish/color
Powder-coated texture, RAL7021 dark gray

Supply schedule
2 side panels
1 panel, top
1 with foam, top
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
800	2000	20	3x 1 U panels, for racks with castor mounting	**01.147.904.8**	1 unit
800	2000	20	3x 1 U panels, for racks with no castor mounting	**01.147.907.8**	1 unit
800	2200	20	3x 1 U panels, for racks with castor mounting	**01.147.905.8**	1 unit
800	2200	20	3x 1 U panels, for racks with no castor mounting	**01.147.908.8**	1 unit

Knürr Miracel®

19” Network and Server Rack Platform

1.12 to 1.22

19" Server Rack:

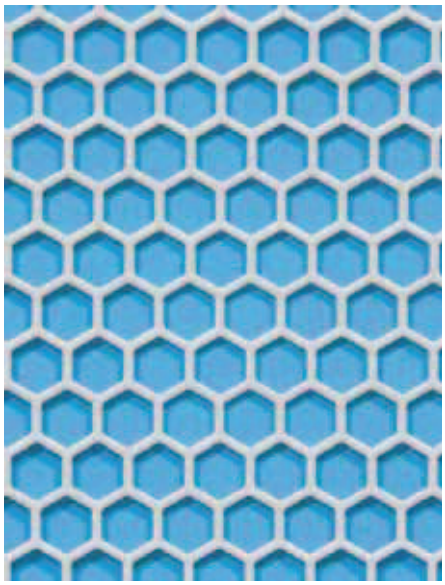
Knürr Miracel®
Strong points 1.13

Knürr Miracel® ASP
ASP/Server Rack 1.16

Knürr Miracel®
Server Rack 1.18

Knürr Miracel® Accessories
Vertical Panel 1.21
Cable Tray 1.21
Support Bracket 1.21
Plinth 1.21
Combi Lock 1.22
Lock Set 1.22
Extension Kit 1.22

Knürr Miracel®
Strong points



1 MIR20265

2 MIR20054

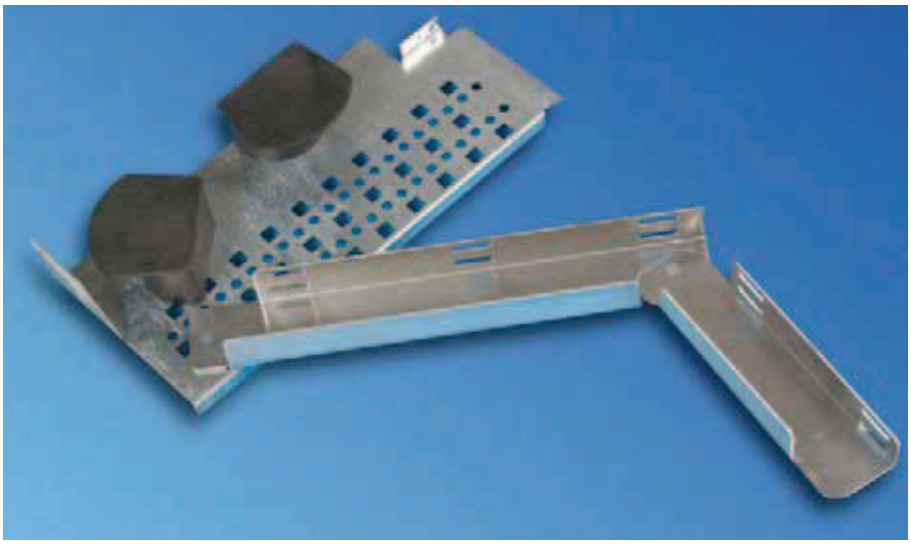
1 Different concepts and designs for airflow from front and rear. 83% perforation level guarantees optimum airflow.

2 Optional tilt restraint provides safety for service personnel. Also available integrated into the plinth.

3 Different variants for cable management enable adjustment to the set-up conditions.

4 Special server extrusions guarantee easy mounting of 19” servers of all manufacturers.

1 MIR00407



3 MIR20058

2 MIR20053

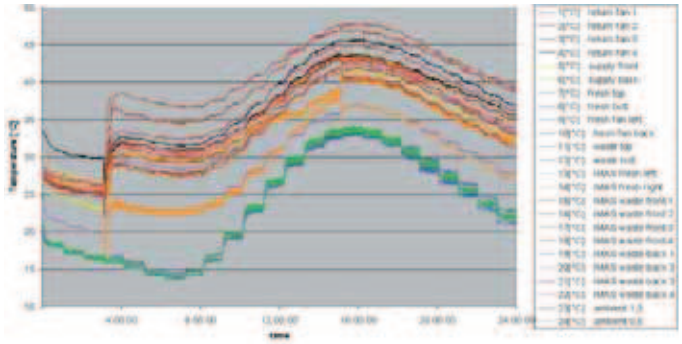
4 MIR20082

Proven safety with airflow measurements in the thermal management lab

TEC00279

Knürr products meet the requirements of most environmental influences: thermal, chemical and mechanical

- IP requirements
- Electro-Magnetic Compatibility
- Corrosive resistance
- Earthquake stability
- Environmental tests

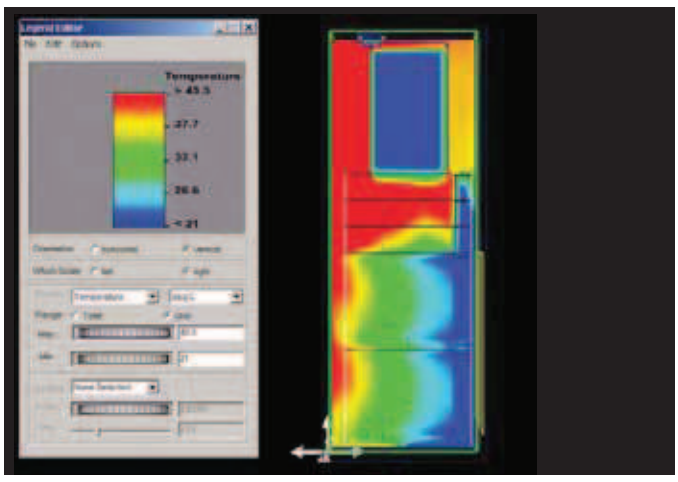


MIR20130

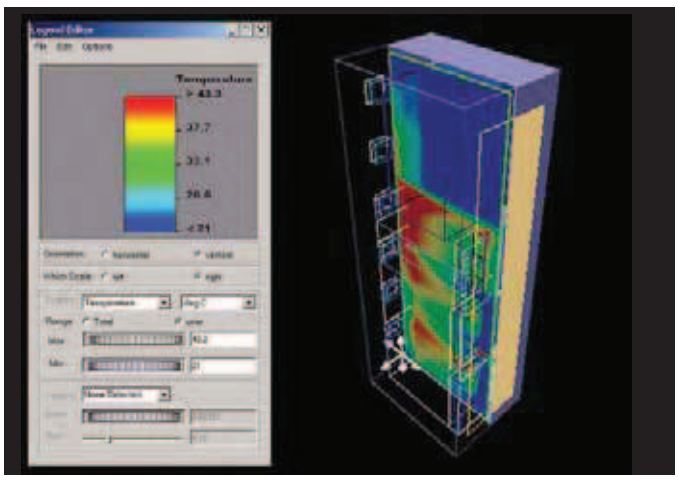
Knürr Thermal Management Lab
Measurements, calculations and tests

– Internal dimensions	(3.0 x 3.0 x 3.0) m²
– Temperature range	-45 to 60 °C
– Humidity range	10% to 95 %

Airflow and heat simulation



MIR20128



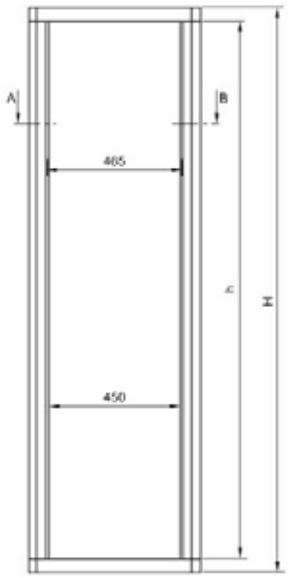
MIR20129

Knürr server racks as requested by the customer

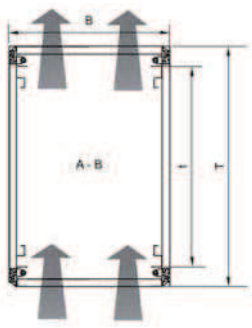
MIR20125

Knürr Showroom

MIR20318



MIR20131



MIR20131

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

Knürr Miracel® 19" ASP Rack/19" Server Rack
Widths 600 mm and 800 mm, front door with perforations

- Basic version without plinth; can also be ordered if required
- With special 19" server extrusions for mounting trade standard servers
- With perforated doors on the front and rear for optimal airflow

Jumpering space
At the front: 85.5 mm

Load rating
5000 N static

Protection rating
IP 20

Airflow circulation
Perforation level: 83%

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum
- Multifunctional braces and 19" extrusions, sheet steel, zinc-passivated
- Visible surface of the cover powder-coated texture

Color
Final digit of order number .1:
Visible surface of covers, RAL 7035 light gray
Final digit of order number .8:
Visible surfaces of the covers, RAL 7021 dark gray

Supply schedule
1 basic rack
4 19" server sheet steel mounting hole extrusions
2 perforated doors (perforation: 83%)
2 side panels
1 top cover, closed
1 complete earthing set
1 complete locking set

How supplied
Assembled

Note
Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)

W	H	D	U	h	d	kg	Model	Order no.	UP
600	2000	900	41	1852	740	87	RAL 7035	**01.127.933.1**	1 unit
600	2000	900	41	1852	740	87	RAL 7021	**01.127.933.8**	1 unit
600	2200	900	46	2052	740	93	RAL 7035	**01.127.934.1**	1 unit
600	2200	900	46	2052	740	93	RAL 7021	**01.127.934.8**	1 unit
600	2000	1000	41	1852	740	91	RAL 7035	**01.127.935.1**	1 unit
600	2000	1000	41	1852	740	91	RAL 7021	**01.127.935.8**	1 unit
600	2200	1000	46	2052	740	97	RAL 7035	**01.127.936.1**	1 unit
600	2200	1000	46	2050	740	97	RAL 7021	**01.127.936.8**	1 unit
600	2000	1200	41	1852	740	100	RAL 7035	**01.128.310.1**	1 unit
600	2000	1200	41	1852	740	100	RAL 7021	**01.128.310.8**	1 unit
600	2200	1200	46	2052	740	110	RAL 7035	**01.128.311.1**	1 unit
600	2200	1200	46	2052	740	110	RAL 7021	**01.128.311.8**	1 unit
600	2000	900	41	1852	740	74	No side panels, RAL 7035	**01.127.980.1**	1 unit
600	2000	900	41	1852	740	74	No side panels, RAL 7021	**01.127.980.8**	1 unit
600	2200	900	46	2052	740	79	No side panels, RAL 7035	**01.127.981.1**	1 unit
600	2200	900	46	2052	740	79	No side panels, RAL 7021	**01.127.981.8**	1 unit
600	2000	1000	41	1852	740	78	No side panels, RAL 7035	**01.127.982.1**	1 unit
600	2000	1000	41	1852	740	78	No side panels, RAL 7021	**01.127.982.8**	1 unit
600	2200	1000	46	2052	740	82	No side panels, RAL 7035	**01.127.983.1**	1 unit
600	2200	1000	46	2050	740	82	No side panels, RAL 7021	**01.127.983.8**	1 unit
800	2000	1000	41	1852	740	99	RAL 7035	**01.128.314.1**	1 unit
800	2000	1000	41	1852	740	99	RAL 7021	**01.128.314.8**	1 unit
800	2200	1000	46	2052	740	108	RAL 7035	**01.128.315.1**	1 unit
800	2200	1000	46	2052	740	108	RAL 7021	**01.128.315.8**	1 unit
800	2000	1200	41	1852	740	108	RAL 7035	**01.128.316.1**	1 unit
800	2000	1200	41	1852	740	108	RAL 7021	**01.128.316.8**	1 unit
800	2200	1200	46	2052	740	116	RAL 7035	**01.128.317.1**	1 unit
800	2200	1200	46	2052	740	116	RAL 7021	**01.128.317.8**	1 unit

MIR20319

Knürr Miracel® 19" ASP Rack, Server Rack
Width 600 mm, doors with perforation, with mobile plinth and tilt restraint

- Basic version with mobile plinth, integrated pull-out tilt restraint
- With special 19" server extrusions for mounting trade standard servers, such as Compaq, Dell, Sun, IBM
- With perforated doors on the front and rear for optimal airflow, honeycomb shaped, perforation, 83% airflow

Jumpering space
At the front: 85.5 mm

Load rating
5000 N static

Protection rating
IP 20

Airflow circulation
Perforation level: 83%

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

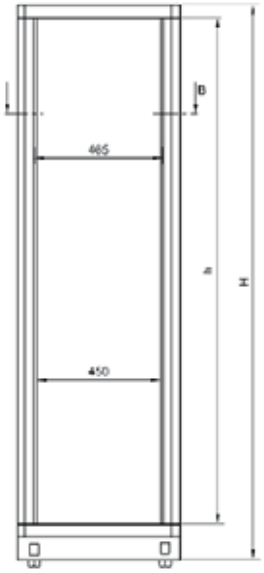
Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum
- Multifunctional braces and 19" extrusions, sheet steel, zinc-passivated
- Visible surface of the cover powder-coated texture

Color
Final digit of order number .1:
Visible surface of covers, RAL 7035 light gray
Final digit of order number .8:
Visible surfaces of the covers, RAL7021 dark gray

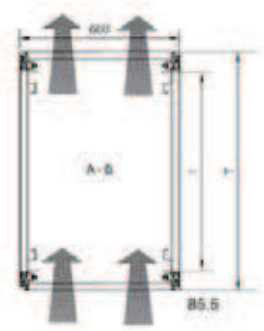
Supply schedule
1 basic rack
4 19" server sheet steel mounting hole extrusions
2 perforated doors (perforation: 83%)
2 side panels
1 top cover with cable entry
1 complete earthing set
1 castor mounting with tilt restraint

How supplied
Assembled

Note
Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)



MIR20186



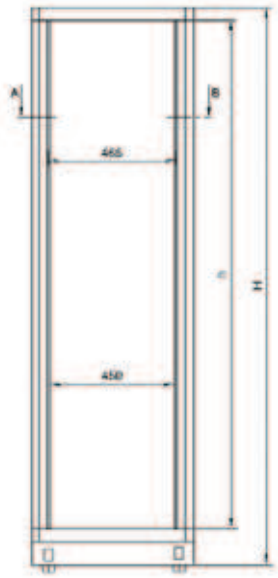
MIR20186

W	H	D	U	h	d	kg	Model	Order no.	UP
600	2100	900	41	1852	740	97	With side panels, RAL 7035	**01.127.925.1**	1 unit
600	2100	900	41	1852	740	97	With side panels, RAL 7021	**01.127.925.8**	1 unit
600	2100	1000	41	1852	740	102	With side panels, RAL 7035	**01.127.926.1**	1 unit
600	2100	1000	41	1852	740	102	With side panels, RAL 7021	**01.127.926.8**	1 unit
600	2100	900	41	1852	740	84	No side panels, RAL 7035	**01.127.928.1**	1 unit
600	2100	900	41	1852	740	84	No side panels, RAL 7021	**01.127.928.8**	1 unit
600	2100	1000	41	1852	740	89	No side panels, RAL 7035	**01.127.929.1**	1 unit
600	2100	1000	41	1852	740	89	No side panels, RAL 7021	**01.127.929.8**	1 unit

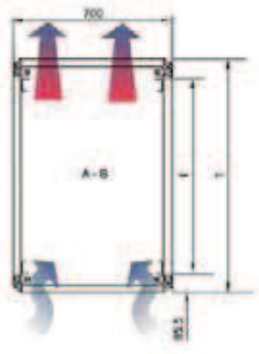
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20262



MIR20288



MIR20288

Knürr Miracel® 19" Server Rack
Width 600, mobile, glass front door

- With fixed 19" installation on the front and rear for components in accordance with IEC297-3
- Prepared for mounting trade standard servers with special server extrusions
- Cable entry via plinth
- Door opening angle 180°
- Airflow from the front to the rear with recessed glass pane on the front door and perforations on the rear doors

Jumpering space
At the front: 85.5 mm

Load rating
5000 N static

Airflow circulation
1500 cm² with 41 U
1700 cm² with 46 U

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Covers, zinc-passivated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
- Multifunctional braces, sheet steel, zinc-plated

Color
Final digit of order number .1:
Visible surface of covers, RAL 7035 light gray
Final digit of order number .8:
Visible surfaces of the covers, RAL7021 dark gray

Supply schedule
1 basic rack
4 19" sheet steel server extrusions
2 side panels with quick connectors
1 top cover, closed
1 front door with perforation
1 rear door, sheet steel with perforation, large air intake cross section
1 mobile plinth with rear cable entry and leveling feet
1 complete earthing set
1 complete locking set

How supplied
Assembled

Note
Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)

W	H	D	U	h	d	kg	Model	Order no.	UP
600	2100	900	41	1852	740	120	RAL7035	**01.128.300.1**	1 unit
600	2100	900	41	1852	740	120	RAL7021	**01.128.300.8**	1 unit
600	2300	900	46	2052	740	135	RAL7035	**01.128.301.1**	1 unit
600	2300	900	46	2052	740	135	RAL7021	**01.128.301.8**	1 unit
600	2100	1000	41	1852	740	127	RAL7035	**01.128.302.1**	1 unit
600	2100	1000	41	1852	740	127	RAL7021	**01.128.302.8**	1 unit
600	2300	1000	46	2052	740	144	RAL7035	**01.128.303.1**	1 unit
600	2300	1000	46	2052	740	144	RAL7021	**01.128.303.8**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm
UP = unit of packaging
kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

MIR20319

Knürr Miracel® 19" Server Rack
Width 700, doors with perforation (Asymmetrical installation)

- Front door with large area perforation for ventilation
- Prepared for side cable management with asymmetric layout of the extrusions
- Front, on the side, 3 x 2 U additional 19" installation space

Jumpering space
At the front: 85.5 mm

Protection rating
IP 20

Airflow circulation
Perforation level: 83%

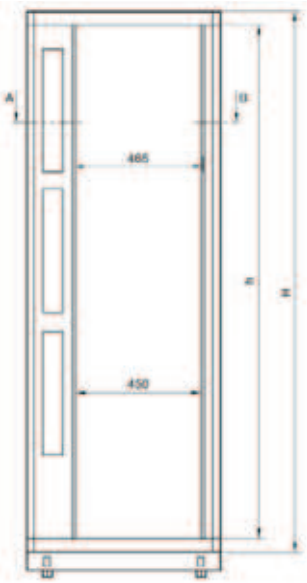
Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Covers, zinc-passivated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture
- Multifunctional braces and 19" extrusions, sheet steel, zinc-passivated

Color
Final digit of order number .1:
Visible surface of covers, RAL 7035 light gray
Final digit of order number .8:
Visible surfaces of the covers, RAL7021 dark gray

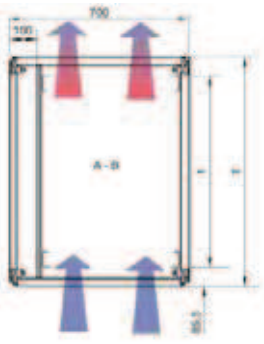
Supply schedule
1 basic rack
4 19" sheet steel server extrusions
1 panel, side with 3 x 2 HU vertical installation space
2 side panels
1 top cover, closed
1 front door with large area perforation
1 rear door with large area perforation
1 mobile plinth with rear cable entry and leveling feet
1 complete earthing set
1 complete locking set

How supplied
Assembled

Note
Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)



MIR20279



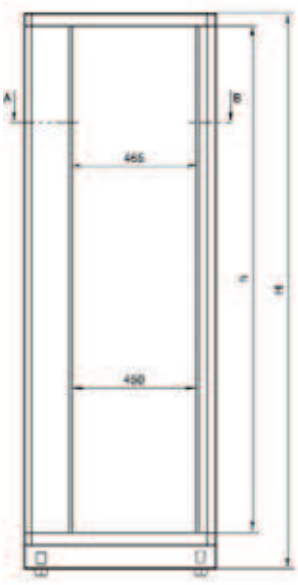
MIR20279

W	H	D	U	h	d	kg	Model	Order no.	UP
700	2100	900	41	1852	740	100	RAL 7035	**01.127.960.1**	1 unit
700	2100	900	41	1852	740	100	RAL 7021	**01.127.960.8**	1 unit
700	2300	900	46	2052	740	107	RAL 7035	**01.127.961.1**	1 unit
700	2300	900	46	2052	740	107	RAL 7021	**01.127.961.8**	1 unit
700	2100	1000	41	1852	740	104	RAL 7035	**01.127.962.1**	1 unit
700	2100	1000	41	1852	740	104	RAL 7021	**01.127.962.8**	1 unit
700	2300	1000	46	2052	740	111	RAL 7035	**01.127.963.1**	1 unit
700	2300	1000	46	2052	740	111	RAL 7021	**01.127.963.8**	1 unit

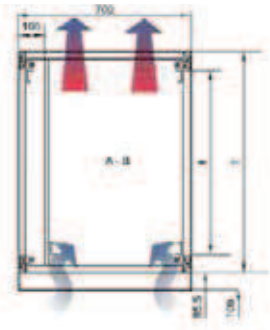
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20320



MIR20280



MIR20280

Knürr Miracel® 19” Server Rack
Width 700, front glass door

- Front door with single safety glass panel and openings for air intake
- Prepared for side cable management with asymmetric layout of the extrusions
- Side, patented cable management saves on a high portion of the cable lengths required for extension
- Support brackets are required at the respective positions for mounting slot-ins
- The cable trays with swivel arm are prepared for mounting and routing cables without cable ties

Jumpering space
At the front: 85.5 mm

Protection rating
IP 20

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Covers, zinc-passivated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
- Multifunctional braces and 19” extrusions, sheet steel, zinc-passivated

Color
RAL 7035 light gray

Supply schedule
1 basic rack
4 19” sheet steel mounting hole server extrusions
2 side panels
1 top cover, closed
1 front door with single safety glass panel and openings for air intake
1 rear door with large area perforation
1 mobile plinth with rear cable entry and leveling feet
6 cable trays with swivel arm (7 with 46 U)
4 19"- support brackets, 2 U (5 with 46 U) (BN 01.132.053.9)
2 19"- support brackets, 3 U (2 with 46 U) (BN 01.132.054.9)
1 complete earthing set
1 complete locking set

How supplied
Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
700	2100	900	41	1852	740	124		**01.132.043.1**	1 unit
700	2300	900	46	2052	740	133		**01.132.044.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length; U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch; 1 kg = 2.2046 pound

MIR20059

Panel for 19" vertical installation, 3 x 2 U

– For installation in W 700 server racks with asymmetric layout of the 19" extrusions

Material
Sheet steel, 1.5 mm

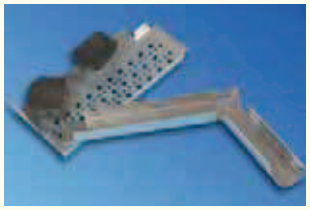
Finish
Powder-coated, RAL 7035

Installation
Can be mounted on the left rack side
19" vertical installation, 3 x 2 HU
Max. depth of installation components, 300 mm
(only for installation in server rack BN 01.132.043.1 / 01.132.044.1)

Supply schedule
1 panel
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
			41				Left	**01.132.048.1**	1 unit
			46				Left	**01.132.049.1**	1 unit


MIR20058

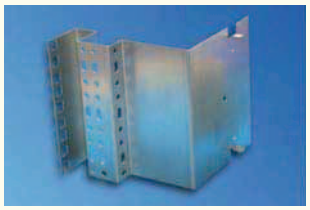
Cable Tray

– For carrying light installation equipment (max. 5 kg)
– For orderly storage of excess cables
– Only for installation in server rack BN 01.132.043.1 / 01.132.044.1

Supply schedule
1 storage tray
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.132.050.9	1 unit
							With swivel arm	**01.132.051.9**	1 unit


MIR20106

Support Bracket

– Only for server rack B 700 with BN 01.132.043.1 / 01.132.044.1
– For mounting slot-ins on the 19" level with 4 fixing points

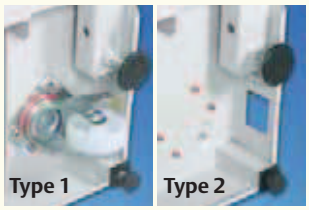
W	H	D	U	h	d	kg	Model	Order no.	UP
			2					**01.132.053.9**	1 unit
			3					**01.132.054.9**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20050

MIR20053



MIR20260 MIR20261

Knürr Miracel® Plinth
Mobile and stationary with tilt restraint, height 100 mm

Type 1: Mobile
Type 2: Stationary

Cable entry possible on the rear

Load rating
5000 N static

Material
Sheet steel, 2 mm

Finish/color
Powder-coated texture, RAL 7035
light gray

Supply schedule, type 1:
1 plinth frame
2 fixed castors with snib
2 swivel castors
4 leveling feet
1 tilt restraint
Mounting material

Supply schedule, type 2:
1 plinth frame
4 leveling feet
1 tilt restraint
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	100	900					Type 1, mobile	**01.127.260.1**	1 unit
600	100	900					Type 1, mobile	**01.127.260.8**	1 unit
700	100	900					Type 1, mobile	**01.127.261.1**	1 unit
700	100	900					Type 1, mobile	**01.127.261.8**	1 unit
800	100	900					Type 1, mobile	**01.127.262.1**	1 unit
800	100	900					Type 1, mobile	**01.127.262.8**	1 unit
600	100	1000					Type 1, mobile	**01.127.263.1**	1 unit
600	100	1000					Type 1, mobile	**01.127.263.8**	1 unit
700	100	1000					Type 1, mobile	**01.127.264.1**	1 unit
700	100	1000					Type 1, mobile	**01.127.264.8**	1 unit
800	100	1000					Type 1, mobile	**01.127.265.1**	1 unit
800	100	1000					Type 1, mobile	**01.127.265.8**	1 unit
600	100	1200					Type 1, mobile	**01.127.266.1**	1 unit
600	100	1200					Type 1, mobile	**01.127.266.8**	1 unit
800	100	1200					Type 1, mobile	**01.127.268.1**	1 unit
800	100	1200					Type 1, mobile	**01.127.268.8**	1 unit
600	100	900					Type 2, stationary	**01.127.270.1**	1 unit
600	100	900					Type 2, stationary	**01.127.270.8**	1 unit
700	100	900					Type 2, stationary	**01.127.271.1**	1 unit
700	100	900					Type 2, stationary	**01.127.271.8**	1 unit
800	100	900					Type 2, stationary	**01.127.272.1**	1 unit
800	100	900					Type 2, stationary	**01.127.272.8**	1 unit
600	100	1000					Type 2, stationary	**01.127.273.1**	1 unit
600	100	1000					Type 2, stationary	**01.127.273.8**	1 unit
700	100	1000					Type 2, stationary	**01.127.274.1**	1 unit
700	100	1000					Type 2, stationary	**01.127.274.8**	1 unit
800	100	1000					Type 2, stationary	**01.127.275.1**	1 unit
800	100	1000					Type 2, stationary	**01.127.275.8**	1 unit
600	100	1200					Type 2, stationary	**01.127.276.1**	1 unit
600	100	1200					Type 2, stationary	**01.127.276.8**	1 unit
800	100	1200					Type 2, stationary	**01.127.278.1**	1 unit
800	100	1200					Type 2, stationary	**01.127.278.8**	1 unit

MIR20051

Tilt Restraint for Miracel® Racks Quick assembly system

- For fixing on the front vertical posts of all variants of MIRACEL racks
- Quick and easy mounting and removal without tools
- Use only as required

Supply schedule
2 anti-tilt restrainers

How supplied
Flat-packed kit

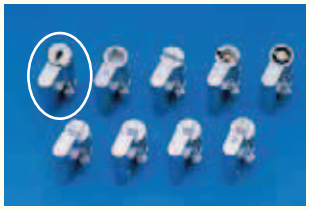
W	H	D	U	h	d	kg	Model	Order no.	UP
								01.127.310.9	1 unit

MIR20095

Combi Lock

- Mechanical solution for a high-grade lock system
- Access either via a three digit code that can be individually set on the handle or via a master key that enables access to the rack independently of the code setting
- Suitable for Miracel rack single doors with swing handle
- Later upgrade without mechanical alteration also possible

W	H	D	U	h	d	kg	Model	Order no.	UP
	one wing doors						for Miracel®/DCM®	**01.137.013.9**	1 unit


MIR00066

Door Locking Set

Supply schedule
1 lock set
2 keys (half-cylinder)

W	H	D	U	h	d	kg	Model	Order no.	UP
								05.041.299.9	1 unit

MIR00069

Complete Locking Set

Supply schedule
2 cylinders with 2 keys each
2 lockable fasteners for side panel with 2 keys each

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.130.940.9	1 unit

MIR20092

MIR20273

MIR20274

Knürr Miracel® Extension Kit, 100 mm

- For extending rack depths, even at later stages
- Can be used in combination with doors (cannot be used for rear panel)
- Additional cabling space, space for airflow etc. can be easily generated

Material
Sheet steel

Finish/color
Powder-coated texture, RAL 7035

Supply schedule
2 panels, vertical
1 panel, horizontal, top
Extension adapter
Mounting material

How supplied
Flat-packed kit

Note
With use of double doors, please also order lock bracket set: Order no. 01.127.649.9

W	H	D	U	h	d	kg	Model	Order no.	UP
600	1200		23					**01.127.550.1**	1 unit
600	1800		37					**01.127.553.1**	1 unit
600	2000		41					**01.127.554.1**	1 unit
600	2200		46					**01.127.555.1**	1 unit
700	1800		37					**01.127.559.1**	1 unit
700	2000		41					**01.127.560.1**	1 unit
700	2200		46					**01.127.561.1**	1 unit
800	1200		23					**01.127.562.1**	1 unit
800	1800		37					**01.127.565.1**	1 unit
800	2000		41					**01.127.566.1**	1 unit
800	2200		46					**01.127.567.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

Knürr Miracel®

19" Rack for Network Applications 1.24 to 1.47

19" Network Rack

Knürr Miracel®
Strong points 1.25

Distribution Rack
Knürr Miracel® NS 25 1.28
Knürr Miracel® NS 26 1.30
Knürr Miracel® NS 19.8 1.31
Knürr Miracel® NS 19.6 1.32

Knürr Miracel® NO 19
Lab Rack 1.33

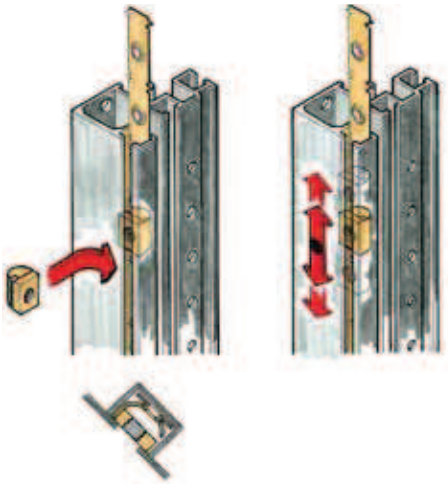
Knürr Miracel®
Basic Rack 1.34

Knürr Miracel®
NS 19.8 D 1.35

Knürr Miracel®
Without front door 1.36

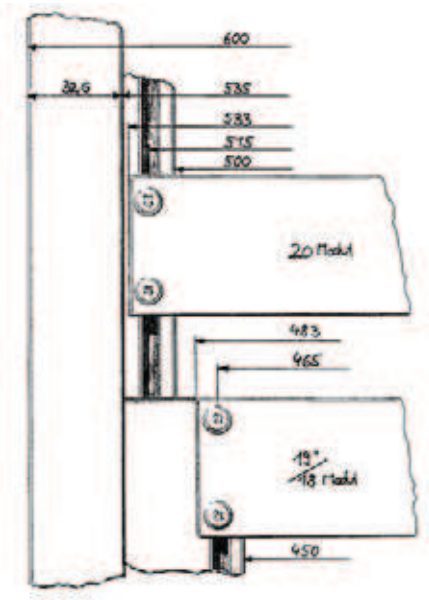
Knürr Miracel® IP 55 1.37

Knürr Miracel® Accessories
Rack Connector 1.38
Extrusions 1.38
Mounting Adapters 1.39
U Tape Measure 1.39
Swing Frame 1.40
Doors 1.41
Locking Set 1.43
Earthing Set 1.43
Plinth 1.43
Castors 1.44
Bottom Cover 1.44
Side Panel 1.46
Rear Panel 1.46
Top Cover IP 55 1.47



1 MIR00139

3 TEC00028



2 MIR20122

Knürr Miracel®
Strong points

1 **Modular construction**
Easy mounting, including all non-standard components – variable and in integrated 19" or 25 mm increments.

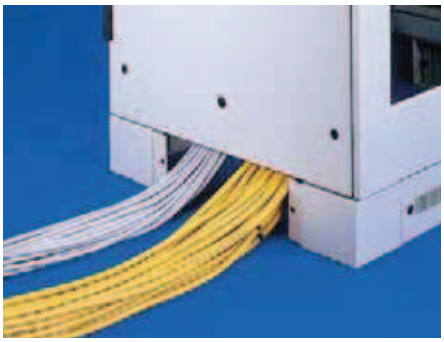
2 **Forward-thinking**
Security for the future and flexibility with integration of 19" and metric technology.

3 **Expandable at all times**
System expansions can be easily implemented while maintaining the IP protection rating.

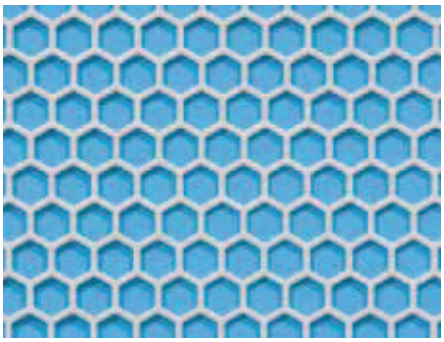
4 **Cable management**
Guaranteed orderly and space-saving cable management. Adjustment to installation site; cable management can be selected from an extensive range of accessory components.

5 **Flexible ventilation components**
The correct ventilation solution is always provided by the corresponding selection of accessory components. This allows the airflow to be specially adapted to the built-in components. Through the perforated bottom covers, top covers and doors, for example.

4 MEC20084



4 MIR00143



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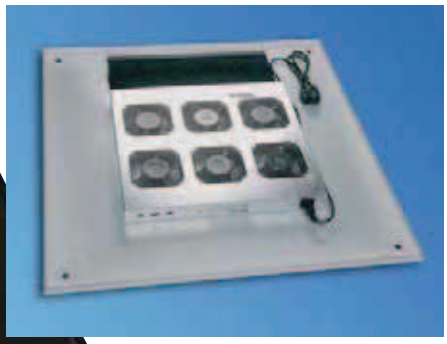

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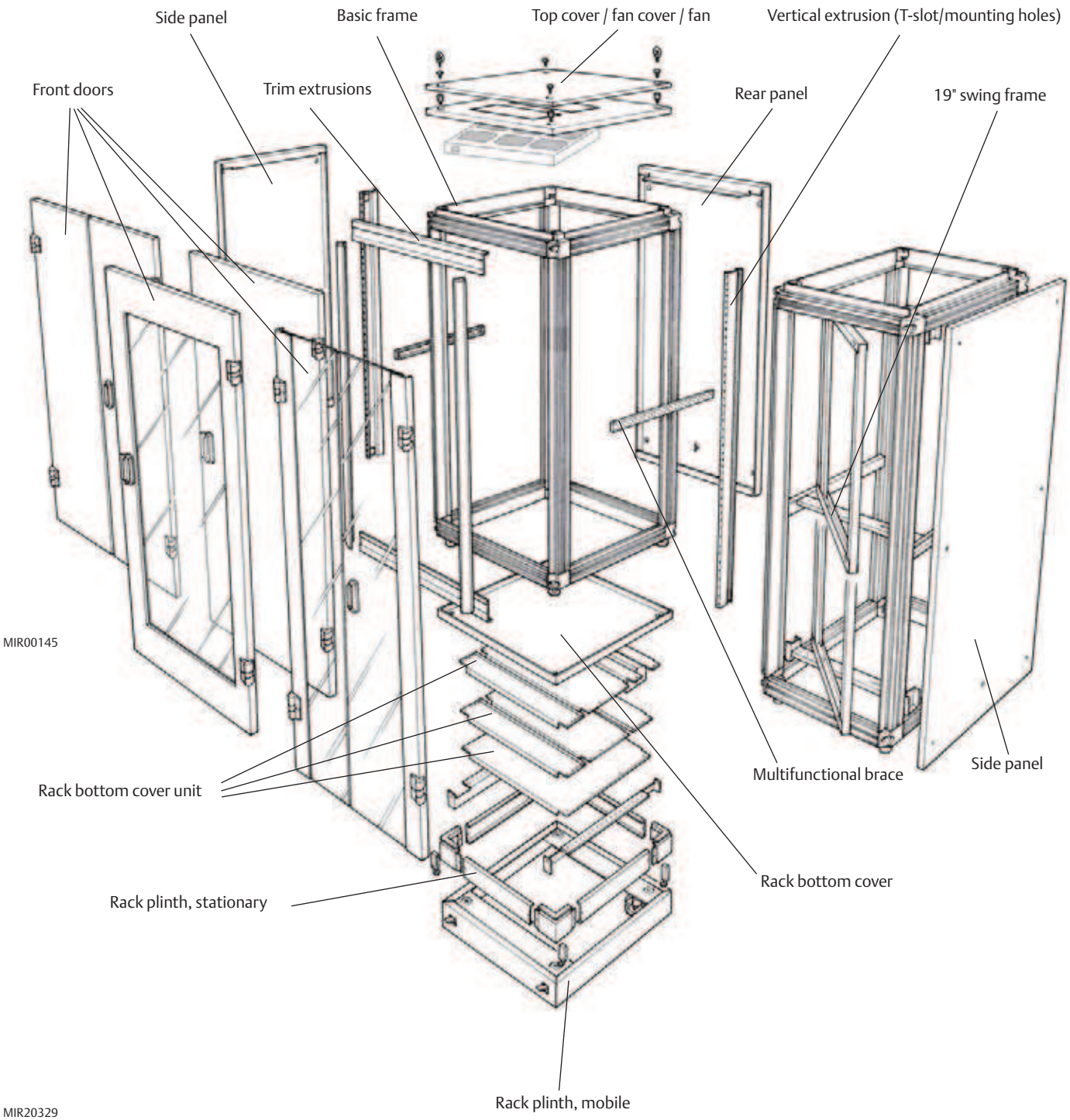
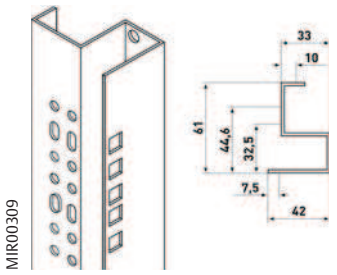
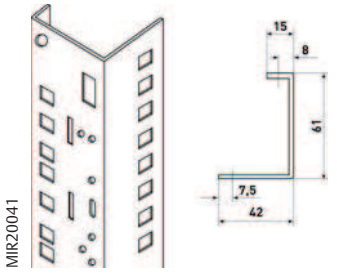
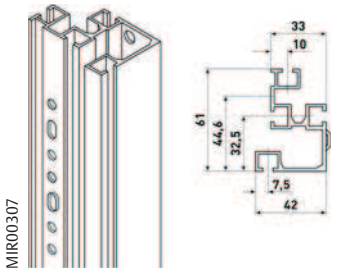

Side panel
Basic frame
Top cover / fan cover / fan
Vertical extrusion (T-slot/mounting holes)
Front doors
Trim extrusions
Rear panel
19" swing frame
MIR00145
Rack bottom cover unit
Multifunctional brace
Side panel
Rack bottom cover
Rack plinth, stationary
Rack plinth, mobile
MIR20329



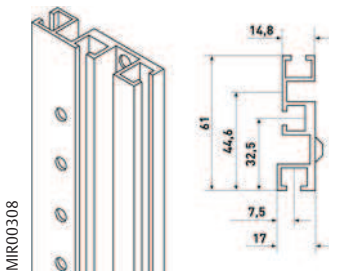
Vertical extrusion with mounting holes,
steel for 19" racks



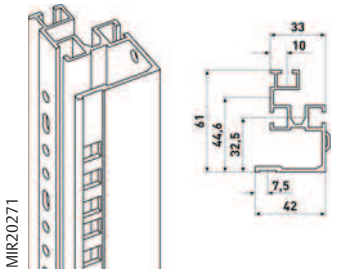
19" server extrusion



Vertical extrusion with T-slot,
aluminum for 19" construction



Vertical extrusion with T-slot,
aluminum for metric construction, 20 module



Vertical extrusion with mounting holes,
aluminum for 19" racks

Knürr Miracel® 19" Rack
Technical data

Material
- Extruded aluminum
- Corner piece, die-cast aluminum
- Covers, sheet steel, zinc-passivated
- Doors: sheet steel or with single safety glass panel, opening angle, over 180°

Installation dimensions in acc. with IEC297-3 andIEC917
- Height: 23 U / 37 U / 41 U / 46 U (1 U = 44.45 mm) 66 module / 74 module / 82 module (1 module = 25 mm)
- Width: 482.6 mm (19" construction) 535 mm (20" module construction)

Space solution
- 82% of the basic surface can be used as space for installation and cable routing
- Front jumpering space, 123 mm or 73 mm
- Door opening angle, 180°

Configurations
- Stationary, on leveling feet
- Stationary with plinth
- Mobile with plinth and snib

Finish /Color
- Basic frame, polished
- Optional: Door trim, black, RAL 9011
- Visible surface of covers, powder-coated, dark gray RAL 7021 or dark gray RAL 7021

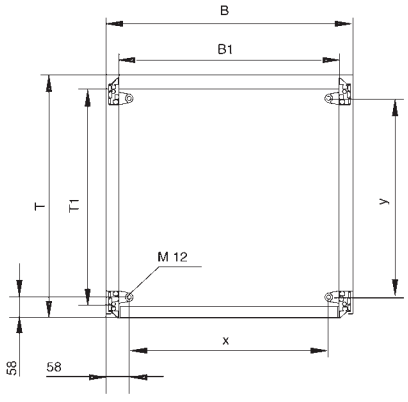
Static load rating
- 5,000 N with stationary version
- 3,000 N with mobile plinth

Heat transfer
Power loss with:
- Closed top cover, up to 500 W
- Vent lid, up to 700 W

Tests according to version
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with IEC 529
- UL test 1244
- NEMA 12 Standard
- EMC shielding attenuation in acc. with MIL-STD 285 (10 MHz - 30 MHz) and VG 95 373 Part 15 (30 MHZ-1GHz)
- Vibration and shock test in acc. with ETS 300 019
- Seismic test, Bellcore (NEBS)TR-NWT 000063 Zone 4
- Earthing, VDE 0 100 T 540

Further standards and tests on request.

Rack suites
To create a rack suite with "n" racks, you require:
- n-1 racks without side panels and 1 rack with side panels
- In a rack suite, per connection you require one set of rack connectors

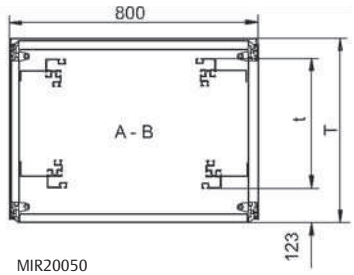


MIR00332

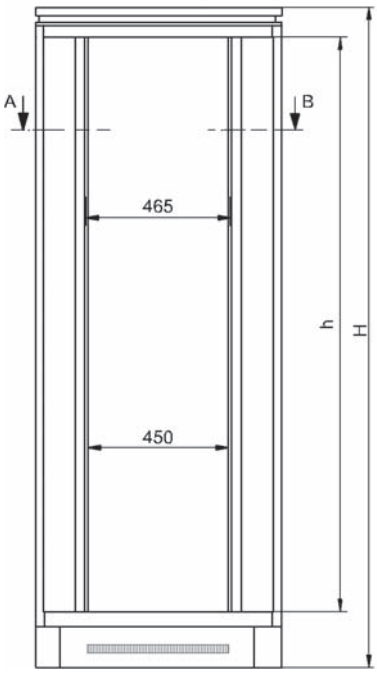
W [mm]	W1 [mm]	X [mm]
600	535	485
700	635	585
800	735	685
900	835	785

D [mm]	D1 [mm]	Y [mm]
600	530	485
800	730	685
900	830	785
1000	930	885
1200	1130	1085

MIR20301



MIR20050



MIR20050

Knürr Miracel® 19" Distribution Rack, NS 25
Width 800, front glass door, T-slot extrusions

- With fixed 19" installation on the front and rear for components in accordance with IEC297-3
- Installation of slot-in runners and 19" shelves possible
- Flexible assembly of the built-in units with T-slot
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Dissipated heat discharge via raised fan roof.
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

Jumpering space
At the front: 123 mm

Load rating
5000 N static

Protection rating
IP 40

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Doors, sheet steel, powder-coated texture
- Covers, zinc-passivated sheet steel, powder-coated texture
- Glass infill front door, single safety glass panel, 4 mm
- Multifunctional braces, sheet steel, zinc-plated

Color
Final digit of order number .1:
Visible surface of covers, RAL 7035 light gray
Final digit of order number .8:
Visible surfaces of the covers, RAL7021 dark gray

Supply schedule
1 basic rack
4" aluminum vertical extrusions with T-slot and increment slide for spring nut M5
2 multifunctional braces for cable clamping and universal mounting options
2 side panels with quick connectors
1 top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
1 rear door, single, sheet steel, with handle and mounting for cylinder lock
1 plinth for cable management on the side and rear with leveling feet (0-25 mm)
2 plinth panels for front and rear, with vent slots and fixing for filter mat
2 plinth panels, closed
1 complete earthing test (VDE 0100)

How supplied
Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
800	2120	600	41	1852	365	112	With side panels/RAL 7035	**01.136.044.1**	1 unit
800	2120	600	41	1852	365	112	With side panels/RAL 7021	**01.136.044.8**	1 unit
800	2120	800	41	1852	565	120	With side panels/RAL 7035	**01.136.050.1**	1 unit
800	2120	800	41	1852	565	120	With side panels/RAL 7021	**01.136.050.8**	1 unit
800	2320	800	46	2052	565	130	With side panels/RAL 7035	**01.136.051.1**	1 unit
800	2320	800	46	2052	565	130	With side panels/RAL 7021	**01.136.051.8**	1 unit
800	2120	900	41	1852	665	124	With side panels/RAL 7035	**01.136.056.1**	1 unit
800	2120	900	41	1852	665	124	With side panels/RAL 7021	**01.136.056.8**	1 unit
800	2320	900	46	2052	665	134	With side panels/RAL 7035	**01.136.057.1**	1 unit
800	2320	900	46	2052	665	134	With side panels/RAL 7021	**01.136.057.8**	1 unit
800	2120	1000	41	1852	740	140	With side panels/RAL 7035	**01.127.970.1**	1 unit
800	2120	1000	41	1852	740	140	With side panels/RAL 7021	**01.127.970.8**	1 unit
800	2320	1000	46	1852	740	140	With side panels/RAL 7035	**01.127.971.1**	1 unit
800	2320	1000	46	1852	740	140	With side panels/RAL 7021	**01.127.971.8**	1 unit
800	2120	600	41	1852	365	103	No side panels/RAL 7035	**01.136.244.1**	1 unit
800	2120	600	41	1852	365	103	No side panels/RAL 7021	**01.136.244.8**	1 unit
800	2120	800	41	1852	565	109	No side panels/RAL 7035	**01.136.250.1**	1 unit
800	2120	800	41	1852	565	109	No side panels/RAL 7021	**01.136.250.8**	1 unit
800	2120	900	41	1852	665	118	No side panels/RAL 7035	**01.136.256.1**	1 unit
800	2120	900	41	1852	665	118	No side panels/RAL 7021	**01.136.256.8**	1 unit
800	2120	1000	41	1852	740	128	No side panels/RAL 7035	**01.127.975.1**	1 unit
800	2120	1000	41	1852	740	128	No side panels/RAL 7021	**01.127.975.8**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20301

Knürr Miracel® 19" Distribution Rack, NS 25
Width 800, front glass door, 19" mounting hole extrusions

- With fixed 19" installation on the front and rear for components in accordance with IEC297-3
- Installation of slot-in runners and 19" shelves possible
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Dissipated heat discharge via raised fan roof.
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

Jumpering space
At the front: 123 mm

Load rating
5000 N static

Protection rating
IP 40

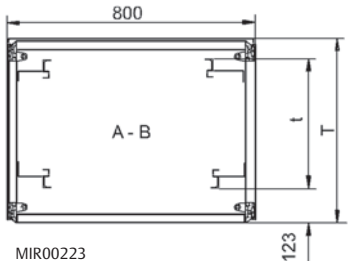
Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Doors, sheet steel, powder-coated texture
- Covers, zinc-passivated sheet steel, powder-coated texture
- Glass infill front door, single safety glass panel, 4 mm
- Multifunctional braces, sheet steel, zinc-plated

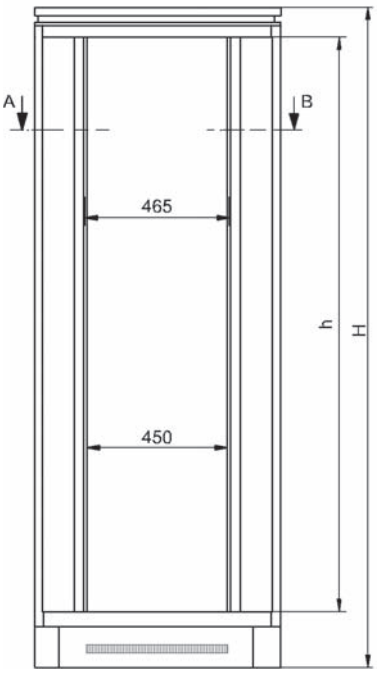
Color
Final digit of order number .1:
Visible surface of covers, RAL 7035 light gray
Final digit of order number .8:
Visible surfaces of the covers, RAL7021 dark gray

Supply schedule
1 basic rack
4 19" vertical extrusions, sheet steel with mounting holes
2 multifunctional braces for cable clamping and universal mounting options
2 side panels with quick connectors
1 top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
1 rear door, single, sheet steel, with handle and mounting for cylinder lock
1 plinth for cable management on the side and rear with leveling feet (0-25 mm)
2 plinth panels for front and rear, with vent slots and fixing for filter mat
2 plinth panels, closed
1 complete earthing test (VDE 0100)

How supplied
Assembled



MIR00223



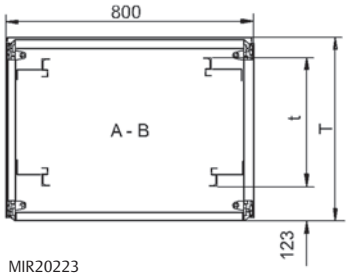
MIR20050

W	H	D	U	h	d	kg	Model	Order no.	UP
800	2120	600	41	1852	365	112	With side panels/RAL 7035	**01.133.040.1**	1 unit
800	2120	600	41	1852	365	112	With side panels/RAL 7021	**01.133.040.8**	1 unit
800	2120	800	41	1852	565	120	With side panels/RAL 7035	**01.133.041.1**	1 unit
800	2120	800	41	1852	565	120	With side panels/RAL 7021	**01.133.041.8**	1 unit
800	2320	800	46	2052	565	130	With side panels/RAL 7035	**01.133.042.1**	1 unit
800	2320	800	46	2052	565	130	With side panels/RAL 7021	**01.133.042.8**	1 unit
800	2120	900	41	1852	665	124	With side panels/RAL 7035	**01.133.043.1**	1 unit
800	2120	900	41	1852	665	124	With side panels/RAL 7021	**01.133.043.8**	1 unit
800	2320	900	46	2052	665	134	With side panels/RAL 7035	**01.133.044.1**	1 unit
800	2320	900	46	2052	665	134	With side panels/RAL 7021	**01.133.044.8**	1 unit
800	2120	1000	41	1852	740	140	With side panels/RAL 7035	**01.133.045.1**	1 unit
800	2120	1000	41	1852	740	140	With side panels/RAL 7021	**01.133.045.8**	1 unit
800	2120	600	41	1852	365	103	No side panels/RAL 7035	**01.133.046.1**	1 unit
800	2120	600	41	1852	365	103	No side panels/RAL 7021	**01.133.046.8**	1 unit
800	2120	800	41	1852	565	109	No side panels/RAL 7035	**01.133.047.1**	1 unit
800	2120	800	41	1852	565	109	No side panels/RAL 7021	**01.133.047.8**	1 unit
800	2120	900	41	1852	665	118	No side panels/RAL 7035	**01.133.048.1**	1 unit
800	2120	900	41	1852	665	118	No side panels/RAL 7021	**01.133.048.8**	1 unit
800	2120	1000	41	1852	740	128	No side panels/RAL 7035	**01.133.049.1**	1 unit
800	2120	1000	41	1852	740	128	No side panels/RAL 7021	**01.133.049.8**	1 unit

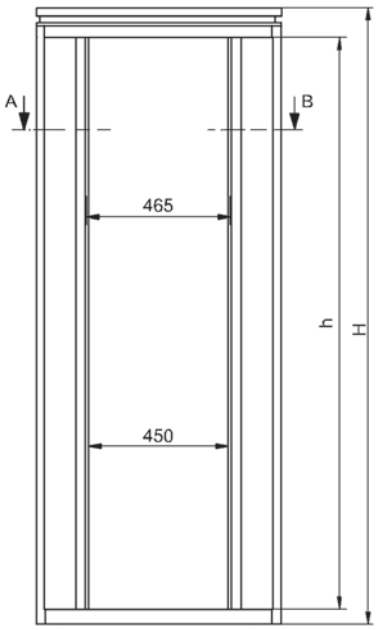
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20302



MIR20223



MIR20223

Knürr Miracel® 19" Distribution Rack, NS 26
Width 800, front glass door, mounting hole extrusions

- With fixed 19" installation on the front and rear for components in accordance with IEC297-3
- Installation of slot-in runners and 19" shelves possible
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

Jumpering space
At the front: 123 mm

Load rating
5000 N static

Protection rating
IP 40

Tests
- Earthing in acc. with VDE 0100 T 540
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Covers, zinc-passivated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
- Multifunctional braces and 19" extrusions, sheet steel, zinc-passivated

Color
Final digit of order number .1:
Visible surface of covers, RAL 7035 light gray
Final digit of order number .8:
Visible surfaces of the covers, RAL7021 dark gray

Supply schedule
1 basic rack
4 19" vertical extrusions, sheet steel with mounting holes
2 multifunctional braces for cable clamping and universal mounting options
2 side panels with quick connectors
1 top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
1 rear door, single, sheet steel, with handle and mounting for cylinder lock
1 complete earthing test (VDE 0100)
4 leveling feet

How supplied
Assembled

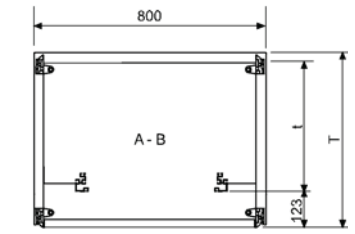
Note
- Not available with double doors
- Not available with bottom covers

W	H	D	U	h	d	kg	Model	Order no.	UP
800	2000	600	42	1900	365	108	With side panels/RAL 7035	**01.136.274.1**	1 unit
800	2000	600	42	1900	365	108	With side panels/RAL 7021	**01.136.274.8**	1 unit
800	2000	800	42	1900	565	116	With side panels/RAL 7035	**01.136.280.1**	1 unit
800	2000	800	42	1900	565	116	With side panels/RAL 7021	**01.136.280.8**	1 unit
800	2200	800	47	2100	565	126	With side panels/RAL 7035	**01.136.281.1**	1 unit
800	2200	800	47	2100	565	126	With side panels/RAL 7021	**01.136.281.8**	1 unit
800	2000	900	42	1900	665	120	With side panels/RAL 7035	**01.136.286.1**	1 unit
800	2000	900	42	1900	665	120	With side panels/RAL 7021	**01.136.286.8**	1 unit
800	2200	900	47	2100	665	120	With side panels/RAL 7035	**01.136.287.1**	1 unit
800	2200	900	47	2100	665	120	With side panels/RAL 7021	**01.136.287.8**	1 unit
800	2000	600	42	1900	365	99	No side panels/RAL 7035	**01.136.300.1**	1 unit
800	2000	600	42	1900	365	99	No side panels/RAL 7021	**01.136.300.8**	1 unit
800	2000	800	42	1900	565	105	No side panels/RAL 7035	**01.136.306.1**	1 unit
800	2000	800	42	1900	565	105	No side panels/RAL 7021	**01.136.306.8**	1 unit
800	2000	900	42	1900	665	116	No side panels/RAL 7035	**01.136.312.1**	1 unit
800	2000	900	42	1900	665	116	No side panels/RAL 7021	**01.136.312.8**	1 unit

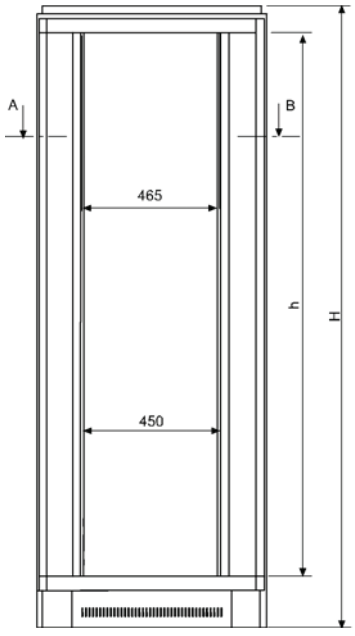
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20303



MIR00607



MIR00607

Knürr Miracel® 19" Distribution Rack, NS 19.8
Width 800, front glass door (Two 19" extrusions)

- With fixed 19" installation on the front for components in acc. with IEC 297-3
- Flexible assembly of the built-in units with T-slot
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Dissipated heat discharge via raised fan roof
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

Jumpering space
At the front: 123 mm

Load rating
5000 N static

Protection rating
IP 40

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Covers, zinc-passivated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
- Multifunctional braces, sheet steel, zinc-plated

Color
Visible surface of covers
RAL 7035 light gray

Supply schedule
1 basic rack
2 19" aluminum vertical extrusions with T-slot and increment slide for spring nut M5
2 multifunctional braces for cable clamping and universal mounting options
1 raised top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
1 front door, single or double, single safety glass panel, with handle and mounting for cylinder lock
1 rear door, single or double, sheet steel, with handle and mounting for cylinder lock
2 side panels with quick connectors (according to model)
1 plinth for cable management on the side and rear with leveling feet (0-25 mm)
2 side plinth panels, closed (according to model)
2 plinth panels for front and rear, with vent slots and fixing for filter mat
1 complete earthing test (VDE 0100)

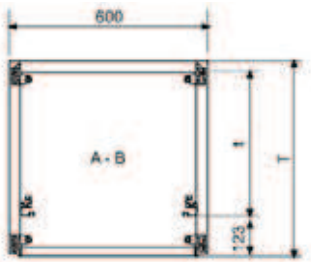
How supplied
Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
800	1320	600	23	1052	435	78	Glass door, side panel	**01.135.001.1**	1 unit
800	1920	600	37	1652	435	103	Glass door, side panel	**01.135.003.1**	1 unit
800	2120	600	41	1852	435	112	Glass door, side panel	**01.135.004.1**	1 unit
800	2320	600	46	2052	435	121	Glass door, side panel	**01.135.005.1**	1 unit
800	1320	800	23	1052	635	80	Glass door, side panel	**01.135.019.1**	1 unit
800	1920	800	37	1652	635	111	Glass door, side panel	**01.135.021.1**	1 unit
800	2120	800	41	1852	635	120	Glass door, side panel	**01.135.022.1**	1 unit
800	2320	800	46	2052	635	129	Glass door, side panel	**01.135.023.1**	1 unit
800	1320	600	23	1052	435	70	Glass door, no side panel	**01.135.007.1**	1 unit
800	1920	600	37	1652	435	95	Glass door, no side panel	**01.135.009.1**	1 unit
800	2120	600	41	1852	435	103	Glass door, no side panel	**01.135.010.1**	1 unit
800	2320	600	46	2052	435	112	Glass door, no side panel	**01.135.011.1**	1 unit
800	1320	800	23	1052	635	73	Glass door, no side panel	**01.135.025.1**	1 unit
800	1920	800	37	1652	635	101	Glass door, no side panel	**01.135.027.1**	1 unit
800	2120	800	41	1852	635	109	Glass door, no side panel	**01.135.028.1**	1 unit
800	2320	800	46	2052	635	118	Glass door, no side panel	**01.135.029.1**	1 unit
800	1320	800	23	1052	635	80	Double glass door, side panel	**01.135.037.1**	1 unit
800	1920	800	37	1652	635	111	Double glass door, side panel	**01.135.039.1**	1 unit
800	2120	800	41	1852	635	120	Double glass door, side panel	**01.135.040.1**	1 unit
800	2320	800	46	2052	635	121	Double glass door, side panel	**01.135.041.1**	1 unit
800	1320	800	23	1052	635	73	Double glass door, no side panel	**01.135.043.1**	1 unit
800	1920	800	37	1652	635	101	Double glass door, no side panel	**01.135.045.1**	1 unit
800	2120	800	41	1852	635	109	Double glass door, no side panel	**01.135.046.1**	1 unit
800	2320	800	46	2052	635	118	Double glass door, no side panel	**01.135.047.1**	1 unit

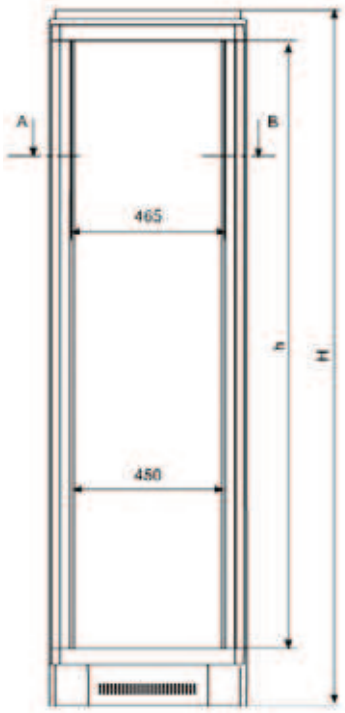
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20304



MIR00056



MIR00031

Knürr Miracel® 19" Distribution Rack, NS 19.6
Width 600, with front glass door (Two 19" extrusions)

- With fixed 19" installation on the front for components in acc. with IEC 297-3
- Flexible assembly of the built-in units with T-slot
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Dissipated heat discharge via raised fan roof.
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

Jumpering space
At the front: 123 mm

Load rating
5000 N static

Protection rating
IP 40

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Covers, zinc-passivated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
- Multifunctional braces, sheet steel, zinc-plated

Color
Visible surface of covers
RAL 7035 light gray

Supply schedule
1 basic rack
2 19" aluminum vertical extrusions with T-slot and increment slide for spring nut M5
2 multifunctional braces for cable clamping and universal mounting options
1 raised top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
1 rear door, single, sheet steel, with handle and mounting for cylinder lock
2 side panels with quick connectors
1 plinth for cable management on the side and rear with leveling feet (0-25 mm)
2 side plinth panels, closed
2 plinth panels for front and rear, with vent slots and fixing for filter mat
1 complete earthing test (VDE 0100)

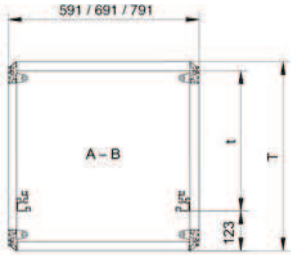
How supplied
Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
600	1320	600	23	1052	435	72	With side panel	**01.135.109.1**	1 unit
600	1920	600	37	1652	435	95	With side panel	**01.135.111.1**	1 unit
600	2120	600	41	1852	435	103	With side panel	**01.135.112.1**	1 unit
600	2320	600	46	2052	435	112	With side panel	**01.135.113.1**	1 unit
600	1320	800	23	1052	635	74	With side panel	**01.135.127.1**	1 unit
600	1920	800	37	1652	635	102	With side panel	**01.135.129.1**	1 unit
600	2120	800	41	1852	635	110	With side panel	**01.135.130.1**	1 unit
600	2320	800	46	2052	635	119	With side panel	**01.135.131.1**	1 unit
600	1320	600	23	1052	435	68	No side panel	**01.135.115.1**	1 unit
600	1920	600	37	1652	435	94	No side panel	**01.135.117.1**	1 unit
600	2120	600	41	1852	435	99	No side panel	**01.135.118.1**	1 unit
600	2320	600	46	2052	435	106	No side panel	**01.135.119.1**	1 unit
600	1320	800	23	1052	635	68	No side panel	**01.135.133.1**	1 unit
600	1920	800	37	1652	635	94	No side panel	**01.135.135.1**	1 unit
600	2120	800	41	1852	635	99	No side panel	**01.135.136.1**	1 unit
600	2320	800	46	2052	635	106	No side panel	**01.135.137.1**	1 unit

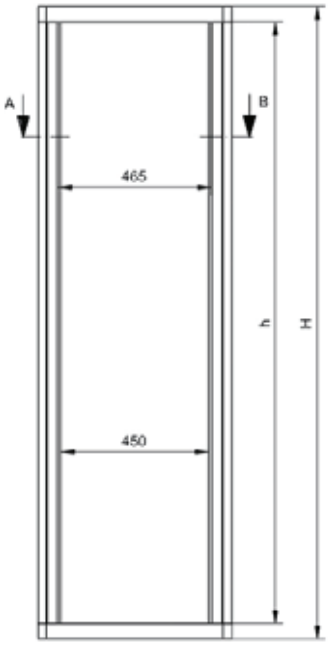
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20307



MIR00043a



MIR20002

Miracel® 19" Lab Rack, NO 19
With 2 x 19" T-slot extrusions (basis for rack widths 600 / 700 / 800)

– With fixed 19" installation on the front for components in acc. with IEC 297-3
– Flexible assembly of the built-in units with T-slot

Jumpering space
At the front: 123 mm

Load rating
5000 N static

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum
- Multifunctional braces, sheet steel, zinc-plated

Supply schedule
1 basic rack
2 19" aluminum vertical extrusions with T-slot and increment slide for spring nut M5
2 multifunctional braces for cable clamping and universal mounting options
4 leveling feet (0-25 mm)

How supplied
Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
591	1196	585	23	1052	435	14		**01.135.793.3**	1 unit
591	1796	585	37	1652	435	16		**01.135.795.3**	1 unit
591	1996	585	41	1852	435	17		**01.135.796.3**	1 unit
591	2196	585	46	2052	435	18		**01.135.797.3**	1 unit
591	1196	785	23	1052	635	16		**01.135.817.3**	1 unit
591	1796	785	37	1652	635	18		**01.135.819.3**	1 unit
591	1996	785	41	1852	635	19		**01.135.820.3**	1 unit
591	2196	785	46	2052	635	20		**01.135.821.3**	1 unit
591	1196	885	37	1652	735	19		**01.135.842.0**	1 unit
591	1996	885	41	1852	735	20		**01.135.843.0**	1 unit
591	2196	885	46	2052	735	21		**01.135.844.0**	1 unit
591	1796	985	37	1652	835	20		**01.133.600.0**	1 unit
591	1996	985	41	1852	835	21		**01.133.610.0**	1 unit
591	2196	985	46	2052	835	22		**01.133.620.0**	1 unit
591	1796	1185	37	1652	1035	22		**01.133.605.0**	1 unit
591	1996	1185	41	1852	1035	23		**01.133.615.0**	1 unit
591	2196	1185	46	2052	1035	24		**01.133.625.0**	1 unit
691	1196	585	23	1052	435	15		**01.135.799.3**	1 unit
691	1796	585	37	1652	435	17		**01.135.801.3**	1 unit
691	1996	585	41	1852	435	18		**01.135.802.3**	1 unit
691	2196	585	46	2052	435	19		**01.135.803.3**	1 unit
691	1196	785	23	1052	635	17		**01.135.823.3**	1 unit
691	1796	785	37	1652	635	19		**01.135.825.3**	1 unit
691	1996	785	41	1852	635	20		**01.135.826.3**	1 unit
691	2196	785	46	2052	635	21		**01.135.827.3**	1 unit
691	1796	885	37	1652	735	19		**01.133.630.0**	1 unit
691	1996	885	41	1852	735	20		**01.133.645.0**	1 unit
691	2196	885	46	2052	735	22		**01.133.660.0**	1 unit
691	1796	985	37	1652	835	21		**01.133.635.0**	1 unit
691	1996	985	41	1852	835	22		**01.133.650.0**	1 unit
691	2196	985	46	2052	835	23		**01.133.665.0**	1 unit
691	1796	1185	37	1652	1035	23		**01.133.640.0**	1 unit
691	1996	1185	41	1852	1035	24		**01.133.655.0**	1 unit
691	2196	1185	46	2052	1035	25		**01.133.670.0**	1 unit
791	1200	585	23	1052	435	16		**01.135.805.3**	1 unit
791	1796	585	37	1652	435	18		**01.135.807.3**	1 unit
791	1996	585	41	1852	435	19		**01.135.808.3**	1 unit
791	2196	585	46	2052	435	20		**01.135.809.3**	1 unit

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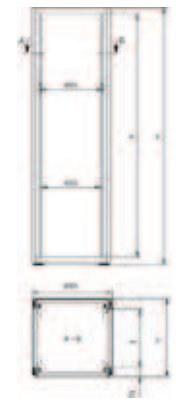
W	H	D	U	h	d	kg	Model	Order no.	UP
791	1196	785	23	1052	635	18		**01.135.829.3**	1 unit
791	1796	785	37	1652	635	20		**01.135.831.3**	1 unit
791	1996	785	41	1852	635	21		**01.135.832.3**	1 unit
791	2196	785	46	2052	635	22		**01.135.833.3**	1 unit
791	1796	885	37	1652	735	21		**01.135.847.0**	1 unit
791	1996	885	41	1852	735	22		**01.135.848.0**	1 unit
791	2196	885	46	2052	735	23		**01.135.849.0**	1 unit
791	1796	985	37	1652	835	20		**01.133.675.0**	1 unit
791	1996	985	41	1852	835	22		**01.133.685.0**	1 unit
791	2196	985	46	2052	835	24		**01.133.695.0**	1 unit
791	1796	1185	37	1652	1035	22		**01.133.680.0**	1 unit
791	1996	1185	41	1852	1035	24		**01.133.690.0**	1 unit
791	2196	1185	46	2052	1035	26		**01.133.700.0**	1 unit

MIR20308



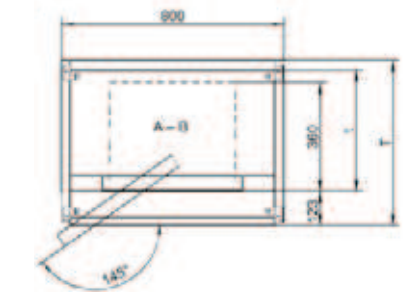
MIR00300

Knürr Miracel® 19" Basic Rack
With 4 x 19" mounting hole extrusions (basis for rack widths 600 / 800)

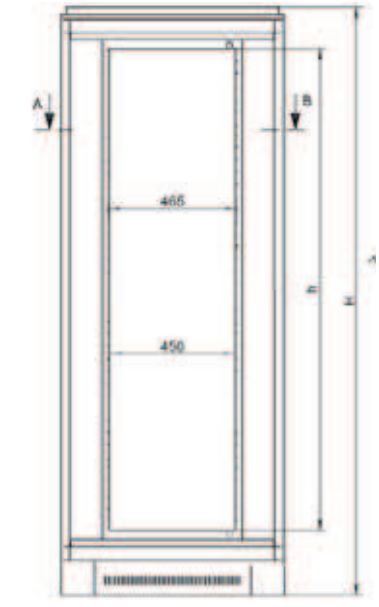
- With fixed 19" installation on the front and rear
- Installation of slot-in runners and 19" shelves possible
- For components in acc. with IEC297-3
- **For installing:**
  - 19" components on the front and rear
  - Equipment with max. construction width of 450 mm
  - Installation accessories
- **Jumpering space**
  At the front: 73 mm
- **Load rating**
  5000 N static
- **Tests**
  - Earthing in acc. with VDE 0100 T 540
  - Vibration test in acc. with MIL-STD 810 E
- **Material/finish**
  - Basic rack, extruded aluminum, polished
  - Corner piece, die-cast aluminum
  - Multifunctional braces and 19" sheet steel angular extrusions, zinc-passivated
- **Supply schedule**
  1 basic rack
  4 19" sheet steel angular extrusions with mounting holes
  2 multifunctional braces for cable clamping and universal mounting options
  4 leveling feet (0-25 mm)
- **How supplied**
  - Assembled
- **Note**
  Rack suites
  In a rack suite, per connection you require a set of suite connectors BN 01.130.935.7

W	H	D	U	h	d	kg	Model	Order no.	UP
591	1196	585	23	1052	440	14		**01.130.190.0**	1 unit
591	1796	585	37	1652	440	16		**01.130.193.0**	1 unit
591	1996	585	41	1852	440	17		**01.130.194.0**	1 unit
591	2196	585	46	2052	440	18		**01.130.195.0**	1 unit
591	1196	785	23	1052	640	16		**01.130.280.0**	1 unit
591	1796	785	37	1652	640	18		**01.130.283.0**	1 unit
591	1996	785	41	1852	640	19		**01.130.284.0**	1 unit
591	2196	785	46	2052	640	20		**01.130.285.0**	1 unit
791	1196	585	23	1052	440	16		**01.130.226.0**	1 unit
791	1796	585	37	1652	440	18		**01.130.229.0**	1 unit
791	1996	585	41	1852	440	19		**01.130.230.0**	1 unit
791	2196	585	46	2052	440	20		**01.130.231.0**	1 unit
791	1196	785	23	1052	640	18		**01.130.316.0**	1 unit
791	1796	785	37	1652	640	20		**01.130.319.0**	1 unit
791	1996	785	41	1852	640	21		**01.130.320.0**	1 unit
791	2196	785	46	2052	640	22		**01.130.321.0**	1 unit

MIR20305



MIR00047



MIR00047

Knürr Miracel® 19" Distribution Rack with Swing Frame, NS 19.8 D
Width 800, with front glass door, single

- With 19" swing frame for components in acc. with IEC 297-3
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Dissipated heat discharge via raised fan roof
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

Load rating
800 N static in the swing frame
5000 N static in total

Protection rating
IP 40

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 529

Material/finish
- Extruded aluminum
- Corner piece, die-cast aluminum
- Covers, zinc-passivated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
- Swing frame, sheet steel, powder-coated, front board support, zinc-passivated
- Multifunctional braces and 19" swing frame, sheet steel, zinc-passivated

Color
Visible surface of covers, RAL 7035 light gray

Supply schedule
1 basic rack
1 19" swing frame with mounting holes for caged nuts M5
2 multifunctional braces for cable clamping and universal mounting options
1 raised top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
1 rear panel with quick connectors
2 side panels with quick connectors
1 plinth for cable entry on the side and rear with leveling feet (0-25mm)
2 plinth panels for front and rear, with vent slots and fixing for filter mat
1 complete earthing test (VDE 0100)

How supplied
Assembled

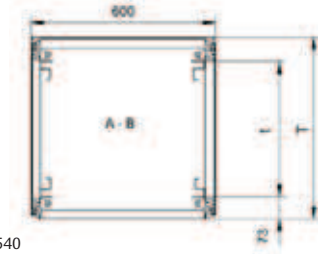
W	H	D	U	h	d	kg	Model	Order no.	UP
800	2120	600	38	1692.8	435	111	With side panels	**01.135.274.1**	1 unit
800	2320	600	42	1870.6	435	120	With side panels	**01.135.275.1**	1 unit
800	2120	800	38	1692.8	635	119	With side panels	**01.135.292.1**	1 unit
800	2320	800	42	1870.6	635	128	With side panels	**01.135.293.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit, 1 U = 44.45 mm
UP = unit of packaging
kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

MIR20309

MIR00540



MIR00540

Knürr Miracel®
Without front door, width 600 mm

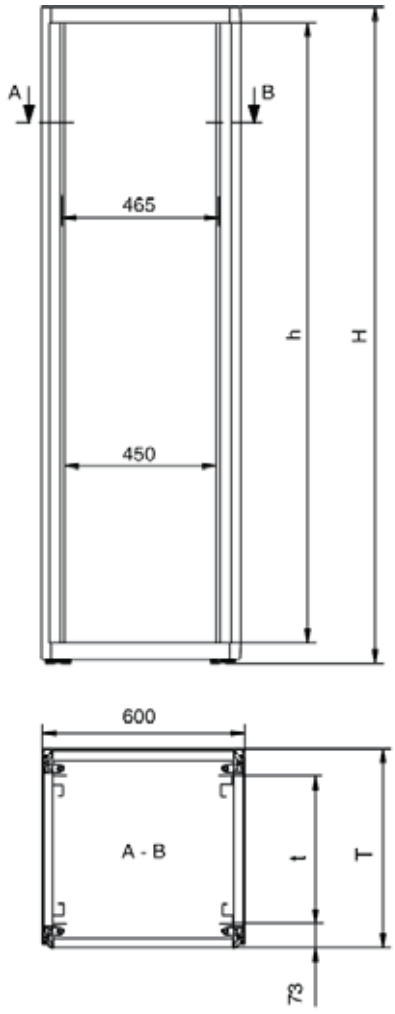
- With fixed 19" installation on the front and rear
- Installation of slot-in runners and 19" shelves possible
- For components in acc. with IEC297-3
- **For installing:**
  - 19" components on the front and rear
  - Equipment with max. construction width of 450 mm
  - Installation accessories
- **Jumpering space**
  At the front: 73 mm
- **Load rating**
  5000 N static
- **Tests**
  - Earthing in acc. with VDE 0100 T 540
  - Vibration test in acc. with MIL-STD 810 E
- **Material/finish**
  - Basic rack, extruded aluminum
  - Corner piece, die-cast aluminum
  - Covers and trim extrusions, zinc-passivated sheet steel, powder-coated texture
  - Multifunctional braces and 19" extrusions, sheet steel, zinc-passivated
- **Color**
  - Basic rack, polished
  - Visible surface of the covers, RAL 7035 light gray
  - Trim extrusions: RAL 5008 gray-blue
- **Supply schedule**
  1 basic rack
  4 19" sheet steel angular extrusions with mounting holes
  2 multifunctional braces for cable clamping and universal mounting options
  1 top cover, closed
  1 rear panel with quick connectors
  2 side panels with quick connectors
  2 horizontal trim extrusions, front
  2 vertical trim extrusions, front
  4 leveling feet (0-25 mm)
- **How supplied**
  - Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
600	1200	600	23	1052	440	42		**01.131.068.1**	1 unit
600	1800	600	37	1652	440	57		**01.131.071.1**	1 unit
600	2000	600	41	1852	440	62		**01.131.072.1**	1 unit
600	2200	600	46	2052	440	66		**01.131.073.1**	1 unit
600	1200	800	23	1052	640	48		**01.131.074.1**	1 unit
600	1800	800	37	1652	640	63		**01.131.077.1**	1 unit
600	2000	800	41	1852	640	69		**01.131.078.1**	1 unit
600	2200	800	46	2052	640	75		**01.131.079.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20336

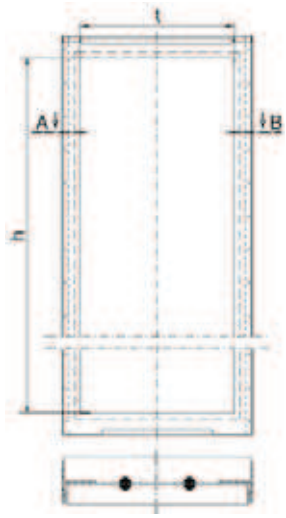


MIR00301

Knürr Miracel® IP 55
With glass door, single, width 600 mm

- With fixed 19" installation on the front and rear
- For components in acc. with IEC297-3
- Door opening angle, 180°
- **For installing:**
  - 19" components on the front and rear
  - Equipment with max. construction width of 450 mm
  - Installation accessories
- **Jumpering space**
  At the front: 73 mm
- **Load rating**
  5000 N static
- **Protection rating**
  IP 55
- **Tests**
  - Earthing in acc. with VDE 0100 T 540
  - Vibration test in acc. with MIL-STD 810 E
  - IP test in acc. with DIN 40 050 / IEC 529
- **Material/finish**
  - Basic rack, extruded aluminum, polished
  - Corner piece, die-cast aluminum, polished
  - Covers, zinc-passivated sheet steel, powder-coated texture
  - Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
  - Multifunctional braces and 19" extrusions, sheet steel, zinc-passivated
- **Color**
  Visible surface of covers, RAL 7035 light gray
- **Supply schedule**
  1 basic rack
  4 19" sheet steel angular extrusions with mounting holes
  2 multifunctional braces for cable clamping and universal mounting options
  1 top cover, closed, IP 55
  1 front door, single, single safety glass panel, with handle and mounting for cylinder lock, IP 55
  1 rear panel with quick connectors, IP 55
  2 side panels with quick connectors, IP 55
  1 bottom cover, closed, IP 55
  4 leveling feet (0-25 mm)
- **How supplied**
  - Assembled
- **Note**
  Rack suites
  To create a rack suite with "n" racks, you require:
  (n-1) racks without side panels
  1 rack with side panels
  In a rack suite, per connection you require a set of suite connectors BN 01.130.935.7

  IP 55 sealing frame on request!



MIR00304

Sealing frame

W	H	D	U	h	d	kg	Model	Order no.	UP
600	1200	600	23	1052	440	55		**01.132.268.1**	1 unit
600	1600	600	32	1452	440	69		**01.132.270.1**	1 unit
600	1800	600	37	1652	440	75		**01.132.271.1**	1 unit
600	2000	600	41	1852	440	80		**01.132.272.1**	1 unit
600	2200	600	46	2052	440	86		**01.132.273.1**	1 unit
600	1200	800	23	1052	640	65		**01.132.274.1**	1 unit
600	1600	800	32	1452	640	76		**01.132.276.1**	1 unit
600	1800	800	37	1652	640	83		**01.132.277.1**	1 unit
600	2000	800	41	1852	640	90		**01.132.278.1**	1 unit
600	2200	800	46	2052	640	96		**01.132.279.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR00100

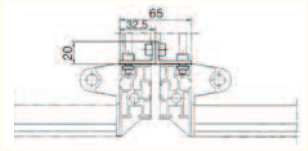
Miracel® Rack Connector Internal mounting

- For mechanical, stable connection of rack and frame suites

Material/finish
- Sheet steel, 2 mm, zinc passivated

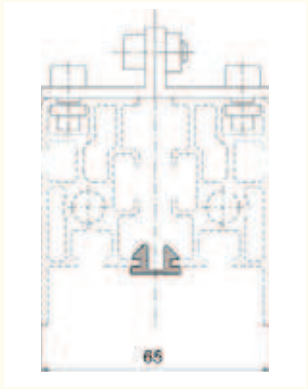
Supply schedule
8 mounting brackets (for connecting 2 racks / frames)
Mounting material

How supplied
Flat-packed kit



MIR00168

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.130.935.7	1 unit



MIR00320

Miracel® Cover Extrusion for Rack Suites, IP20

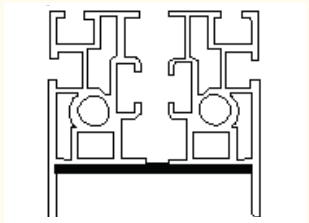
Material
PVC extruder extrusion, black

Supply schedule
2 vertical lengths
2 depth lengths

W	H	D	U	h	d	kg	Model	Order no.	UP
	1200	D 600	23					**01.131.270.9**	1 unit
	1800	D 600	37					**01.131.273.9**	1 unit
	2000	D 600	41					**01.131.274.9**	1 unit
	2200	D 600	46					**01.131.275.9**	1 unit
	1200	D 800	23					**01.131.276.9**	1 unit
	1800	D 800	37					**01.131.279.9**	1 unit
	2000	D 800	41					**01.131.280.9**	1 unit
	2200	D 800	46					**01.131.281.9**	1 unit
	1200	D 900	23					**01.131.282.9**	1 unit
	1800	D 900	37					**01.131.285.9**	1 unit
	2000	D 900	41					**01.131.286.9**	1 unit
	2200	D 900	46					**01.131.287.9**	1 unit
	2000	D 1000	41					**01.127.760.9**	1 unit
	2200	D 1000	46					**01.127.761.9**	1 unit
	2000	D 1200	41					**01.127.762.9**	1 unit
	2200	D 1200	46					**01.127.763.9**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound



MIR20036

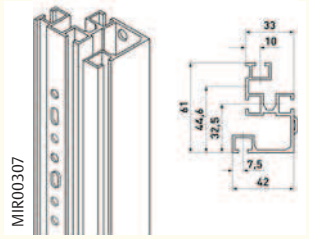
Miracel® Rack Connector External mounting

- For secure connection of several racks
- Front and rear external mounting

Material
- Sheet steel, 1 mm, zinc-passivated

Supply schedule
4 mounting straps
Mounting material

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.127.114.9	1 unit



MIR00307

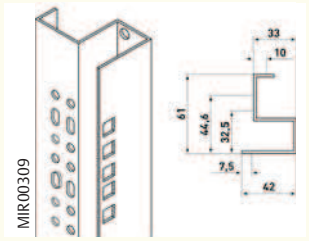
Miracel® 19" Vertical Extrusion, Aluminum With T-slot and increment slide

- For front and rear installation in the rack
- Spring nut, variable and adjustable in U increment (19")
- Please order suitable assembly kit for rack widths 700 / 800
- With W 600 screws and spring nuts

Material
Extruded aluminum, polished

Supply schedule
2 Vertical extrusions with increment slides

W	H	D	U	h	d	kg	Model	Order no.	UP
	1200		23	1100				**01.130.828.0**	1 unit
	1800		37	1700				**01.130.834.0**	1 unit
	2000		41	1900				**01.130.835.0**	1 unit
	2200		46	2100				**01.130.836.0**	1 unit



MIR00309

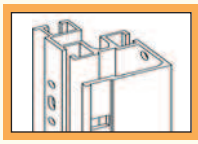
Miracel® 19" Vertical Extrusion, steel with mounting holes

- For front and rear installation in the rack
- Caged nut mountable in HU/U increments (19")
- Please order suitable assembly kit for rack widths 700 / 800
- With W 600 screws and spring nuts

Material
Sheet steel, 1.5 mm, zinc-passivated

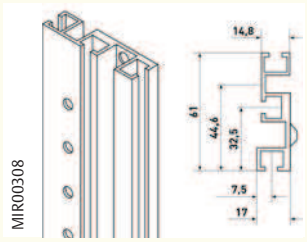
Supply schedule
2 vertical extrusions with mounting holes

W	H	D	U	h	d	kg	Model	Order no.	UP
	1200		23	1100				**01.130.803.0**	1 unit
	1800		37	1700				**01.130.809.0**	1 unit
	2000		41	1900				**01.130.810.0**	1 unit
	2200		46	2100				**01.130.811.0**	1 unit



Note:

19" alu extrusions with mounting holes on request



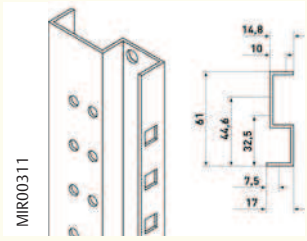
Type 1

Miracel® Vertical Extrusion, MEPS 20 modules

- For metric racks, 20 module
- Spring nut, stepless and adjustable in standard increment
- Please order suitable assembly kit for rack widths 700 / 800
- With W 600 screws and spring nuts

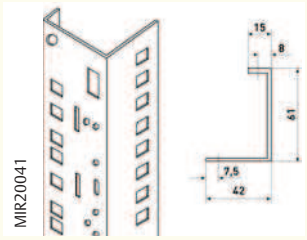
Material
- Type 1: Extruded aluminum, polished
- Type 2: Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
2 vertical extrusions



Type 2

W	H	D	U	h	d	kg	Model	Order no.	UP
	1800		66	1700			Alu T-slot	**01.130.847.0**	1 unit
	2000		74	1900			Alu T-slot	**01.130.848.0**	1 unit
	2200		82	2100			Alu T-slot	**01.130.849.0**	1 unit
	1800		66	1700			Steel mount. holes	**01.130.822.0**	1 unit
	2000		74	1900			Steel mount. holes	**01.130.823.0**	1 unit
	2200		82	2100			Steel mount. holes	**01.130.824.0**	1 unit



Miracel® 19" Server Extrusion, steel with mounting holes

- For mounting trade standard 19"servers
- Please order suitable assembly kit for rack widths 700 / 800
- Please order mounting adapter for Knürr standard components

Material
Sheet steel, 2 mm, zinc-passivated

Supply schedule
4 19" server extrusions

W	H	D	U	h	d	kg	Model	Order no.	UP
	2000		41					**01.127.214.0**	1 unit
	2200		46					**01.127.215.0**	1 unit

MIR20044

Miracel® Mounting Adapter for 19" Server Extrusion

- For mounting Knürr standard components (storage shelves, drawers, slot-in runners, keyboard runners, etc.) in 19" installation space

Material
Sheet steel, zinc-passivated

Supply schedule
4 adapters

W	H	D	U	h	d	kg	Model	Order no.	UP
			1					**01.127.119.9**	1 unit

MIR00510

Miracel® Assembly Kits for Extrusions

Supply schedule
4 node brackets (full installation)
2 node brackets (shortened installation)
2 Z brackets (shortened installation)
Mounting material

W	H	D	U	h	d	kg	Model	Order no.	UP
700							Short inst.	**01.131.219.7**	1 unit
800							Short inst.	**01.131.221.7**	1 unit
700							Full inst.	**01.131.220.7**	1 unit
800							Full inst.	**01.131.222.7**	1 unit

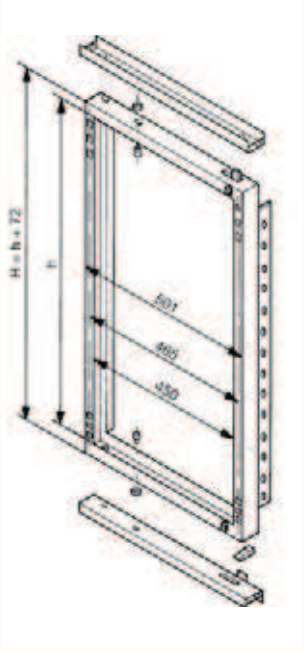
LUF20337

Miracel® U Tape Measure

- For sticking on Miracel 19" extrusions
- Enables fast component positioning on the correct U position
- Standard length, 48 U; shorten as required

Supply schedule
1 tape measure

W	H	D	U	h	d	kg	Model	Order no.	UP
			48					**01.128.400.9**	1 unit



MIR00162

Miracel® Swing Frame 90° / 105° / 130°

- **Maximum installation weight**
  80 kg
- **Also order assembly kit**
  01.131.317.1
- **Swing frame earthing set**
  01.110.610.9
- **Material**
  Sheet steel, 2 mm
- **Finish**
  Powder-coated texture, RAL 7035 light gray
- **Note**
  The rack's nominal installation height is reduced by 3 U with the installation of a swing frame
- **Supply schedule**
  1 frame
  2 horizontal rails
  1 square spanner
  Mounting material
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
800	2000		38	1692.8				**01.117.079.1**	1 unit

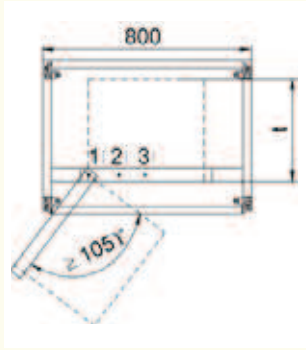
MIR00209

19" Swing Frame, 180°

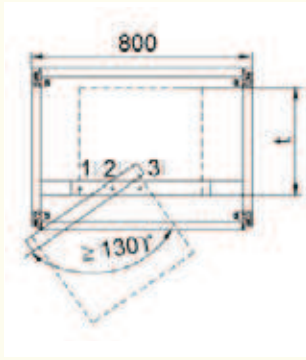
- With swing frame use the rack must be screwed to the floor.
- Installation of the swing frame reduces the rack's nominal installation height by 2 U.
- With load rating > 80 kg installation weight, please also order additional assembly kit, side panel screwing!

- **19"-Drehrahmen 180°**
  - For mounting 19" components in acc. with IEC 297-3
  - Enables free accessibility to the second mounting level and to the installation components in the swing frame
  - Can be mounted in rack width 800 mm
  - Rack must be screwed to the floor
- **Material**
  - Frame, 2 mm sheet steel
  - Die-cast aluminum pivot bearing
- **Finish/color**
  Frame and horizontal rail
  Powder-coated texture, RAL 7035 light gray
  Front panel support on the vertical post, zinc-passivated
- **Supply schedule**
  1 19" swing frame, complete
  1 horizontal mounting, below
  1 horizontal mounting, above
  1 square spanner
  Mounting material

W	H	D	U	h	d	kg	Model	Order no.	UP
800	2000		39	1737				**01.131.430.1**	1 unit



MIR00322 **A**



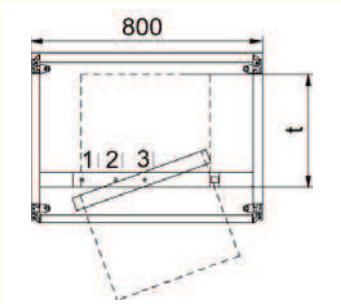
MIR00323 **B**

Useful depth according to rack type and pivot point

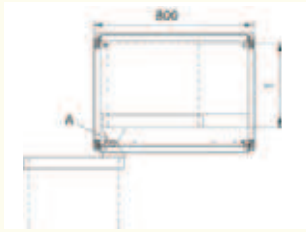
A Center inst., pivot point 1
B Center inst., pivot point 2
C Center inst., pivot point 3

W [mm]	H [mm]	D [mm]
800		600
800		800

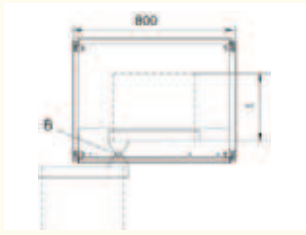
A	B	C	D
390	370	360	285
535	370	360	285



MIR00324 **C**



MIR00315



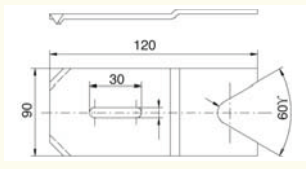
MIR00316

Useful depth according to rack type and pivot point

A External inst., external pivot point
B Center inst., pivot point 1

W [mm]	H [mm]	D [mm]
800		600/800

A	B
420	290



MIR00319

Assembly Kit Base fixing

- **Material**
  Sheet steel, 3.0 mm
- **Finish**
  Zinc-passivated
- **Supply schedule**
  4 clamping plates

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.130.934.7	1 unit

MIR20310

Miracel® Sheet Steel Door with perforation, single

- **Material**
  Sheet steel, 1.0 mm
- **Finish/color**
  Final digit of order number .1:
  Powder-coated texture
  RAL 7035 light gray
  Final digit of order number .8:
  Powder-coated texture
  RAL 7021 dark gray
- **Supply schedule**
  1 door
  Mounting material
- **Volume flow**
  A large surface perforation (83% free surface) enables optimum airflow through the rack

W	H	D	U	h	d	kg	Model	Order no.	UP
600	1200						Compl. door RAL 7035	**01.147.400.1**	1 unit
600	1200						Compl. door RAL 7021	**01.147.400.8**	1 unit
700	1200						Compl. door RAL 7035	**01.147.401.1**	1 unit
700	1200						Compl. door RAL 7021	**01.147.401.8**	1 unit
800	1200						Compl. door RAL 7035	**01.147.402.1**	1 unit
800	1200						Compl. door RAL 7021	**01.147.402.8**	1 unit
600	1800						Compl. door RAL 7035	**01.147.412.1**	1 unit
600	1800						Compl. door RAL 7021	**01.147.412.8**	1 unit
700	1800						Compl. door RAL 7035	**01.147.413.1**	1 unit
700	1800						Compl. door RAL 7021	**01.147.413.8**	1 unit
800	1800						Compl. door RAL 7035	**01.147.414.1**	1 unit
800	1800						Compl. door RAL 7021	**01.147.414.8**	1 unit
600	2000						Compl. door RAL 7035	**01.147.416.1**	1 unit
600	2000						Compl. door RAL 7021	**01.147.416.8**	1 unit
700	2000						Compl. door RAL 7035	**01.147.417.1**	1 unit
700	2000						Compl. door RAL 7021	**01.147.417.8**	1 unit
800	2000						Compl. door RAL 7035	**01.147.418.1**	1 unit
800	2000						Compl. door RAL 7021	**01.147.418.8**	1 unit
600	2200						Compl. door RAL 7035	**01.147.420.1**	1 unit
600	2200						Compl. door RAL 7021	**01.147.420.8**	1 unit
700	2200						Compl. door RAL 7035	**01.147.421.1**	1 unit
700	2200						Compl. door RAL 7021	**01.147.421.8**	1 unit
800	2200						Compl. door RAL 7035	**01.147.422.1**	1 unit
800	2200						Compl. door RAL 7021	**01.147.422.8**	1 unit

MIR20277

Miracel® Sheet Steel Door with perforation, double

- **Material**
  Sheet steel, 1.0 mm
- **Finish/color**
  Final digit of order number .1:
  Powder-coated texture
  RAL 7035 light gray
  Final digit of order number .8:
  Powder-coated texture
  RAL 7021 dark gray
- **Supply schedule**
  1 door
  Mounting material
- **Volume flow**
  A large surface perforation (83% free surface) enables optimum airflow through the rack

W	H	D	U	h	d	kg	Model	Order no.	UP
600	2000						Double door RAL 7035	**01.128.260.1**	1 unit
600	2000						Double door RAL 7021	**01.128.260.8**	1 unit
700	2000						Double door RAL 7035	**01.128.261.1**	1 unit
700	2000						Double door RAL 7021	**01.128.261.8**	1 unit
800	2000						Double door RAL 7035	**01.128.262.1**	1 unit
800	2000						Double door RAL 7021	**01.128.262.8**	1 unit
600	2200						Double door RAL 7035	**01.128.263.1**	1 unit
600	2200						Double door RAL 7021	**01.128.263.8**	1 unit
700	2200						Double door RAL 7035	**01.128.264.1**	1 unit
700	2200						Double door RAL 7021	**01.128.264.8**	1 unit
800	2200						Double door RAL 7035	**01.128.265.1**	1 unit
800	2200						Double door RAL 7021	**01.128.265.8**	1 unit

MIR00059

MIR00060

Miracel® Door Trim

- **Material**
  Aluminum extrusion or sheet steel
- **Finish/color**
  Powder-coated texture, RAL 9011
- **Supply schedule**
  1 door trim (single doors)
  2 door trims (double doors)
  Mounting material
- **How supplied**
  Flat-packed kit

W	H	D	Model	Order no.	UP
600			Door trim, double door*	**01.133.200.9**	1 set
700			Door trim, double door*	**01.133.201.9**	1 set
800			Door trim, double door*	**01.133.202.9**	1 set
600			Door trim	**01.133.210.9**	1 set
700			Door trim	**01.133.211.9**	1 set
800			Door trim	**01.133.212.9**	1 set

*Cannot be used for glass double doors

Dimensions in mm: W= Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20313

MIR20314

Knürr Miracel® Sheet Steel Door, single and double

- **Material**
  Sheet steel, 1.0 mm
- **Finish/color**
  Final digit of order number .1: Powder-coated texture
  RAL 7035 light gray
  Final digit of order number .8: Powder-coated texture
  RAL 7021 dark gray
- **Protection rating**
  With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved with IP 40 double doors.
- **Supply schedule**
  1 sheet steel door
  Mounting material
- **How supplied**
  Preassembled

W	H	D	U	Model	Order no.	UP
600	1200		23	Compl. door RAL 7035	**01.147.440.1**	1 unit
600	1200		23	Compl. door RAL 7021	**01.147.440.8**	1 unit
700	1200		23	Compl. door RAL 7035	**01.147.441.1**	1 unit
700	1200		23	Compl. door RAL 7021	**01.147.441.8**	1 unit
800	1200		23	Compl. door RAL 7035	**01.147.442.1**	1 unit
800	1200		23	Compl. door RAL 7021	**01.147.442.8**	1 unit
600	1800		37	Compl. door RAL 7035	**01.147.452.1**	1 unit
600	1800		37	Compl. door RAL 7021	**01.147.452.8**	1 unit
700	1800		37	Compl. door RAL 7035	**01.147.453.1**	1 unit
700	1800		37	Compl. door RAL 7021	**01.147.453.8**	1 unit
800	1800		37	Compl. door RAL 7035	**01.147.454.1**	1 unit
800	1800		37	Compl. door RAL 7021	**01.147.454.8**	1 unit
600	2000		41	Compl. door RAL 7035	**01.147.456.1**	1 unit
600	2000		41	Compl. door RAL 7021	**01.147.456.8**	1 unit
700	2000		41	Compl. door RAL 7035	**01.147.457.1**	1 unit
700	2000		41	Compl. door RAL 7021	**01.147.457.8**	1 unit
800	2000		41	Compl. door RAL 7035	**01.147.458.1**	1 unit
800	2000		41	Compl. door RAL 7021	**01.147.458.8**	1 unit
600	2200		46	Compl. door RAL 7035	**01.147.460.1**	1 unit
600	2200		46	Compl. door RAL 7021	**01.147.460.8**	1 unit
700	2200		46	Compl. door RAL 7035	**01.147.461.1**	1 unit
700	2200		46	Compl. door RAL 7021	**01.147.461.8**	1 unit
800	2200		46	Compl. door RAL 7035	**01.147.462.1**	1 unit
800	2200		46	Compl. door RAL 7021	**01.147.462.8**	1 unit
600	1200		23	Double door, steel	**01.131.820.1**	1 unit
700	1200		23	Double door, steel	**01.131.821.1**	1 unit
800	1200		23	Double door, steel	**01.131.822.1**	1 unit
600	1800		37	Double door, steel	**01.131.835.1**	1 unit
700	1800		37	Double door, steel	**01.131.836.1**	1 unit
800	1800		37	Double door, steel	**01.131.837.1**	1 unit
600	2000		41	Double door, steel	**01.131.840.1**	1 unit
700	2000		41	Double door, steel	**01.131.841.1**	1 unit
800	2000		41	Double door, steel	**01.131.842.1**	1 unit
600	2200		46	Double door, steel	**01.131.845.1**	1 unit
700	2200		46	Double door, steel	**01.131.846.1**	1 unit
800	2200		46	Double door, steel	**01.131.847.1**	1 unit

MIR20311

MIR20312

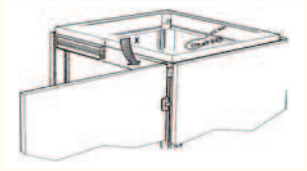
Knürr Miracel® Glass Door, single and double

- **Material**
  Sheet steel 1.0 mm, single safety glass panel 4.0 mm, clear glass, double door 6.0 mm
- **Finish/color**
  Final digit of order number .1: Powder-coated texture
  RAL 7035 light gray
  Final digit of order number .8: Powder-coated texture
  RAL 7021 dark gray
- **Protection rating**
  With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved with IP 20 double doors.
- **Supply schedule**
  1 glass door
  Mounting material
- **How supplied**
  Preassembled

W	H	D	U	Model	Order no.	UP
600	1200		23	Compl. door, RAL 7035	**01.147.480.1**	1 unit
600	1200		23	Compl. door, RAL 7021	**01.147.480.8**	1 unit
700	1200		23	Compl. door, RAL 7035	**01.147.481.1**	1 unit
700	1200		23	Compl. door, RAL 7021	**01.147.481.8**	1 unit
800	1200		23	Compl. door, RAL 7035	**01.147.482.1**	1 unit
800	1200		23	Compl. door, RAL 7021	**01.147.482.8**	1 unit
600	1800		37	Compl. door, RAL 7035	**01.147.492.1**	1 unit
600	1800		37	Compl. door, RAL 7021	**01.147.492.8**	1 unit
700	1800		37	Compl. door, RAL 7035	**01.147.493.1**	1 unit
700	1800		37	Compl. door, RAL 7021	**01.147.493.8**	1 unit
800	1800		37	Compl. door, RAL 7035	**01.147.494.1**	1 unit
800	1800		37	Compl. door, RAL 7021	**01.147.494.8**	1 unit
600	2000		41	Compl. door, RAL 7035	**01.147.496.1**	1 unit
600	2000		41	Compl. door, RAL 7021	**01.147.496.8**	1 unit
700	2000		41	Compl. door, RAL 7035	**01.147.497.1**	1 unit
700	2000		41	Compl. door, RAL 7021	**01.147.497.8**	1 unit
800	2000		41	Compl. door, RAL 7035	**01.147.498.1**	1 unit
800	2000		41	Compl. door, RAL 7021	**01.147.498.8**	1 unit
600	2200		46	Compl. door, RAL 7035	**01.147.500.1**	1 unit
600	2200		46	Compl. door, RAL 7021	**01.147.500.8**	1 unit
700	2200		46	Compl. door, RAL 7035	**01.147.501.1**	1 unit
700	2200		46	Compl. door, RAL 7021	**01.147.501.8**	1 unit
800	2200		46	Compl. door, RAL 7035	**01.147.502.1**	1 unit
800	2200		46	Compl. door, RAL 7021	**01.147.502.8**	1 unit

Continued on next page!

W	H	D	U	Model	Order no.	UP
600	1200		23	Double door, glass	**01.131.850.1**	1 unit
700	1200		23	Double door, glass	**01.131.851.1**	1 unit
800	1200		23	Double door, glass	**01.131.852.1**	1 unit
600	1800		37	Double door, glass	**01.131.862.1**	1 unit
700	1800		37	Double door, glass	**01.131.863.1**	1 unit
800	1800		37	Double door, glass	**01.131.864.1**	1 unit
600	2000		41	Double door, glass	**01.131.866.1**	1 unit
700	2000		41	Double door, glass	**01.131.867.1**	1 unit
800	2000		41	Double door, glass	**01.131.868.1**	1 unit
600	2200		46	Double door, glass	**01.131.870.1**	1 unit
700	2200		46	Double door, glass	**01.131.871.1**	1 unit
800	2200		46	Double door, glass	**01.131.872.1**	1 unit



MIR00216

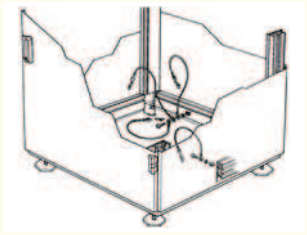
Door / Side Panel / Rear Panel Earthing Set

- For safe earthing of doors and covers

Supply schedule
1 earthline
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
			For doors	**1.130.624.9**	1 unit
			For side and rear panel	**1.133.745.9**	1 unit



MIR00217

Rack Earthing Set

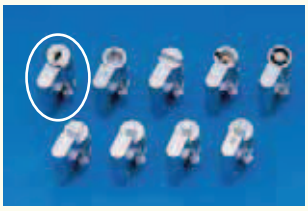
- For safe rack earthing
- Standardized protective conductor connection

Standards
IEC 950
VDE 0100

Supply schedule
5 earthlines
Mounting material

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
				01.130.529.9	1 unit



MIR00066

Door Locking Set

Supply schedule
1 lock set
2 keys (half-cylinder)

Note
Further cylinder locks on request!

W	H	D	U	h	d	kg	Model	Order no.	UP
								05.041.299.9	1 unit

MIR00069

Complete Locking Set

Supply schedule
2 cylinders with 2 keys each
2 lockable fasteners for side panel with 2 keys each

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.130.940.9	1 unit

MIR00068

Miracel® Locking Set (for side or rear panel)

- For installation in the side or rear panel
- For protection against unauthorized access
- Later installation also possible

Supply schedule
1 lockable fastener
2 keys

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.130.938.9	1 unit

MIR00076

Miracel® Plinth, stationary, height 200 mm

- Stationary incl. leveling option
- Cable entry possible from all sides
- Panels front and rear with vent slots and installation option for filter mat

Load rating
3000 N static

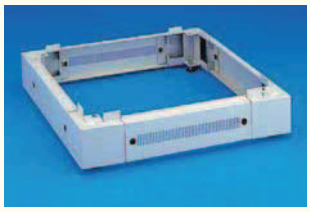
Material
Sheet steel

Finish
Powder-coated texture, RAL 7035

Supply schedule
4 plinth corners with leveling feet
8 panels
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	200	600						**01.130.958.1**	1 unit
600	200	800						**01.130.959.1**	1 unit
600	200	900						**01.130.960.1**	1 unit
700	200	600						**01.130.964.1**	1 unit
700	200	800						**01.130.965.1**	1 unit
800	200	600						**01.130.970.1**	1 unit
800	200	800						**01.130.971.1**	1 unit



MIR00414

Miracel® Plinth Stationary, height 100 mm

- Stationary
- Cable entry possible from all sides
- Panels front and rear with vent slots and installation option for filter mat

Load rating
5000 N static

Material
Sheet steel

Finish
Powder-coated texture, RAL 7035

Supply schedule
4 plinth corners with leveling
2 plinth panels with slots
2 plinth panels closed on the side
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	100	600						**01.130.538.1**	1 unit
600	100	800						**01.130.539.1**	1 unit
600	100	900						**01.130.540.1**	1 unit
600	100	1000						**01.127.650.1**	1 unit
600	100	1200						**01.133.710.1**	1 unit
700	100	600						**01.130.544.1**	1 unit
700	100	800						**01.130.545.1**	1 unit
700	100	900						**01.130.546.1**	1 unit
700	100	1000						**01.127.651.1**	1 unit
700	100	1200						**01.133.711.1**	1 unit
800	100	600						**01.130.550.1**	1 unit
800	100	800						**01.130.551.1**	1 unit
800	100	900						**01.130.552.1**	1 unit
800	100	1000						**01.127.652.1**	1 unit
800	100	1200						**01.133.712.1**	1 unit

MIR20088

Miracel® Castors

- Can be mounted on the threaded eyelet of the basic rack
- Castor diameter, 75 mm
- Threaded bolt, M12
- Load capacity per castor: 100 kg

Supply schedule
4 swivel castors

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
	109.5							**05.031.057.9**	4 units

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit (1 U = 44.45 mm), UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR00077

Miracel® Plinth Mobile, height 100 mm

- Mobile
- Cable entry possible on the rear
- With leveling feet for stationary model

Load rating
3000 N static

Material
Sheet steel, 2 mm

Finish
Powder-coated texture, RAL 7035

Supply schedule
1 plinth frame
2 fixed castors with snib
2 swivel castors
4 leveling feet
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	100	600						**01.130.561.1**	1 unit
600	100	800						**01.130.562.1**	1 unit
600	100	900						**01.130.563.1**	1 unit
600	100	1000						**01.127.250.1**	1 unit
600	100	1200						**01.133.715.1**	1 unit
700	100	600						**01.130.565.1**	1 unit
700	100	800						**01.130.566.1**	1 unit
700	100	1000						**01.127.253.1**	1 unit
700	100	1200						**01.133.716.1**	1 unit
800	100	600						**01.130.569.1**	1 unit
800	100	800						**01.130.570.1**	1 unit
800	100	900						**01.130.571.1**	1 unit
800	100	1000						**01.127.254.1**	1 unit
800	100	1200						**01.133.717.1**	1 unit

ELM00103a

Front Panel (pivots)

- For covering the side jumpering space on the front in Miracel racks, width 800
- Easy to open with jumpering work

Material/finish
Sheet steel, 1.0 mm, powder-coated texture

Color
RAL 7035 light gray

Supply schedule
2 front panels
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
	1003		23				For rack width 800	**01.113.044.1**	1 unit
	1003		23				For rack width 800	**01.113.044.8**	1 unit
	1803		41				For rack width 800	**01.113.048.1**	1 unit
	1803		41				For rack width 800	**01.113.048.8**	1 unit
	2002		46				For rack width 800	**01.113.049.1**	1 unit
	2002		46				For rack width 800	**01.113.049.8**	1 unit

MIR00355

Miracel® Bottom Cover
For flexible cable entry with rubber sealing, IP 40

- For covering the rack underside
- With rubber sealing for flexible cable entry on the front and rear

Material/finish
Sheet steel, 1.5 mm, zinc-passivated
Sponge rubber, 50 mm x 50 mm

Supply schedule
1 cable entry
2 bottom covers
2 mounting brackets
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600		600						**01.130.732.0**	1 unit
600		800						**01.130.733.0**	1 unit
600		900						**01.130.734.0**	1 unit
600		1000						**01.127.670.0**	1 unit
600		1200						**01.133.740.0**	1 unit
700		600						**01.130.735.0**	1 unit
700		800						**01.130.736.0**	1 unit
700		900						**01.127.671.0**	1 unit
700		1000						**01.127.672.0**	1 unit
700		1200						**01.133.741.0**	1 unit
800		600						**01.130.738.0**	1 unit
800		800						**01.130.739.0**	1 unit
800		900						**01.130.740.0**	1 unit
800		1000						**01.127.673.0**	1 unit
800		1200						**01.133.742.0**	1 unit

MIR00521

Miracel® Plinth Panel With brush strip

- For cable entry on the side, front and rear

Finish
Powder-coated texture, RAL 7035

Supply schedule
1 plinth panel with brush strip
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600		600						**01.130.744.1**	1 unit
800		800						**01.130.745.1**	1 unit

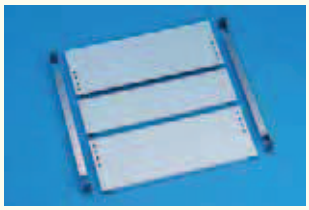
MIR00161

Miracel® Filter Mat for Plinth Panel
For installation in plinth panel on the front and rear

Supply schedule
2 filter mats

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600								**01.130.530.9**	1 unit
700								**01.130.531.9**	1 unit
800								**01.130.532.9**	1 unit



MIR00357

Miracel® Bottom Cover, 3-piece

- For covering the rack underside
- For flexible cable entry on the front and rear

Material/finish
Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
3 bottom covers
2 mounting brackets
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600		600						**01.130.750.0**	1 unit
600		800						**01.130.751.0**	1 unit
600		900						**01.130.752.0**	1 unit
600		1000						**01.127.660.0**	1 unit
600		1200						**01.133.730.0**	1 unit
700		600						**01.130.753.0**	1 unit
700		800						**01.130.754.0**	1 unit
700		900						**01.130.755.0**	1 unit
700		1000						**01.127.662.0**	1 unit
700		1200						**01.133.731.0**	1 unit
800		600						**01.130.756.0**	1 unit
800		800						**01.130.757.0**	1 unit
800		900						**01.130.758.0**	1 unit
800		1000						**01.127.663.0**	1 unit
800		1200						**01.133.732.0**	1 unit

MIR20331

Miracel® Quick Connectors For side and rear panels

- Covers quickly fixed with 90° rotation of the connectors
- Easy to turn with wide flat-head screwdriver

Material/Color
Final digit of order number .1: Polyamide PA66
RAL 7035 light gray
Final digit of order number .9: Polyamide PA66
RAL 9011 dark gray

How supplied
Sets of 50 units

	Model	Order no.	UP
	For side panel RAL 7035	**01.133.900.1**	1 set
	For side panel RAL 9011	**01.133.900.9**	1 set
	For rear panel RAL 7035	**01.133.910.1**	1 set
	For rear panel RAL 9011	**01.133.910.9**	1 set

Dimensions in mm: W= Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

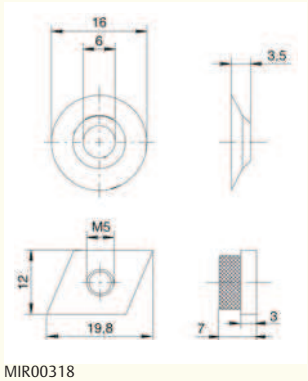
Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

MIR00064

Miracel® Side Panel

- **Protection rating**
  With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved
- **Material**
  Sheet steel, 1.0 mm
- **Finish/color**
  Powder-coated texture, RAL 7035
- **Supply schedule**
  1 Side panel
  Mounting material
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
	1200	600	23					**01.130.643.1**	1 unit
	1200	800	23					**01.130.649.1**	1 unit
	1200	900	23					**01.130.655.1**	1 unit
	1800	600	37					**01.130.646.1**	1 unit
	1800	800	37					**01.130.652.1**	1 unit
	2000	600	41					**01.130.647.1**	1 unit
	2000	800	41					**01.130.653.1**	1 unit
	2000	900	41					**01.130.659.1**	1 unit
	2000	1000	41					**01.127.739.1**	1 unit
	2000	1200	41					**01.128.874.1**	1 unit
	2200	600	46					**01.130.648.1**	1 unit
	2200	800	46					**01.130.654.1**	1 unit
	2200	900	46					**01.130.660.1**	1 unit
	2200	1000	46					**01.127.740.1**	1 unit
	2200	1200	46					**01.128.875.1**	1 unit



MIR00318

Miracel® Assembly Kit Side panel threaded connection

- For screwing the side panels instead of using quick connectors
- Provides additional rack strength

- **Material**
  Countersunk washers and mounting nuts
  Stainless steel
- **Supply schedule** (for 2 side panels)
  16 countersunk washers
  16 mounting nuts, M5
  16 countersunk screws, M5 x 12
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.130.937.9	1 unit

MIR00064

Miracel® Rear Panel

- **Protection rating**
  With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved
- **Material**
  Sheet steel, 1.0 mm
- **Finish/color**
  Powder-coated texture, RAL 7035
- **Supply schedule**
  1 rear panel
  Mounting material
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	1200		23					**01.130.662.1**	1 unit
600	1800		37					**01.130.665.1**	1 unit
600	2000		41					**01.130.666.1**	1 unit
600	2200		46					**01.130.667.1**	1 unit
700	1200		23					**01.130.668.1**	1 unit
700	1800		37					**01.130.671.1**	1 unit
700	2000		41					**01.130.672.1**	1 unit
700	2200		46					**01.130.673.1**	1 unit
800	1200		23					**01.130.674.1**	1 unit
800	1800		37					**01.130.677.1**	1 unit
800	2000		41					**01.130.678.1**	1 unit
800	2200		46					**01.130.679.1**	1 unit

MIR00068

Miracel® Locking Set (for side or rear panel)

- For installation in the side or rear panel
- For protection against unauthorized access
- Later installation also possible

- **Supply schedule**
  1 lockable fastener
  2 keys
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.130.938.9	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit (1 U = 44.45 mm), UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20093

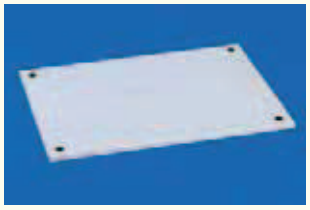
Miracel® Brush Strip

- Brush strip for all covers with cable entry
- For dust-protected and flexible cable entry
- Instead of mounting the sliding covers in the top cover

Supply schedule
2 brush strips

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
							For rack widths 700/800	**01.130.999.9**	1 unit
							For rack width 600	**01.130.998.9**	1 unit



MIR00070

Miracel® Top Cover Closed, IP55

- Can be optionally used as top cover or bottom cover (combination with stationary plinth is not possible with use as bottom cover)

Protection rating
With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved.

Finish
Powder-coated texture, RAL 7035

Supply schedule
1 top cover, closed
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600		600						**01.130.690.1**	1 unit
600		800						**01.130.691.1**	1 unit
600		900						**01.130.692.1**	1 unit
600		1000						**01.127.700.1**	1 unit
600		1200						**01.133.760.1**	1 unit
700		600						**01.130.694.1**	1 unit
700		800						**01.130.695.1**	1 unit
700		900						**01.130.696.1**	1 unit
700		1000						**01.127.701.1**	1 unit
700		1200						**01.133.761.1**	1 unit
800		600						**01.130.691.1**	1 unit
800		800						**01.130.699.1**	1 unit
800		900						**01.130.700.1**	1 unit
800		1000						**01.127.702.1**	1 unit
800		1200						**01.133.762.1**	1 unit

Note:
Knürr CoolBlast® Top-Mounting Fan
from page 1.109

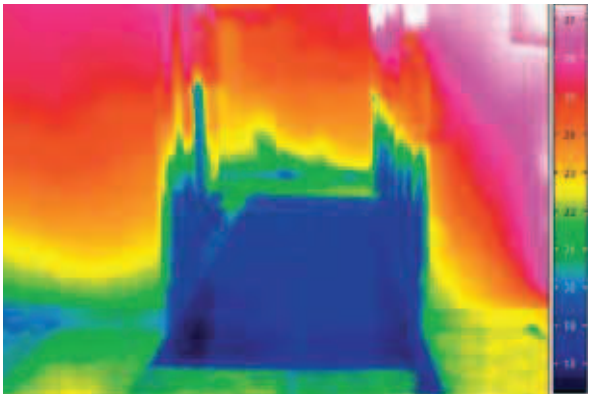
SmartAisle™

Energy-efficient use of existing cooling power in data centers 1.50 to 1.58

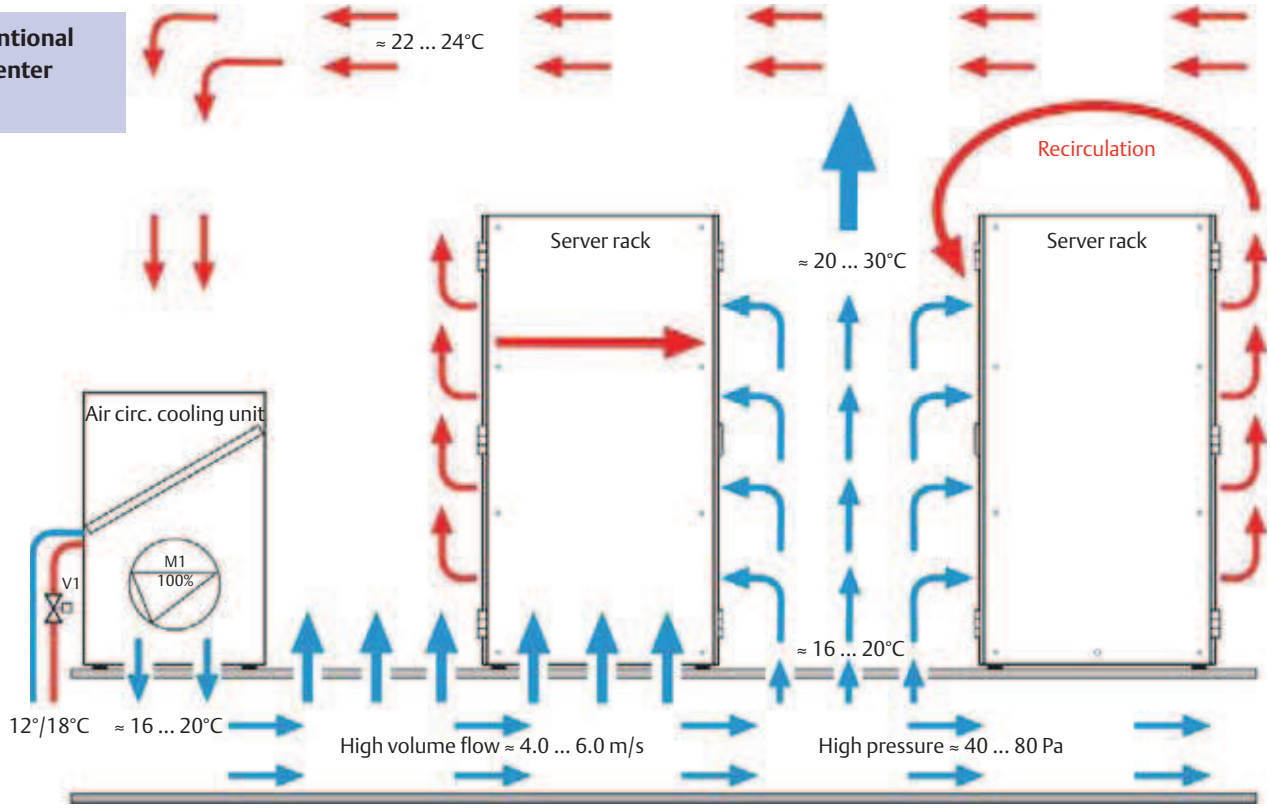
Emerson Network Power

Smart Aisle™

The consistent physical separation of cold zones from warm zones in the three areas – raised floor, rack and cold aisle containment – is the basis for the **SmartAisle™** principle used. This immediately reduces energy costs significantly.
The room thermal management equipment must be regulated speed-dependent for a highly efficient operation (EC fans in the air circulation equipment provide the basis for this).



Conventional data center

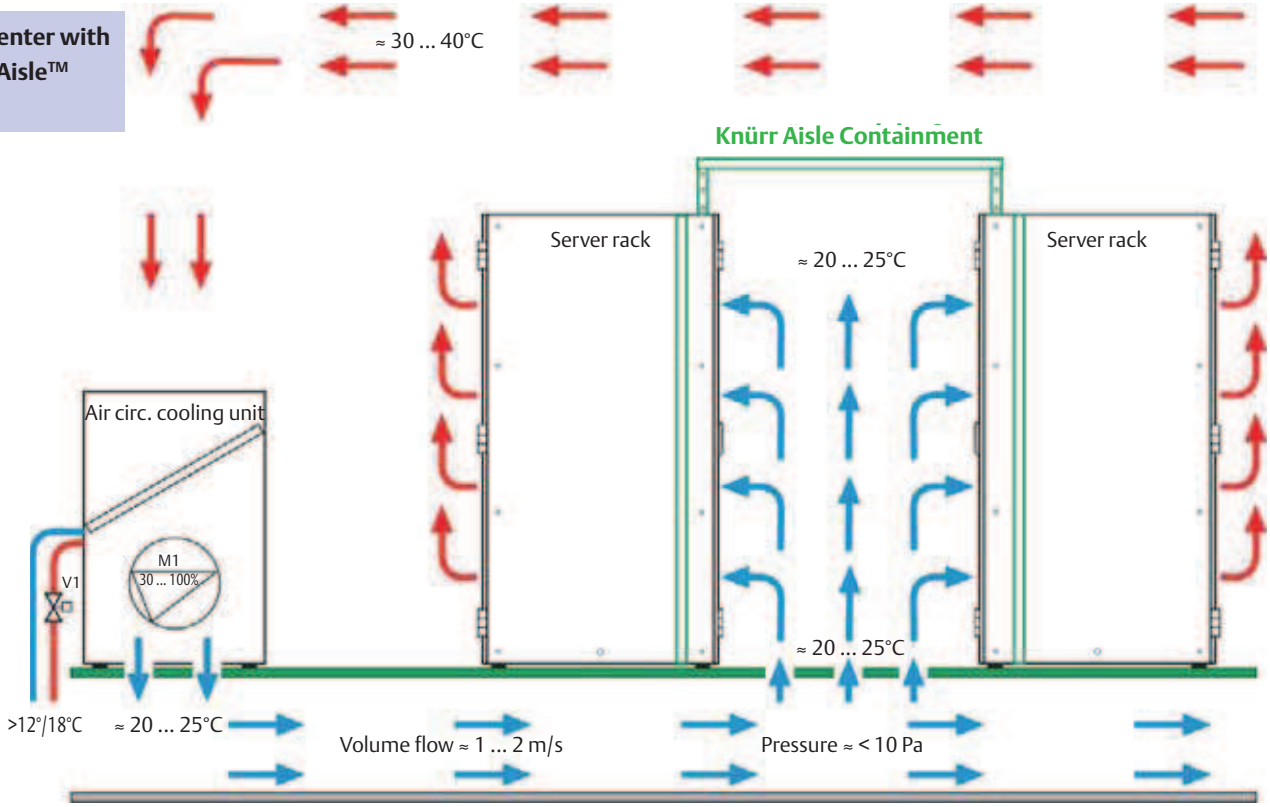


SmartAisle™
Strong points

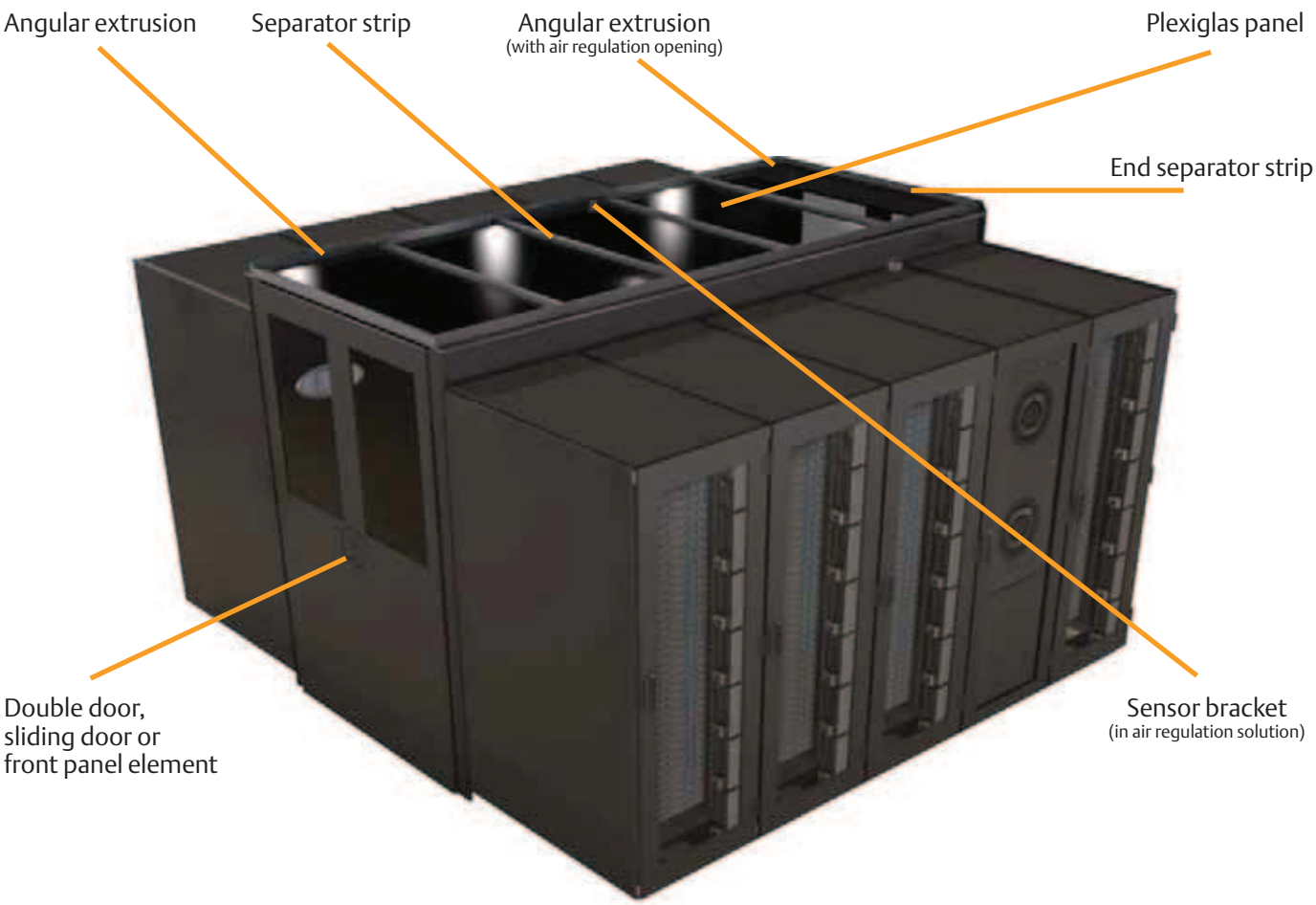
LUF20254

The **benefits** of a containment over a conventional structure are:
- No hot spots (warm air recirculation from the warm aisle into the cold aisle; across the roof and across the front panels or through the rack)
- Minimum possible energy costs for the CRAC units (especially with intelligent Knürr regulation)
- Several servers can be installed
- Raised floor doesn't have to be balanced out (which is difficult and would have to be done after every change in a conventional DC)
- Any server positioning in the rack (with conventional DCs positioning above in the rack and at the front of the aisle are prevented)
- Higher safety with increased CRAC unit redundancy (energy efficient 2n redundancy instead of n+1)
- Safer with CRAC unit failure (longer bridging time)

Data center with SmartAisle™ in use



Knürr Aisle Containment
Components

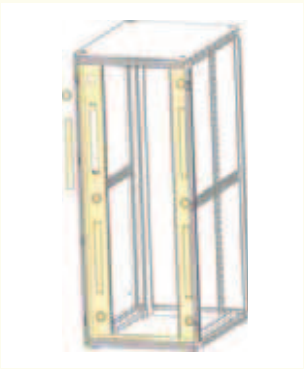


SmartAisle™ regulation principle

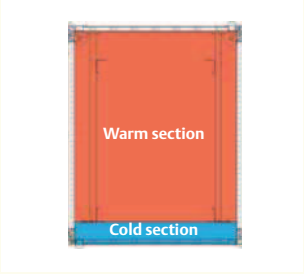
Until now the speed of the fans in the room thermal management equipment was regulated by the return air temperature, i.e. the temperature in the warm zone. The feed air temperature that the servers reached was, however, extremely important. The SmartAisle™ regulation principle uses the feed air temperature for regulating the circulated air cooling equipment.

In accordance with ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers), the feed air temperature should be between 18°C and 27°C. This temperature cannot, however, always be guaranteed with the return air temperature. For energy efficiency reasons the feed air temperature should be selected as high as possible.

With cold aisle containment a higher cold aisle temperature can be selected so that a recirculation (or hot spot) is avoided.



LUF20233



LUF20234

SmartAisle™ air separation for 19" rack, fixed jumpering depth

- For separating the cold and hot areas in the rack
- Prevention of hot-spots (air recirculation)
- Quick and easy rack upgrading
- More 19" installation space: side panels, with additional 2 x 1 U each in the 19" vertical area
- Side panels with 3 cut-outs each for cable routing (covered as standard with rubber sleeve)

Material
Sheet steel

Finish
Final digit of order number .1: Powder-coated texture, RAL 7035 light gray
Final digit of order number .8: Powder-coated texture, RAL 7021 dark gray

Supply schedule
2 side panels (cut-outs covered)
2 panels, top/bottom
Mounting material

How supplied
Flat-packed kit

Note
Use only with server extrusions!

W	H	D	U	RT	For rack type	Order no.	UP
600	2000		41	85.5	Miracel	**03.028.036.X**	1 set
700	2000		41	85.5	Miracel - asymmetric only	**03.028.037.X**	1 set
800	2000		41	85.5	Miracel	**03.028.038.X**	1 set
600	2200		46	85.5	Miracel	**03.028.056.X**	1 set
700	2200		46	85.5	Miracel - asymmetric only	**03.028.057.X**	1 set
800	2200		46	85.5	Miracel	**03.028.058.X**	1 set
600	2000		41	123	Miracel	**03.028.031.X**	1 set
700	2000		41	123	Miracel - asymmetric only	**03.028.032.X**	1 set
800	2000		41	123	Miracel	**03.028.033.X**	1 set
600	2200		46	123	Miracel	**03.028.051.X**	1 set
700	2200		46	123	Miracel - asymmetric only	**03.028.052.X**	1 set
800	2200		46	123	Miracel	**03.028.053.X**	1 set

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

MEC20180

MEC20178

19"Blanking Panel, QuickFix mounting without tools

- High-grade metal version
- For covering free 19" spaces (cold-hot separation)
- Quick and easy assembly without tools (one click) and disassembly (quarter turn)
- Suitable for 9.5 x 9.5 square holes

Material
Sheet steel, 1.0 mm

Finish
Final digit of order number .1: Powder-coated texture, RAL 7035, light gray
Final digit of order number .8: Powder-coated texture, RAL 7021 dark gray

Supply schedule
X (see ON for quantity) QuickFix 19" Blanking Panel
Mounting material

How supplied
In sets (see ON for quantity); fixing clips pre-mounted

Note
You will also find threaded connection 19" blanking panels in our IT special catalog.

W	H	D	U	d	L	For rack type	Order no.	UP
482.6	43.6		1			Powder-coated	**01.103.301.X**	6 units
482.6	88.1		2			Powder-coated	**01.103.302.X**	3 units
482.6	132.5		3			Powder-coated	**01.103.303.X**	2 units
482.6	265.9		6			Powder-coated	**01.103.306.X**	1 unit
482.6	399.2		9			Powder-coated	**01.103.309.X**	2 unit
482.6	932.6		21			Powder-coated	**01.103.321.X**	1 unit

MEC20181

MEC20178

19" blanking panel cable entry, QuickFix mounting without tools

- For orderly cable management in the rack internal space
- Quick and easy assembly without tools (one click) and disassembly (quarter turn)
- Suitable for 9.5 x 9.5 square holes

Material
Sheet steel, 1.0 mm

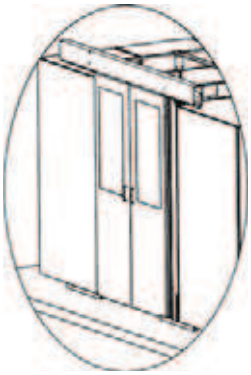
Finish
Final digit of order number .1: Powder-coated texture, RAL 7035, light gray
Final digit of order number .8: Powder-coated texture, RAL 7021, dark gray

Supply schedule
6 19" blanking panel cable entries, QuickFix
Mounting material

How supplied
In sets; fixing clips pre-mounted

Note
If a blanking panel with 2 U is required, 2 blanking panels with 1 U each can be mounted on top of one another.

W	H	D	U	d	L	For rack type	Order no.	UP
482.6	43.6		1			Powder-coated	**01.103.331.X**	6 units



LUF80001

SmartAisle™ Sliding door
Prepared for automatic door closers

- For cold aisle containment for aisle widths: 1,200 / 1,500 / 1,800 mm (+/- 50 mm)
- Quick and easy mounting
- Suitable for Miracel® and DCM® racks and most racks of other manufacturers.

Door opening clear
Width: at least 1,050 mm
Height: 2080 mm

Material

Door elements:	Sheet steel
Windows:	Single safety glass panel
Brush strips:	Polyamide (UL94 HF-1)

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
1 frame structure
2 doors
2 floor guides
Covers
Sealing material
Mounting material

How supplied
Flat-packed kit

Note
Please order the required closers (electric or mechanical) for this!

W/L	H	D	AW	For rack type	Order no.	UP
	2000		1200		**03.029.026.X**	1 set
	2200		1200		**03.029.027.X**	1 set
	2000		1500		**03.029.061.X**	1 set
	2200		1500		**03.029.062.X**	1 set
	2000		1800		**03.029.066.X**	1 set
	2200		1800		**03.029.067.X**	1 set

LUF80002

Electric closing for sliding door

- Suitable for SmartAisle™ sliding door
- Increases energy efficiency, as doors are closed automatically
- Opens with "push & go"
- Closes with "push & go" or automatically (0 ... 30 seconds)
- Opener/closer contact for control (e.g. fire alarm system)

Material
Sheet steel

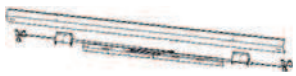
Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
1 electric drive
1 cover
Various mounting brackets
Mounting material

Technical data
Power supply: 230 V / 50-60 Hz
Opening speed: 0.4 m/s
Closing speed: 0.2 m/s
Automatic closing time setting: 0...30 s
Force: 30 N

How supplied
In units

W/L	H	D	AW	For rack type	Order no.	UP
					03.029.046.X	1 set



LUF80003

Locks, mechanical
For sliding doors

- Suitable for SmartAisle™ sliding door
- Increases energy efficiency, as doors are closed automatically
- Retaining function for open door

Material
Sheet steel

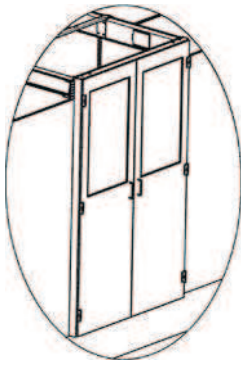
Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
2 sets of gas pressure springs
1 cover
Various mounting brackets
Mounting material

Technical data
Force: 20 N

How supplied
In units

W/L	H	D	AW	For rack type	Order no.	UP
					03.029.047.x	1 set



LUF80004

SmartAisle™ Double Door
With automatic door closer

- For cold aisle containment for aisle widths: 1,200 / 1,500 / 1,800 mm (+/- 50 mm)
- Quick and easy mounting
- Suitable for Miracel® DCM® racks and most racks of other manufacturers.
- Integrated automatic mechanical door closer (opening angle 180°, mounting bracket approx. 120°, from approx. 100° automatic closing)

Door opening clear
Width: 1,200 mm
Height: 2,100 mm (for rack height 2,000 mm); 2,300 (for rack height 2,200)

Material

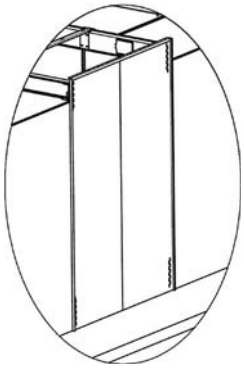
Door frame:	Aluminum
Door elements:	Sheet steel
Windows:	Single safety glass panel
Brush strips:	Polyamide (UL94 HF-1)

■ **Finish**
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

■ **Supply schedule**
1 door frame
2 doors
3 design covers
2 door closers
Mounting material

■ **How supplied**
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
	2000		1200		**03.028.021.X**	1 set
	2200		1200		**03.028.022.X**	1 set
	2000		1500		**03.028.041.X**	1 set
	2200		1500		**03.028.042.X**	1 set
	2000		1800		**03.028.046.X**	1 set
	2200		1800		**03.028.047.X**	1 set



LUFxxxxx

SmartAisle™ Front panel element

- For cold aisle containment for aisle widths: 1,200 / 1,500 / 1,800 mm (+/- 50 mm)
- For use instead of a cold aisle door
- Quick and easy mounting
- Suitable for Miracel® racks and most racks of other manufacturers.

■ **Material**
Sheet steel

■ **Finish**
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

■ **Supply schedule**
1 bracing bracket
2 to 4 panel elements
Mounting material

■ **How supplied**
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
	2000		1200		**03.029.031.X**	1 set
	2200		1200		**03.029.032.X**	1 set
	2000		1500		**03.029.034.X**	1 set
	2200		1500		**03.029.035.X**	1 set
	2000		1800		**03.029.037.X**	1 set
	2200		1800		**03.029.038.X**	1 set

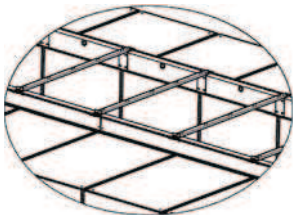
Dimensions in mm: W = Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length

U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight

= Express item

Conversion: 1 mm = 0.03937 inch

1 kg = 2.2046 pound



LUF80006

SmartAisle™ Roof Element Standard version

- For cold aisle containment for aisle widths: 1,200 / 1,500 / 1,800 mm (+/- 50 mm)
- Quick and easy mounting
- Suitable for Miracel® racks and most racks of other manufacturers.
- With rubber sleeves for cable routing
- Plexiglas panel with low fire load and low smoke generation (optionally with compound safety glass)
- Plexiglas panels can be quickly and easily removed

■ **Aisle height clear**
Rack height 2,000 mm: 2,150 mm
Rack height 2,200 mm: 2,350 mm

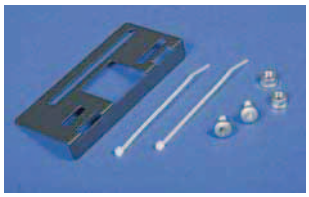
■ **Material**
Angular extrusion, cross brace: Sheet steel
Roof panel: Halogen-free plexiglas

■ **Finish**
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

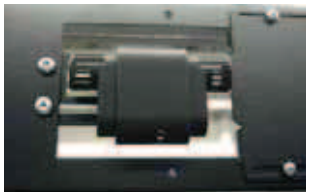
■ **Supply schedule**
2 angular extrusions
1 separator strip at W300/600/800, 3 separator strips at L2400
1 roof panel at W300/600/800, 3 roof panels at L2400
2 angular connecting plates
Mounting material

■ **How supplied**
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
300			1200		**03.029.003.X**	1 set
600			1200		**03.029.004.X**	1 set
800			1200		**03.029.005.X**	1 set
2400			1200		**03.029.006.X**	1 set
300			1500		**03.029.070.X**	1 set
600			1500		**03.029.071.X**	1 set
800			1500		**03.029.072.X**	1 set
2400			1500		**03.029.073.X**	1 set
300			1800		**03.029.075.X**	1 set
600			1800		**03.029.076.X**	1 set
800			1800		**03.029.077.X**	1 set
2400			1800		**03.029.078.X**	1 set



DCM20046



LUF20316

SmartAisle™ Mounting Bracket For temperature sensors

- Can be used for different temperature sensors (including Liebert® Temperature/Humidity Sensors)
- Suitable for the angular extrusion's air regulation opening

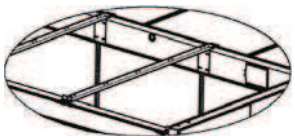
Material
Sheet steel

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
1 mounting brackets
Mounting material

How supplied
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
					03.029.019.X	1 set



LUF80007

SmartAisle™ Roof Element Version with air regulation opening

- For cold aisle containment for aisle widths: 1,200 / 1,500 / 1,800 mm (+/- 50 mm)
- Quick and easy mounting
- Suitable for Miracel® racks and most makes of other manufacturers.
- With rubber sleeves for cable routing
- Plexiglas panel with low fire load and low smoke generation (optionally with compound safety glass)
- Plexiglas panels can be quickly and easily removed
- With air regulation opening for energy-efficient operation of the recirculated air devices and for preventing hot spots.

Aisle height clear
Rack height 2,000 mm: 2,150 mm
Rack height 2,200 mm: 2,350 mm

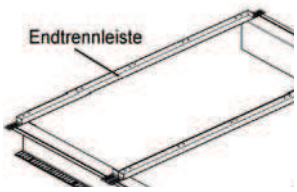
Material
Angular extrusion, cross brace: Sheet steel
Plexiglas panel: Halogen-free plexiglas

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
2 angular extrusions with air regulation opening
1 separator strip at W600/800, 3 separator strips at L2400
1 plexiglas panel at W600/800, 3 plexiglas panels at L2400
2 angular connecting plates
Mounting material

How supplied
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
600			1200		**03.029.014.X**	1 set
800			1200		**03.029.015.X**	1 set
2400			1200		**03.029.016.X**	1 set
600			1500		**03.029.081.X**	1 set
800			1500		**03.029.082.X**	1 set
2400			1500		**03.029.083.X**	1 set
600			1800		**03.029.086.X**	1 set
800			1800		**03.029.087.X**	1 set
2400			1800		**03.029.088.X**	1 set



LUF80008

SmartAisle™ End separator strip

- For cold aisle containment for aisle widths: 1,200 / 1,500 / 1,800 mm (+/- 50 mm)
- Quick and easy mounting
- For connecting on the door element or front panel element

Material
Sheet steel

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
2 end separator strips
Mounting material

How supplied
In units

W/L	H	D	AW	For rack type	Order no.	UP
			1200		**03.029.010.X**	1 pair
			1500		**03.029.011.X**	1 pair
			1800		**03.029.012.X**	1 pair

DCM20045

LUF20327

SmartAisle™ Protector Bracket for Roof Element

- Prevents plexiglas panels from lifting up with excess pressure
- Enables safe pressure balancing in the event of a fault or while a fire is being extinguished

Material
Sheet steel

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
1 pair of protector brackets
Mounting material

How supplied
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
4800					**03.029.041.X**	1 set

DCM20048

Roof Mounting Set for 4.8 meter aisle length

- Complete mounting set for 4.8 meter aisle length

Material
Angular extrusion plates: Sheet steel
Sealing tape: Foam rubber (UL94 HF-1)

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
Mounting material

How supplied
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
4800					**03.029.020.X**	1 set

DCM20057

LUF20328

SmartAisle™ Height Panels

- For balancing the separation of the cold and hot areas in smaller racks

Material
Sheet steel

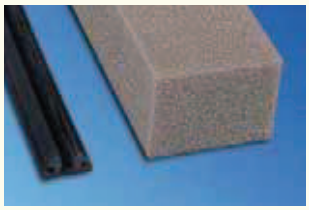
Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Supply schedule
1 height panel
Mounting material

How supplied
Flat-packed kit

Note
For several height panels positioned beside one another, please ask for the appropriate angular extrusion plates.

W	H	D	AW	For rack type	Order no.	UP
600	200			Miracel	**03.029.051.X**	1 unit
800	200			Miracel	**03.029.052.X**	1 unit



LUFxxxxx

SmartAisle™ Sealing Set For 4.8 meter aisle length

- Suitable for installation in Miracel® rack
- For sealing the leveling area between the floor and the rack
- For sealing for Miracel® rack suites without side panels

Material/color
Foam: PUR-Ether UL94 HF-1, black
Cover extrusion: PVC extruder, black

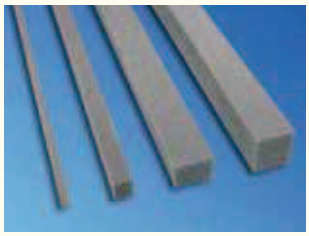
Supply schedule
10 meters of foam 40 x 25 mm
31 meter cover extrusion

How supplied
Flat-packed kit

W/L	H	D	AW	For rack type	Order no.	UP
4800				Miracel	**03.029.040.9**	1 set

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound



DCM20047

SmartAisle™ Sealing Material

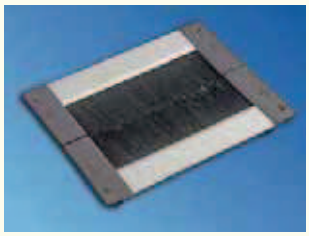
- Suitable for sealing openings (e.g. leveling areas between floor and rack, between racks, etc.)

Material/color
PUR-Ether UL94 HF-1, black

Supply schedule
5 x 2 meters of foam

How supplied
Flat-packed kit

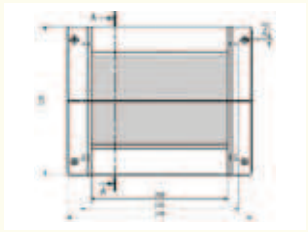
W/L	H	D	AW	Size	Order no.	UP
				40 x 40 (glued surface) mm	**03.029.042.9**	1 set
				20 x 20 (glued surface) mm	**03.029.043.9**	1 set
				5 x 10 (glued surface) mm	**03.029.044.9**	1 set
				25 x 40 (glued surface) mm	**03.029.045.9**	1 set



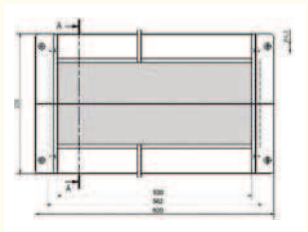
LUFxxxxx

SmartAisle™ Raised Floor Air Barrier for cable entry

- For cable entry from the raised floor
- Sunk in the raised floor, or can be used as superstructure
- Two-row tight brushes for pressure-resistant cold-hot separation
- For new breakouts; as superstructure for existing breakouts
- Two-piece – easy extend and upgrade option
- The length can be easily shortened on-site (metal saw)
- Also suitable for cabling on the rack wall (U-shape, two-piece)
- Slot-in – and threaded connection additionally



LUF80009



LUF80010

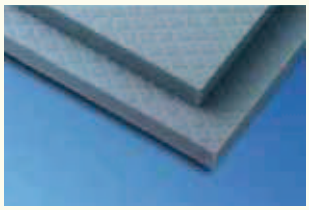
Dimensions
03.028.211.9:
- External dimensions (270 mm x 220 mm)
- Usable cable entry (200 mm x 126 mm)
- Raised floor breakout (240 mm x 180 mm)

03.028.212.9:
- External dimensions (600 mm x 220 mm)
- Usable cable entry (530 mm x 126 mm)
- Raised floor breakout (570 mm x 180 mm)

Supply schedule
1 pair of raised floor air barriers
Mounting material

How supplied
Flat-packed kit

W	H	D	U	D(max.) kg	Model	Order no.	UP
270	220				Length 270 mm	**03.028.211.9**	1 set
600	220				Length 600 mm	**03.028.212.9**	1 set



LUFxxxxx

SmartAisle™ Sealing Material for Raised Floor

- For sealing existing openings in the raised floor; not suitable as a replacement for a complete raised floor panel
- Easy cutting to required size

Material
Melamine resin foam, UL94-HF1

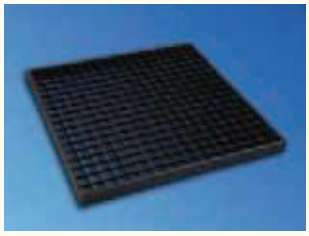
Color
Gray

Supply schedule
4 foam panels

Technical data
Size 610 x 610 x 40 mm (WxLxH)

How supplied
Set of 4 units

W	H	D	AW	For rack type	Order no.	UP
					03.028.221.9	1 set



LUFxxxxx

SmartAisle™ Grate for Raised Floor

- For use on raised floors
- Can be used with high heat loads and high requirements for cooling air per rack
- For energy-efficient operation of the recirculated air devices

Material
Zinc-passivated steel

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021, dark gray

Standards
Produced in acc. with RAL-GZ 638
Load capacity according to DIN EN 12825
- on supports: Shifting class 1A (2kN) and 2 C (3kN); measurement plate center
- on supports and profiles: Shifting class 2 A (3kN)

Supply schedule
1 raised floor grate

Technical data
Size 598 x 598 x 40 mm (WxLxH); free cross-section: 88%
Max. surface load 50,000 N/m² with even distribution; max. point load (on 200x200 mm area) 4,500 N

How supplied
In units

Note
Suitable for raised floors with 40 mm thick panels!

W	H	D	AW	For rack type	Order no.	UP
					03.029.090.X	1 unit

Knürr CoolTherm®

Water-cooled server rack technology, up to 35 kW*

1.60 to 1.62

Knürr CoolTherm®
Strong points

Features

Future-oriented cooling concept for IT applications with high thermal loads – for **blade** and **rack equipment**.

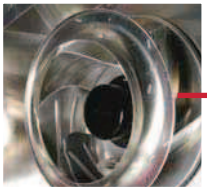
- V35 high performance air-to-water heat exchanger
- Channeled airflow in the entire rack
- Heat dissipation via cooling water
- Fans with temperature-dependent speed regulation
- Three-way valve for regulating the cooling water flow (optional)
- Fans, n+1 redundant
- Alarm management
- Redundant high-performance power distribution for supplying server (optional)
- User-friendly and service-optimized
  - Automatic door opening (optional)
  - Mobile plinth (optional)

Benefits

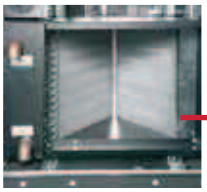
Autonomous server rack; independent from environmental conditions

- Secure and reliable cooling capacity of up to 35 kW per CoolTherm® (blade servers)
- Highest packing density for high-performance servers; up to 80% surface space saving in the data center
  - Low operating costs with optimized pressure losses
- Reduced room and building requirements (thermal management, raised floors, room heights)
- Highest possible leakage safety with strict separation of heat exchangers and server installations
- Up to 30 % improved cooling system energy efficiency.
- Highest planning reliability with unrestricted scalability
- Significant reduction in TCO (Total Cost of Ownership)

High-performance power supply



Temperature-dependent and speed-controlled



V35® high performance air-to-water heat exchanger

Heat volume to be dissipated: CoolTherm® 25 kW nominal as an example

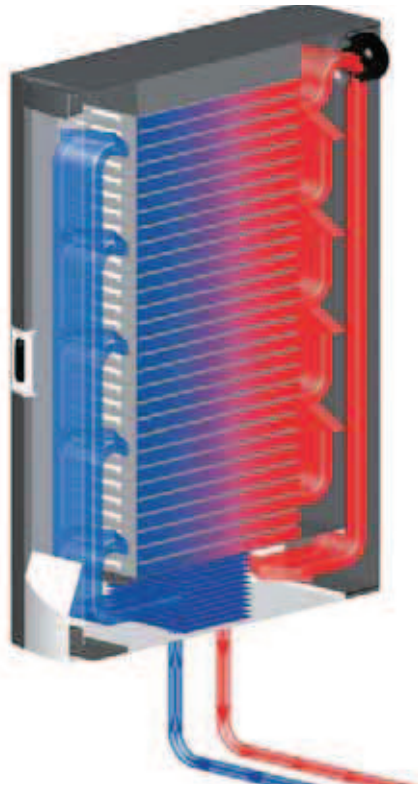
- Water-side prerun temperature: 12° C (preferred)
  Postrun temp.: 18° C (preferred)
  Max. pressure loss: 0.5 bar volume flow, 3.58 m³/h
  Ventilation valve
- Up to 5,500 m³/h (dep. on equipment)
  Air outlet: 20° C to 25° C

Easy fan swap-out with closed door

The impressive **CoolTherm®** technical concept:

Closed air circulation with V35 air/water heat exchanger.
Therefore the dissipated heat is not given off as an additional load on the IT room (as is usual).
Connection is made installation-friendly to a building or rack-own cold water system.
Operation and service are performed with no difficulty whatsoever.

(Smaller cross-section shown)



MIR20287

Knürr CoolTherm®

- With fixed 19" installation on the front and rear for components in accordance with IEC297-3
- Installation of chassis runners and 19" shelves possible
- Flexible installation of components with mounting hole extrusions
- Cable entry via top cover and bottom cover
- Unused space closed off with blanking panels

CoolTherm® 12 kW
- 2 EC radial fans, with temperature-dependent stepless speed regulation, installed above one another, n+1 redundant with approx. 3K temperature increase
- V-form high performance heat exchanger

CoolTherm® 12 to 17 kW
- 3 EC radial fans, with temperature-dependent stepless speed regulation, installed above one another, n+1 redundant with approx. 4 K temperature increase
- V-form high performance heat exchanger

CoolTherm® 17 to 25 (35) kW
- 3 EC radial fans, with temperature-dependent stepless speed regulation, installed above one another, n+1 redundant with approx. 4 K temperature increase
- V-form high performance heat exchanger

Technical data
- Cooling water spread: 12 / 18°C (configuration conditions)
- Intake air temperature to the server: 22°C
- Heat exchanger max. operating pressure: 10 bar
- Max. absolute humidity in room: 8g/kg
- Heat exchanger connection: 1" female thread
- Condensation tray connection: 5/8" tube connection

Load rating
Static load, 1000 kg (10,000 N)

Air density
In acc. with RAL 652

Tests
- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E

Color
Final digit of order number .1:
- Visible surface of the covers, RAL 7035 light gray

Final digit of order number .8:
- Visible surface of covers, RAL 7021 dark gray

How supplied
Fully assembled

Cooling power (kW)	U	W (mm)	H (mm)	D (mm)	d (mm)	Weight (kg)	Water amount (l)	Flow volume (m^3/h)	Pressure loss: rack (bar)	Pressure loss conn. Set (bar)	Amb. air volume (m^3/h)	Conn. data Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Order no.	UP
12	29	700	1800	1200	740	290	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	**08.006.001.x**	1 unit
12	33	700	2000	1200	740	290	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	**08.006.002.x**	1 unit
12	38	700	2200	1200	740	290	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	**08.006.003.x**	1 unit
12	29	700	1800	1300	840	295	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	**08.006.006.x**	1 unit
12	33	700	2000	1300	840	295	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	**08.006.007.x**	1 unit
12	38	700	2200	1300	840	295	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	**08.006.008.x**	1 unit
17	35	800	2000	1200	740	310	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	**08.006.012.x**	1 unit
17	40	800	2200	1200	740	310	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	**08.006.013.x**	1 unit
17	44	800	2400	1200	740	310	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	**08.006.014.x**	1 unit
17	35	800	2000	1300	840	320	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	**08.006.022.x**	1 unit
17	40	800	2200	1300	840	320	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	**08.006.023.x**	1 unit
17	45	800	2400	1300	840	320	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	**08.006.024.x**	1 unit
25	37	800	2200	1200	740	340	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	**08.006.033.x**	1 unit
25	42	800	2400	1200	740	340	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	**08.006.034.x**	1 unit
25	37	800	2200	1300	840	350	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	**08.006.043.x**	1 unit
25	42	800	2400	1300	840	350	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	**08.006.044.x**	1 unit

Dimensions in mm: W = Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length

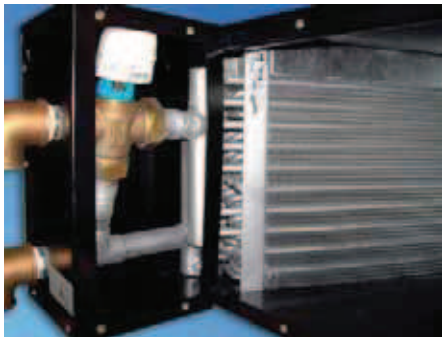
U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight

= Express item

Conversion: 1 mm = 0.03937 inch

1 kg = 2.2046 pound

2 MIR20398



3 MIR20395

4 MIR20392

5 MIR20393

Knürr CoolTherm®
Options / Accessories

A/B switching
The outputs on the plug-in units can be flexibly configured according to customer requirements via various plug connections, type CEE and GST 18.
(e.g. BladePower® or PizzaPower®, DI-STRIP® TriplePower®, and flexible distribution with the GST18i5 distributor block, 3-phase).

2 **Rack Monitoring System**
Monitoring, forwarding and visualizing parameters, issuing alarms and enabling the introduction of automatic safety/ security measures.
- Possible sensors/monitoring: Smoke, temperature, humidity, leaks, door monitoring

3 **Bypass control**
The influence of the cooling water flow on energy saving prevents insufficient temperatures with partial loads and stresses.
Version as three-way valve; also optionally with two-way function

4 **Automatic door opening**
Automatic front and rear door opening to prevent overheating with sub-system failure (e.g. cooling water provision).

5 **Cooling water connection set**
Consists of two flexible high grade steel-coated hoses, ball cock with ventilation, regulating valve and blocking valve, DN 25, hose length, 1,500 mm and 2,500 mm

Knürr CoolLoop®

Side-mounted modular cooling unit for all server racks from 10 to 30 kW

1.64 to 1.65

Knürr CoolLoop®

Side-mounted modular cooling unit for all server racks from 10 to 30 kW

Knürr CoolLoop® is the world's first solution for data center server cooling that can be operated as both an open and closed system.
The system can be set to either pass the cooling power directly to the adjacent rack, or to supplement the data center's cooling. An elaborate system of valves ensures that the right cooling power is provided for every server.

The Knürr CoolLoop® is a water-cooled rack unit for smart, side-mounting on server racks.

It is a closed system with warm air suction from the rear and cool air expulsion at the front – both vertical over the entire rack height.

made in Germany

Modularity

The Knürr CoolLoop® is a modular setup that can be equipped with one to four fan units, so that the cooling can always be adapted to the actual requirement in the data center. The cooling power increases with the actual requirement and can be selected between 10kW and 30 kW per Knürr CoolLoop®. This ensures investment security for the data center operator, and always only requires input relative to the heat load that the data center develops.

Energy efficiency

Knürr CoolLoop® represents the highest standards in data room cooling. The center of focus here is on selecting the methods and procedures that save the most energy and using the most modern components, which is why the tried, tested and proven EC fan technology is used consistently. The lowest pressure loss in the air path is constantly optimized with the selection of the heat exchanger and moisture eliminator, which results in minimum energy consumption in the fans.

The Knürr CoolLoop® doesn't just set pressure loss standards. The relatively high cold water prerun temperature for optimum server cooling also ensures improved use of the cold water system with a high coefficient of performance (COP).
The design also enables a high level of free cooling, which facilitates significant savings potential with cold water generation.

Short air paths and the arrangement of the fans after the heat exchanger also help reduce energy consumption. This arrangement not only has a positive effect on the useful lifetime of the fans, it also increases the cooling airflow volume as a result of the higher air density. This in turn conserves resources and further reduces energy consumption.

Reliability

Knürr CoolLoop® makes no compromises when it comes to availability, reliability and safety. The fans can always be configured in n+1 redundancy. Two Knürr CoolLoops® can be positioned on one server rack to meet the highest requirements of a tier 4 data center. This then ensures complete 2n redundancy of the server rack cooling.

Control

The Knürr CoolLoop® sets new standards in controlling and monitoring. A regulating valve for adjusting the cooling water volume to the actual cooling requirement allows optimum server input air temperatures, which the user can set. The speed of the fans is also adjusted to the actual air volumes of the servers, whereby the server power loss can fluctuate from 0% to 100%.

Rear view with water connections.

A number of sensors ensure the highest level of safety. The following are monitored via a color display:

- Server input air temperatures
- Server output air temperatures
- Relative humidity
- Cold water prerun and postrun temperatures
- Cold water flow rate
- All doors monitored
- Water sensors in the collecting tray
- Smoke detector
- Warning lights on the rack
- Optional earliest smoke detection system and fire extinguisher system

All control and monitoring functions can be retrieved via an Ethernet interface. Integration into higher level network management systems is possible at no significant expense.

Variants

Knürr CoolLoop®
The cooling power can be set between additional data center cooling and direct cooling of the server rack beside the Knürr CoolLoop®.

CoolLoop®T
The cooling power is only available as a supplement to the data center cooling, thereby supporting the cooling power of the air circulation equipment. Together with the Knürr CoolFlex®, this combination presents the ideal addition for optimum medium power range server cooling.

CoolLoop®L
The most energy saving method of server cooling in data centers is cooling with closed air circuits inside the server rack. Knürr CoolLoop® enables implementation of this cooling principle, and especially with restrictions in the data center's structure heights, or with the required division of the rack access between IT and facility management. Closed solutions also boast very low noise generation levels.

Effective Cooling power*	Number of fans	Width	Height	Depth	Useable height	Weight (empty)	Electrical connection data
10 kW	1	300 mm	2000 mm 2200 mm 2400 mm	1200 mm / 1300 mm	42 U 46 U 50 U	127 kg	200 – 264 VAC 50/60 Hz 410 watt
20 kW	2	300 mm	2000 mm 2200 mm 2400 mm	1200 mm / 1300 mm	42 U 46 U 50 U	138 kg	200 – 264 VAC 50/60 Hz 820 watt
30 kW	3	300 mm	2000 mm 2200 mm 2400 mm	1200 mm / 1300 mm	42 U 46 U 50 U	149 kg	200 – 264 VAC 50/60 Hz 1230 watt
30 kW	3 + 1 (n + 1)	300 mm	2000 mm 2200 mm 2400 mm	1200 mm / 1300 mm	42 U 46 U 50 U	160 kg	200 – 264 VAC 50/60 Hz 890 watt

As at: 02/2008

Possible cooling water prerun temperatures:	4 to 20°C	Ambient temperature:	up to 35°C
*Given nominal cooling power:	with 12/18°C cooling water and 20 - 25°C server input air	Water amount:	8.6 l
		Cooling water connection:	G 1 1/4" male thread, flat sealing
Cooling water requirement:	1.43 - 4.29 m³/h	condensation connection:	5/8" tube connector
Pressure loss:	0.05 - 0.39 bar	Max. operating pressure:	10 bar
Number of fans:	max. 4		
Input air temperature:	20 - 25°C (front)	Standard colors:	RAL 7021 or RAL 7035

Knürr Server Racks and Knürr CoolLoop® (Super Computer Center Shenzhen, China)

Knürr CoolAdd®

Universal upgrades against overheating in the server rack

1.68 to 1.70

Knürr CoolAdd®
Strong points

Features

- Installation with adapter kit
- Adjustment of just a few parts
- Thermostatic shuttle valve for regulating cooling power
- Manual fan speed setting
- Individual fan monitoring
- Individual fan protection
- Installation with adapter kit
- Shuttle valve for regulating cooling power
- Heat exchanger is firmly connected with the existing rack (pipes and other connections are not accessible in the data center)
- Redundant n+1 fan set-up

Benefits

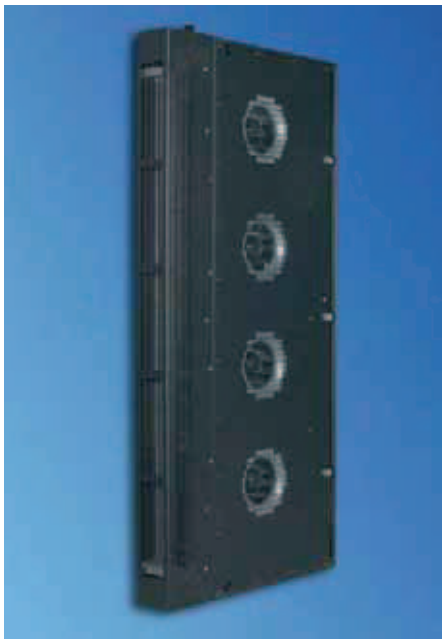
- Knürr CoolAdd® can be used with all standard rack types
- Server rack remains unchanged
- Slim design heat exchanger (85mm)
- Access to components is always maintained
- Water-carrying components are safely shielded from the rack
- Existing racks can continue to be used
- Existing cabling remains
- Quick installation
- Just a few CoolAdd® components have to be adjusted
- Cools the server's warm exhaust air side
- Access to all built-in components always maintained
- Relieves the data center's thermal management system
- Cools up to an additional 8,000 watts

Shouldered thermostat relay with extensible component (without auxiliary power)

Optimal fans, including casings

Fan failure display/ four speed levels

Robust and safe 3 pt.-interlock



Knürr CoolAdd®
19" upgrade solution for Knürr Miracel®

- 4 AC fans
- 4 manual setting speed levels
- Exhaust temperature control
- All standard external makes can be attached
  Cold water connection, 3/4"
- Min. cold water flow temp.: 14°C
- Control unit with fan failure monitoring
- LED visualization
- Alarm forwarding via potential-free contact

Technical data
- Cooling water spread: 14/20°C
- Cold water content: 1.6 l
- Cooling water volume flow: 1.15 m/h
- Exhaust temperature after heat exchanger: 22° C
- Heat exchanger connection: 3/4" male thread
- Pressure loss (water-side): 400 mbar
- Heat exchanger max. operating pressure: 10 bar
- Max. absolute humidity in room: 8 g/kg
- Number of fans: 4
- Air volume flow: 2,500 m³/h
- Electrical connection (fans / fan control)
  230 V / 50 - 60 Hz 525 - 725 W

Protection rating
IP 20

Material/finish
Cover: Aluminum plate/sheet steel, zinc-passivated, powder-coated texture

Color
RAL 7021 dark gray

Supply schedule
1 fan door
1 heat exchanger
1 adapter set
Mounting material

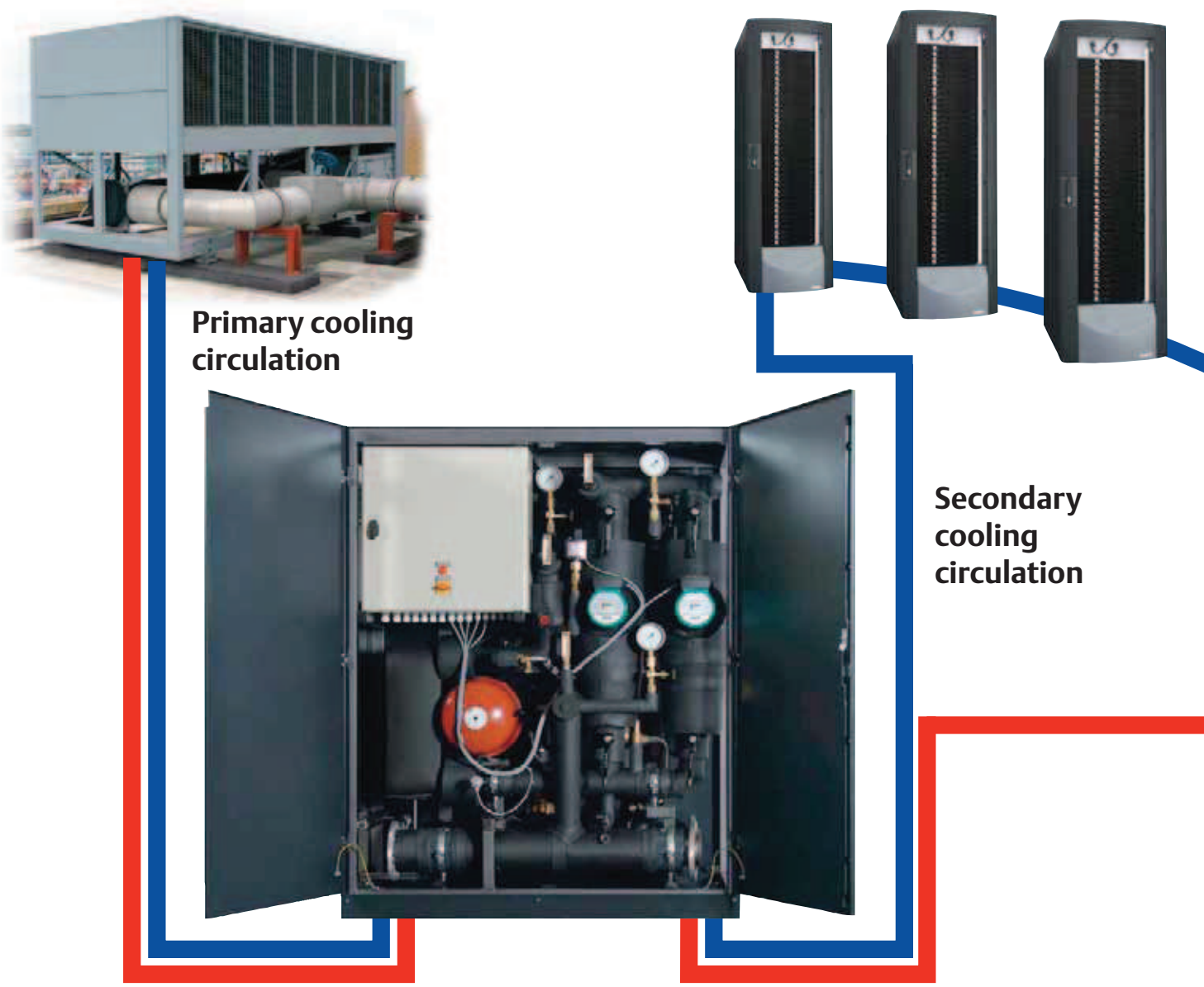
How supplied
Preassembled

W	H	D	kg	Cooling cap.	Rear door stop	Order no.	UP
600	2000	160	41	8 kW	Left	**08.000.034.8**	1 unit
600	2000	160	41	8 kW	Right	**08.000.035.8**	1 unit
600	2200	160	43	8 kW	Left	**08.000.036.8**	1 unit
600	2200	160	43	8 kW	Right	**08.000.037.8**	1 unit
700	2000	160	43	8 kW	Left	**08.000.044.8**	1 unit
700	2000	160	43	8 kW	Right	**08.000.045.8**	1 unit
700	2200	160	45	8 kW	Left	**08.000.046.8**	1 unit
700	2200	160	45	8 kW	Right	**08.000.047.8**	1 unit
800	2000	160	45	8 kW	Left	**08.000.054.8**	1 unit
800	2000	160	45	8 kW	Right	**08.000.055.8**	1 unit
800	2200	160	47	8 kW	Left	**08.000.056.8**	1 unit
800	2200	160	47	8 kW	Right	**08.000.057.8**	1 unit

Knürr CoolTrans®

The link between water circulation systems in the building and the server rack

1.72 to 1.74



Knürr CoolTrans®50/75/100 – The link between building services and data center

Water in a data center makes special demands on the cold water system, and extending the existing cold water circuit in the data center just isn't enough. The CoolTrans® from Knürr separates the primary cold water circulation from the secondary cold water circulation in the data center using high performance water-water heat exchangers.
This consequently results in ...

... the cold water prerun temperature being regulated above the dew point. This in turn means that a laborious insulation of the water circuit in the DC is no longer required.
Condensation build-up is also ruled out, and drying-out or re-humidifying the data center is prevented.

... dispensing with the use of glycol with the secondary circuit, as it is operated frost-protected. The cooler can be configured smaller, but with the same power, thereby avoiding higher investment costs.

... the water volume in the data center remaining restricted to the secondary circuit.

... balancing of the temperature and pressure fluctuations in the primary circuit.

... the regulation of the secondary circuit, connected with an alarm management, which ensures constant operation and signals faults in the system. Needless to say all moving parts are provided redundantly.

Furthermore the relatively high prerun temperatures of 12°C and more in many thermal areas enable a high degree of free cooling, which generates significant energy savings. Knürr's CoolTrans® facilitates a mixture of cold water from free cooling and the cold water system.

Knürr CoolTrans®
Strong points

Features

- Hydraulic separation of the cold water circulation system in the building from the cooling water in the data center
- Use of top grade quality components of the building technology
- Integration of all thermo-hydraulic components for regulated liquid cooling (pumps, valves, mixers, heat exchanger, expansion tank)
- Redundant components enable uninterrupted operation, even during servicing
- Connection of individual Knürr CoolTherm® and Knürr CoolAdd® to the Knürr CoolTrans®
- Modular design for heat loads in excess of 100 kW
- Automatic leakage detection

Benefits

- Energy savings with high performance high-grade steel heat exchanger
- Constant cooling water temperature with adjustable reference temperature
- Consistent cooling water volume, regardless of the hydraulic conditions in the building
- Operational reliability with system separation (enables leakage monitoring and prevents corrosive and fouling effects with a defined water quality on the secondary side)
- Operational reliability through redundancy
- Operational reliability with recording and central monitoring of the operational parameters, including warning and alarm signals
- Dew point dependent cooling water flow temperature increase to prevent condensation water and for piping without insulation
- Option of controlling the emergency operation
- Flange connection for linking up several Knürr CoolTrans®

Knürr CoolTrans®100 in modular design. Linking allows heat loads of up to 500 kW to be safely diverted.

Knürr CoolTrans® in compact 19" construction. Ideal for installation in data centers or IT rooms.

Distributor for connecting up to 5 consumer units, such as Knürr CoolTherm® or Knürr CoolAdd®

Knürr CoolTrans®
19" upgrade solution

- Hydraulic interface between the building-side primary cold water supply and high density cooling solutions in the secondary circuit
- Provision of constant prerun temperatures - Monitoring of minimum pressure (leakage) and fall below dew point, station in steel base frame, from 100 kW with powder-coated cover, height adjustable, for transport with hand lift truck, forklift, etc., pipes ST 37
- Pipes primary-side and fittings diffusion-tight, insulated against condensation water
- Redundant pump group (100%) with daily run change, emergency run function of the primary regulating valve (power-off open)
- Connection of two separate cold water primary supplies is possible from 100 kW; modular coupling of the distributor bars for configuring higher transmission powers of up to 500 kW, as well as additional redundancies, double-sided connection option for setting up a secondary ring line, with plate heat exchanger, ball cocks, manometer, 4 thermometers, regulating valve, adapter, primary cold water meter (option), 2 wet running pumps, 2 back pressure preventers, 2 dirt filters, membrane expansion tank with safety valve - 2.5 bar, two-stage pressure switch, fill, empty and air bleed valve, leakage tray and automatic leakage detection.

Control
Freely programmable control, main switch, pump control, dew point monitoring with shouldered room humidity sensor (sensor mounting in the CoolTherm's installation room/connection cables on-site), temperature control according to reference value specification and automatic increase in the cold water prerun temperature with enthalpy computer for preventing condensation on the basis of the actual air humidity in the data center.
Centralized alarm with pump failure, valve fault, temperature fault, data backup at least 72 hours, manual control level, optional LON interface and status output as requested with TCP/IP, LAN, warning and fault signals shown via display and potential-free contact, UPS signal reception with potential-free contact. Distributor (only 75 kW, order no. 08.009.504.8) for connecting up to 5 consumers, such as CoolTherm and CoolAdd.

CoolTrans®100 in modular design.
Linking allows heat loads to be safely diverted:
Up to 300 kW with order number 08.009.503.8 and 08.009.509.8
Up to 500 kW with order number 08.009.508.8

CoolTrans 100 with free cooling
Order number 08.009.509.8
2 heat exchangers enable free cooling independent of the building's cold water.

Electrical connection
400 VAC, 3-phase, 50 Hz

Protection rating
IP 54

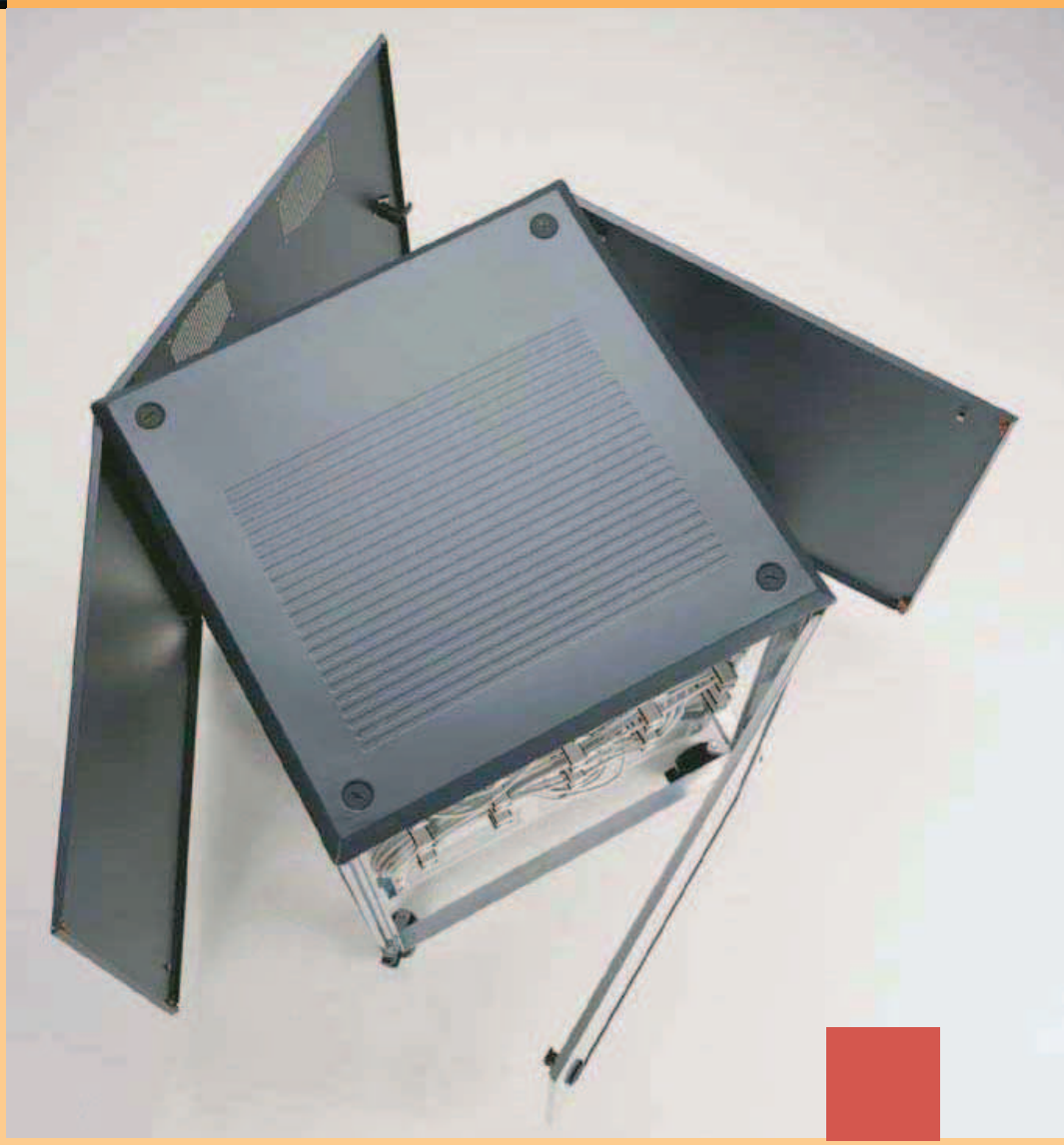
Color
RAL 7021 dark gray

How supplied
Assembled

Power	W	H	D	Weight	Pipe connection		Diff. pressure		Cooling water temp.		Water volume		Elec. conn.	Order no.	UP
(kW)	(mm)	(mm)	(mm)	(kg)	primary (bar)	secondary (bar)	primary (°C)	external (°C)	primary (°C)	secondary (°C)	primary (m³/h)	external (m³/h)	power (kW)		
50	450	1010	1200	180	1 1/2"	5x 1"	1.00	1.00	6/12	12/18	8.42	7.2	1.80	**08.009.504.8**	1 unit
75	450	1010	1200	200	1 1/2"	5x 1"	1.00	1.00	6/12	12/18	12.75	10.77	1.80	**08.009.504.8**	1 unit
100	1620	1840	600	400	4x DN100	4x DN100	1.10	1.30	6/12	12/18	14.3	14.3	1.00	**08.009.503.8**	1 unit
100	1620	1840	800	450	4x DN125	4x DN125	1.10	1.30	6/12	12/18	14.3	14.3	1.00	**08.009.508.8**	1 unit
100	2520	1840	800	830	4x DN100	4x DN100	0.20	1.10	13/19	15/21	16.68	14.4	1.00	**08.009.509.8**	1 unit

Knürr Smaract®

19” Compact Rack
19” Server Compact Rack 1.76 to 1.90



Network and Server Compact Rack

Knürr Smaract®
Strong points 1.78

Knürr Smaract®
19” Compact Rack 1.80

Knürr Smaract®
19” Server Compact Rack 1.81

Knürr Smaract®
19” Compact Rack
Without Door 1.82

Knürr Smaract®
Accessories
Ventilation unit 1.83
Extrusions 1.83
Depth Brace 1.84
Rear Door 1.84
Top Cover/Bottom Cover 1.84
Filter Mat 1.85
Plinth 1.85
Swivel Castors 1.85

Stacking Set 1.86
Eyebolt Set 1.86
Wall Mounting Bracket 1.86

Knürr Smaract®
19” Compact Rack EMC 1.87

Knürr Smaract®
19” Compact Rack IP54 1.89

Knürr Smaract®

The Knürr **Smaract**® Compact Rack isn’t just a further development of the LAN racks that we already know and that have been proven in use for some time now; it is, in fact, more of a specific response to the requirement for decentralized networking in the company.

Smaract® stands for an innovative and practical total concept with extremely low spatial demands. High-grade flexibility and especially high performance! At the same time it is also integration-enabled, can be modularly expanded at any time and is rich in impressive detailed solutions.

An ideal 19” compact construction platform in various models that meet IP and EMC requirements.

Features

- Not a single cubic centimeter is wasted with the Smaract® Compact Rack.
  The innovative frame concept with triangular extrusions keeps weight low and stability high.
- The patented mounting hole rails in the 19" extrusion ensure all installed active and passive components can be quickly and easily positioned.
- The Knürr Smaract® doors and side panels can be opened with an angle of over 180°, and the side panels can be removed in seconds with the special system used.
- The Smaract® 19" Compact Rack is available in EMC and IP versions.
  Special attention was paid during the development phase to ensuring that this server and network rack remains constantly upgradeable to IP or EMC standards.
- A cost-effective solution can also be supplied in a combined IP-EMC version.

Benefits

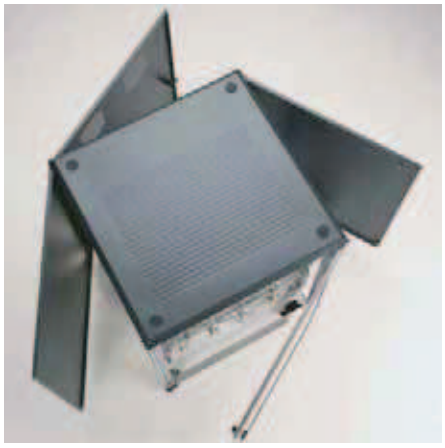
- Access from all sides is a central element of the rack's design. Massive time savings with system integration and component maintenance.
- The Smaract® Compact Rack can be modularly set up and stacked, and is therefore predestined for system integration. The new 900 mm depth in the stacked version makes the Smaract® especially popular with Internet solution providers.
- The central locking guarantees controlled access. Additionally, the side covers can only be removed when the front doors have been opened. Special lock systems, e.g. with chip card reader or keypad can also be selected on request.
- The 19" Compact Rack is available in 9 U, 15 U and 21 U versions, and in sizes 12 U (home office) and 18 U. The 900 mm installation depth is available for server applications.

Innovative frame concept:
Low weight – high stability

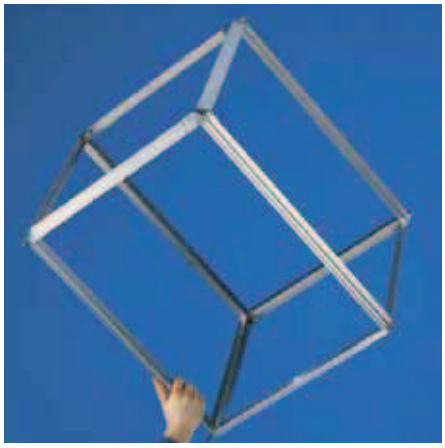
Design with Class

Function simply isn't everything! The Knürr® Compact Rack sets new standards in design matters. The basic purpose of the design concept is to translate the extended technical value creation into an appropriate but unobtrusive overall presence. This new Smaract® Compact Rack, developed in cooperation with designafairs, displays its exceptional technical features on the outside, with eye-catching stability and simplicity.

Knürr Smaract®
Strong points



1 SMA20006



2 SMA20005

1 **Access**
Access from all sides is a time-saving factor, e.g. with system integration or maintenance.

2 **Intelligent construction**
Low weight with innovative frame concept – nevertheless, high stability with new triangular extrusions.

3 **Evolving with the task**
Simple expansion with stackability.

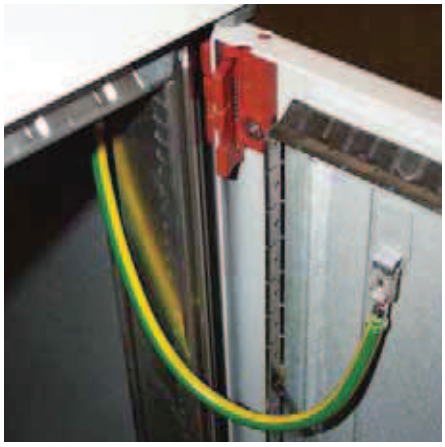
4 **Cable management**
No matter how complex, Knürr provides solutions.

5 **EMC and IP version**
The compact rack can be upgraded to IP or EMC standard at all times. (Also in combined IP/EMC version)

6 **Forward-thinking**
Flexibility with integration of 19" technology. 6 heights to choose from; 9 U to 24 U.

3 SMA20004

4 SMA20056



5 SMA20046

6 SMA20017

SMA20067

Knürr Smaract® 19" Rack in acc. with IEC 297
Technical data

Material
- Extruded aluminum
- Corner connector, die-cast
- Sheet steel covers
- Doors: sheet steel or with single safety glass panel, opening angle, over 180°

19" components in acc. with IEC 297-3
- Height: 9 U to 24 U; 1 U = 44.45 mm
- Width: 482.6 mm (19")

Versions
- IP 20
- IP 54
- EMC

Space solution
- 82% of the basic surface can be used as space for installation and cable routing

Configuration
- Stationary, on leveling feet
- Mobile on castors with snib

Finish:
- Basic rack, polished
- Covers, powder-coated texture, RAL 7035 light gray

Static load rating
- 2000 N with stationary version

How supplied
- Fully assembled

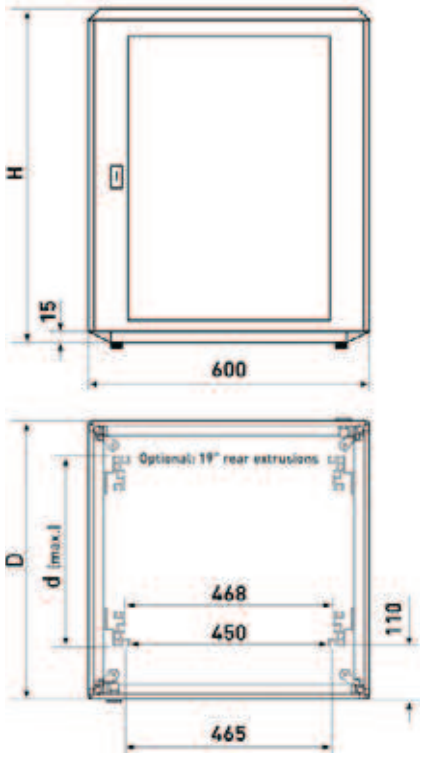
Tests according to version
- Safety in acc. with EN 50298 and EN 60950
- Protective conductor/ earth in acc. with DIN VDE 0701-1
- Vibration test in acc. with MIL-STD 810 E
- Vibration and shock test in acc. with DIN EN 300019-2-2
- IP test in acc. with DIN EN 60529
- EMC shielding attenuation in acc. with IEEE-STD-299 and VG 95 373 part 15 (30 MHz - 1 GHz)
- Plastic components in compliance with UL 94-VO

SMA20166

SMA20109

SMA20122

SMA20024



SMA20026

Knürr Smaract® 19" Compact Rack
With glass door

- For components in acc. with IEC 297-3
- Access from all sides, removable covers
- Flexible assembly of the components using T-slot (also optional with mounting holes)
- Cable entry via rear panel (also optionally via top cover/bottom cover)
- Heat loss discharge via own convection or with fan unit on the rear panel (accessory)
- Door opening angle, 180°
- Front door with single safety glass panel, lockable

Jumpering space
At the front: 110 mm

Load rating
2000 N static

Protection rating
IP 20

Material/Finish

- Basic rack, extruded aluminum, polished
- Corner connector, die-cast, polished
- Covers, sheet steel, powder-coated texture
- Glass infill front door, single safety glass panel

Color
RAL 7035 light gray

Supply schedule
1 basic rack
2 side panels, closed, hinged on both sides
1 top cover, closed
1 glass front door, lockable
1 rear door with cable entry, lockable, prepared for ventilation unit
2 19" aluminum vertical extrusions, front, with T-slot and increment slide for spring nut M5 or19" sheet steel vertical extrusion, front (see table)
1 earthing set
4 leveling feet

How supplied
Assembled

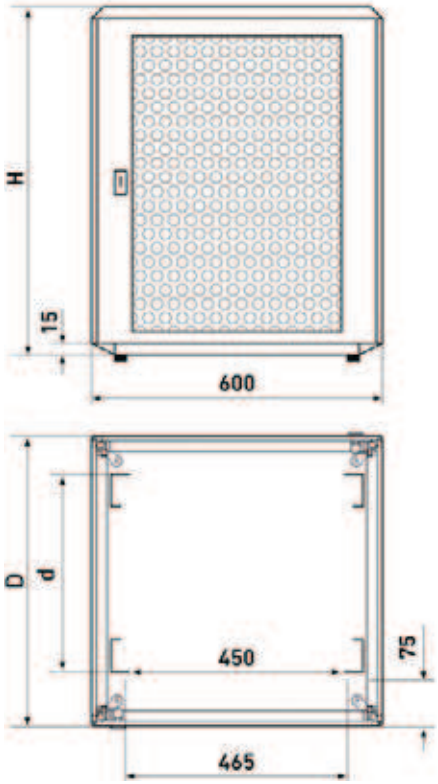
Note
If required, please also order 19" extrusions (see page 1.83) for rear 19" level

W	H	D	U	h	d(max.)	kg	Model	Order no.	UP
600	478	600	9		450	16	With 19" T-slot extru.	02.110.007.1	1 unit
600	612	600	12		450	20	With 19" T-slot extru.	02.110.012.1	1 unit
600	745	600	15		450	24	With 19" T-slot extru.	02.110.017.1	1 unit
600	879	600	18		450	28	With 19" T-slot extru.	02.110.022.1	1 unit
600	1012	600	21		450	32	With 19" T-slot extru.	02.110.027.1	1 unit
600	1143	600	24		450	36	With 19" T-slot extru.	02.110.032.1	1 unit
600	478	800	9		650	19	With 19" T-slot extru.	02.110.009.1	1 unit
600	612	800	12		650	23	With 19" T-slot extru.	02.110.014.1	1 unit
600	745	800	15		650	27	With 19" T-slot extru.	02.110.019.1	1 unit
600	879	800	18		650	31	With 19" T-slot extru.	02.110.024.1	1 unit
600	1012	800	21		650	35	With 19" T-slot extru.	02.110.029.1	1 unit
600	1145	800	24		650	39	With 19" T-slot extru.	02.110.034.1	1 unit
600	478	600	9		450	16	With 19" mounting hole extru.	02.110.057.1	1 unit
600	612	600	12		450	20	With 19" mounting hole extru.	02.110.062.1	1 unit
600	745	600	15		450	24	With 19" mounting hole extru.	02.110.067.1	1 unit
600	879	600	18		450	28	With 19" mounting hole extru.	02.110.072.1	1 unit
600	1012	600	21		450	32	With 19" mounting hole extru.	02.110.077.1	1 unit
600	1145	600	24		450	36	With 19" mounting hole extru.	02.110.082.1	1 unit
600	478	800	9		650	19	With 19" mounting hole extru.	02.110.059.1	1 unit
600	612	800	12		650	23	With 19" mounting hole extru.	02.110.064.1	1 unit
600	745	800	15		650	27	With 19" mounting hole extru.	02.110.069.1	1 unit
600	879	800	18		650	31	With 19" mounting hole extru.	02.110.074.1	1 unit
600	1012	800	21		650	35	With 19" mounting hole extru.	02.110.079.1	1 unit
600	1145	800	24		650	39	With 19" mounting hole extru.	02.110.084.1	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SMA20067



SMA20060

Knürr Smaract® 19" Server Compact Rack
With perforated door

- For components in acc. with IEC 297-3
- Access from all sides, removable covers
- With special 19" server extrusions for mounting trade standard servers
- With perforated doors on the front and rear (hexagonal perforation with high flow cross-section) for optimal airflow
- Door opening angle, 180°

Jumpering space
At the front: 75 mm

Airflow circulation
1.150 cm² with 9 U
1.950 cm² with 15 U
2.700 cm² with 21 U
3.100 cm² with 24 U

Material/Finish
- Basic rack, extruded aluminum, polished
- Corner connector, die-cast, polished
- Covers, sheet steel, powder-coated texture

Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

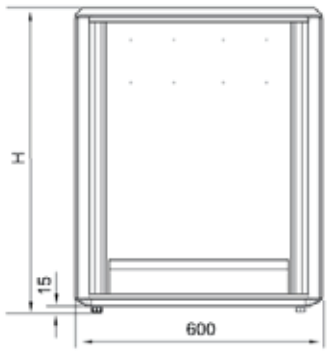
Supply schedule
1 basic rack
2 side panels, closed, hinged on both sides
1 top cover, closed
1 front door with perforation, lockable
1 rear door with perforation, lockable
4 19" server sheet steel mounting hole extrusions
1 earthing set
4 leveling feet

Note

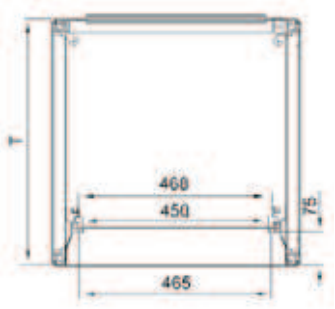
Also order mounting adapters for 19" server extrusion for mounting Knürr accessories. Set with 4 adapters 01.127.119.9

W	H	D	U	h	d	kg	Design	Order no.	UP
600	478	900	9		740	21	Door without frame	**02.110.010.1**	1 unit
600	478	900	9		740	21	Door without frame	**02.110.010.8**	1 unit
600	745	900	15		740	29	Door with frame	**02.110.020.1**	1 unit
600	745	900	15		740	29	Door with frame	**02.110.020.8**	1 unit
600	1012	900	21		740	37	Door with frame	**02.110.030.1**	1 unit
600	1012	900	21		740	37	Door with frame	**02.110.030.8**	1 unit
600	1145	900	24		740	41	Door with frame	**02.110.035.1**	1 unit
600	1145	900	24		740	41	Door with frame	**02.110.035.8**	1 unit
600	1145	1000	24		740	43	Door with frame	**02.110.040.1**	1 unit
600	1145	1000	24		740	43	Door with frame	**02.110.040.8**	1 unit

SMA20025



SMA20027



SMA20042

Knürr Smaract® 19" Compact Rack
Enclosure without door

– For components in acc. with IEC 297-3– Removable covers

Load rating
- 2000 N static

Material/Finish
- Basic rack, extruded aluminum, polished
- Corner connector, die-cast, polished
- Covers, sheet steel, powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 basic rack
2 side panels, closed, hinged on both sides
1 top cover, closed
1 trim frame, front
1 rear door with cable entry, lockable, prepared for ventilation unit
2 19" aluminum vertical extrusions, front, with T-slot
1 earthing set
4 leveling feet

How supplied
- Assembled

Note
If required, please also order 19" extrusions (see page 1.83) for rear 19" level

W	H	D	U	h	d	kg	Model	Order no.	UP
600	478	600	9			16		**02.110.107.1**	1unit
600	745	600	15			24		**02.110.117.1**	1 unit
600	1012	600	21			28		**02.110.127.1**	1 unit
600	478	800	9			19		**02.110.109.1**	1 unit
600	745	800	15			25		**02.110.119.1**	1 unit
600	1012	800	21			31		**02.110.129.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SMA20176

SMA20180

Knürr Smaract® Ventilation Unit

– Easy add-on on the rear panel
With two axial fans
– With thermostat
– Available in two different performance classes

Single fan technical data
- Type 1
Max. volume flow (free blowing): 177.17 yd³/h
Noise (free blowing): 37 dB(A)
- Type 2 (quiet):
Max. volume flow (free blowing): 120 m³/h
Noise (free blowing): 32 dB(A)

Technical data, thermostat
- Setting range: 0 to 60 °C
- Mains supply: 240 V/50Hz
- Nominal current: 16 A

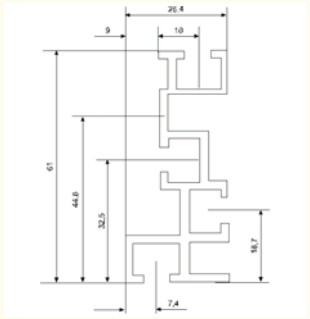
Material/Finish
Sheet steel, zinc-passivated

Supply schedule
1 fan unit wired ready for connection, with thermostat
Mounting material

How supplied
Preassembled

W	H	D	U	d	kg	Model	Order no.	UP
						Type 1	**02.111.180.9**	1 unit
						Type 2 (quiet)	**02.111.181.9**	1 unit

SMA20103



SMA20105

Knürr Smaract® 19'' aluminum extrusion with T-slot

– For front and rear installation

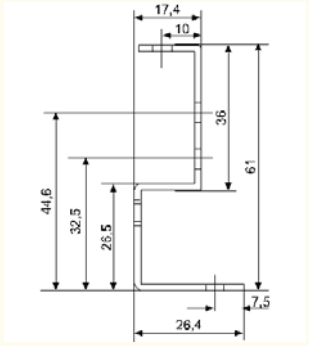
Material/Finish
19" extrusions: Extruded aluminum, polished
Mounting bracket: Sheet steel, zinc-passivated

Supply schedule
2 19'' extrusions with T-slot incl. increment slides
4 mounting brackets
Mounting material

How supplied
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
			9				**02.111.146.9**	1 unit
			12				**02.111.147.9**	1 unit
			15				**02.111.148.9**	1 unit
			18				**02.111.149.9**	1 unit
			21				**02.111.150.9**	1 unit
			24				**02.111.151.9**	1 unit

SMA20104



SMA20106

Knürr Smaract® 19" steel extrusion with mounting holes

– For front and rear installation

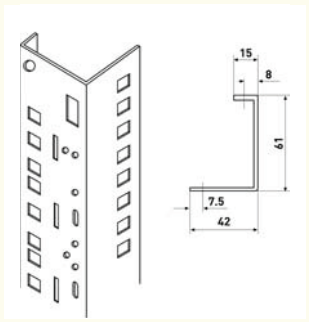
Material/Finish
19" extrusions: Sheet steel, zinc-passivated
Mounting bracket: Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
2 19'' extrusions with mounting holes
4 mounting brackets
Mounting material

How supplied
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
			9				**02.111.156.9**	1 unit
			12				**02.111.157.9**	1 unit
			15				**02.111.158.9**	1 unit
			18				**02.111.159.9**	1 unit
			21				**02.111.160.9**	1 unit
			24				**02.111.161.9**	1 unit

MIR20046



MIR20041

Knürr Smaract® 19" sheet steel server extrusion

– For front and rear installation

Material/Finish
Sheet steel, 0.10 in, zinc-passivated

Supply schedule
2 19'' extrusions with mounting holes
Mounting material

How supplied
Flat-packed kit

Note
Please also order mounting adapter 01.127.119.9 (set with 4 adapters)

W	H	D	U	d	kg	Model	Order no.	UP
			9				**02.111.136.9**	1 unit
			12				**02.111.137.9**	1 unit
			15				**02.111.138.9**	1 unit
			18				**02.111.139.9**	1 unit
			21				**02.111.140.9**	1 unit
			24				**02.111.141.9**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

MIR20044

MIR20082

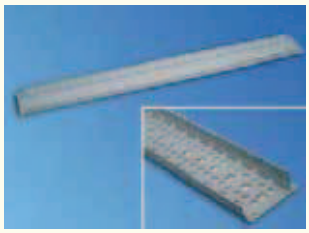
Mounting adapters for 19" server extrusion

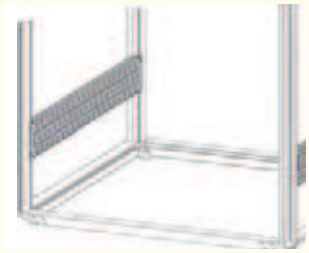
- For mounting Knürr standard components (storage shelves, drawers, chassis runners, keyboard runners, etc.) in 19" installation space

Material
Sheet steel, zinc-passivated

Supply schedule
4 adapters

W	H	D	U	d	kg	Model	Order no.	UP
			1				**01.127.119.9**	1 unit


SMA20172


SMA20173

Knürr Smaract® Depth Brace

- For additional strengthening of the enclosure.
- For routing cables with cable ties and as universal mounting option
- With holes for mounting caged nuts
- Variable positioning with T-slot
- Installation on the frame extrusions

Material/Finish
Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
1 depth brace
Mounting material

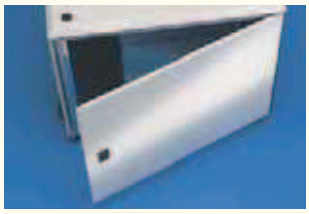
How supplied
Flat-packed kit

Note
Use with 19" server extrusions is not possible

W	H	D	U	d	kg	Model	Order no.	UP
		600					**02.111.002.0**	1 unit
		800					**02.111.004.0**	1 unit
		900					**02.111.005.0**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound


SMA20031

Knürr Smaract® Door closed

- Can be used as front and rear door

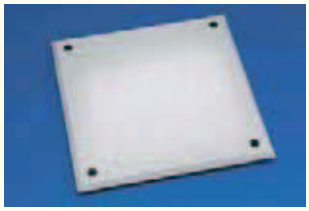
Supply schedule
1 rear panel, closed
Mounting material

Material/Finish
Sheet steel, powder-coated texture

How supplied
Flat-packed kit

Color
RAL 7035 light gray

W	H	D	U	d	kg	Model	Order no.	UP
			9				**02.111.076.1**	1 unit
			12				**02.111.077.1**	1 unit
			15				**02.111.078.1**	1 unit
			18				**02.111.079.1**	1 unit
			21				**02.111.080.1**	1 unit
			24				**02.111.081.1**	1 unit


SMA20028

Knürr Smaract® Top Cover/Bottom Cover closed

Material/Finish
Sheet steel, powder-coated texture

Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

Supply schedule
1 bottom cover, closed
Mounting material

How supplied
Flat-packed kit

Note
Use of the bottom cover in combination with the stationary plinth is not possible

W	H	D	U	d	kg	Model	Order no.	UP
600		600					**02.111.052.1**	1 unit
600		800					**02.111.054.1**	1 unit
600		900					**02.111.055.1**	1 unit
600		900					**02.111.055.8**	1 unit
600		1000					**02.111.056.1**	1 unit
600		1000					**02.111.056.8**	1 unit

SMA20168

Knürr Smaract® Top Cover/Bottom Cover with cable entry

- With integrated cable clamping
- With brush strip for cable entry

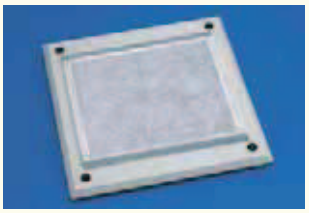
Material/Finish
Sheet steel, powder-coated texture

Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

■ **Supply schedule**
1 bottom cover with cable routing
1 brush strip
Mounting material

■ **How supplied**
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
600		600					**02.111.042.1**	1 unit
600		800					**02.111.044.1**	1 unit
600		900					**02.111.045.1**	1 unit
600		900					**02.111.045.8**	1 unit
600		1000					**02.111.046.1**	1 unit
600		1000					**02.111.046.8**	1 unit



SMA20029

Knürr Smaract® Bottom Cover, perforated With filter mat

– For cooling with air convection

■ **Material/Finish**
Bottom cover: Sheet steel, powder-coated texture
Filter mat: Filedon

■ **Color**
RAL 7035 light gray

■ **Supply schedule**
1 perforated bottom cover with filter mat
Mounting material

■ **How supplied**
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
600		600					**02.111.062.1**	1 unit
600		800					**02.111.064.1**	1 unit
600		900					**02.111.065.1**	1 unit

SMA20058

Knürr Smaract® Replacement Filter Mat For Smaract perforated bottom cover

– For use in conjunction with perforated bottom cover

■ **Material**
Filedon

■ **Supply schedule**
5 replacement filters

■ **How supplied**
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
						For D600	**02.111.068.9**	5 units
						For D800	**02.111.069.9**	5 units
						For D900	**02.111.069.9**	5 units

SMA20177

Knürr Smaract® Plinth

– Cable entry possible from all sides
– Panels front and rear with vent slots and installation option for filter mat

■ **Material/Finish**
Sheet steel, powder-coated texture

■ **Color**
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

■ **Supply schedule**
4 plinth corners
2 closed panels
2 panels with vent slots
Mounting material

■ **How supplied**
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
600	100	600					**02.111.201.1**	1 set
600	100	800					**02.111.203.1**	1 set
600	100	900					**02.111.204.1**	1 set
600	100	900					**02.111.204.8**	1 set

SMA20098

Knürr Smaract® Plinth PanelWith cable entry for use in conjunction with the plinth

– For use in conjunction with the plinth

■ **Material/Finish**
Sheet steel, powder-coated texture

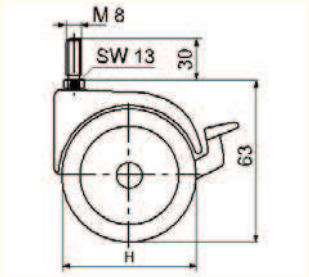
■ **Supply schedule**
1 panel with cable entry
1 brush strip
Mounting material

■ **Color**
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

■ **How supplied**
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
600	100						**02.111.206.1**	1 unit
600	100						**02.111.206.8**	1 unit

SMA20034



DOP00233

Knürr Smaract® Twin Castor

– Height 50 mm

■ **Color**
RAL 9011, graphite black

■ **Load rating**
400 N per castor
1200 N max. static total load per rack

■ **Supply schedule**
2 twin castors
2 fixed castors

■ **Standards**
Castors in accordance with DIN 12530
Load rating in accordance with DIN 12527

■ **How supplied**
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
							02.111.175.9	4 unit

SMA20035

Knürr Smaract® Stacking Set

- Fixed connection for stacking compact racks

Material/Finish
Steel, cold rolled, zinc-passivated

Supply schedule
4 stacking elements
Mounting material

How supplied
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
							02.111.171.9	4 unit

MEC00074

Knürr Smaract® Eyebolt Set

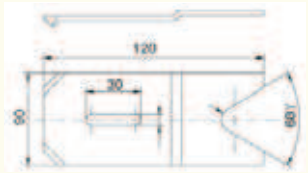
- For hanging on crane hooks
- Load rating, 1900 N static per ring screw

Material/Finish
Tool steel, forged

Supply schedule
4 eyebolts

How supplied
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
							01.243.440.9	4 unit



MIR00319

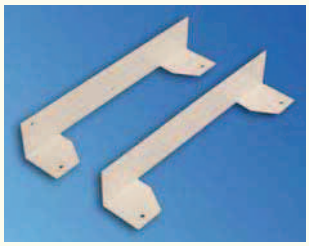
Base Fixing Kit

Material
Sheet steel, 3.0 mm

Finish
Zinc-passivated

Supply schedule
4 clamping plates

W	H	D	U	d	kg	Model	Order no.	UP
							01.130.934.7	1 unit



SMA20094

SMA20085

Knürr Smaract® Wall Mounting Bracket

Material/Finish
Sheet steel, powder-coated texture

Color
RAL 7035 light gray

Supply schedule
2 wall mounting brackets
Drill hole template
Mounting material

Load rating
500 N

How supplied
Flat-packed kit

W	H	D	U	d	kg	Model	Order no.	UP
600							02.111.220.9	1 set

ELM00068

Earthing Bar

- For safe earthing and equipotential bonding of equipment and installation components

Material
Electrolyte copper, 9x9

Supply schedule
1 earthing bar
2 brackets
Mounting material

W	H	S	U	h	d	kg	Model	Order no.	UP
			12					01.110.703.9	1 unit
			15					01.240.543.9	1 unit
			18					01.240.544.9	1 unit
			21					01.240.545.9	1 unit
			24					01.240.546.9	1 unit

DOP20016

Contact Clamp

- For safe and secure connection of equipment and installation components with the earthing bar
- For cables up to 25 mm²

Supply schedule
20 contact clamps

W	H	S	U	h	d	kg	Model	Order no.	UP
								01.110.715.9	20 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SMA20035

Knürr Smaract® 19" Compact Rack, EMC, with sheet steel door

– For components in acc. with IEC 297-3
– Removable covers

Load rating
- 2000 N static

Material
- Basic rack: Extruded aluminum
- Covers: Sheet steel
- EMC spring: Stainless steel

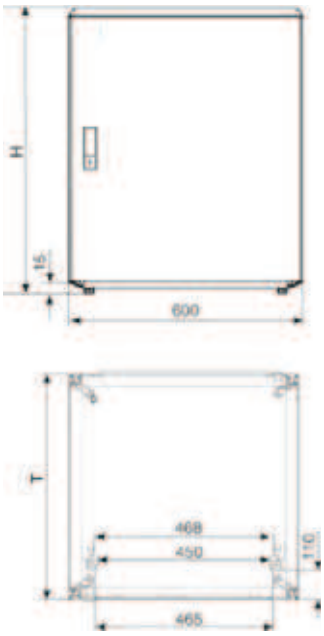
Finish:
- Basic rack: polished
- Covers: Powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 basic rack
2 side panels, EMC, closed, stop on both sides
1 top cover, EMC, closed
1 bottom cover, EMC, closed
1 front door, EMC, closed, lockable
1 rear panel, EMC, closed, screwed
2 19" aluminum vertical extrusions, at the front, with T-slot incl. increment slide
1 earthing set
4 leveling feet

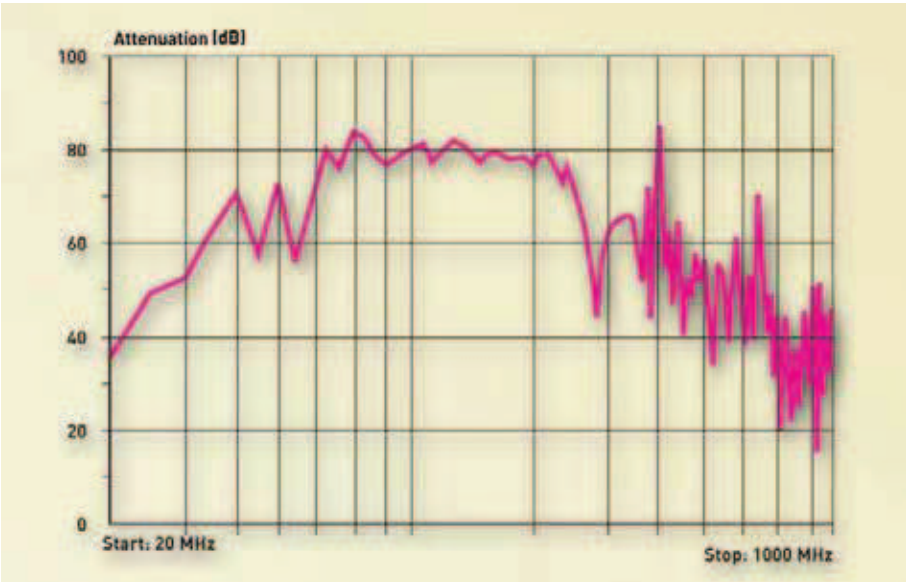
How supplied
- Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
600	612	600	12			28		**02.110.312.1**	1 unit
600	879	600	18			36		**02.110.322.1**	1 unit
600	1146	600	24			44		**02.110.332.1**	1 unit
600	612	800	12			32		**02.110.314.1**	1 unit
600	879	800	18			40		**02.110.324.1**	1 unit
600	1146	800	24			48		**02.110.334.1**	1 unit



SMA20059

TEC20098



- EMC measurements performed by pkm Electronic GmbH, Frontenhausen.
- The tests were carried out in compliance with the following standard: VG 95373 Part 15.
- Tested rack: width 600, depth 600, height 1150, closed version.

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SMA20148

SMA20137

Knürr Smaract® Connection Panel, EMC, Closed

- EMC shielding
- Screwed

Material
- Cover: Sheet steel
- EMC spring: High-grade steel

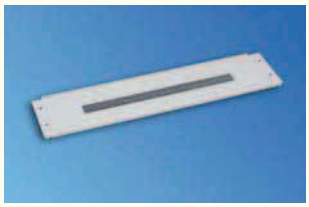
Finish
- Powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 connection panel
2 brackets
Mounting material

How supplied
- Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	131.3		3					**02.111.351.1**	1 set


SMA20145

SMA20137

Knürr Smaract® Connection Panel, EMC, with Cable Entry

- EMC shielding
- Screwed

Material
- Cover: Sheet steel
- EMC spring: High-grade steel
- EMC seal extrusion: Rubber with high-grade steel grid

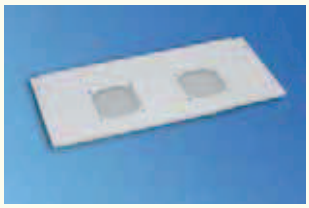
Finish
- Powder-coated texture

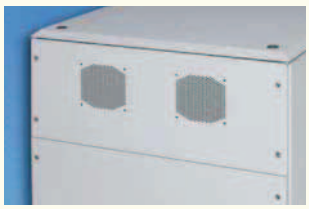
Color
- RAL 7035 light gray

Supply schedule
1 connection panel with cable entry
2 brackets
Mounting material

How supplied
- Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	131.3		3					**02.111.361.1**	1 set


SMA20150


SMA20135

Knürr Smaract® Connection Panel, EMC, for Fan Unit

- EMC shielding
- Screwed

Material
- Cover: Sheet steel
- EMC spring: High-grade steel

Finish
- Powder-coated texture

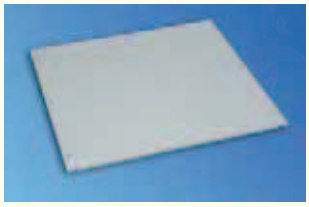
Color
- RAL 7035 light gray

Supply schedule
1 connection panel for fan unit
2 brackets
Mounting material

How supplied
- Flat-packed kit

Note
Suitable fan unit: 02.111.180.9

W	H	D	U	h	d	kg	Model	Order no.	UP
600	264.6		6					**02.111.372.1**	1 set


SMA20152

SMA20137

Knürr Smaract® Rear Panel, EMC, closed

- EMC shielding
- Screwed

Material
- Cover: Sheet steel
- EMC spring: High-grade steel

Finish
- Powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 connection panel
2 brackets
Mounting material

How supplied
- Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	422.9		9					**02.111.353.1**	1 set
600	556.3		12					**02.111.354.1**	1 set
600	689.6		15					**02.111.355.1**	1 set

Dimensions in mm: W = Width; H = Height; D = Depth; h = installation height; d = useful depth; kg = weight; U = standard height unit; HP = Horizontal pitch; UP = unit of packaging; ESD = ESD version; = Express item

SMA20062

Knürr Smaract® 19" Compact Rack IP54 with glass door

– For components in acc. with IEC 297-3
– Removable covers

Load rating
- 2000 N static

Protection rating
- IP 54

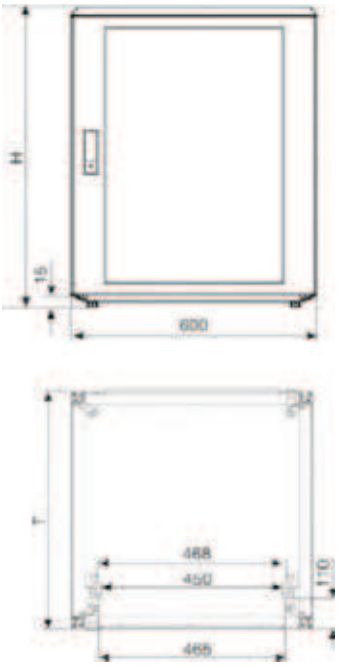
Material
- Basic rack: Extruded aluminum
- Covers: Sheet steel
- Foam seal: Polyurethane

Finish:
- Basic rack: polished
- Covers: Powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 basic rack
2 side panels, IP 54, closed, stop on both sides
1 top cover, IP 54, closed
1 bottom cover, IP 54, closed
1 glass front door IP 54, lockable
1 rear panel, IP 54, closed, screwed
2 19" aluminum vertical extrusions, at the front, with T-slot incl. increment slide
1 earthing set
4 leveling feet

How supplied
- Assembled



SMA20108

W	H	D	U	h	d	kg	Model	Order no.	UP
600	612	600	12			28		**02.110.212.1**	1 unit
600	879	600	18			36		**02.110.222.1**	1 unit
600	1146	600	24			44		**02.110.232.1**	1 unit
600	612	800	12			32		**02.110.214.1**	1 unit
600	879	800	18			40		**02.110.224.1**	1 unit
600	1146	800	24			48		**02.110.234.1**	1 unit

Dimensions in mm: W = Width; H = Height; D = Depth; h = installation height; d = useful depth; kg = weight; U = standard height unit; HP = Horizontal pitch; UP = unit of packaging; ESD = ESD version; = Express item

SMA20148

SMA20138

Knürr Smaract® Connection Panel, IP 54, Closed

– Protection rating, IP 54
– Screwed

Material
- Cover: Sheet steel
- Foam seal: Polyurethane

Finish
- Powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 connection panel
2 brackets
Mounting material

How supplied
- Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	131.3		3					**02.111.301.1**	1 set

SMA20139

SMA20169

SMA20138

Knürr Smaract® Connection Panel, IP 54, with Cable Entry

– Possible sealing: IP 54
– Screwed

Material
- Cover: Sheet steel
- Foam seal: Polyurethane
- Seal extrusion: Type 1 Sponge rubber seal
  Type 2 Polymeric reinforced with metal

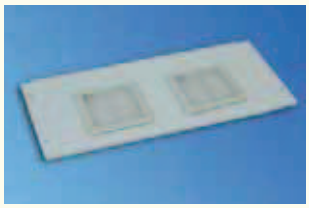
Finish
- Powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 connection panel with cable entry
2 brackets
Mounting material

How supplied
- Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	131.3		3				Type 1	**02.111.311.1**	1 set
600	131.3		3				Type 2	**02.111.312.1**	1 set


SMA20143

SMA20136

Knürr Smaract® Connection Panel, IP 54, for Fan Unit

– Protection rating, IP 54
– Screwed

Material
- Covers: Sheet steel
- Foam seal: Polyurethane
- Exit filter: ABS plastic, UL94 V-0

Finish
- Powder-coated texture

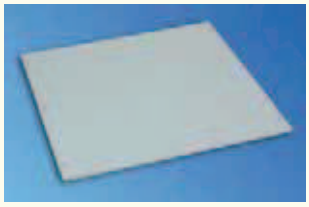
Color
- RAL 7035 light gray

Supply schedule
1 connection panel for fan unit
2 brackets, mounting material

How supplied
- Flat-packed kit

Note
Suitable fan unit: 02.111.180.9

W	H	D	U	h	d	kg	Model	Order no.	UP
600	264.6		6					**02.111.322.1**	1 set


SMA20141

SMA20138

Knürr Smaract® Rear Panel, IP54, Closed

– Protection rating, IP 54
– Screwed

Material
- Covers: Sheet steel
- Foam seal: Polyurethane

Finish
- Powder-coated texture

Color
- RAL 7035 light gray

Supply schedule
1 connection panel for fan unit
2 brackets
Mounting material

How supplied
- Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
600	156.3		3					**02.111.308.1**	1 set
600	289.6		6					**02.111.302.1**	1 set
600	422.9		9					**02.111.303.1**	1 set
600	556.3		12					**02.111.304.1**	1 set
600	689.6		15					**02.111.305.1**	1 set
600	823		18					**02.111.306.1**	1 set
600	956.3		21					**02.111.307.1**	1 set

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, kg = weight, U = standard height unit, HP = Horizontal pitch, UP = unit of packaging, ESD = ESD version, = Express item

Knürr DoubleProRack®

19” Stand-Alone Enclosure 1.92 to 1.98

19” Network Stand-Alone Enclosure

Knürr DoubleProRack®
Strong points 1.92

Knürr DoubleProRack®
19” Stand-Alone Enclosure 1.94
19” Enclosure Without Door 1.95

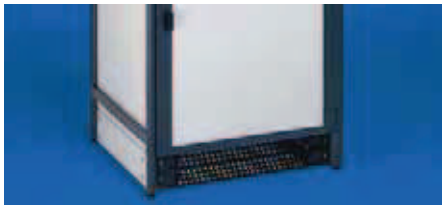
Knürr DoubleProRack® Accessories
Extrusions 1.96
Fan Unit 1.96
Rear Panel 1.96
Connection Panel 1.97
Earthing Set 1.97
Mounting Bracket 1.98
Rack Connector 1.98
Base Fixing 1.98
Eyebolt Set 1.98
Swivel Castors 1.98

Knürr DoubleProRack®
Strong points

1 DOP00242

3 DOP00245

5 DOP00247



7 DOP00250

DOP00256

8 DOP00251

1 Complete 19” enclosure range, from the Desktop Enclosure with 6 U through to the Compact Rack with 24 U.

2 Various top and bottom cover variants are available for individual requirements for air throughput and IP protection rating.
Top and bottom covers can be combined with each other in any way.

3 Lockable front door, optionally as single safety glass panel or as sheet steel door.

4 The extrusions for installing the 19” components are available with mounting holes or with a T-slot for incremented or stepless mounting.

5 The 19” mounting level can be set in the depth in 25 mm increments. This allows higher front panel structures to also be installed when using a door.

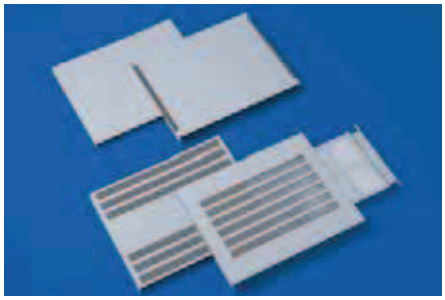
6 Individual configurations for your special application case allow uneven floor surfaces to be evened out with the leveling feet, mobility with castors or stacking with enclosure foot.

7 As an additional alternative, a plinth with front vent panel provides space for cabling and ventilation from below.

8 Various door types allow appearance and service access to be individually designed while taking the required protection rating into account.

9 Different types of cable entry are available according to the required protection rating.

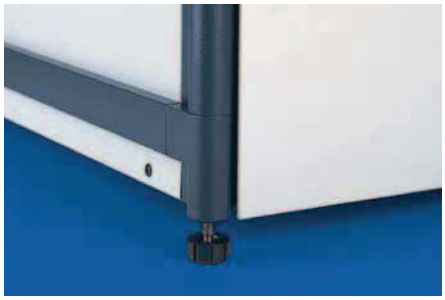
Knürr DoubleProRack® 19” Enclosure in acc. with IEC 297-3
Technical data



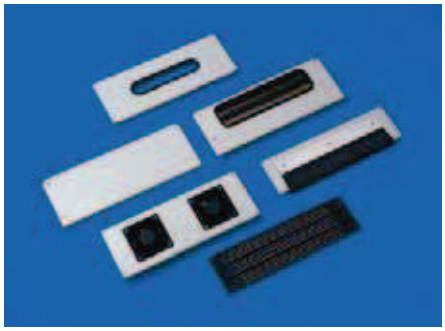
2 DOP00244

4 DOP20004

4 DOP20005



6 DOP00248



9 DOP00252

- Die-cast aluminum frame construction connected with aluminum depth and vertical extrusions

- **Material**
  - Covers, sheet steel, 0.8 mm, zinc-passivated
  - Die-cast aluminum frame
  - Extruded aluminum depth and vertical extrusions
  - In the 19” mounting level, extruded aluminum with T-slot and mounting holes
  - Sheet steel, full glass doors or extrusion doors with sheet steel or safety glass panel

- **External dimensions**
  - Widths
    554.4 mm
    754.4 (network enclosures)
  - Depths
    500, 600, 700 or 800 mm
  - Height:
    177.8 – 1111.3 mm (without feet or plinth)

- **Installation space in acc. with IEC 297**
  - Height 3 – 24 U
    (1 U = 44.45 mm)
  - Width: 19”

- **How supplied**
  - Assembled

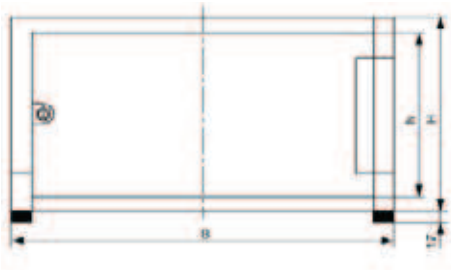
- **Load rating**
  - 1500 N static

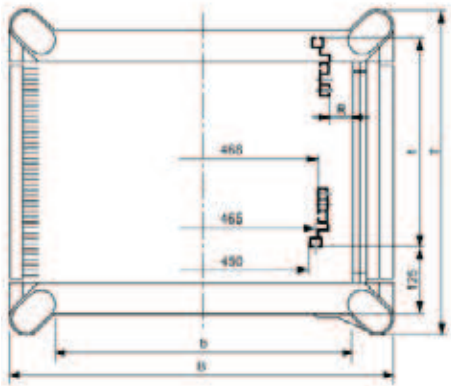
- **Configuration**
  - Stationary, on plastic feet or plinth with feet
  - Mobile on twin swivel castors

- **Finish /Color**
  - Powder-coated texture, RAL 7035 light gray
  - Frame and extrusions powder-coated texture, RAL 5008 light gray

- **Tests**
  - Vibration test in acc. with MIL-STD 810 D
  - NEMA 12 Test

DOP00256





DOP00230

Knürr DoubleProRack® 19" Stand-Alone Enclosure

- For components in acc. with IEC 297-3
- Side covers and rear panel can be removed
- Flexible assembly of the components using T-slot (also optional with mounting holes)
- Cable entry via rear panel
- Heat loss discharge via own convection on the rear panel (or optionally with fan unit)

Jumpering space
At the front: 125 mm

Load rating
1500 N static

Protection rating
IP 20

Material/Finish
Covers, sheet steel, powder-coated texture
Die-cast aluminum frame
Extruded aluminum extrusions
Glass infill front door, single safety glass panel

Color
Covers, RAL 7035 light gray
Frame and extrusions, RAL 5008 gray-blue

Supply schedule
1 frame rack incl. side covers
1 full glass door
1 rear panel with cable entry, 3 parts
1 cover, above, with vent slots
1 cover, below, with vent slots
1 19" installation set (4 vertical extrusions with T-slot)
1 earthing set with earthing bolt, M8

How supplied
Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
554.4	311	600	6	265		435	With full glass door	**01.246.641.1**	1 unit
554.4	444	600	9	399		435	With full glass door	**01.246.642.1**	1 unit
554.4	577	600	12	532		435	With full glass door	**01.246.643.1**	1 unit
554.4	711	600	15	666		435	With full glass door	**01.246.644.1**	1 unit
554.4	844	600	18	799		435	With full glass door	**01.246.645.1**	1 unit
554.4	978	600	21	932		435	With full glass door	**01.246.646.1**	1 unit
554.4	1111	600	24	1066		435	With full glass door	**01.246.647.1**	1 unit
554.4	577	800	12	532		635	With full glass door	**01.246.843.1**	1 unit
554.4	711	800	15	666		635	With full glass door	**01.246.844.1**	1 unit
554.4	844	800	18	799		635	With full glass door	**01.246.845.1**	1 unit
554.4	978	800	21	932		635	With full glass door	**01.246.846.1**	1 unit
554.4	1111	800	24	1066		635	With full glass door	**01.246.847.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

DOP00253

Knürr DoubleProRack® 19" Enclosure without front door

- For components in acc. with IEC 297-3
- Side covers and rear panel can be removed
- Heat loss discharge via own convection on the rear panel (or optionally with fan unit)

Load rating
1500 N static

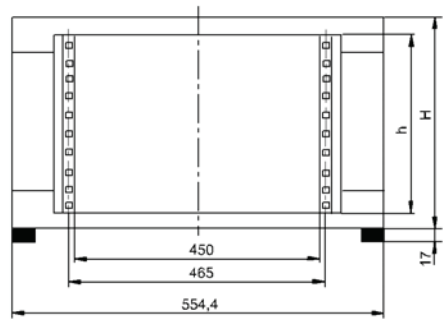
Protection rating
IP 20

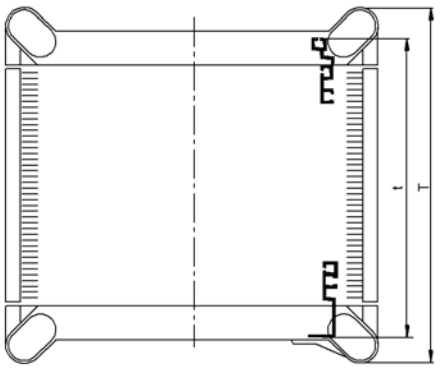
Material/Finish
Covers, sheet steel, powder-coated texture
Die-cast aluminum frame
Extruded aluminum extrusions

Color
Covers, RAL 7035 light gray
Frame and extrusions, RAL 5008 gray-blue

Supply schedule
1 frame rack incl. side covers
1 cover, above, with vent slots
1 cover, below, with vent slots
1 rear panel (from enclosure height 12 HU, with 3 HU front ventilation panel)
2 19" front extrusions, mounting holes
2 19" extrusions at the rear, T-slot

How supplied
Assembled





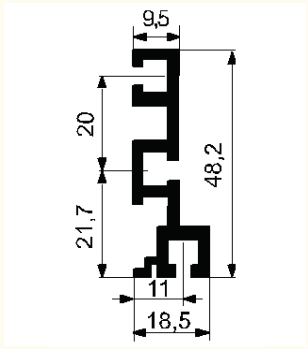
DOP00052

W	H	D	U	h	d	kg	Model	Order no.	UP
554.4	178	500	3	132	460	10.0	No door	**01.243.503.1**	1 unit
554.4	311	500	6	265	460	12.5	No door	**01.243.506.1**	1 unit
554.4	444	500	9	399	460	15.0	No door	**01.243.509.1**	1 unit
554.4	577	500	12	532	460	17.0	No door	**01.243.512.1**	1 unit
554.4	711	500	15	666	460	19.5	No door	**01.243.515.1**	1 unit
554.4	844	500	18	799	460	22.0	No door	**01.243.518.1**	1 unit
554.4	311	600	6	265	560	14.0	No door	**01.243.606.1**	1 unit
554.4	444	600	9	399	560	16.5	No door	**01.243.609.1**	1 unit
554.4	577	600	12	532	560	19.0	No door	**01.243.612.1**	1 unit
554.4	711	600	15	666	560	22.0	No door	**01.243.615.1**	1 unit
554.4	844	600	18	799	560	24.5	No door	**01.243.618.1**	1 uni
554.4	978	600	21	932	560	27.0	No door	**01.243.621.1**	1 unit
554.4	1111	600	24	1066	560	29.5	No door	**01.243.624.1**	1 unit
554.4	577	700	12	532	660	21.5	No door	**01.243.712.1**	1 unit
554.4	711	700	15	666	660	24.0	No door	**01.243.715.1**	1 unit
554.4	844	700	18	799	660	27.0	No door	**01.243.718.1**	1 unit
554.4	978	700	21	932	660	29.5	No door	**01.243.721.1**	1 unit
554.4	1111	700	24	1066	660	32.5	No door	**01.243.724.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

DOP20004



DOP00313

Knürr DoubleProRack® 19" installation, front with T-slot

– Can also be used as second mounting level

Material
Extruded aluminum

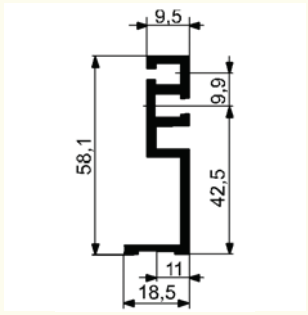
Finish
Polished

Supply schedule
2 19" extrusions at the front, T-slot
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
			6					**01.240.440.9**	1 set
			9					**01.240.443.9**	1 set
			12					**01.240.445.9**	1 set
			15					**01.240.446.9**	1 set
			18					**01.240.447.9**	1 set
			21					**01.240.448.9**	1 set
			24					**01.240.449.9**	1 set

DOP20005



DOP00055

Knürr DoubleProRack® 19" installation, front with mounting holes

– Can also be used as second mounting level

Material
Extruded aluminum

Finish
Polished

Supply schedule
2 19" extrusions at the front with mounting holes

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
			6					**01.240.490.9**	1 set
			9					**01.240.493.9**	1 set
			12					**01.240.495.9**	1 set
			15					**01.240.496.9**	1 set
			18					**01.240.497.9**	1 set
			21					**01.240.498.9**	1 set
			24					**01.240.499.9**	1 set

DOP20033

Knürr DoubleProRack® Fan Rear Panel 3 U

– With two axial fans
– With thermostat

Single fan technical data
- Max. volume current (free blowing): 162 m³/h
- Noise (free blowing): 37 dB(A)

Technical data, thermostat
- Setting range: 0 to 60 ?
- Mains supply: 240 V/50 Hz
- Nominal current: 16 A

Supply schedule
1 rear fan panel, wired
Mounting material

Finish/Color
Powder-coated texture, RAL 7035 light gray

How supplied
Assembled

Note
Use in the enclosure's lowest U is not possible!

W	H	D	U	h	d	kg	Model	Order no.	UP
554.4	132.5		3				With thermostat	**01.243.428.1**	1 unit

DOP00275

Knürr DoubleProRack® 1 rear panel, closed

– For DoubleProRack width 554.4 mm

Material/Finish
Sheet steel, 0.8 mm, powder-coated texture

Color
RAL 7035 light gray

Supply schedule
1 rear panel, closed
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
554.4				3				**01.240.451.1**	1 unit
554.4				6				**01.240.454.1**	1 unit
554.4				9				**01.240.457.1**	1 unit
554.4				12				**01.240.459.1**	1 unit
554.4				15				**01.240.460.1**	1 unit
554.4				18				**01.240.461.1**	1 unit
554.4				21				**01.240.462.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

DOP00278

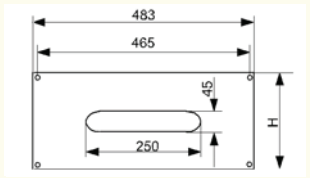
Knürr DoubleProRack® Multi-Functional Handle

- **Material/Finish**
  Die-cast, powder-coated texture
- **Color**
  RAL 5008 gray-blue
- **Supply schedule**
  2 handles
  Mounting material
- **How supplied**
  Flat-packed kit

DOP00231

W	H	D	U	Model	Order no.	UP
		500			**01.240.641.1**	1 unit
		600			**01.240.642.1**	1 unit
		700			**01.240.643.1**	1 unit
		800			**01.240.644.1**	1 unit

DOP00270



DOP00287

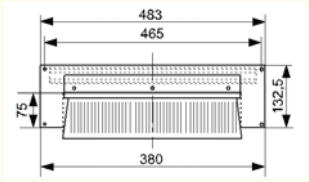
Knürr DoubleProRack® Connection panel with cable routing

- For cable entry in combination with rear panel shortened accordingly by 3 U

- **Material/Finish**
  Sheet steel, 0.8 mm, powder-coated texture
- **Color**
  RAL 7035 light gray
- **Supply schedule**
  1 connection panel with cable routing
  Mounting material
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
554.4	132.5		3					**01.243.435.1**	1 unit

DOP00274



DOP00288

Knürr DoubleProRack® Connection panel with brush strip

- To cover rear panel in combination with rear panel shortened accordingly by 3 U
- For DoubleProRack width 554.4 mm
- With brush strip for cable routing and strain relief

- **Finish/Color**
  Powder-coated texture, RAL 7035 light gray
- **Supply schedule**
  1 connection panel
  Mounting material
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
554.4	132.5		3					**01.243.438.1**	1 unit

MEC20122

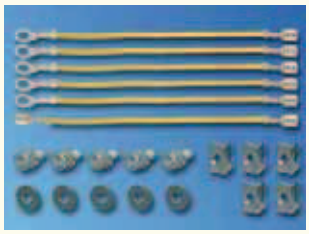
DOP20025

Knürr DoubleProRack® Earthing set for enclosures

- For earthing top cover/bottom cover
- With central earthing bolt

- **Supply schedule**
  2 earthlines, length 250 mm
  4 spring nuts, M5
  2 washers
  4 cylinder screws, M5 x 10
  1 earthing bolt
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.243.400.9	1 set



MEC20035

Knürr DoubleProRack® Earthing set for doors and trims

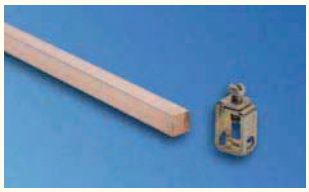
- For earthing doors and/or panels

- **Supply schedule**
  5 earthlines, length 250 mm
  1 earthline, length 250 mm, two-sided AMP plug
  5 spring nuts, M5
  5 cylinder screws, M5 x 10 with tooth lock washer
  5 washers
- **How supplied**
  Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.245.400.9	1 set

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound


ELM00068

Earthing Bar

- For safe earthing and equipotential bonding of equipment and installation components

Material
Electrolyte copper, 9x9

Supply schedule
1 earthing bar
2 brackets
Mounting material

W	H	S	U	h	d	kg	Model	Order no.	UP
			12					**01.110.703.9**	1 unit
			15					**01.240.543.9**	1 unit
			18					**01.240.544.9**	1 unit
			21					**01.240.545.9**	1 unit
			24					**01.240.546.9**	1 unit

DOP20016

Contact Clamp

- For safe and secure connection of equipment and installation components with the earthing bar
- For cables up to 25 mm²

Supply schedule
20 contact clamps

W	H	S	U	h	d	kg	Model	Order no.	UP
								01.110.715.9	20 units

DOP00282

Knürr DoubleProRack® Mounting bracket:

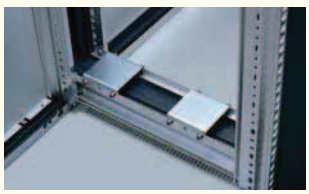
- For mounting socket strips and cable duct

Material/Finish
Sheet steel, zinc-passivated

Supply schedule
2 mounting brackets
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.240.533.9	1 set


DOP00283

Knürr DoubleProRack® Rack Connector

- For physical, stable rack and enclosure suites

Material/Finish
Sheet steel, zinc-passivated

Supply schedule
4 rack connectors
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.240.525.7	1 set

DOP00311

Knürr DoubleProRack® Base Fixing

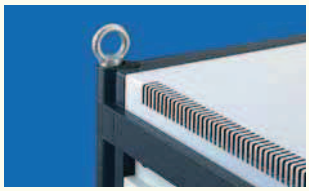
- For use in conjunction with leveling feet

Material/Finish
Sheet steel, black, zinc-passivated

Supply schedule
4 base fixings
Screws and dowels

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.243.441.3	1 set


DOP00281

Knürr DoubleProRack® Eyebolt Set

- For hanging on crane hooks
- Load rating, 1900 N static per ring screw

Material
Tool steel, forged

Supply schedule
4 eyebolts, M 8

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								01.243.440.9	1 set

DOP00267

Knürr DoubleProRack® Twin Castor 50 mm

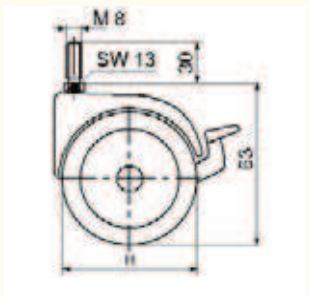
- For mobile setup of the DoubleProRack stand-alone enclosure with lockable castors

Material/Finish
Polyamide, RAL 9011 black

Load rating
400 N per castor
1200 N max. static total load per rack

Supply schedule
2 twin castors
2 lockable castors
4 lock washers

How supplied
Flat-packed kit



DOP00233

W	H	D	U	h	d	kg	Model	Order no.	UP
	50							**01.240.527.9**	1 set
	75							**01.240.528.9**	1 set

Knürr ConAct®

19” Network Wall Enclosure

1.100 to 1.105

19" Network Wall Enclosure

Knürr ConAct®
Strong points 1.100

Knürr ConAct®
Wall Enclosure 1.104

Knürr ConAct®
Accessories
Extrusions 1.105
Door 1.105
Top Cover / Bottom Cover 1.105
Earthing Set 1.105

Knürr ConAct®
Strong points

Unpack – and start with the network installation within minutes

A

ACT00024

- **Economic efficiency**
  - Savings of up to 50% of transport volume with flat-pack packing (see figure A)
  - Easy transport right up to assembly with space-saving packaging
  - Small packages – low storage space

B

ACT00031

- **"One-Person" Setup**
  - No unnecessary removal of enclosure parts as it is delivered part dismantled
  - Rear panel mounting without measuring using drill hole template
  - Easy assembly with:
    - Keyhole punching on the rear panel (see figure B)
    - Push-in technology for mounting rails and covers
    - Symmetrical enclosure setup

ACT00004

1.

Hang rear panel

ACT00005

2.

Fix supports and vertical extrusions

C

ACT00030

D

ACT00033

Cabling made easy

– All-side access guarantees convenient mounting of the components
– Easy cable management with on-site existing cables with open construction design
– Orderly cable management with spacious side jumpering area and cable clamping rails as accessories (see figures C+D)

E

ACT00032

Customer specification

– Individually configurable with color variants or cover mounting holes
– 19” or metric installation possible
– 19” vertical extrusions can be depth adjusted on 25 mm increment
– Easy door stop change with shift bolt system (see figure E)
– Ventilation concept can be expanded at later stages with optional active ventilation unit

ACT00006

3.

... cable and mount components

ACT00007

4.

fit covers

ACT00008

5.

... and the installation is ready!

ACT00017

Maintenance-friendly

– Easy access for servicing is also guaranteed by removing the side panels
– Enclosure can be locked with security lock
– Door opening angle ›180°

F

ACT00034

G

ACT00033

Accessories

– Easy integration of accessories, e.g. socket strips with screw-on points on the vertical extrusion or on the rear panel (see figure F)
– Accessories available for orderly cable management, e.g. cable routing board or jumpering bracket (see figure G)
– Comprehensive standard accessories range available, e.g. shelves, drawers, socket strips, etc.

Application examples:

ACT00020

Glass door with trims in special colors

ACT00025

Design door with perforation

ACT00021

Enclosure with active ventilation unit

Knürr ConAct®
Technical data

– In acc. with IEC 297
– With fixed 19" installation
– For components in acc. with IEC 297-3
– Removable covers
– Covers above and below with side vent slots

For installing
– 19" components on the front
– 19" components on the rear, optionally with additional 19" vertical extrusion set
– Equipment with max. construction width of 450 mm
– Installation accessories

19" enclosure in acc. with IEC 2973
– Heights: 6 U / 9 U / 12 U / 15 U / 18 U / 21 U / 24 U (1 U = 44.45 mm)
– Width: 482.6 mm (19")

External dimensions
– Heights: 352 mm / 486 mm /619 mm / 752 mm / 886 mm /1019 mm / 1152 mm
– Width: 600 mm
– Depths: 400 mm / 500 mm / 600 mm

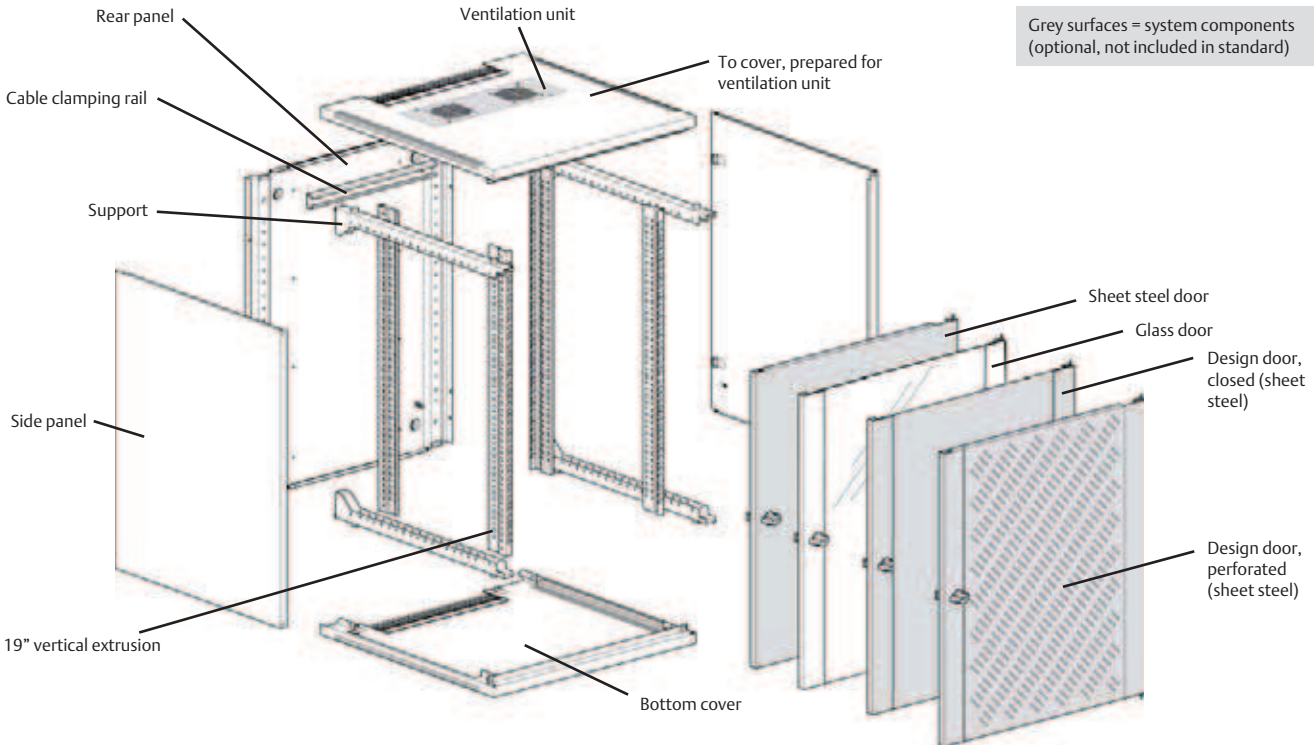
Jumpering space
– Front: 100 mm (adjustable)
– Side: 55 mm

Static load rating
500 N

Protection rating
IP 20

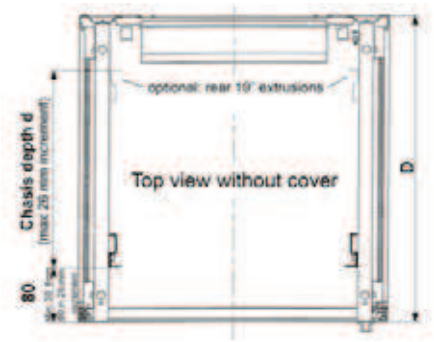
Standards
Earthing, VDE 0100 T 540
EN 60950, EN 60529

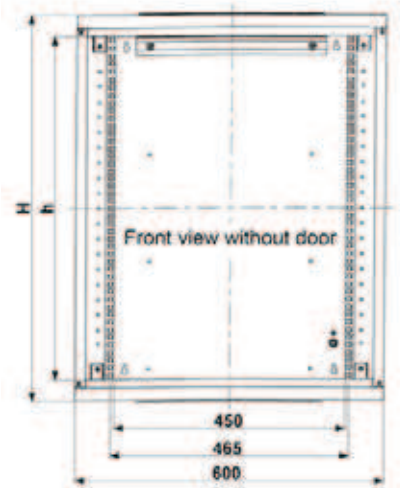
Configuration
Stationary, wall mounting



ACT00038

ACT20053





ACT20041

Knürr ConAct® Standard 19" Wall Mounting Rack

- For components in acc. with IEC 297-3
- Accessible from all sides, covers can be quikkly removed
- Cable routing via brush strip on top cover and bottom cover
- Ventilation unit, optional (quick and easy to upgrade)
- Front door with single safety glass panel, lockable

Jumpering space
80 mm (minimum 32, from 80 on the 25 mm increment)

Load rating
500 N static

Protection rating
IP 20

Material/ Finish
- Rear panel and basic frame, sheet steel, zinc-passivated
- Removable covers, powder-coated sheet steel
- Front door, single safety glass panel, textured
- 19" vertical extrusions, zinc-passivated sheet steel

Color
RAL 7035 light gray

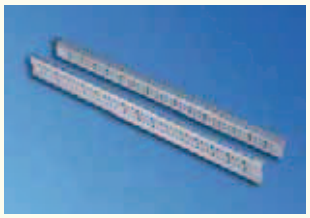
Supply schedule
1 rear panel
4 mounting rails
2 19" sheet steel vertical extrusions
1 top cover, prepared for ventilation unit
1 bottom cover, closed
2 side panels
1 glass door
1 cable clamping rail
Mounting material

How supplied
Part assembled

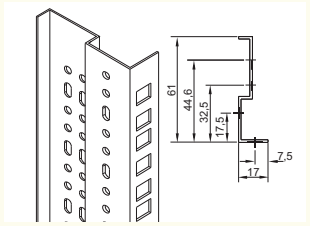
W	H	D	U	h	d(max.)	kg	Model		Order no.	UP
600	352	400	6	270	235	16	With glass door		**05.010.000.1**	1 unit
600	486	400	9	404	235	19	With glass door		**05.010.001.1**	1 unit
600	619	400	12	537	235	22	With glass door		**05.010.002.1**	1 unit
600	752	400	15	670	235	25	With glass door		**05.010.003.1**	1 unit
600	886	400	18	804	235	28	With glass door		**05.010.004.1**	1 unit
600	1019	400	21	937	235	31	With glass door		**05.010.005.1**	1 unit
600	1152	400	24	1070	235	34	With glass door		**05.010.006.1**	1 unit
600	352	500	6	270	335	18	With glass door		**05.010.007.1**	1 unit
600	486	500	9	404	335	21	With glass door		**05.010.008.1**	1 unit
600	619	500	12	537	335	24	With glass door		**05.010.009.1**	1 unit
600	752	500	15	670	335	28	With glass door		**05.010.010.1**	1 unit
600	886	500	18	804	335	31	With glass door		**05.010.011.1**	1 unit
600	1019	500	21	937	335	34	With glass door		**05.010.012.1**	1 unit
600	1152	500	24	1070	335	37	With glass door		**05.010.013.1**	1 unit
600	352	600	6	270	435	20	With glass door		**05.010.014.1**	1 unit
600	486	600	9	404	435	23	With glass door		**05.010.015.1**	1 unit
600	619	600	12	537	435	27	With glass door		**05.010.016.1**	1 unit
600	752	600	15	670	435	30	With glass door		**05.010.017.1**	1 unit
600	886	600	18	804	435	34	With glass door		**05.010.018.1**	1 unit
600	1019	600	21	937	435	37	With glass door		**05.010.019.1**	1 unit
600	1152	600	24	1070	435	41	With glass door		**05.010.020.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound



ACT00029



ACT00035

Knürr ConAct® 19" vertical extrusion

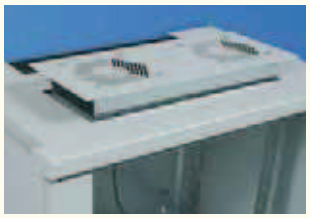
- For front and/or rear installation in the enclosure

Material/Finish
Sheet steel, 1.5 mm, zinc-passivated

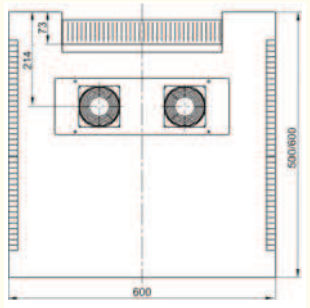
Supply schedule
2 vertical extrusions
Mounting material

W	H	D	U	h	d	kg	Model	Order no.	UP
			6					**05.010.321.9**	1 set
			9					**05.010.322.9**	1 set
			12					**05.010.323.9**	1 set
			15					**05.010.324.9**	1 set
			18					**05.010.325.9**	1 set
			21					**05.010.326.9**	1 set
			24					**05.010.327.9**	1 set

ACT20052



ACT20056



ACT00041

Knürr ConAct® Ventilation unit with thermostat

- Easy later installation of the fan unit in the top cover
- With two axial fans
- With thermostat
- Available in two different performance classes

Material/Finish
Sheet steel, zinc-passivated

Single fan technical data
Type 1
- Volume current (free blowing): 162 m³/h per fan
- Noise (free blowing): 37 dB(A)

Type 2 (quiet)
- Volume current (free blowing): 120 m³/h per fan
- Noise (free blowing): 32 dB(A)

Technical data: Thermostat
- Setting range: 0 to 60 °C
- Mains supply: 240 V / 50 Hz
- Nominal current: 16 A

Color
RAL 7035 light gray

Supply schedule
1 ventilation unit ready for connection wired, with thermostat

How supplied
Assembled, wired and tested

W	H	D	U	h	d	kg	Model	Order no.	UP
							Type 1	**05.010.306.1**	1 set
							Type 2 (quiet)	**05.010.307.1**	1 set

ACT20027

ACT20054

Knürr ConAct® Sheet steel door

- For use instead of glass door

Material/Finish
Sheet steel, powder-coated texture

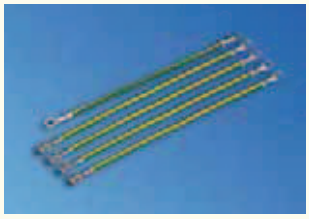
Color
RAL 7035 light gray

Supply schedule
1 steel door
Mounting material

How supplied
Flat-packed kit

Note
In project cases we also deliver our ConAct wall enclosure with sheet steel door. Please contact us at your leisure.

W	H	D	U	h	d	kg	Model	Order no.	UP
			6					**05.010.421.1**	1 unit
			9					**05.010.422.1**	1 unit
			12					**05.010.423.1**	1 unit
			15					**05.010.424.1**	1 unit
			18					**05.010.425.1**	1 unit
			21					**05.010.426.1**	1 unit
			24					**05.010.427.1**	1 unit



ACT00026

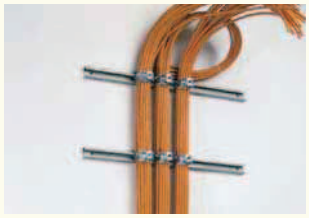
Knürr ConAct® Earthing set

- For earthing all covers on the enclosure frame

Supply schedule
5 earth conductors, 6 mm²
Mounting material

W	H	D	U	h	d	kg	Model	Order no.	UP
								05.010.330.9	1 set

MIR00641



ACT00006_A

Knürr ConAct® Cable clamping rail

- For cable clamping using U-clamps, cable clamping bars or hammer-head threaded plate
- For mounting on rear panel

Material/Finish
Sheet steel, zinc-passivated

Supply schedule
1 cable clamping rail
Mounting material

How supplied
Flat-packed kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								05.010.340.9	1 set

Knürr Accessories

Thermal Management 1.108 to 1.125

Cable Management 1.126 to 1.138

System Accessories 1.139 to 1.156

Knürr Accessories

Knürr CoolBlast®
Top-Mounting Fan
Strong points 1.109
Products 1.110
Fan Top 1.113

Top-Mounting Fans 1.116

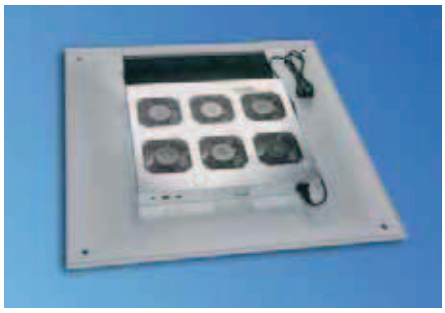
Knürr CoolBlast®
Fan Unit
Strong points 1.117
Products 1.118
Accessories 1.121

Filter Fan 1.124
Accessories 1.125

Knürr Cable
Management
Strong points 1.127
Products 1.129

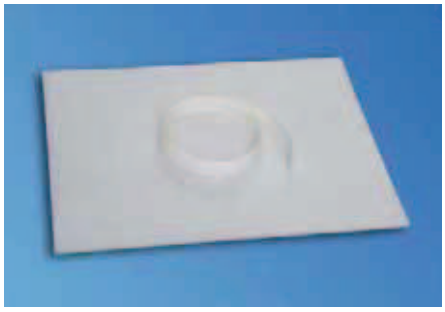
Knürr System
Accessories
Products 1.139

Knürr CoolBlast® Top-Mounting Fan for Miracel®

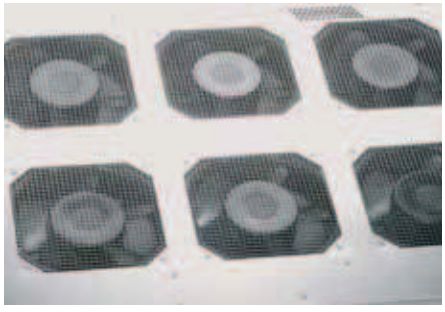


1 LUF20124

2 LUF20162



3 LUF20121



4 LUF20124

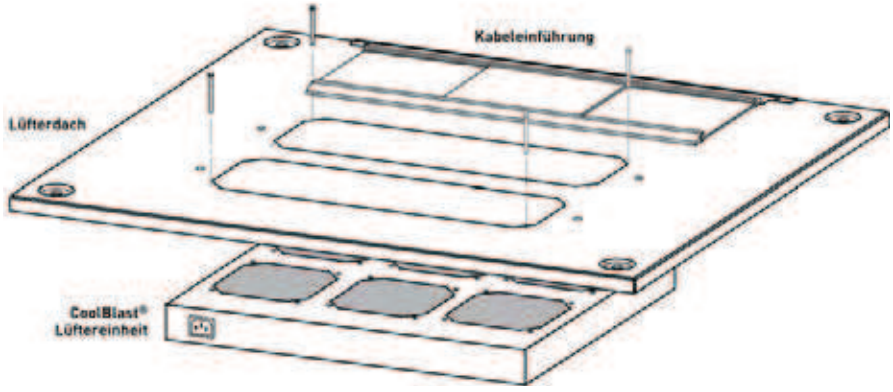
Knürr CoolBlast® Top-Mounting Fan
Strong points

1 The constantly increasing power loss in electronic modules constantly increases heat loads in the rack.
The **CoolBlast®** is modularly configured so that a suitable solution can be selected for every heat load.

2 The **CoolBlast®** top-mounting fan is therefore available in models with two, three or six fans. Regulated, thermostat-controlled and unregulated models are provided.

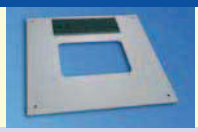
3 An optional fan lid or an optional filter (see picture) prevent dust from penetrating when the fan is in standstill mode.

4 The recently developed protection grid of the **CoolBlast®** top-mounting fan minimizes the pressure loss of through-flowing air and reduces the airflow noise The **CoolBlast®** roof fan is an especially quiet system.



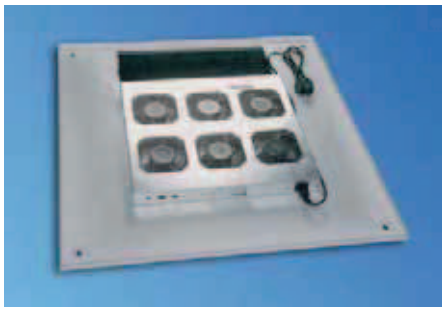
LUF20175

Possible configurations:

Consists of		Figure	Questions before installation in Miracel:
Fan Top			1. How wide and deep is the rack? 2. For 2, 3 or 6-piece fan unit? 3. What power supply will be required? 4. What volume flow is targeted? 5. What pressure? 6. With or without regulated or thermostat-controlled CoolBlast® model? 7. Correct mains cable? 8. Is particulate matter protection required? (Fan lid and filter)
Fan Top plus CoolBlast®		1 + 2	
Fan top plus CoolBlast® plus filter		1 + 2 + 3	

LUF20203

LUF20205



LUF20124

Knürr CoolBlast® Fan Unit for roof/door installation
Unregulated

– For forced rack cooling
– Suitable for installation at any time in the Miracel® top
– DC versions and 115 VAC versions on request (see CoolBlast® fan units)

Material
Housing: Sheet steel, high-grade steel grid

Finish
Zinc-passivated

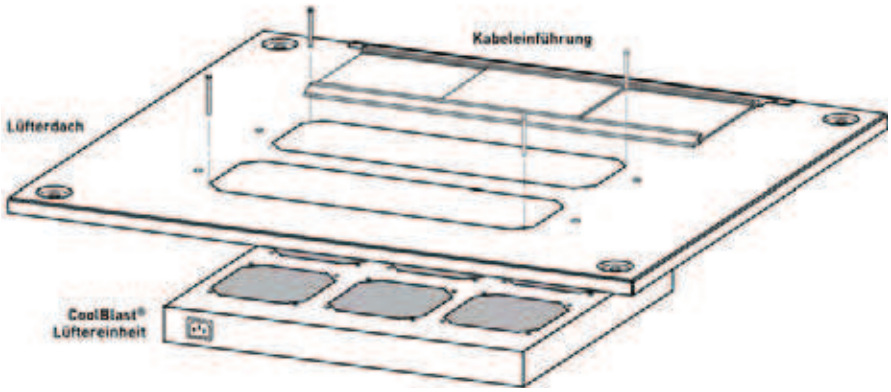
Single fan technical data
See page 12.9

Approvals
CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC directive 89/366/EEC

Supply schedule
1 CoolBlast fan unit®
1 mains cable, 3 m with safety plug (230 VAC)
Mounting material
Operating instructions

How supplied
Assembled, wired and tested

Note
Please also order specific mains cable



LUF20175

Name	Model	Elec. connection	P(W)	V̇ (m3/h)	ΔP(Pa)	p(dB(A))	Order no.		UP
CoolBlastT 230V 2-piece		207...253 VAC; 50/60 Hz	30	330	74	43.4	**03.027.300.1**		1 unit
CoolBlastT 230V 3-piece		207...253 VAC; 50/60 Hz	45	495	74	45.2	**03.027.301.1**		1 unit
CoolBlastT 230V 6-piece		207...253 VAC; 50/60 Hz	90	990	74	48.8	**03.027.302.1**		1 unit

Dimensions in mm: W = Width; H = Height; D = Depth; h = installation height; d = useful depth; L = length; U = standard height unit; 1 U = 44.45 mm; UP = unit of packaging; kg = weight; = Express item

Conversion: 1 mm = 0.03937 inch; 1 kg = 2.2046 pound

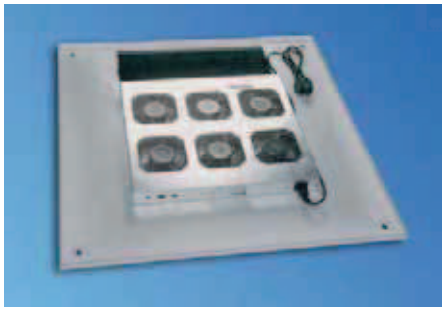
SP = Standard Performance
HP = High performance
UP = Ultra high performance

n = Number of fans
P = Power consumption (W)
V̇ = Air volume flow (m3/h)
ΔV̇ = Airflow volume loss (%)

ΔP = Pressure increase (Pi)
I nom = Nom. current (A)
I max = Max. residual current (A)
V = Voltage (400V = 3-phase)
p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm; raised cover)

LUF20204

LUF20206



LUF20124

Knürr CoolBlast® Fan Unit for roof/door installation
Thermostat-controlled

- For forced rack cooling
- Suitable for installation at any time in the Miracel® top
- 115 VAC versions on request
- Fan function (ON/OFF) thermostat-controlled, setting from 0° to +60° C

Material
Housing: Sheet steel, high-grade steel grid

Finish
Zinc-passivated

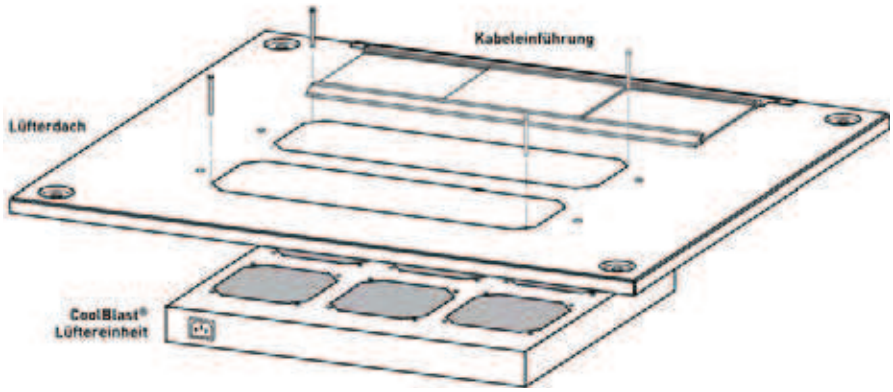
Single fan technical data
See page 12.9

Approvals
CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC directive 89/366/EEC

Supply schedule
1 CoolBlast fan unit®
1 mains cable, 3 m with safety plug (230 VAC)
Mounting material
Operating instructions

How supplied
Assembled, wired and tested

Note
Please also order specific mains cable



LUF20175

Name	Model	Elec. connection	P(W)	V(m3/h)	ΔP(Pa)	p(dB(A))	Order no.	UP
CoolBlastT 230V 2-piece	Thermostat	207...253 VAC; 50/60 Hz	30	330	74	43.4	**03.027.310.1**	1 unit
CoolBlastT 230V 3-piece	Thermostat	207...253 VAC; 50/60 Hz	45	495	74	45.2	**03.027.311.1**	1 unit
CoolBlastT 230V 6-piece	Thermostat	207...253 VAC; 50/60 Hz	90	990	74	48.8	**03.027.312.1**	1 unit

Dimensions in mm: W = Width; H = Height; D = Depth; h = installation height; d = useful depth; L = length; U = standard height unit; 1 U = 44.45 mm; UP = unit of packaging; kg = weight; = Express item

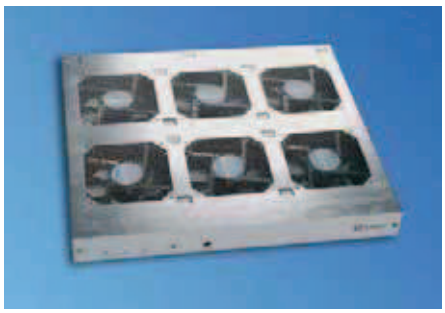
Conversion: 1 mm = 0.03937 inch; 1 kg = 2.2046 pound

SP = Standard Performance
HP = High performance
UP = Ultra high performance

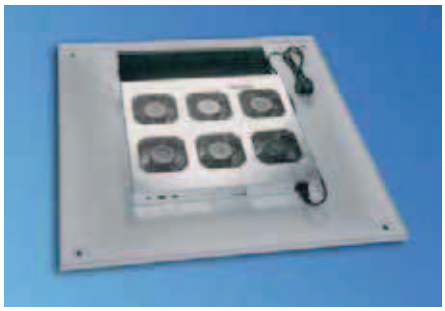
n = Number of fans
P = Power consumption (W)
V̇ = Air volume flow (m3/h)
ΔV̇ = Airflow volume loss (%)

ΔP = Pressure increase (Pi)
I nom = Nom. current (A)
I max = Max. residual current (A)
V = Voltage (400V = 3-phase)
p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm; raised cover)

LUF20160



LUF20161



LUF20124

Knürr CoolBlast® Fan Unit for roof/door installation
Speed-controlled

- For forced rack cooling
- Suitable for installation at any time in the Miracel® top
- DC version on request (see CoolBlast® fan units)
- Settable reference temperature (20° to 55°C)
- Speed control, 30 to 100%, with sensor break 100% rotation
- Individual fan monitoring
- Floating common alarm output for excess temperature alarm and fan failure
- Optical status display for O.K., excess temperature and fan failure
- Acoustic warning incl. reset button

Material
Housing: Sheet steel, high-grade steel grid

Finish
Zinc-passivated front panel, powder-coated, smooth in RAL 7035 light gray

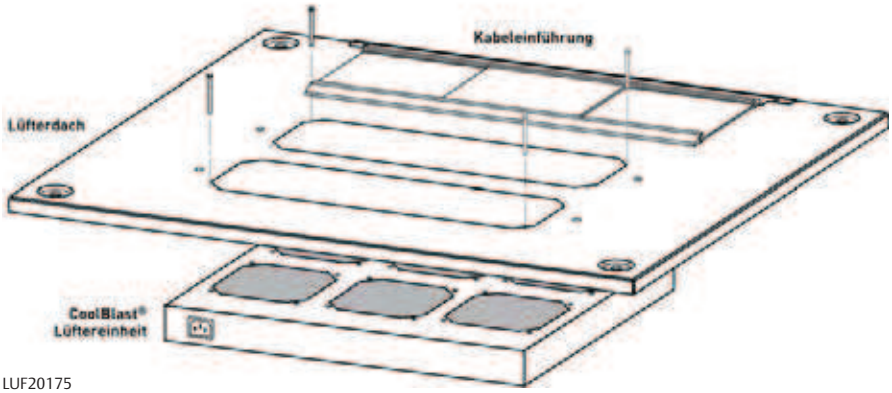
Single fan technical data
See page 12.9

Approvals
CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC directive 89/366/EEC

Supply schedule
1 CoolBlast fan unit®
1 sensor cable, 2 m (plug-in)
1 signal cable, 2 m (plug-in)
1 mains cable, 3 m with safety plug (230 VAC)
Mounting material
Operating instructions

How supplied
Assembled, wired and tested

Note
Please also order specific mains cable



LUF20175

Name	Model	Elec. connection	P(W)	V̇(m³/h)	ΔP(Pa)	p(dB(A))	Order no.	UP
CoolBlastT 230V 3-piece	controlled SP	100...253 VAC; 50/60 Hz	25	553	68	49.6	**03.027.321.1**	1 uni
CoolBlastT 230V 6-piece	controlled SP	100...253 VAC; 50/60 Hz	48	1106	68	53.3	**03.027.322.1**	1 unit
CoolBlastT 230V 3-piece	controlled HP	100...253 VAC; 50/60 Hz	32	711	173	55.8	**03.027.324.1**	1 unit
CoolBlastT 230V 6-piece	controlled HP	100...253 VAC; 50/60 Hz	62	1422	173	59.1	**03.027.325.1**	1 unit

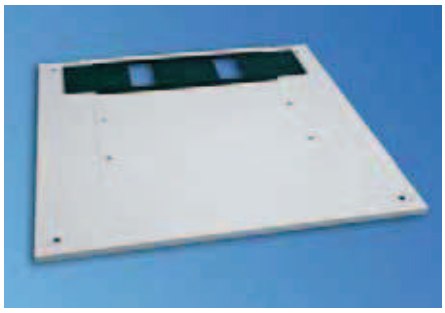
Dimensions in mm: W = Width; H = Height; D = Depth; h = installation height; d = useful depth; L = length; U = standard height unit; 1 U = 44.45 mm; UP = unit of packaging; kg = weight; = Express item

Conversion: 1 mm = 0.03937 inch; 1 kg = 2.2046 pound

SP = Standard Performance; HP = High performance; UP = Ultra high performance

n = Number of fans; P = Power consumption (W); V̇ = Air volume flow (m3/h); ΔV = Airflow volume loss (%)

ΔP = Pressure increase (Pi); I nom = Nom. current (A); I max = Max. residual current (A); V = Voltage (400V = 3-phase); p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm; raised cover)



LUF20163

LUF20169

Fan Top for Knürr CoolBlast®

- For use in conjunction with the CoolBlast fan unit
- Suitable for installation in Miracel
- With cable routing (sliding top)
- Cover divided in two parts for later installation and for servicing

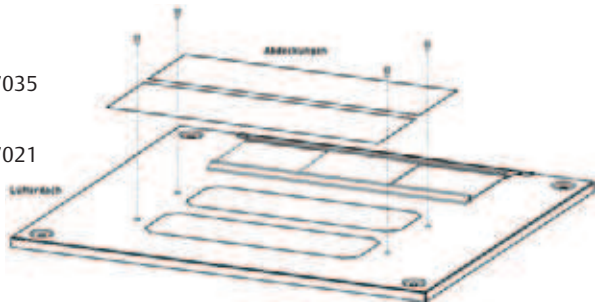
Material
Sheet steel

Finish / Color
Final digit of order number .1:
- Powder-coated texture, RAL 7035
- Light gray

Final digit of order number .8:
- Powder-coated texture, RAL 7021
- Dark gray

Supply schedule
1 top cover with cover strip and cable entry
2 covers

How supplied
Preassembled



LUF20176

W	H	D	Model	Order no.	UP
600		600	For 2 or 3-piece	**01.149.031.X**	1 unit
700		600	For 2 or 3-piece	**01.149.041.X**	1 unit
800		600	For 2 or 3-piece	**01.149.051.X**	1 unit
600		800	For 2/3 or 6-piece	**01.149.033.X**	1 unit
700		800	For 2/3 or 6-piece	**01.149.043.X**	1 uni
800		800	For 2/3 or 6-piece	**01.149.053.X**	1 unit
600		900	For 2/3 or 6-piece	**01.149.034.X**	1 unit
700		900	For 2/3 or 6-piece	**01.149.044.X**	1 unit
800		900	For 2/3 or 6-piece	**01.149.054.X**	1 unit
600		1000	For 2/3 or 6-piece	**01.149.035.X**	1 unit
700		1000	For 2/3 or 6-piece	**01.149.045.X**	1 unit
800		1000	For 2/3 or 6-piece	**01.149.055.X**	1 unit
600		1200	For 2/3 or 6-piece	**01.149.037.X**	1 unit
800		1200	For 2/3 or 6-piece	**01.149.057.X**	1 unit

LUF20121

LUF20168

Dust and Particle Protection for CoolBlast®
Solution 1: Filter mat

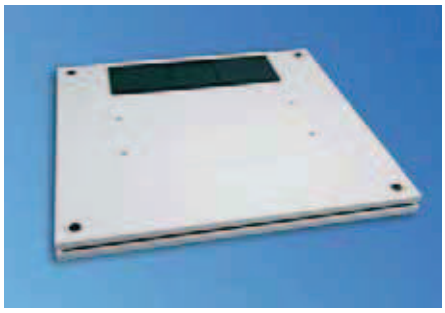
- For use in conjunction with the CoolBlast® fan top
- Easy filter covering so that dust cannot penetrate when the fan is stopped (regulated or thermostat-controlled version)
- For all top sizes; filter and adhesive tape can be cut to the required length

Material
Filedon (filter class - G2)

Supply schedule
1 filter
Adhesive tape

How supplied
Flat-packed kit

W	H	D	kg	Model	Order no.	UP
				For 2, 3 or 6-piece fan unit	**01.149.101.9**	1 set



LUF20174

LUF20172

Dust and particle protection for Knürr CoolBlast®
Solution 2: Vent Lid

– For use in conjunction with the CoolBlast® fan top
– Closed top cover with cable entry for protection against foreign particles and dust
– Mounting on the spacer bolts on the standard cover

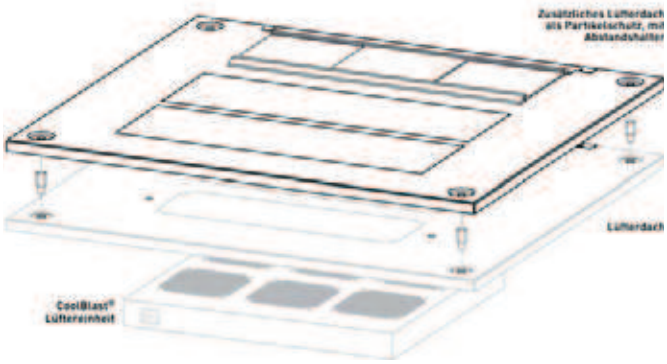
Material
Sheet steel

Finish / Color
Final digit of order number .1:
- Powder-coated texture, RAL 7035,
- Light gray
Final digit of order number .8:
- Powder-coated texture, RAL 7021,
- Dark gray

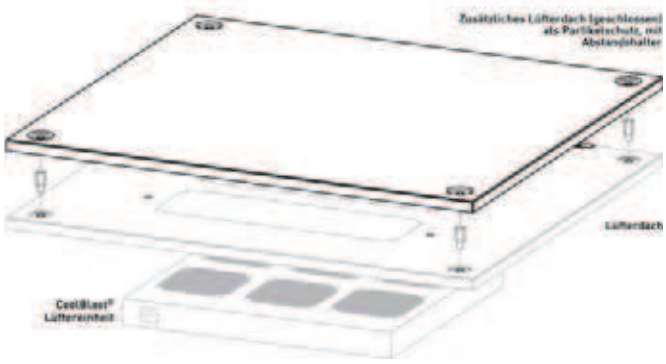
Supply schedule
1 top cover with cable entry

How supplied
Flat-packed kit

W	H	D	Model	Order no.	UP
600		600	With cable entry	**01.149.031.X**	1 unit
700		600	With cable entry	**01.149.041.X**	1 unit
800		600	With cable entry	**01.149.051.X**	1 unit
600		800	With cable entry	**01.149.033.X**	1 unit
700		800	With cable entry	**01.149.043.X**	1 uni
800		800	With cable entry	**01.149.053.X**	1 unit
600		900	With cable entry	**01.149.034.X**	1 unit
700		900	With cable entry	**01.149.044.X**	1 unit
800		900	With cable entry	**01.149.054.X**	1 unit
600		1000	With cable entry	**01.149.035.X**	1 unit
700		1000	With cable entry	**01.149.045.X**	1 unit
800		1000	With cable entry	**01.149.055.X**	1 unit
600		1200	With cable entry	**01.149.037.X**	1 unit
800		1200	With cable entry	**01.149.057.X**	1 unit
600		600	Closed	**01.130.690.X**	1 unit
700		600	Closed	**01.130.694.X**	1 unit
800		600	Closed	**01.130.691.X**	1 unit
600		800	Closed	**01.130.691.X**	1 unit
700		800	Closed	**01.130.695.X**	1 unit
800		800	Closed	**01.130.699.X**	1 unit
600		900	Closed	**01.130.692.X**	1 unit
700		900	Closed	**01.130.696.X**	1 unit
800		900	Closed	**01.130.700.X**	1 unit
600		1000	Closed	**01.127.700.X**	1 unit
700		1000	Closed	**01.127.701.X**	1 unit
800		1000	Closed	**01.127.702.X**	1 unit



LUF20177



LUF20178

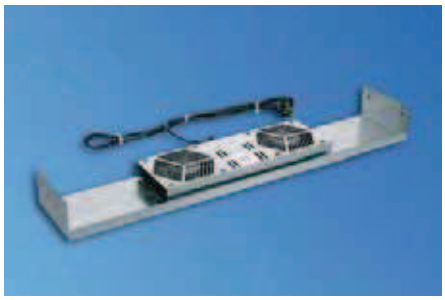
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SP = Standard Performance
HP = High performance
UP = Ultra high performance

n = Number of fans
P = Power consumption (W)
V̇ = Air volume flow (m3/h)
ΔV̇ = Airflow volume loss (%)

ΔP = Pressure increase (Pi)
I nom = Nom. current (A)
I max = Max. residual current (A)
V = Voltage (400V = 3-phase)
p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm; raised cover)



LUF20180

Knürr CoolBlast® Fan Installation Set
With thermostat

- For quick and easy forced exhaustion of racks
- Miracel / Tecoras Indoor
- Installation in the top cover area
- No loss of 19'' installation space
- Later installation also possible
- Incl. 2 fans (160 m3/h per fan)

Material / Finish
Sheet steel, 1.5 mm, zinc-passivated

Approvals
CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC directive 89/336/EEC

Technical data: Thermostat
- Setting range: + 0°C ... + 60°C
- Power supply: 240 V / 50 Hz
- Mains current: 16 A

Supply schedule
1 mounting panel for fan
2 fans
1 connection cable, 2.0 m with safety plug
Type 1: with thermostat
Type 2: without thermostat
Mounting material

How supplied
Assembled, wired and tested

W	H	D	For rack type	Order no.	UP
534			Miracel / W 600 / with thermostat	**01.113.430.0**	1 unit
734			Miracel / W 800 / with thermostat	**01.113.431.0**	1 unit

LUF20194

LUF20195

Silent Top-Mounting Fan

- For forced rack cooling
- Suitable for installation in Miracel
- High volume flow with low noise generation (e.g. for office applications)

Material / Finish
Sheet steel

Single fan technical data
Max. volume current (free blowing): 1500 m^3/h
Voltage/frequency: 230 V / 50 Hz
Power consumption: 117 W
Noise: 40 dB(A)
Temperature range: -25...40°C

Finish / Color
Final digit of order number .1:
- Powder-coated texture, RAL 7035
- Light gray

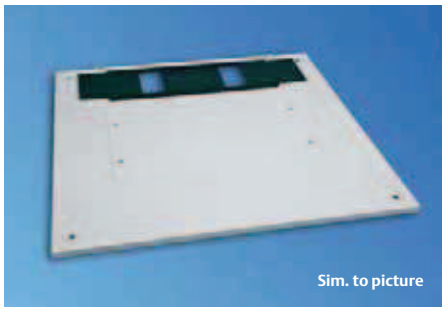
Final digit of order number .8:
- Powder-coated texture, RAL 7021
- Dark gray

Supply schedule
1 top-mounting fan
1 mains cable, 3 m with safety plug (230 VAC)
Mounting material

How supplied
Flat-packed kit

Note
Please also order suitable top

W	H	D	For rack type	Order no.	UP
449	237	490	Miracel	**03.028.111.X**	1 unit



LUF20163

LUF20195

Fan top for Silent top-mounting fan

- For use in conjunction with the Silent fan top
- Suitable for installation in Miracel
- With cable routing (sliding top)
- Cover divided in two parts for later installation and for servicing

Material/ Finish
Sheet steel

Finish / Color
Final digit of order number .1:
- Powder-coated texture, RAL 7035,
- Light gray

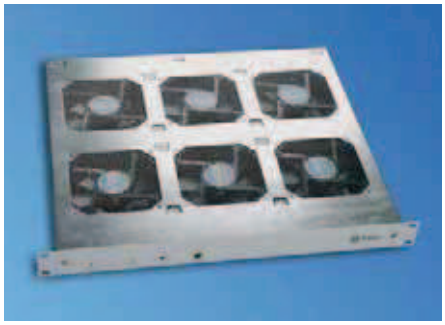
Final digit of order number .8:
- Powder-coated texture, RAL 7021,
- Dark gray

Supply schedule
1 top cover with cover strip and cable entry
Mounting material

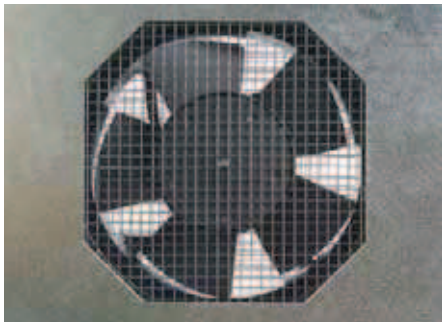
How supplied
Flat-packed kit

W	H	D	For rack type	Order no.	UP
600		600	Miracel	**01.149.201.x**	1 uni
700		600	Miracel	**01.149.202.x**	1 unit
800		600	Miracel	**01.149.203.x**	1 unit
600		800	Miracel	**01.149.206.x**	1 unit
700		800	Miracel	**01.149.207.x**	1 unit
800		800	Miracel	**01.149.208.x**	1 unit
600		900	Miracel	**01.149.211.x**	1 unit
700		900	Miracel	**01.149.212.x**	1 unit
800		900	Miracel	**01.149.213.x**	1 unit
600		1000	Miracel	**01.149.216.x**	1 unit
700		1000	Miracel	**01.149.217.x**	1 unit
800		1000	Miracel	**01.149.218.x**	1 unit
600		1200	Miracel	**01.149.221.x**	1 unit
700		1200	Miracel	**01.149.222.x**	1 unit
800		1200	Miracel	**01.149.223.x**	1 unit

1 LUF20125

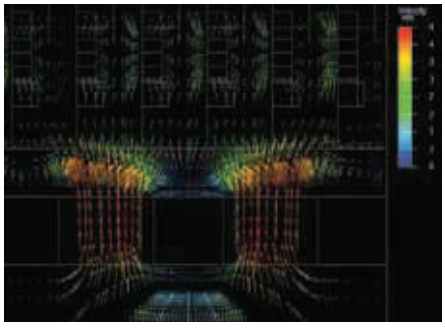


1 LUF20140



2 LUF20056

3 LUF20054



4 LUF20077

Knürr CoolBlast® Fan Unit Strong points

The constantly increasing power losses of electronic modules make high demands on the effective cooling of electronic modules. Large airflow volumes ensure secured heat dissipation, whereby higher airflow speeds reach the components, which leads to better heat transfer.

The packing density of the electronics in the racks is also increasing. Fans with high pressure jump overcome the resulting higher increased pressure loss.

The space-saving 1 U construction guarantees maximum installation space for our customers' equipment.

1 The **CoolBlast®** fan unit from Knürr is available as a slot-in unit with 3 and 6 fans for vertical ventilation of installed modules. The volume flow required for cooling is primarily determined by the selection of fans, which are available in three different performance classes (Standard, High and Ultra High Performance). Selection can be made between quiet axial fans and special diagonal fans with an especially high support rate for cooling air.

2 To ensure that plenty of cooling air reaches the electronic components, **CoolBlast®** has an IP protective grid with high free cross-section surface. The grid form minimizes the pressure loss of the streaming airflow and reduces the streaming noise.

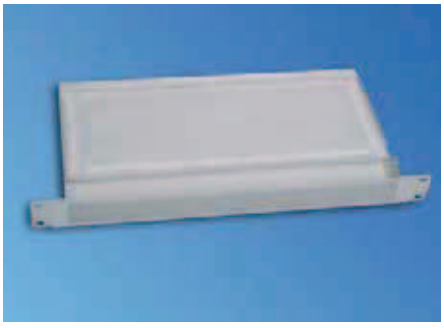
3 The Knürr **CoolBlast®** adjusts its cooling airflow to the power loss to be cooled.
The temperature-regulated control of the fan rotation optimizes the noise emission and the lifespan of the fans. The maximum reference temperature is set at the front. A fan failure detector ensures high operational reliability. Exceeding the reference temperature is also detected in the same way. The fault signal can be connected with the rack monitoring system **(RMS)**.

A simple thermostat-controlled model is also available.

4 Optimum heat dissipation of the cooled module is attained with the high airflow volumes and pressure jumps in the **CoolBlast®** fan unit. Building-specific CFD simulations can optimize each customer thermal management application.

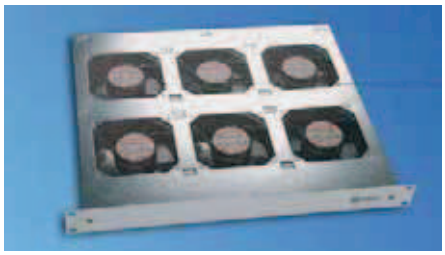
5 Air conduction components, optional with filter, round off the product range. The filter mat protects the electronic components in use from dirt build-ups and dust, and can be swapped out during running operation.

In addition to the **CoolBlast®** fan unit, a number of other components and accessory parts are also available for thermal management in server and network rack systems.



5 LUF20133

LUF20125



LUF20139

Knürr CoolBlast® Fan Unit, uncontrolled

– Fan unit for vertical cooling of modules in 19" racks
– Chassis rails are recommended for mounting. Chassis rails are required with 6-piece CoolBlast.

Material
Sheet steel, high-grade steel grid

Finish/color
Housing, zinc-passivated
Front panel, powder-coated, smooth in RAL 7035 light gray

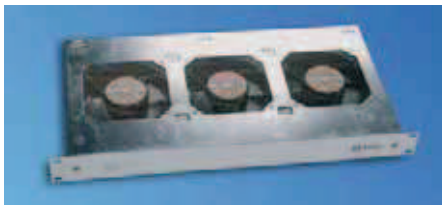
How supplied
Assembled, wired and tested

Approvals
CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC Directive 89/366/EEC

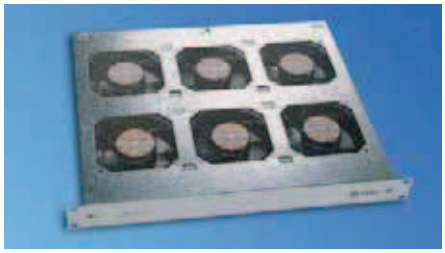
Supply schedule
1 CoolBlast fan unit, packed with operating instructions.
1 connection cable, 2 m Euro cable

Note
Please also order specific mains cable
(see page 1.125)!

Na	W	H	D	kg	n	Elec. connection	P(W)	V (m³/h)	ΔP(Pa)	p(dB(A))	Order no.
CoolBlast 230V 3-piece	440	43.6	230	3	3	207 ... 253VAC; 50/60Hz	45	495	74	45.2	**03.027.001.1**
CoolBlast 230V 6-piece	440	43.6	390	6	6	207 ... 253VAC; 50/60Hz	90	990	74	48.8	**03.027.002.1**
CoolBlast 115V 3-piece	440	43.6	230	3	3	103.5 ... 126.5VAC; 50/60Hz	44	576	88	47.3	**03.027.004.1**
CoolBlast 115V 6-piece	440	43.6	390	6	6	103.5 ... 126.5VAC; 50/60Hz	88	1152	88	50.8	**03.027.005.1**



LUF20127



LUF20138

Knürr CoolBlast® fan unit, thermostat-controlled

– Fan unit for vertical cooling of modules in 19" racks
– Fan function (ON/OFF) thermostat-controlled, setting from 0°C to 60°C
– Chassis rails are recommended for mounting. Chassis rails are required with 6-piece CoolBlast.

Material
Sheet steel, high-grade steel grid

Finish/color
Housing, zinc-passivated
Front panel, powder-coated, smooth in RAL 7035 light gray

How supplied
Assembled, wired and tested

Approvals
CE Symbol in accordance with Low Voltage Directive 73/23/EEC, EMC Directive 89/366/EEC

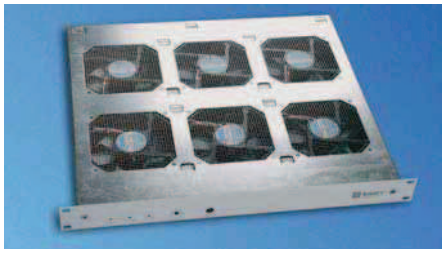
Supply schedule
1 CoolBlast fan unit, packed with operating instructions

Only with DC devices:
1 connection cable, 2 m with connector plug and free ends

Only with 230V AC devices:
1 connection cable, 2 m Euro cable

Name	W	H	D	kg	n	Elec. connection	P(W)	V(m³/h)	ΔP(Pa)	p(dB(A))	Order no.
CoolBlast 230V 3-piece thermostat	440	43.6	230	3	3	207 ... 253VAC; 50/60Hz	45	495	74	45.2	**03.027.011.1**
CoolBlast 230V 6-piece thermostat	440	43.6	390	6	6	207 ... 253VAC; 50/60Hz	90	990	74	48.8	**03.027.012.1**
CoolBlast 115V 3-piece thermostat	440	43.6	230	3	3	103.5 ... 126.5VAC; 50/60Hz	44	576	88	47.3	**03.027.014.1**
CoolBlast 115V 6-piece thermostat	440	43.6	390	6	6	103.5 ... 126.5VAC; 50/60Hz	88	1152	88	50.8	**03.027.015.1**

LUF20128



LUF20140

Knürr CoolBlast® Fan Unit, speed-controlled

- Fan unit for vertical cooling of modules in 19" racks
- Reference temperature can be set (20°C to 55°C)
- Speed control, 30 to 100%, with sensor break 100% rotation
- Individual fan monitoring
- Digital alarm output for excess temperature alarm and fan failure
- Optical status display for O.K., excess temperature and fan failure
- Acoustic warning with push-button
- Chassis rails are recommended for mounting. Chassis rails are required with 6-piece CoolBlast.

Material
Sheet steel, high-grade steel grid

Finish/color
Housing, zinc-passivated
Front panel, powder-coated, smooth in RAL 7035 light gray

Approvals
CE Symbol in accordance with Low Voltage Directive 73/23/EEC, EMC Directive 89/366/EEC

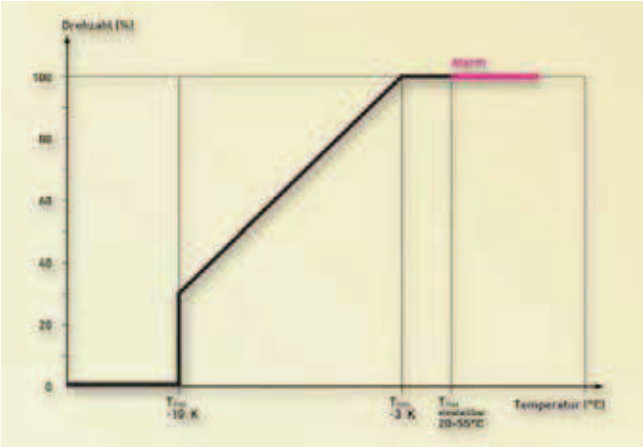
Supply schedule
1 CoolBlast fan unit, packed with operating instructions
1 sensor cable, 2 m (plug-in)
1 signal cable, 2 m (plug-in)

Only with DC devices:
1 connection cable, 2 m with connector plug and free ends

Only with AC devices:
1 connection cable, 2 m Euro cable

How supplied
Assembled, wired and tested

Note
Further characteristics can be implemented project-related in line with standards.



LUF20179

Name	W	H	D	kg	n	Elec. connection	P(W)	V˙(m3/h)	ΔP(Pa)	p(dB(A))	Order no.
CoolBlast 115/230V, 3-piece regulated SP	440	43.6	230	3.2	3	100 to 253VAC; 50/60Hz	25	553	68	49.6	**03.027.021.1**
CoolBlast 115/230V, 6-piece regulated SP	440	43.6	390	6.2	6	100 to 253VAC; 50/60Hz	48	1106	68	53.3	**03.027.022.1**
CoolBlast 115/230V, 3-piece regulated HP	440	43.6	230	3.2	3	100 to 253VAC; 50/60Hz	32	711	173	55.8	**03.027.024.1**
CoolBlast 115/230V, 6-piece regulated HP	440	43.6	390	6.2	6	100 bis 253VAC; 50/60Hz	62	1422	173	59.1	**03.027.025.1**
CoolBlast 24/48V, 3-piece regulated SP	440	43.6	230	3.1	3	20 bis 60VDC	25	553	68	49.6	**03.027.051.1**
CoolBlast 24/48V, 6-piece regulated SP	440	43.6	390	6.1	6	20 bis 60VDC	48	1106	68	53.3	**03.027.052.1**
CoolBlast 24/48V, 3-piece regulated HP	440	43.6	230	3.1	3	20 bis 60VDC	32	711	173	55.8	**03.027.054.1**
CoolBlast 24/48V, 6-piece regulated HP	440	43.6	390	6.1	6	20 bis 60VDC	62	1422	173	59.1	**03.027.055.1**

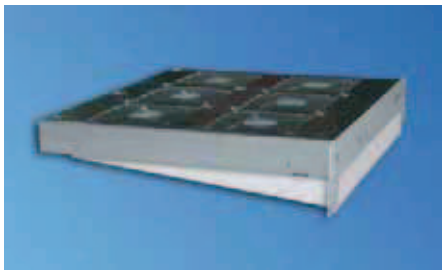
Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
Conversion: 1 mm = 0.03937 inch

U = standard height unit, 1 U = 44.45 mm
UP = unit of packaging
kg = weight
= Express item
1 kg = 2.2046 pound

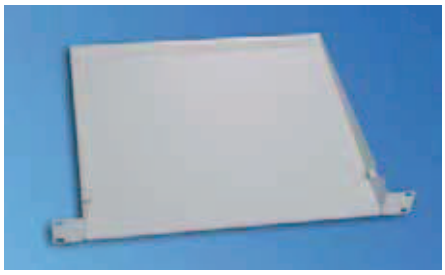
SP = Standard Performance
HP = High performance
UP = Ultra high performance

n = Number of fans
P = Power consumption (W)
V˙ = Air volume flow (m3/h)
ΔV˙ = Airflow volume loss (%) raised cover)

ΔP = Pressure increase (Pi)
I nom = Nom. current (A)
I max = Max. residual current (A)
V = Voltage (400V = 3-phase)
p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm;

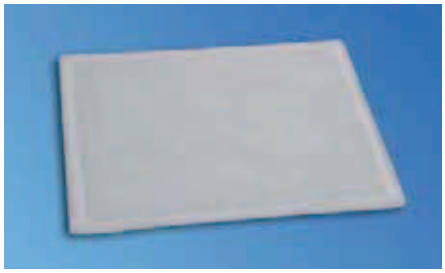


LUF20148



1 LUF20056

2 LUF20136



3 LUF20146

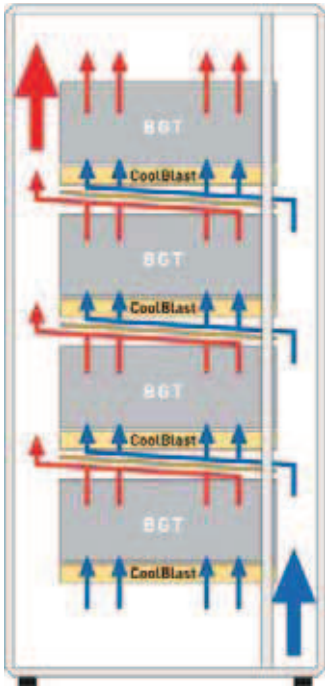
Knürr CoolBlast® Airflow via Front Intake
Strong points

The front intake unit for the **Knürr CoolBlast®** used for the targeted cooling of module units that are situated on top of one another (heat sources).

1 The optimized airflow guides the cooled air specifically to the rear. (See graphic 1). This prevents increased warming up of the vertical airflows from module chassis to module chassis. (See graphic 2).

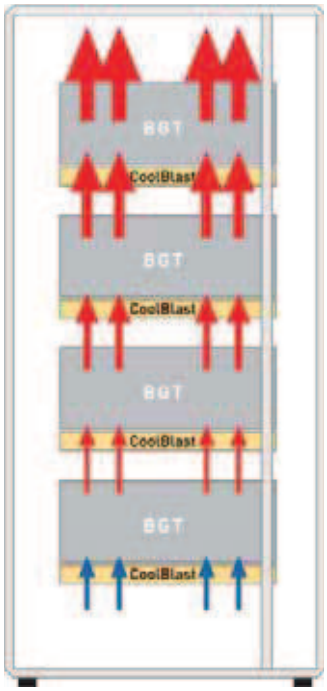
2 The optionally available front panel can be mounted later on and is often used for optical appearance reasons.

3 The filter mat protects the electronic components in use from dirt build-ups and dust, and they can also be swapped out during running operation.



LUF20156

Optimum

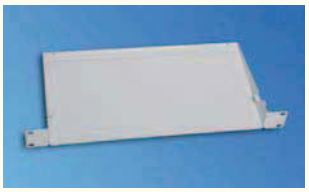


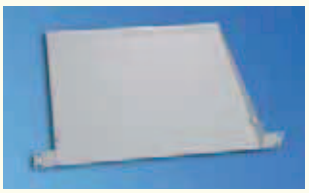
LUF20157

Little effect

Possible configurations:

Const. of		Fig.	Order no. 3-piece	6-piece	Airflow volume loss 3-piece	6-piece
Airflow		1	03.027.094.1	03.027.095.1	30 %	45 %
Airflow plus front panel		1 + 2	03.027.094.1 03.027.097.1	03.027.095.1 03.027.097.1	40 %	55 %
Airflow plus front panel and filter		1 + 2 + 3	03.027.094.1 03.027.097.1 03.027.098.1	03.027.095.1 03.027.097.1 03.027.099.	50 %	60 %


LUF20131


LUF20142

Knürr CoolBlast® Airflow via Front Intake, 1 U

- For CoolBlast® fan unit, 3-piece and 6-piece for front intake
- Use as cooling baffle
- Can be supplemented with front panel and filter mat

Material
Sheet steel

Finish/color
Powder-coated texture, RAL 7035 light gray

Supply schedule
1 air guide

How supplied
In units

W	H	D	Model	Order no.	UP
	43.6	230	For 3-piece	**03.027.094.1**	1 unit
	43.6	390	For 6-piece	**03.027.095.1**	1 unit

LUF20136

Knürr CoolBlast® Front Panel for airflow via front intake, 1 U

- For use with the front intake air guide
- Can be mounted later on

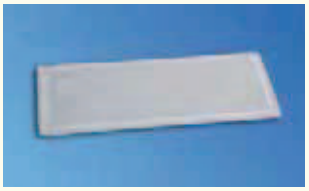
Material
Sheet steel

Finish/color
Powder-coated texture, RAL 7035 light gray, smooth

Supply schedule
1 front panel

How supplied
In units

W	H	D	Model	Order no.	UP
	43.6			**03.027.097.1**	1 unit


LUF20135

Knürr CoolBlast® Filter for front intake

- For use with the front intake air guide
- Can be mounted later on and filter can be swapped out during running operation

Filter class
G2

Material
Viledon K15/150

Supply schedule
1 filter

How supplied
In units

W	H	D	Model	Order no.	UP
400	160		For 3-piece	**03.027.098.1**	1 unit
400	320		For 6-piece	**03.027.099.1**	1 unit

LUF00205

19" Filter Unit, 1 U

- Suitable for use with the CoolBlast® fan unit
- Adjusted to the respective chassis depth

Material
Housing: Sheet steel
Front panel: ABS (UL94 V-0)
Handle: Extruded aluminum
Filter: Viledon P 15/150

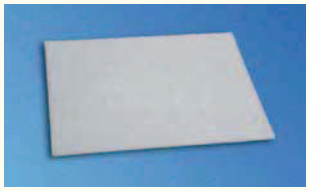
Filter class
G2

Finish/color
Housing: Powder-coated texture
- RAL 9011 black
Front panel: RAL 7035
- Light gray
Handle: Powder-coated texture
- RAL 5008 gray-blue

Supply schedule
1 filter unit
1 filter

How supplied
In units

W	H	D	kg	W n	Model	Order no.	UP
	43.6	282	2.0			**03.025.250.1**	1 unit
	43.6	660	4.0			**03.025.253.1**	1 unit


LUF00280

Replacement Filter

- For 19" filter insert

Material
Filter: Viledon P 15/150

Filter class
G2

Supply schedule
1 filter

How supplied
In units

W	H	D	kg	W n	Model	Order no.	UP
		282				**03.025.246.9**	1 unit
		660				**03.025.249.9**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SP = Standard Performance
HP = High performance
UP = Ultra high performance

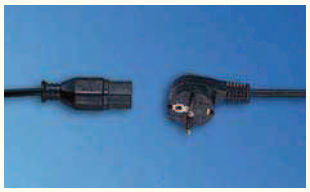
n = Number of fans
P = Power consumption (W)
V̇ = Air volume flow (m3/h)
ΔV̇ = Airflow volume loss (%) raised cover)

ΔP = Pressure increase (Pi)
I nom = Nom. current (A)
I max = Max. residual current (A)
V = Voltage (400V = 3-phase)
p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm;

Axial single fan technical data

	Knürr CoolBlast®	Knürr CoolBlast®
ID number	**01.914.070.9**	**01.914.075.9**
Dim: L x W x H119 x 119 x 38	119 x 119 x 38	119 x 119 x 38
Max. volume flow, free blowing	184.2 m3/h	237 m3/h
Voltage	24 VDC	24 VDC
Frequency		
Power consumption	7.4 W	11 W
Noise, free blowing	43 dB(A)	59 dB(A)
Bearing system	Ball bearing	Ball bearing
Nominal speed	2950 min-1	4400 min-1
Permis. ambient temp.	-10 °C to +70 °C	-30 °C to +55 °C
Service life L10 at 40°C	75,000 h	70,000 h
Approvals	CE, VDE	CE, VDE
Use in fan unit:	03.027.021.1	03.027.024.1
	03.027.022.1	03.027.025.1
	03.027.051.1	03.027.054.1
	03.027.052.1	03.027.055.1
	03.027.321.1	03.027.324.1
	03.027.322.1	03.027.325.1

	Knürr CoolBlast®	Knürr CoolBlast®	Knürr CoolBlast®
ID number	**01.914.050.9**	**01.914.051.9**	**01.914.051.9-2**
Dim: L x W x H	119 x 119 x 38	119 x 119 x 38	119 x 119 x 38
Max. volume flow, free blowing	192 m3/h	165 m3/h	120 m3/h
Voltage	115 VAC	230 VAC	230 VAC
Frequency	50 Hz	50 Hz	50 Hz
Power consumption	14.5 W	15 W	7.5 W
Noise, free blowing	41 dB(A)	38 dB(A)	32 dB(A)
Bearing system	Ball bearing	Ball bearing	Ball bearing
Nominal speed	2900 min-1	2600 min-1	2100 min-1
Permis. ambient temp.	-40 °C to +60 °C	-40 °C to +60 °C	-40 °C to +70 °C
Service life L10 at 40°C	43,500 h	43,500 h	43,500 h
Approvals	CE, VDE	CE, VDE	CE, VDE
Use in fan unit:	03.027.004.1	03.027.001.1	02.111.181.9
	03.027.005.1	03.027.002.1	05.010.307.1
	03.027.014.1	03.027.011.1	
	03.027.015.1	03.027.012.1	
		03.027.300.1	
		03.027.301.1	
		03.027.302.1	
		03.027.310.1	
		03.027.311.1	
		03.027.312.1	
		02.111.180.9	
		05.010.306.1	
		01.113.430.0	
		01.113.431.0	
		01.243.428.1	
		03.028.110.8	


DOS00076

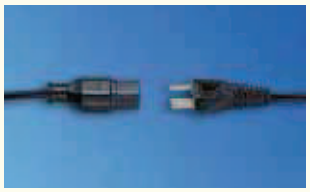
Euro Mains Cable for DIN 49 440 and French/Belgian standard

- Mains plug CEE/VII - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm²

Mains voltage
250 VAC

Nominal current
10 A

L	S	n	F1	F2 19"	Safe	Model	Order no.	UP
2000							**04.000.054.9**	1 unit
5000							**04.000.050.9**	1 unit


DOS00077

Euro Mains Cable for Swiss standard

- Mains plug: Type 12 - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm²

Mains voltage
250 VAC

Nominal current
10 A

L	S	n	F1	F2 19"	Safe	Model	Order no.	UP
2000							**04.000.055.9**	1 unit

DOS00078

Euro Mains Cable for British standard

- Mains plug: Type BS 1363 - Euro socket IEC 320
- Cable: HO5VV-F 3G 1 mm2

Mains voltage
250 VAC

Nominal current
10 A

L	S	n	F1	F2 19"	Safe	Model	Order no.	UP
2000							**04.000.056.9**	1 unit

DOS00519

Euro Connection Cable

- Mains plug: IEC 320 - Euro socket IEC 320
- Cable: HO5VV-F 3G 1 mm2

Mains voltage
250 VAC

Nominal current
10 A

L	S	n	F1	F2 19"	Safe	Model	Order no.	UP
900							**04.000.051.9**	1 unit

ELM00137

Door Contact Switch

- On/off switch, 4 A, 230 V ~
- Activation with door opening and closing

Supply schedule
1 door contact switch (not wired)
1 mounting brackets
Mounting material

W	H	S	U	h	d	kg	Model	Order no.	UP
								01.110.722.9	1 unit

LUF20057

Filter Fan

- For specific use with hot spots
- Also suitable for later mounting, quick and easy
- The filter mats provide high filtering-out properties, are easily exchanged and can be cleaned
- The fans do not require maintenance and their value is especially emphasized by their long lifespan and low noise factor
- Airflow: Blowing in the rack (pre-setting)
- Can be used as blowing-out or sucking-in

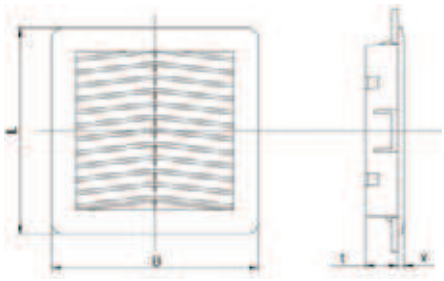
Material
Heat-resistant ABS plastic, UL 94 V-0

Color
RAL 7035 light gray

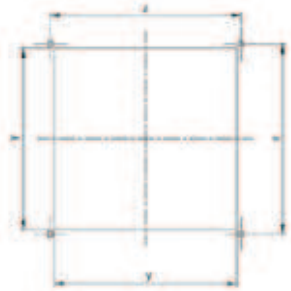
Approvals
CE Symbol

Protection rating
IP 54

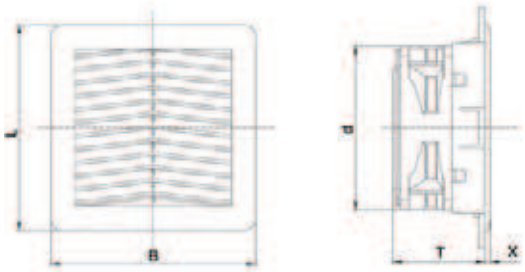
LUF20058



LUF80011



LUF80012



LUF800040

LxW	D/t/x	y/z	kg	Max. AF	El. conn.	P	N	N	Life/40°	Model	Order no.	UP
150x150	71/120/5	125/131	0.812	57 m³/h	230V / 50/60Hz	20 W	43 dB(A)	2650/min	40,000 h	Filter fan	**03.026.501.1**	1 unit
150x150	90/120/5.7	177/185	1	90 m³/h	230V / 50/60Hz	20 W	43 dB(A)	2650/min	40,000 h	Filter fan	**03.026.502.1**	1 unit
150x150	113/172/6	223/230	1.690	240m³/h	230V / 50/60Hz	29 W	50 dB(A)	2800/min	40,000 h	Filter fan	**03.026.503.1**	1 unit
150x150	125/208/7	291/302	3.620	520m³/h	230V / 50/60Hz	67 W	63 dB(A)	2770/min	50,000 h	Filter fan	**03.026.504.1**	1 unit
150x150	24/5	125/131	0.140							Exit filter	**03.026.511.1**	1 unit
204x204	20.5/5.7	177/185	0.275							Exit filter	**03.026.512.1**	1 unit
250x250	25/6	233/230	0.440							Exit filter	**03.026.513.1**	1 unit
325x325	26/7	291/302	0.780							Exit filter	**03.026.514.1**	1 unit
150x150										Replacement filter mat	**03.026.521.9**	6 units
204x204										Replacement filter mat	**03.026.522.9**	6 units
250x250										Replacement filter mat	**03.026.523.9**	6 units
325x325										Replacement filter mat	**03.026.524.9**	6 units

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length
U = standard height unit 1 U = 44.45 mm
UP = unit of packaging
kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

Standard Performance = SP
High Performance = HP
Ultra High Performance = UP

n = Number of fans
W = Power consumption (W)
m³/h = Air volume flow
P1 = Pressure increase
I nom = Nominal current (A)
I max = Residual current (A)
P = Power consumption (W)
V = Voltage (400V = 3-phase)

LUF00237a

Temperature Module

- For monitoring the inside temperature of the rack
- Temperature display (+ 10°C... + 70°C)
- Setting the alarm temperature via frontal potentiometer
- Optical alarm display (LED red)
- Alarm signaling via floating switching contact (1 changeover contact 250 VAC / 8 A)
- Power supply 230 V / 50Hz

Material
Plastic

Approvals
CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC Directive 89/336/EEC

Supply schedule
1 temperature module
1 temperature sensor (3 m)

How supplied
Assembled, wired and tested

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								01.117.525.1	1 unit

LUF00256

19" Front Panel 1 U for Temperature Module

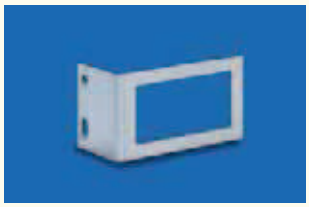
- For installing the temperature module

Material/finish
Sheet steel 1.5 mm, powder-coated

Color
RAL 7035 light gray

Supply schedule
1 19" front panel

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								01.117.526.1	1 unit



LUF00255

Bracket for Temperature Module

- For non-standard installation of temperature module, e.g. laterally on the 19" extrusion

Material/finish
Aluminum, 2 mm, polished

Supply schedule
1 bracket
Mounting material

How supplied
Flat-packed kit

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								01.117.527.0	1 unit

LUF20000

Thermostat

- For controlling the inside temperature of the rack in conjunction with fan units and heating fans
- Setting range: + 10°C ... + 60°C
- Switching temperature difference (hysteresis) 2K
- Contact type: 1 changeover contact
- Sensor: Thermo-bimetal
- Contact rating: 230 VAC/10 A (heating), 5 A (cooling)
- Interference suppression: in acc. with DIN 55014

Material
Plastic

Protection rating
IP 30

Approvals
CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC Directive 89/336/EEC

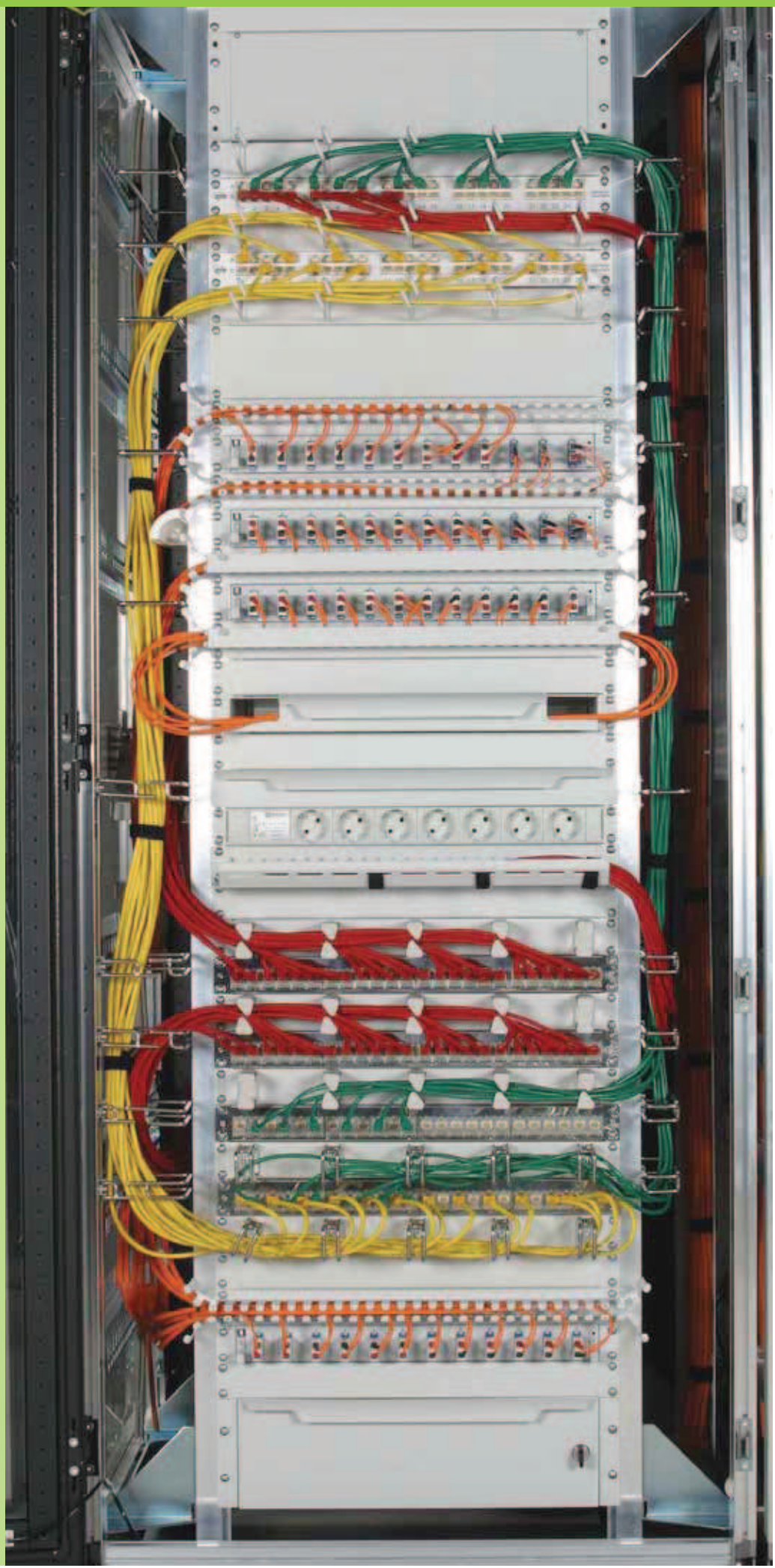
Dimensions
74 x 74 x 23 mm

Supply schedule
1 thermostat
1 mounting bracket
Mounting material

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								01.113.384.3	1 unit

Knürr
Cable management

Strong points	1.127
Cable Routing Board	1.129
Multifunctional Cable Routing Brace	1.130
Cable Router	1.130
Cable Tray	1.131
C Extrusion Rail	1.131
Radial Limit	1.133
Excess Cable Storage	1.134
Jumpering Bracket	1.134
Cable Routing Components	1.135
Velcro Strip	1.137
Cable Cantilever	1.138



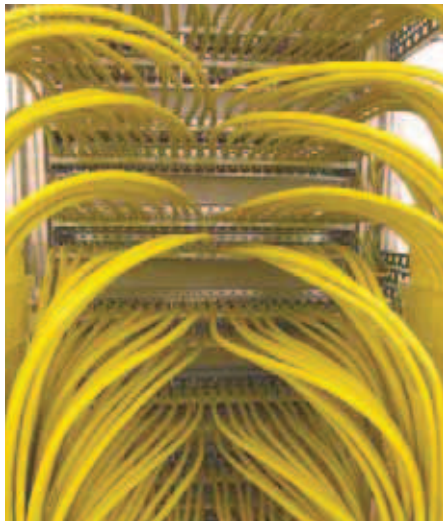
Knürr Cable Management
Strong points

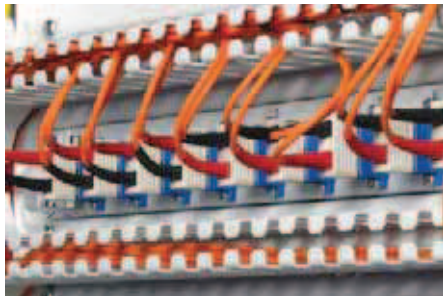
MEC20064

MEC20074

MEC20084

It must be ensured when laying cables that every kind of mechanical stress is avoided.


MEC20086


MEC20058

LIG00021

- **Bending load**
  The bending radii may never be less than the values provided by the cable manufacturer in the respective data sheets. At points that bend too much, the electrical properties of the cable change and reduce the transmission bandwidths and ranges.
  If manufacturer specifications are not available, then the following rule of thumb applies: With loose cabling, at least 15 times the external cable diameter and with fixed cabling, at least 10 times the external cable diameter.

- **Buckling load**
  The most extreme bending loads can cause the cable to break.

- **Tensile load**
  This is only determined by the copper cross-section of the conductor, as all other materials are too soft. The cable may not be stressed more than 50N/mm² (Cu cross-section) as otherwise the conductors are stretched and the cross-section is reduced. If higher "pulling" forces are required, then cables with additional strain relief elements must be used.

- **Compressive stress**
  Compressive stress is caused by loads bearing down from above, fixed clamping or sharp cable kinking and must always be avoided, as otherwise the "loose" cable structure changes and the electrical transmission properties are impaired.

- **Torque strains** (twisting)
  These must never have an effect on the cable, as they drive the cable elements into one another and therefore impair the transmission properties.

Knürr Cable Management
Strong points

1 MEC20082

1 Different components for fiberglass and copper cables, especially the fastening options using Velcro strips and cable bundling using different colored strips, guarantee transparent cable management, which is the optimum starting situation for an intelligent expansion of the network and for the highest standard of service convenience.

2 With all cable management components, special attention has been paid to ensuring that fixing is possible with Velcro strip cable ties. Velcro cable ties not only guarantee a stress-free fixing of the cables, they can also be released at any time and re-used again and again. Velcro cable ties are also extremely helpful for the installation engineer in providing pinch-free cable bundling – and also because they are so quick to apply.

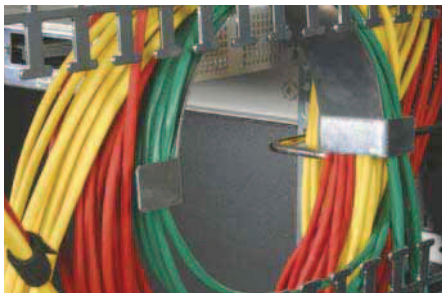
3 Excess cable lengths are stored separate from the patch fields, but in a position that is always easy to access. Copper cable excess can be stored separate from fiber glass excess within the Knürr rack systems: the copper cables on the side and the more sensitive fiberglass cables in an excess drawer at the front.

4 Some true multi-talents appear on closer examination of the individual products. The cable routing multifunctional brace, for example, not only provides the option of routing cables horizontally and vertically using Velcro ties or cable ties, but rather also allows numerous components to be mounted with screws and caged nuts. These caged nuts can also be shifted with room for play in a slot, so that every mounting dimension can be accommodated.

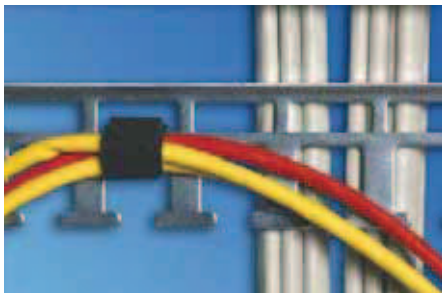
5 The prescribed radii are preset with the radial limiter. These components ensure that neither a reduction of the transmission bandwidths and ranges nor a cable break occur.

2 MEC20070

3 MEC20099



3 MEC20079



4 MEC20077

4 MEC20091

5 MEC20071

MEC00110

MEC20014

MEC20103 Type 1

MEC20104 Type 2

19" Cable Routing Board, 1 U

- For orderly cable routing
- For safe and secure cable routing of copper and fiberglass cables

Material/finish
Type 1:
Front panel, sheet steel, 1.5 mm
Powder-coated, RAL 7035, light gray
Type 2:
Front panel: sheet steel 1.0 mm, powder-coated, RAL 7035 light gray

Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

External dimensions
Cable routing:
Type 1: 55 x 22 mm, plastic
Type 2: 95 x 32 mm, steel

Supply schedule
1 19" Front panel
5 cable routers

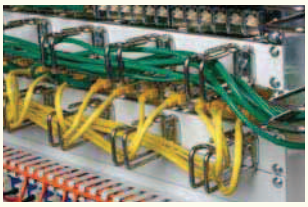
How supplied
Preassembled

Note
Please also order front panel mounting material.

W	H	D	U		Model	Order no.	UP
483			1		Type 1	**05.040.111.1**	1 unit
483			1		Type 2	**01.117.144.1**	1 unit
483			1		Type 1	**05.040.111.8**	1 unit
483			1		Type 2	**01.117.144.8**	1 unit

MEC20041

MEC20102


MEC20076

19" Cable Routing Board, flexible, 1 U

- For orderly cable routing
- For safe and secure cable routing of copper and fiberglass cables

Material/finish
Front panel: Sheet steel 1.5 mm, powder-coated texture, RAL 7035
Jumpering bracket, round steel, d = 5 mm, zinc-passivated

Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

External dimensions
Cable routers (a x b):
1 U: 82 x 43 mm
2 U: 102 x 82 mm

Supply schedule
1 front panel
5" cable routing boards

How supplied
Preassembled

Note
Please also order front panel mounting material.

W	H	D	U		Model	Order no.	UP
483			1		Type 1	**05.040.100.1**	1 unit
483			2		Type 2	**05.040.101.1**	1 unit
483			1		Type 1	**05.040.100.8**	1 unit
483			2		Type 2	**05.040.101.8**	1 unit

MEC20081

MEC20105

MEC20058

Fiber Optic Cable Routing Board, 1 U

- For orderly cable routing
- For safe and secure cable routing of fiber optic cables
- Optionally with cover panels to protect the cables and as labeling option

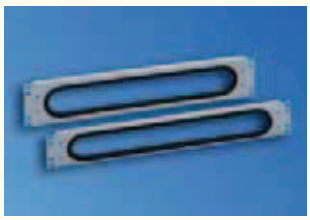
Material/finish
Sheet steel 1.5 mm, powder-coated texture, RAL 7035

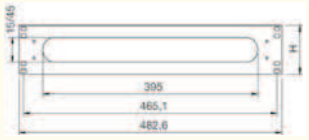
Supply schedule
1 19" cable routing board

How supplied
In units

Note
Please also order front panel mounting material and cover.
Not suitable for rack widths 600 mm and 700 mm (asymmetric)!

W	H	D	U		Model	Order no.	UP
483			*1*		*Cable routing board*	**05.040.050.1**	*1 unit*
					Accessories: Cover	**05.040.051.1**	1 unit


CUD00021



CUD00023

CUD00022

19" Blanking Panel Cable Port, threaded connection

- For orderly cable management in the rack internal space
- With edge protector

Material
Sheet steel, 1.0 mm

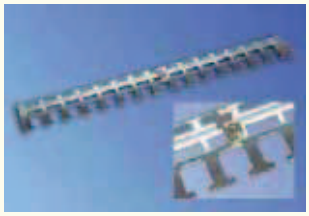
Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021 dark gray

Supply schedule
6 19" blanking panel cable ports

How supplied
Flat-packed kit

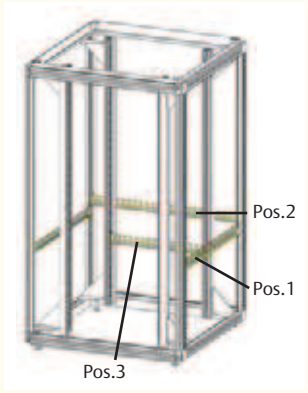
Note
Please also order front panel mounting material.

W	H	D	U	For rack type	Order no.	UP
483	44		1	Powder-coated	**01.103.231.1**	6 unit
483	88		2	Powder-coated	**01.103.232.1**	3 unit



MEC20091

MEC20078



MIR88001

1 cable routing brace

- For mounting on the Miracel/Smaract basic rack and on the 19" extrusion
- For cable clamping using Velcro strips, cable ties
- For orderly cable management in the rack
- Two-sided installation
- For universal mounting option using caged nuts (all dimensions can be accommodated, as caged nuts are flexible)

Material
Sheet steel, 1.5 mm

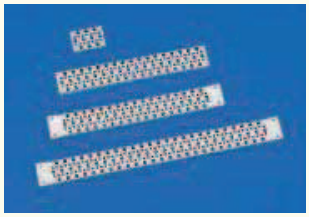
Finish
Zinc-passivated

Supply schedule
4 cable routing braces
Mounting material

How supplied
In units

Note
If required, please also order Velcro strip.

B_{Rack}	H_{Rack}	D_{Rack}	L	Model	for rack type	Order no.	UP
		600	455	Pos. 1	Miracel	**05.040.200.9**	4 units
		800	655	Pos. 1	Miracel	**05.040.201.9**	4 units
		900	755	Pos. 1	Miracel	**05.040.202.9**	4 units
		1000	855	Pos. 1	Miracel	**05.040.203.9**	4 units
		1200		Pos. 1	Miracel	**05.040.205.9**	4 units
600			534	Pos. 2	Miracel/Smaract	**05.040.213.9**	4 units
800			734	Pos. 2	Miracel	**05.040.214.9**	4 units
			468	Pos. 3	Miracel/Smaract/DPR	**05.040.215.9**	4 units



MIR00089

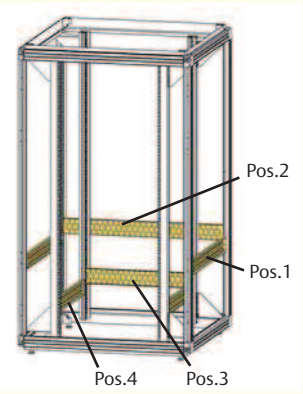
Multifunctional brace

- For routing cables with cable ties
- For universal mounting options
- Holes for mounting caged nuts
- Distance between two multifunctional braces can be variably selected using T-slot
- Installation on the extrusions of the rack frame or on the 19" extrusions, diagonal and lateral

Installation positions
1 on the basic frame on the depth
2 on the basic frame on the width
3 on the 19" extrusions on the width
4 on the 19" extrusions on the depth

Material
Sheet steel, 1.5 mm

Finish
Zinc-passivated



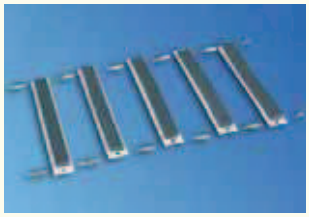
MIR88003

Finish
Zinc-passivated

Supply schedule
4 multifunctional braces

How supplied
Flat-packed kit

B_{Rack}	D_{Rack}	d	Inst. position	for rack type	Order no.	UP
	600		1	Miracel	**05.040.160.9**	4 units
	800		1	Miracel	**05.040.161.9**	4 units
	900		1	Miracel	**05.040.162.9**	4 units
	1000		1	Miracel	**05.040.163.9**	4 units
	1100		1	Miracel	**05.040.164.9**	4 units
	1200		1	Miracel/	**05.040.165.9**	4 units
600			2	Miracel/Smaract	**05.040.173.9**	4 units
800			2	Miracel	**05.040.174.9**	4 units
			3	Miracel/Smaract/DPR	**05.040.175.9**	4 units
	600	365	4	Miracel/Smaract	**05.040.168.9**	4 units
	800	565	4	Miracel/Smaract	**05.040.169.9**	4 units
	600	440	4	Miracel/Smaract	**05.040.170.9**	4 units
	800	640	4	Miracel/Smaract	**05.040.171.9**	4 units
	900	740	4	Miracel/Smaract	**05.040.172.9**	4 units
	1000	740	4	Miracel/Smaract	**05.040.172.9**	4 units



MEC20045

Cascading

- For orderly cable management and cable clamping
- Can be expanded

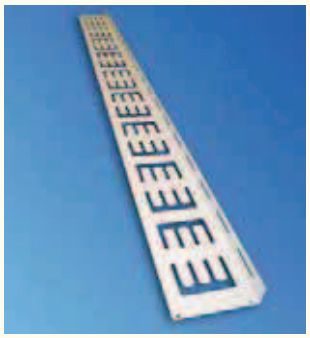
Material/finish
Base cover: Sheet steel, powder-coated texture
RAL 7035
Foam: Polyethylene, anthracite

Supply schedule
2 end plates with foam
3 plates with foam on both sides
Mounting material

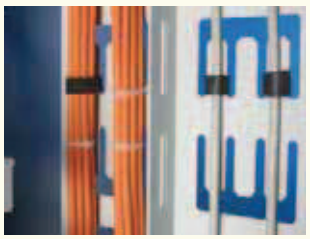
How supplied
Flat-packed kit

MEC20074

W	H	D	Order no.	UP
			05.040.088.9	1 set



MEC20088



MEC20067

Cable Tray

- For orderly cable management in the Miracel rack
- Cable fixing possible using Velcro strips or cable ties
- Combination possible as L, U or T unit

Material/finish
Sheet steel 1.5 mm, zinc passivated, powder-coated

Color
.1; *RAL 7035 light gray*
.8; *RAL 7021 dark gray*

Dimensions
L 150 x W 28 mm

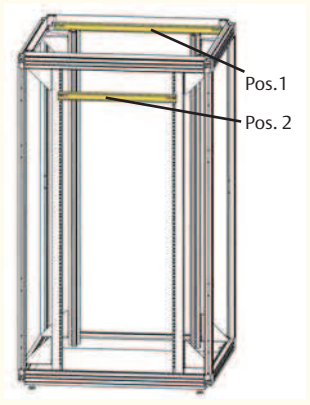
Supply schedule
1 cable tray
Mounting material

How supplied
Flat-packed kit

Note
If required, please also order Velcro strip.

W	H	w	Model	Order no.	UP
	2000	100	For Miracel and DCM racks	**05.040.251.X**	1 unit
	2200	100	For Miracel and DCM racks	**05.040.252.X**	1 unit
	2000	150	For Miracel and DCM racks	**05.040.254.X**	1 unit
	2200	150	For Miracel and DCM racks	**05.040.255.X**	1 unit
	2000	200	For Miracel and DCM racks	**05.040.257.X**	1 unit
	2200	200	For Miracel and DCM racks	**05.040.258.X**	1 unit

MIR00096



MIR88002

C-Extrusion Rail

- For cable clamping using U-clamps or cable clamping bars
- Cable clamping closer to access (type 1)
- Suitable for use in conjunction with top cover with cable entry

Material/finish
Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
1 C extrusion rail
Mounting material

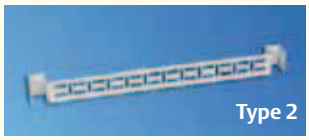
How supplied
Flat-packed kit

Note
Please also order U-clamps, cable clamping bars or threaded plates.

W	H	D	L	Model	Order no.	UP
600			482.5	Pos. 1: Miracel/Smaract	**05.040.080.0**	1 unit
800			682.5	Pos. 1: Miracel	**05.040.082.0**	1 unit
19			508	Pos. 2: Miracel/Smaract/ DoubleProRack	**01.110.719.9**	1 unit

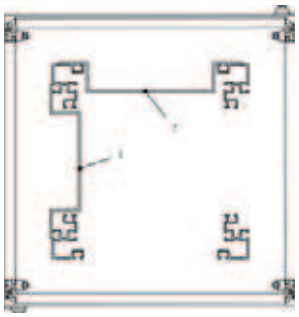
MEC20136

MEC20120 **Type 1**



MEC20137

MEC20121 **Type 2**



MIR00094

Assembly Crossbar

- For cable management with Velcro strips
- Universal mounting option for installation accessories, socket strips, telecommunication installation units, mounting panels, etc.
- For side and cross installation

Material/finish
Sheet steel 1.5 mm, powder-coated texture, RAL 7035

Supply schedule
1 assembly crossbar

How supplied
In units

Note
Please also order the appropriate mounting material.

W/dH	D	U	w1	w2	X	Type	Model	Order no.	UP
19"		1	482	442.6	81.5	1	Pos. 2: Miracel/Smaract	**05.040.018.1**	1 unit
19"		1				2	Pos. 2: DoubleProRack	**05.040.019.1**	1 unit

MEC00114

Cable Clamping Bar

- For clipping to the C-shaped runner

Material
Polyamide, black

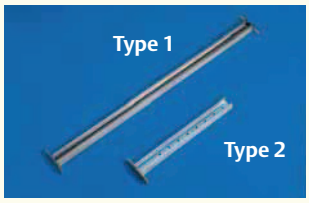
Supply schedule
1 set of 10 cable clamping bars

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							01.130.869.9	10 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MEC00113

C-Extrusion Rail

- For cable clamping using U-clamps or cable clamping bars
- Space-saving installation between the extrusions of the basic rack
- Two-sided installation

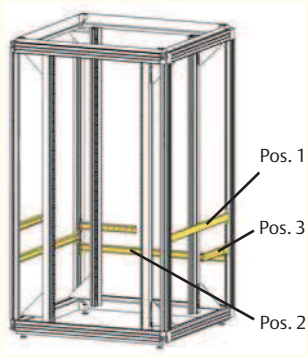
Material
Sheet steel, 1.5 mm, zinc-passivated

Finish
Zinc-passivated

Supply schedule
4 extrusion rails
Mounting material

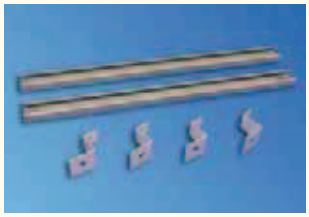
How supplied
Flat-packed kit

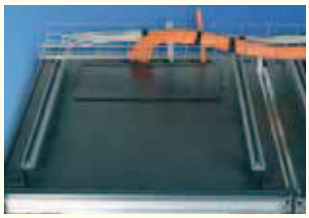
Note
Please also order U-clamps, cable clamping bars or threaded plates.



MIR88004

B_{Rack}	D_{Rack}	W_{Rack}	Inst. position	for rack type	Order no.	UP
	600		1	Miracel	**05.040.180.9**	4 units
	800		1	Miracel	**05.040.181.9**	4 units
	900		1	Miracel	**05.040.182.9**	4 units
	1000		1	Miracel	**05.040.183.9**	4 units
	1200		1	Miracel	**05.040.185.9**	4 units
			3	Miracel/Smaract	**05.040.195.9**	4 units
		800	2	Miracel/Smaract	**05.040.194.9**	4 units
		600	2	Miracel/Smaract	**05.040.193.9**	4 units


MIR20198


MEC20034

Top-mounting for cable tray

- Fixing cable trays with C extrusion rails
- Any position possible

Material/finish
C extrusion rail: Sheet steel, zinc-passivated
Mounting bracket: Sheet steel, powdered RAL 7021

Supply schedule
2 C extrusion rails
4 mounting brackets
Mounting material

How supplied
Flat-packed kit

Note
Please also order U-clamps, cable clamping bars or threaded plates.

W	H	D_{Rack}	Order no.	UP
		800	**05.040.072.8**	1 set
		900	**05.040.073.8**	1 set
		1000	**05.040.074.8**	1 set
		1200	**05.040.076.8**	1 set

MIR00096

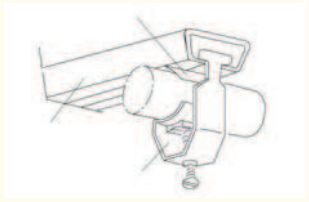
U-Clamp

- For strain relief and individual routing of cables and lines
- Clamping range, 8-64 mm

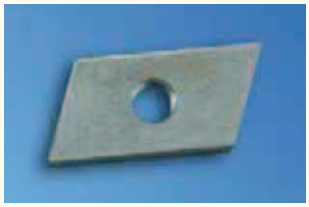
Material
Steel/plastic

Supply schedule
25 U-clamps
25 clamping saddles

How supplied
Flat-packed kit


ELM00086

W	H	D	U	d	L	Clamping range	Order no.	UP
						8-12 mm	**05.040.150.9**	1 unit
						12-16 mm	**05.040.151.9**	1 unit
						16-22 mm	**05.040.152.9**	1 unit
						22-28 mm	**05.040.154.9**	1 unit
						34-40 mm	**05.040.155.9**	1 unit
						46-52 mm	**05.040.157.9**	1 unit
						58-64 mm	**05.040.159.9**	1 unit


MEC20051

M5 Threaded Plate

- For use in conjunction with C extrusion rails

Material/finish
Flat rolled steel, 4.0 mm, zinc-passivated

Supply schedule
20 threaded plates

How supplied
Flat-packed kit

MEC20069

W	H	D	L	Order no.	UP
				05.040.077.9	1 set

MEC20049

19" Cable Tray

- For orderly cable management in front of the 19" front
- Mounting on front panels possible
- Cable fixing possible using Velcro strips

Material/finish
Sheet steel, 1.5 mm
Powder-coated texture, RAL 7035

Supply schedule
1 cable tray

MEC20063

■ **How supplied**
In units

■ **Note**
Please also order front panel mounting material and Velcro strip.

W	H	D	U	Model	Order no.	UP
483		100	1		**05.040.055.1**	1 unit

MEC20042

Cable tray between the racks

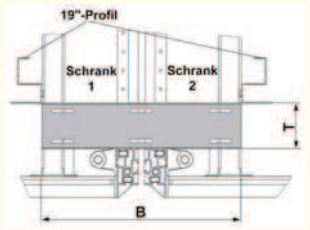
- For orderly cable management between linked racks
- Fixing possible using Velcro strips

■ **Material/finish**
Sheet steel, 1.5mm
Powder-coated texture, RAL 7035

■ **Supply schedule**
1 cable tray
Mounting material

■ **How supplied**
Flat-packed kit

■ **Note**
Please also order Velcro strip



MEC20119

W	H	D	U	Model	Order no.	UP
265		60			**05.040.058.1**	1 unit

MEC20090

1 Radial Limit

- Various mounting options available:
- on the basic rack for cable clamping
- on the 19" extrusion for cable routing and diverting
- For use in conjunction with C extrusion rails (also order threaded plates!)

■ **Material/finish**
Sheet steel, 1.5mm, zinc-passivated

■ **Supply schedule**
1 radial limit
Mounting material

■ **How supplied**
Flat-packed kit

MEC20071

W	H	D	L	Order no.	UP
290		87		**05.040.090.0**	1 set

MEC20132

Radial Limit, 1 U

- For diverting the cables from the patch area vertically
- The cables can be fixed with Velcro strips
- Side use in conjunction with the cable duct is possible

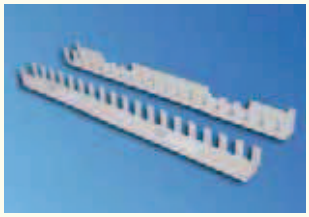
■ **Material/finish**
Sheet steel 1.5mm, powder-coated texture, RAL 7035

■ **Supply schedule**
1 radial limit
1 mounting panel
Mounting material

■ **How supplied**
Flat-packed kit

MEC20143

W	H	D	U	Model	Order no.	UP
85		32	1		**05.040.091.1**	1 set



MEC20135

Cable Duct, Side

- For orderly cable management
- For use in conjunction with the front panel, swivel
- Cable rerouting with radial limiter, 1 U (optional)

■ **Material/finish**
Sheet steel, 1.5mm
Powder-coated texture, RAL 7035

■ **Supply schedule**
1 cable duct
Mounting material

■ **How supplied**
Flat-packed kit

MEC20151

W	H	D	U	Model	Order no.	UP
100		130	41		**05.040.023.1**	1 set

Dimensions in mm: W = Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length
U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

MEC20052

MEC20079

Excess Copper Cable Storage

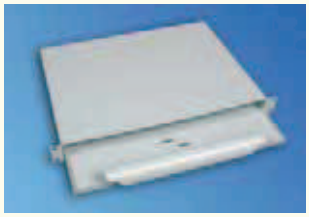
- For storing excess copper cable lengths (or fiber optic cables)
- For orderly cable management in the Miracel rack
- Can be expanded

Material/finish
Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
1 excess cable holder
Mounting material

How supplied
Flat-packed kit

W	H	D	U	Model	Order no.	UP
				For rack type Miracel	**05.040.044.0**	1 set


MEC20047

MEC20099

Fiber Optic 19" Excess Cable Drawer, 1 U

- For storing excess fiber optic cable lengths
- Pull-out
- Cable fixing possible with Velcro strips

Material/finish
Sheet steel, 1.5 mm
Powder-coated texture, RAL 7035

Supply schedule
1 main unit
1 drawer

How supplied
Flat-packed kit

Note
Please also order front panel mounting *material and Velcro strip*

W	H	D	Model	Order no.	UP
483	44	350		**05.040.047.1**	1 set

MEC20044

MEC20146

Excess Fiber Optic Cable Storage

- For orderly fiber optic cable management in the Miracel rack (from W 800 mm)
- For storing excess cable lengths

Material/finish
Base cover: powder-coated texture, RAL 7035
Cable routing head: Polyamide, black

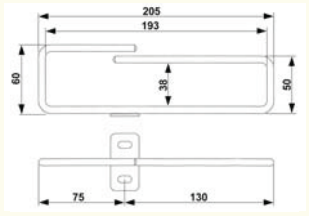
Supply schedule
1 base cover
1 cable routing head
Mounting material

How supplied
Flat-packed kit

W	H	D	U	Model	Order no.	UP
			2		**05.040.041.1**	1 set

MEC20038

MEC20072



MEC20106

Universal Jumpering Bracket

- Can be used for extrusion spacing (from front), 123 mm and73 mm
- For orderly cable management
- Open version, no threading
- Mounting on the external side of the 19" extrusion
- Any installation position selectable

Material
Round steel, d = 6 mm

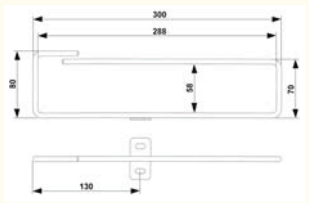
Finish
Zinc-passivated

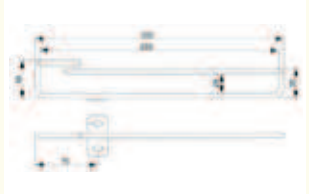
Supply schedule
4 jumpering brackets
Mounting material

How supplied
Flat-packed kit

B_{Rack}	For rack type	Order no.	UP
From 800	Miracel	**05.040.220.9**	4 units

MEC20039



MEC20107 **Type 1**

MEC20116 **Type 2**

Square Jumpering Bracket

- For orderly cable management
- Open version, no threading
- Mounting on the external side of the 19" extrusion
- Any installation position selectable
- For large cable volumes

Material
Round steel, d = 6 mm

Finish
Zinc-passivated

Supply schedule
4 square jumpering brackets
Mounting material

How supplied
Flat-packed kit

B_{Rack}	Type	For rack type	Order no.	UP
ab 800	Type 1	Miracel	**05.040.221.9**	4 units
ab 700	Type 2	Miracel	**05.040.222.9**	4 units
600	Type 2	Smaract	**05.040.222.9**	4 units

MEC20185

Quick-Strip Velcro strip for T-slot mounting without tools

- Quick fixing without tools
- For bundling cables
- Can be released and used again
- For orderly cable management
- For fixing into T-slots at any position

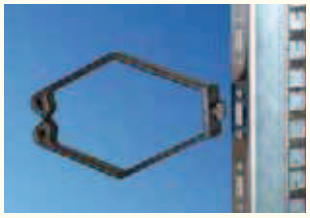
Material
Polyethylene and Nylon
F.R.T., UL-94 HB

Color
Black

Supply schedule
10 Quick-Strip Velcro strips

How supplied
Flat-packed kit

W	H	D	U	d	L	For rack type	Order no.	UP
						Miracel	**00.218.506.0**	*1 set*



MEC20187

Quick-Clamp plastic jumperingbracket for T-slot mounting without tools

- Quick fixing without tools
- For orderly cable management
- Open version, no threading
- For fixing on T-slots at any position

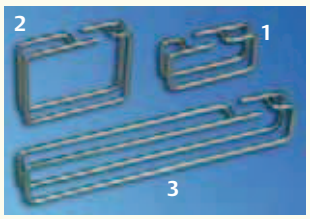
Material
Nylon
F.R.T., UL-94 HB

Color
Black

Supply schedule
10 plastic jumpering brackets

How supplied
Flat-packed kit

W	H	D	U	d	L	For rack type	Order no.	UP
						Miracel	**00.218.505.0**	*1 set*



MEC20035

MEC20065

Jumpering Bracket, Flexible

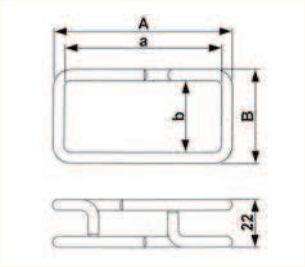
- For flexible and orderly cable routing
- Any installation place and position selectable
- Open version, no threading

Material
Round steel, d = 5 mm

Finish
Zinc-passivated

Supply schedule
10 jumpering brackets
Mounting material

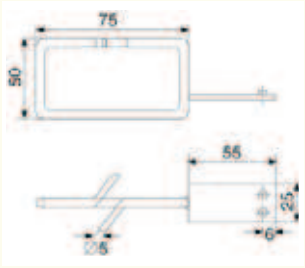
How supplied
Flat-packed kit



MEC20108

A	a	B	b	Model	Order no.	UP
82	72	43	33	Fig. 1	**05.040.231.9**	10 units
222	212	30	20	Fig. 3	**05.040.232.9**	10 units
102	92	82	72	Fig. 2	**05.040.233.9**	10 units

ELM00117



ELM00106

Square Jumpering Bracket

- For orderly cable management
- Open version, no threading
- Mounting on the external lateral T-slot of the 19" extrusion
- Any installation position selectable

Material
Round steel, d = 5 mm

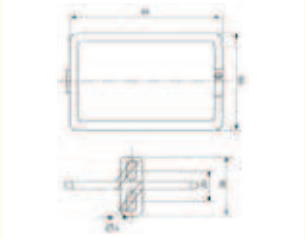
Finish
Zinc-passivated

Supply schedule
4 jumpering brackets
Mounting material

How supplied
Flat-packed kit

	For rack type	Order no.	UP
	DoubleProRack	**05.040.226.9**	4 units

MIR00564



MEC00122

Jumpering Bracket

- For orderly cable management
- Open version, no threading

Material/finish
Round steel, d = 5 mm

Finish
Zinc-passivated

Supply schedule
4 jumpering brackets
Mounting material

How supplied
Flat-packed kit

	Model	Order no.	UP
	95x60	**05.040.225.9**	4 units

ELM00028

Jumper Tiebar

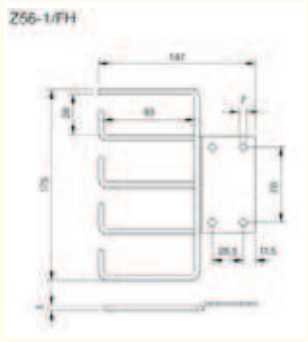
- Ideal for vertical routing and cable strain relief
- Open version, no threading
- Mounting on the external lateral T-slot of the 19" extrusion
- Any installation position selectable
- From rack width 600 mm

Material/finish
Round steel, d = 5 mm, zinc-passivated

Supply schedule
2 jumper tiebars

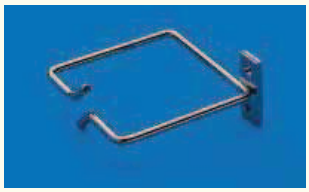
How supplied
Flat-packed kit

Note
Please also order the appropriate mounting material.



ELM00029

W	H	D	U	d	L	Model	Order no.	UP
							01.117.033.7	2 units



MIR00183

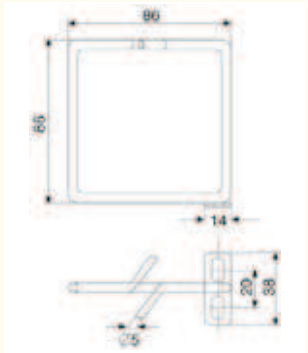
Jumpering Bracket, Square

- For orderly cable management
- Open version, no threading
- Mounting on the external lateral T-slot of the 19" extrusion
- Any installation position selectable
- From rack width 800 mm

Finish
Zinc-passivated, Zn 10c, white

Supply schedule
4 vertical jumpering brackets
Mounting material

How supplied
Flat-packed kit



ELM00057

B_{Rack}	Model	Order no.	UP
From 800	86x86	**05.040.224.9**	4 units

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

MIR00566

Jumpering Bracket, Vertical

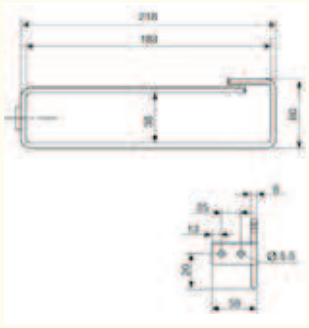
- For orderly cable management
- Open version, no threading
- Mounting on the external side of the 19" extrusion and on the side on the rack T-slot
- Any installation position selectable
- For large cable volumes

Material
Round steel, d = 6 mm

Finish
Zinc-passivated

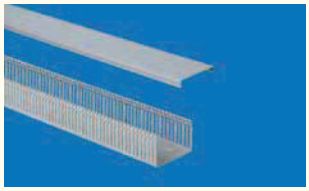
Supply schedule
4 vertical jumpering brackets
Mounting material

How supplied
Flat-packed kit



MEC00123

	Model	Order no.	UP
	218x60	**05.040.223.9**	4 units



ELM00004

Jumper Cable Duct

- Ideal for orderly and covered cable management of jumper cables

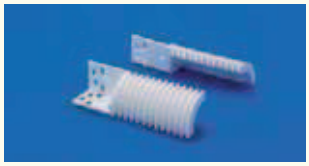
Material
Hard PVC

Finish
Stone gray, RAL 7030

Supply schedule
1 jumper cable duct with cover
Mounting material

ELM00052

W	H	D	U	d	L	Model	Order no.	UP
					2000		**01.117.098.3**	1 unit



LIG00068

LIG00021

Fiber Optic Cable Router

- For safe and orderly cable management of fiber optic cables
- With step-index extrusion of the slots to provide strain relief of the fiber optic cables
- Mounting on the external side of the 19" extrusion

Material
PA UL (94-VO)

Supply schedule
1 pair of fiber optic cable routers
Mounting material

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							01.117.099.1	1 pair

ELM00025

Cable Routing Ring

- For orderly cable management
- Open version, no threading
- Mounting on the T-slots of the vertical extrusions
- Any installation position selectable

■ **Material/finish**
PA 6, GF 15, black, UL 94-HB

■ **Supply schedule**
5 cable routing rings
Mounting material

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						54 x 118 mm	**01.312.207.9**	5 units

MEC20158

Cable Routing Set

- For orderly cable management
- Dimensions:
  External - 61 mm x 42.5 mm
  Internal - 52 mm x 23 mm

■ **Material/finish**
Cable holder: PPO, sim. RAL 7035 light gray
Soft rubber extrusion: EPDM, sim. RAL 7021 dark gray

■ **Supply schedule**
10 cable routers

■ **How supplied**
Flat-packed kit

■ **Note**
Please also order the appropriate mounting material.

W	H	D	U	d	L	Model	Order no.	UP
						Threaded	**05.040.113.9**	10 units
		For cut-out 9.5 x 9.5 mm				*Plug-in*	**05.040.112.9**	*10 units*

MEC20048

Velcro strip (by the meter)

- For stress-free mounting and bundling of copper and fiber optic cables
- Velcro strip can be cut to any length required

■ **Material/color**
Black: One Wrap Fastener F.R.T., UL 94-V2
Blue: One Wrap Fastener

MEC20147

■ **Supply schedule**
1-meter or 25-meter Velcro strip

■ **How supplied**
By the meter

W	H	D	L	Model	Order no.	UP
16			*1000*	*Black*	**05.040.060.9**	*1 meter*
16			*1000*	*Blue*	**05.040.061.9**	*1 meter*
16			*25000*	*Black*	**05.040.065.9**	*25 meters*
16			*25000*	*Blue*	**05.040.066.9**	*25 meters*

MEC20025

Velcro Strip with Plastic Eyelet

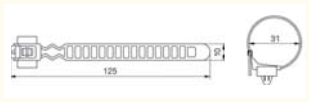
■ **Material/color**
Polypropylene/Polyamide, black

■ **Supply schedule**
20 Velcro strips

■ **How supplied**
Flat-packed kit

W	H	D	L	Model	Order no.	UP
16			300		**01.240.550.9**	1 set

ELM00049



ELM00050

Cable Band Clip

- For orderly cable management
- For fixing cable harnesses and cables with large cross section
- Quick and easy mounting
- For clipping into T-slots at any position
- With detachable lock

■ **Material**
PA 6.6, black, UL 94-V0

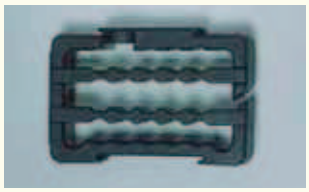
■ **Supply schedule**
20

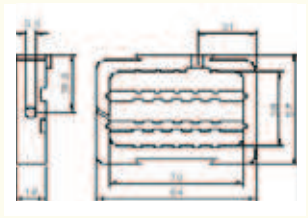
■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							01.240.548.9	20 units

Dimensions in mm: W = Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length
U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound


MEC20017


ELM00024

Cable Clamping Frame

- For orderly cable management
- Open version, no threading
- Cross-section for cable routing, variable with removable routing ribs
- Can be expanded by adding on further cable clamping frames
- Optional mounting: lengthwise or across the width

Material
Polypropylene, black

Supply schedule
1 cable clamping frame
Mounting material

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							01.113.153.9	1 unit

MIR00086

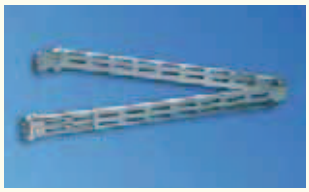
MIR00182

Cable Clamping, Swing Frame

- Absolutely recommended when using swing frame
- For cable strain relief
- For relief on plug-type connections
- Prevents damage to the cable braided shielding

Supply schedule
2 mounting brackets
1 extrusion rail
Mounting material

W	H	D	U	d	L	Model	Order no.	UP
							01.113.203.1	1 set


MEC20154

MEC88005

Cable Cantilever

- For easy mounting in rack/on the shelf; quick connecting to and disconnecting from shelf or rack with a spring clip
- Guarantees defined and kink-free cable management
- Minimum space requirement behind the pushed-in shelves, 40 mm

Material/finish
Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
1 cable cantilever girder
Mounting material

How supplied
Flat-packed kit

W	H	D	U	d	W x L	Type	Order no.	UP
						2-piece	**05.040.096.0**	1 unit

TEL00034

TEL00051

Cable Roller

- For 19" racks and enclosures
- Reduces the cable load on slot-in
- Orderly cabling
- Prevents cable-sagging

Material
Sheet steel, 1.5 mm

Supply schedule
1 cable roller

W	H	D	U	d	L	Model	Order no.	UP
							05.043.327.9	1 unit

CUD00025

CUD00024

Cable Clamping Bracket / Earthing Bracket

- For 19" cable routing panel, 2 HU
- For strain relief of cables and plug-type connections with cable ties

Material
Sheet steel, 1.5 mm

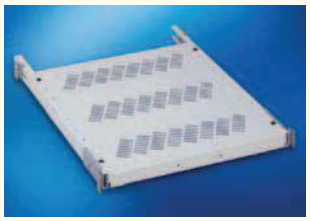
Finish
Zinc-passivated, Zn 10c, white

Supply schedule
1 earthing bracket
Mounting material

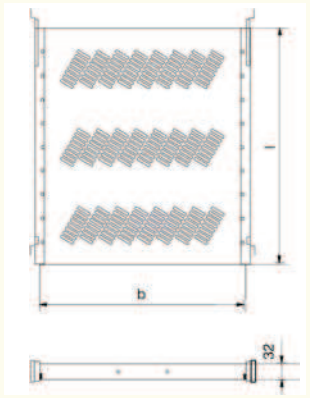
W	H	D	U	d	L	Model	Order no.	UP
							01.117.035.7	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MEC00451



MEC20018

19" Shelf Fixed

- Integrated fixing holes front and rear for handle or hinged cable routing
- With perforation to optimize air supply

Material/finish
Sheet steel 1.0 mm, zinc-passivated, powder-coated texture

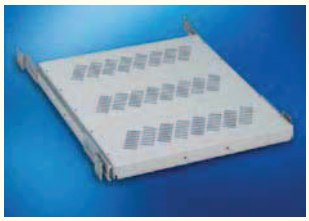
Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

Load rating
500 N static per item

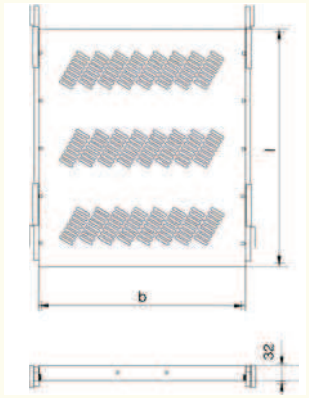
Supply schedule
2 mounting rails, incl. mounting bracket
1 shelf board
1 extension board (from L = 600)
Mounting material

How supplied
Flat-packed kit

B_{Rack}	H_{Rack}	D_{Rack}	d	w x l	For rack type	Order no.	UP
		600	365	430 x 300	Miracel/Smaract LAN	**01.102.001.1**	1 unit
		600	440	430 x 300	Miracel/Smaract 19"	**01.102.002.1**	1 unit
		800	565	430 x 500	Miracel/Smaract LAN	**01.102.003.1**	1 unit
		800	565	430 x 500	Miracel/Smaract LAN	**01.102.003.8**	1 unit
		800	640	430 x 600	Miracel/Smaract 19"	**01.102.004.1**	1 unit
		800	640	430 x 600	Miracel/Smaract 19"	**01.102.004.8**	1 unit
		900	665	430 x 600	Miracel/Smaract LAN	**01.102.004.1**	1 unit
		900	665	430 x 600	Miracel/Smaract LAN	**01.102.004.8**	1 unit
		900	740	430 X 600	Miracel/Smaract 19" Server	**01.102.005.1**	1 unit
		900	740	430 X 600	Miracel/Smaract 19" Server	**01.102.005.8**	1 unit
		1000	740	430 x 600	Miracel 19" Server	**01.102.005.1**	1 unit
		1000	740	430 x 600	Miracel 19" Server	**01.102.005.8**	1 unit
600		600	530	515 x 500	Miracel LW 535	**01.102.200.1**	1 unit
700		600	530	615 x 500	Miracel LW 635	**01.102.201.1**	1 unit
800		600	530	715 x 500	Miracel LW 735	**01.102.202.1**	1 unit
600		800	730	515 x 700	Miracel LW 535	**01.102.208.1**	1 unit
700		800	730	615 x 700	Miracel LW 635	**01.102.209.1**	1 unit
800		800	730	715 x 700	Miracel LW 735	**01.102.210.1**	1 unit
600		900	830	515 x 800	Miracel LW 535	**01.102.212.1**	1 unit
800		900	830	715 x 800	Miracel LW 735	**01.102.214.1**	1 unit
600		600	535	515 x 500	Smaract LW 535	**01.102.252.1**	1 unit
600		800	735	515 x 700	Smaract LW 535	**01.102.254.1**	1 unit
600		900	835	515 x 800	Smaract LW 535	**01.102.255.1**	1 unit
		600	435	430 x 300	DoubleProRack with door	**01.102.002.1**	1 unit
		800	635	430 x 600	DoubleProRack with door	**01.102.004.1**	1 unit
		800	635	430 x 600	DoubleProRack with door	**01.102.004.8**	1 unit
		500	460	430 x 300	DoubleProRack no door	**01.102.002.1**	1 unit
		600	560	430 x 500	DoubleProRack no door	**01.102.003.1**	1 unit
		600	560	430 x 500	DoubleProRack no door	**01.102.003.8**	1 unit
		700	660	430 x 600	DoubleProRack no door	**01.102.004.1**	1 unit
		700	660	430 x 600	DoubleProRack no door	**01.102.004.8**	1 unit
		500	285	430 x 200	ConAct	**01.102.000.1**	1 unit
		600	385	430 x 300	ConAct	**01.102.001.1**	1 unit



MEC00452



MEC20019

19" Shelf Part pull-out

- Integrated fixing holes front and rear for handle or hinged cable routing
- With perforation to optimize air supply
- Locking in pulled-out position (friction lock); easy conversion from form lock to friction lock with stop spring
- Quick separator for removing and disconnecting the shelf without tools

Material/finish
Sheet steel 1.0 mm, zinc-passivated, powder-coated texture

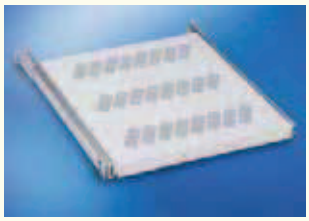
Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

Load rating
500 N static per item

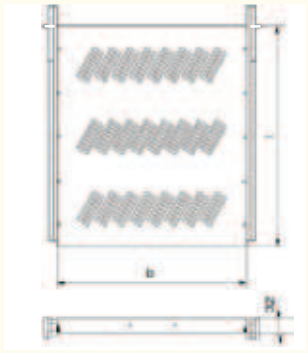
Supply schedule
1 pair of telescopic slides
1 shelf board
1 extension board (from L = 600)
Mounting material

How supplied
Flat-packed kit

B_{Rack}	H_{Rack}	D_{Rack}	d	w x l	For rack type	Order no.	UP
		600	365	430 x 300	Miracel/Smaract LAN	**01.102.010.1**	1 unit
		600	440	430 x 300	Miracel/Smaract 19"	**01.102.010.1**	1 unit
		800	565	430 x 500	Miracel/Smaract LAN	**01.102.011.1**	1 unit
		800	565	430 x 500	Miracel/Smaract LAN	**01.102.011.8**	1 unit
		800	640	430 x 500	Miracel/Smaract 19"	**01.102.011.1**	1 unit
		800	640	430 x 500	Miracel/Smaract 19"	**01.102.011.8**	1 unit
		900	665	430 x 500	Miracel/Smaract LAN	**01.102.011.1**	1 unit
		900	665	430 x 500	Miracel/Smaract LAN	**01.102.011.8**	1 unit
		900	740	430 x 600	Miracel/Smaract 19" Server	**01.102.012.1**	1 unit
		900	740	430 x 600	Miracel/Smaract 19" Server	**01.102.012.8**	1 unit
		1000	740	430 x 600	Miracel 19" Server	**01.102.012.1**	1 unit
		1000	740	430 x 600	Miracel 19" Server	**01.102.012.8**	1 unit
600		600	530	515 x 500	Miracel LW 535	**01.102.170.1**	1 unit
700		600	530	615 x 500	Miracel LW 635	**01.102.171.1**	1 unit
800		600	530	715 x 500	Miracel LW 735	**01.102.172.1**	1 unit
600		800/ 900	730	515 x 600	Miracel LW 535	**01.102.178.1**	1 unit
700		800/ 900	730	615 x 600	Miracel LW 635	**01.102.179.1**	1 unit
800		800/ 900	730	715 x 600	Miracel LW 735	**01.102.180.1**	1 unit
		600	435	430 x 300	DoubleProRack with door	**01.102.010.1**	1 unit
		800	635	430 x 500	DoubleProRack with door	**01.102.011.1**	1 unit
		800	635	430 x 500	DoubleProRack with door	**01.102.011.8**	1 unit
		500	460	430 x 300	DoubleProRack no door	**01.102.010.1**	1 unit
		600	560	430 x 500	DoubleProRack no door	**01.102.011.1**	1 unit
		600	560	430 x 500	DoubleProRack no door	**01.102.011.8**	1 unit
		700	660	430 x 500	DoubleProRack no door	**01.102.011.1**	1 unit
		700	660	430 x 500	DoubleProRack no door	**01.102.011.8**	1 unit
		600	385	430 x 300	ConAct	**01.102.010.1**	1 unit



MEC00462



MEC20xxx

19" Shelf Full pull-out

- Integrated fixing holes front and rear for handle or hinged cable routing
- With perforation to optimize air supply
- Locking in pulled-out position (friction lock); easy conversion with stop spring
- Quick separator for removing and disconnecting the shelf without tools

Material/finish
Sheet steel 1.0 mm, zinc-passivated, powder-coated texture

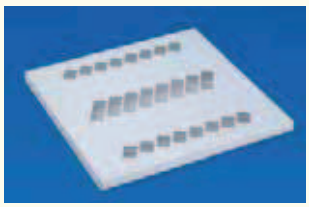
Color
RAL 7035 light gray

Load rating
500 N static per item

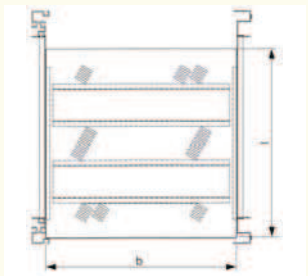
Supply schedule
1 pair of telescopic slides
1 shelf board
1 extension board (from L = 600)
Mounting material

How supplied
Flat-packed kit

B_{Rack}	H_{Rack}	D_{Rack}	U	d	w x l	For rack type	Order no.		UP
		600	365		430 x 300	Miracel/Smaract LAN	**01.102.160.1**		1 unit
		600	440		430 x 300	Miracel/Smaract 19"	**01.102.160.1**		1 unit
		800	565		430 x 500	Miracel/Smaract LAN	**01.102.161.1**		1 unit
		800	640		430 x 500	Miracel/Smaract 19"	**01.102.161.1**		1 unit
		900	665		430 x 500	Miracel/Smaract LAN	**01.102.161.1**		1 unit
		900	740		430 x 600	Miracel/Smaract	**01.102.162.1**		1 unit
						19" Server			
		1000	740		430 x 600	Miracel 19" Server	**01.102.162.1**		1 unit



MEC00120



MEC20117

19" Heavy-Duty Shelf, Fixed

- Surface area with perforation
- Application as server or battery bottom cover

Material/finish
Sheet steel 1.5 mm, zinc-passivated, powder-coated texture

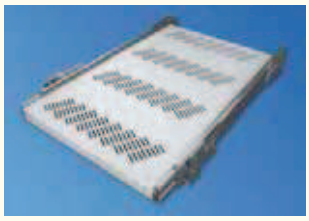
Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

Load rating
1000 N static for CW installation
1500 N static for 19" installation

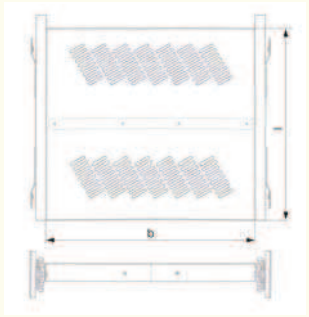
Supply schedule
1 shelf, fixed, threaded connection
2 mounting braces
Mounting material

How supplied
Flat-packed kit

B_{Rack}	H_{Rack}	D_{Rack}	U	d	w x l	For rack type	Order no.		UP
		800			565 467 x 460	Miracel/Smaract LAN	**01.131.473.1**		1 unit
		800			565 467 x 460	Miracel/Smaract LAN	**01.131.473.8**		1 unit
		800			640 467 x 460	Miracel/Smaract 19"	**01.131.475.1**		1 unit
		900			665 467 x 560	Miracel/Smaract LAN	**01.131.476.1**		1 unit
		900			740 467 x 560	Miracel/Smaract	**01.131.474.1**		1 unit
						19" Server			
		900			740 467 x 560	Miracel/Smaract	**01.131.474.8**		1 unit
						19" Server			
		1000			740 467 x 560	Miracel 19" Server	**01.131.474.1**		1 unit
		1000			740 467 x 560	Miracel 19" Server	**01.131.474.8**		1 unit
600		800			730 534 x 536	Miracel LW 535	**01.131.477.1**		1 unit
800		800			730 734 x 536	Miracel LW 735	**01.131.479.1**		1 unit
600		900			830 534 x 536	Miracel LW 535	**01.131.481.1**		1 unit
800		900			830 734 x 536	Miracel LW 735	**01.131.483.1**		1 unit



MEC20022



MEC20113

19" Heavy-Duty Shelf Full pull-out

- With perforation to optimize air supply
- Locking in pushed-in and fully pulled out position
- Easy mounting with patented quick mounting system
- Application as server or battery bottom cover

Material/finish
Sheet steel, 1.5 mm, powder-coated texture

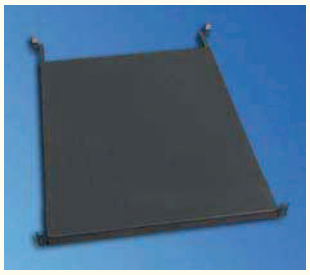
Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

Load rating
1200 N static

Supply schedule
1 pair of telescopic slides
1 shelf board
Mounting material

How supplied
Flat-packed kit

B_{Rack}	H_{Rack}	D_{Rack}	U	d	w x l	For rack type	Order no.		UP
		800			565 412 x 560	Miracel/Smaract LAN	**01.102.031.1**		1 unit
		800			565 412 x 560	Miracel/Smaract LAN	**01.102.031.8**		1 unit
		800			640 412 x 560	Miracel/Smaract 19"	**01.102.031.1**		1 unit
		800			640 412 x 560	Miracel/Smaract 19"	**01.102.031.8**		1 unit
		900			665 412 x 660	Miracel/Smaract LAN	**01.102.032.1**		1 unit
		900			665 412 x 660	Miracel/Smaract LAN	**01.102.032.8**		1 unit
		900			740 412 x 660	Miracel/Smaract	**01.102.032.1**		1 unit
						19" Server			
		900			740 412 x 660	Miracel/Smaract	**01.102.032.8**		1 unit
						19" Server			
		1000			740 412 x 660	Miracel 19" Server	**01.102.032.1**		1 unit
		1000			740 412 x 660	Miracel 19" Server	**01.102.032.8**		1 unit
600		800			730 478 x 560	Miracel LW 535	**01.102.034.1**		1 unit
800		800			730 678 x 560	Miracel LW 735	**01.102.037.1**		1 unit
600		900			830 478 x 660	Miracel LW 535	**01.102.035.1**		1 unit
800		900			830 678 x 660	Miracel LW 735	**01.102.038.1**		1 unit
600		800	735		478 x 560	Smaract LW 535	**01.102.034.1**		1 unit
600		900			835 478 x 660	Smaract LW 535	**01.102.035.1**		1 unit



SUN20007

19" Shelf QuickFix mounting without tools

- Quick and easy mounting without tools by hanging in 19" cut-outs
- Quick and easy fixing (one click) and removing (quarter turn) without tools
- Suitable for all racks and enclosures with 19" mounting hole extrusions (9.0 x 9.0 square holes)
- Depth-variable for use with different slot-in depths and special dimensions
- With perforation to optimize air supply

Material
Sheet steel, 1.0 mm

Finish
Final digit of order number .1:
Powder-coated texture, RAL 7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL 7021 dark gray

Load rating
700 N static with even load distribution

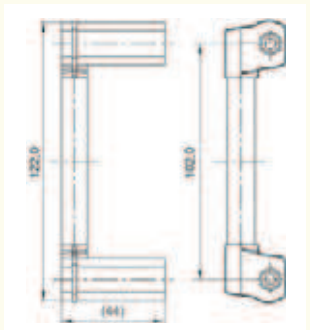
Supply schedule
19" QuickFix Shelf
Mounting material

How supplied
Flat-packed kit

Note
Cannot be used for 19" t-slot extrusions!

W	H	D	U	d	w x l	Order no.	UP
				365 - 500	430 x 300	**01.102.071.X**	1 unit
				565 - 740	430 x 500	**01.102.072.X**	1 unit

MEC20138



MEC20111

Handle

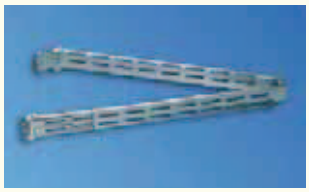
- Suitable for shelves and heavy-duty shelves
- With internal thread, M5

Material
Die-cast aluminum consoles
Handle extrusions of extruded aluminum
Cap made of ABS UL 94 HB

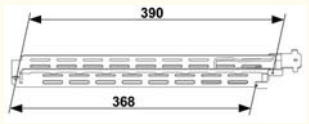
Finish:
Handle, powder-coated, gray-blue, RAL 5008/Cap, light gray, RAL 7035

Supply schedule
2 handles

W	H	D	U	d	w x l	For rack type	Order no.	UP
							00.050.503.1	1 set



MEC20154



MEC88005

Cable Cantilever

- Swing-out from the rear, therefore free access to the rear side (only 3-piece)
- For easy mounting in rack/on the shelf; quick connecting to and disconnecting from shelf or rack with a spring clip
- Guarantees defined and kink-free cable management
- Minimum space requirement behind the pushed-in shelves, 40 mm

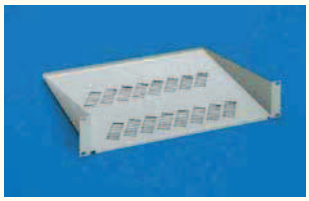
Material/finish
Sheet steel, 1.5 mm, zinc-passivated

Supply schedule
1 cable cantilever girder
Mounting material

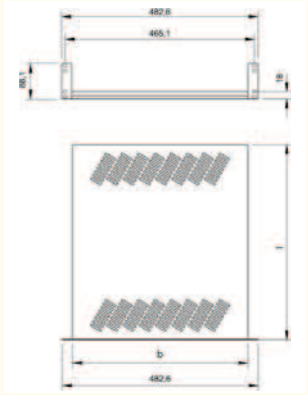
How supplied
Flat-packed kit

W	H	D	U	d	w x l	Type	Order no.	UP
						2-piece	**05.040.096.0**	1 unit

Dimensions in mm: W= Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, CW = Clear width
U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item
Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound



MIR00373



MIR00375

19" Shelf, 2 U Fixed

- For installation in racks with fixed 19" installation on the front
- Quick and easy mounting on 19" extrusions
- Also for swing frame in the 19" rack and 19" enclosure

Finish/color
Powder-coated texture, RAL 7035 light gray

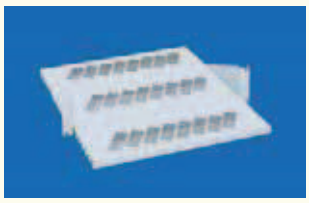
Material
Sheet steel, 1.5 mm

Load rating
200 N static

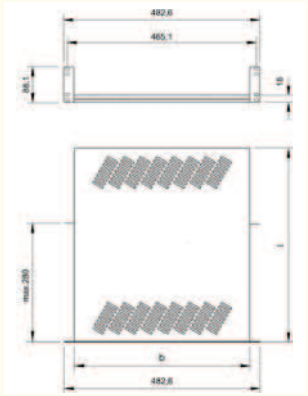
Supply schedule
1 shelf, fixed
Mounting material

How supplied
Flat-packed kit

W	H	D	w x l	For rack type	Order	UP
482.6	88.1	600/800/900/1000	442 x 280	Miracel/Smaract	**01.113.736.1**	1 unit
482.6	88.1	600/800/900/1000	442 x 380	Miracel/Smaract	**01.113.737.1**	1 unit
482.6	88.1	500/600/800	442 x 280	DoubleProRack	**01.113.736.1**	1 unit
482.6	88.1	500/600/800	442 x 380	DoubleProRack	**01.113.737.1**	1 unit
482.6	88.1	400/500/600	442 x 280	ConAct	**01.113.736.1**	1 unit
482.6	88.1	500/600	442 x 380	ConAct	**01.113.737.1**	1 unit



MIR00102



MIR00103

19" Shelf, 2 U, adjustable

- For installation in racks with adjustable 19" installation on the front
- Quick and easy mounting on 19" extrusions
- Also for swing frame in the 19" rack and 19" enclosure
- Adjustable in increments of 25 mm in the depth

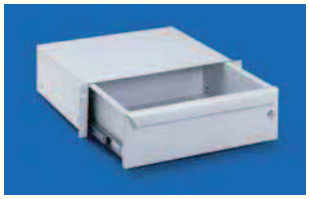
Material/finish
Sheet steel 1.5 mm, powder-coated texture

Color
RAL 7035 light gray

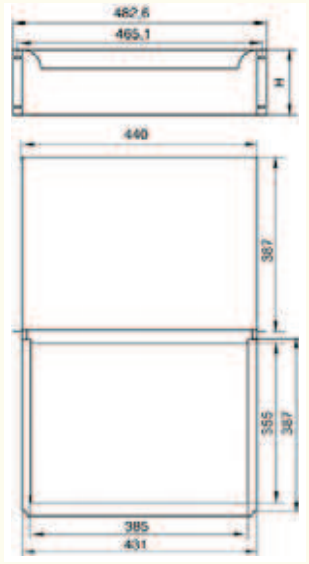
Load rating
200 N static

How supplied
Flat-packed kit

W	H	D	w x l	For rack type	Order n	UP
482.6	88.1	600/800/900/1000	442 x 280	Miracel/Smaract	**01.113.409.1**	1 unit
482.6	88.1	600/800/900/1000	442 x 380	Miracel/Smaract	**01.113.410.1**	1 unit
482.6	88.1	600/800/900/1000	442 x 480	Miracel/Smaract	**01.113.411.1**	1 unit
482.6	88.1	500/600/800	442 x 280	DoubleProRack	**01.113.409.1**	1 unit
482.6	88.1	500/600/800	442 x 380	DoubleProRack	**01.113.410.1**	1 unit
482.6	88.1	600/800	442 x 480	DoubleProRack	**01.113.411.1**	1 unit
482.6	88.1	400/500/600	442 x 280	ConAct	**01.113.409.1**	1 unit
482.6	88.1	500/600	442 x 380	ConAct	**01.113.410.1**	1 unit
482.6	88.1	600	442 x 480	ConAct	**01.113.411.1**	1 unit



SCH00058



SCH00054

19" Drawer, installation on front

- For installation on front 19" extrusions
- For storing service documents
- Quick and easy mounting

Material/finish
Drawer, sheet steel 1.0 mm, powder-coated texture
Telescopic slides, sendzimir zinc-coated

Color
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .8:
RAL 7021 dark gray

Load rating
150 N static

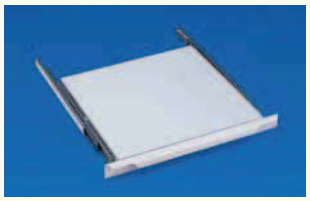
Supply schedule
1 19" drawer with lock, including key
1 pair of telescopic slides
Mounting material

How supplied
Preassembled

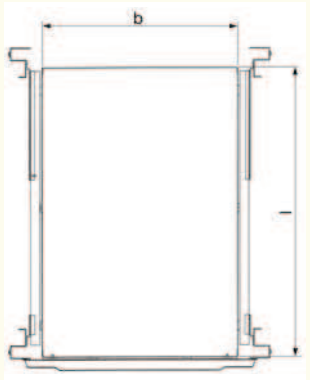
W	H	D	U	For rack type		
482.6	43.6	600-1000	1	Miracel/Smaract/ DoubleProRack/ConAct	**01.113.926.1**	1 unit
482.6	88.1	600-1000	2	Miracel/Smaract/ DoubleProRack/ConAct	**01.113.927.1**	1 unit
482.6	88.1	600-1000	2	Miracel/Smaract/ DoubleProRack/ConAct	**01.113.927.8**	1 unit
482,6	132,5	600-1000	3	Miracel/Smaract/ DoubleProRack/ConAct	**01.113.928.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, CW = Clear width, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, WxL = Surface area, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound



MEC00118



MEC20118

19" Shelf, 1 U Pull-out

- With handle
- Can also be used as writing board

Material/finish
Shelf, sheet steel, 1.0 mm
Telescopic slide, cold rolled steel

Finish/color
Powder-coated texture
RAL 7035 light gray

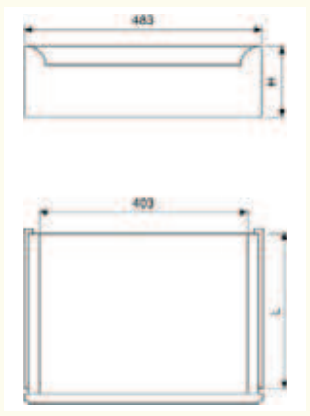
Load rating
200 N static

Supply schedule
1 shelf
1 pair of telescopic slides
Mounting material

How supplied
Preassembled

W	H	D_{Rack}	U	d	w x l	For rack type	Order no.	UP
482.6	43.6	600	1	365	403 x 400	Miracel/Smaract LAN	**02.045.149.1**	1 unit
482.6	43.6	600	1	440	403 x 400	Miracel/Smaract 19"	**02.045.149.1**	1 unit
482.6	43.6	800	1	565	403 x 400	Miracel/Smaract LAN	**02.045.149.1**	1 unit
482.6	43.6	800	1	640	403 x 600	Miracel/Smaract 19"	**02.045.147.1**	1 unit
482.6	43.6	900	1	665	403 x 600	Miracel/Smaract LAN	**02.045.147.1**	1 unit
482.6	43.6	900	1	740	403 x 600	Miracel/	**02.045.147.1**	1 unit
						Smaract 19" Server		
482.6	43.6	1000	1	740	403 x 600	Miracel 19" Server	**02.045.147.1**	1 unit
482.6	43.6	600	1	435	403 x 400	DoubleProRack	**02.045.149.1**	1 unit
						With door		
482.6	43.6	800	1	635	403 x 600	DoubleProRack	**02.045.147.1**	1 unit
						With door		

SCH00057



SCH00053

19" Drawer with Lock
Mounting on 19" installation, front and rear

- For mounting in racks with fixed 19" installation on the front and rear
- Full pull-out
- With lock

Material/finish
Drawer, sheet steel 1.0 mm, powder-coated texture
Telescopic slides, cold rolled steel, sendzimir zinc-coated

Color
Drawer, RAL7035 light-gray

Load rating
1 U - 200 N static
2 U - 400 N static
3 U - 400 N static
4 U - 400 N static

Supply schedule
1 19" drawer with lock, including key
1 pair of telescopic slides
Mounting material

How supplied
Preassembled

W	H	D	U	d	L	For rack type	Order n	UP
482.6	43.6	600	1	365	400	Miracel/Smaract LAN	**02.045.151.1**	1 unit
482.6	43.6	600	1	440	400	Miracel/Smaract 19"	**02.045.151.1**	1 unit
482.6	87.1	600	2	440	400	Miracel/Smaract 19"	**02.045.152.1**	1 unit
482.6	131.5	600	3	440	400	Miracel/Smaract 19"	**02.045.153.1**	1 unit
482.6	176.0	600	4	440	400	Miracel/Smaract 19"	**02.045.154.1**	1 unit
482.6	43.6	800	1	565	400	Miracel/Smaract LAN	**02.045.151.1**	1 unit
482.6	87.1	800	2	565	400	Miracel/Smaract LAN	**02.045.152.1**	1 unit
482.6	131.5	800	3	565	400	Miracel/Smaract LAN	**02.045.153.1**	1 unit
482.6	176.0	800	4	565	400	Miracel/Smaract LAN	**02.045.154.1**	1 unit
482.6	43.6	800	1	640	600	Miracel/Smaract 19"	**02.045.161.1**	1 unit
482.6	43.6	900	1	665	600	Miracel/Smaract LAN	**02.045.161.1**	1 unit
482.6	87.1	900	2	665	600	Miracel/Smaract LAN	**02.045.162.1**	1 unit
482.6	131.5	900	3	665	600	Miracel/Smaract LAN	**02.045.163.1**	1 unit
482.6	176.0	900	4	665	600	Miracel/Smaract LAN	**02.045.164.1**	1 unit
482.6	43.6	900	1	740	600	Miracel/Smaract 19" Server	**02.045.161.1**	1 unit
482.6	87.1	900	2	740	600	Miracel/Smaract 19" Server	**02.045.162.1**	1 unit
482.6	131.5	900	3	740	600	Miracel/Smaract 19" Server	**02.045.163.1**	1 unit
482.6	176.0	900	4	740	600	Miracel/Smaract 19" Server	**02.045.164.1**	1 unit
482.6	43.6	1000	1	740	600	Miracel/Smaract 19" Server	**02.045.161.1**	1 unit
482.6	87.1	1000	2	740	600	Miracel/Smaract 19" Server	**02.045.162.1**	1 unit
482.6	131.5	1000	3	740	600	Miracel/Smaract 19" Server	**02.045.163.1**	1 unit
482.6	176.0	1000	4	740	600	Miracel/Smaract 19" Server	**02.045.164.1**	1 unit
482.6	43.6	600	1	435	400	DoubleProRack with door	**02.045.151.1**	1 unit
482.6	87.1	600	2	435	400	DoubleProRack with door	**02.045.152.1**	1 unit
482.6	131.5	600	3	435	400	DoubleProRack with door	**02.045.153.1**	1 unit
482.6	176.0	600	4	435	400	DoubleProRack with door	**02.045.154.1**	1 unit
482.6	43.6	800	1	635	600	DoubleProRack with door	**02.045.161.1**	1 unit
482.6	87.1	800	2	635	600	DoubleProRack with door	**02.045.162.1**	1 unit
482.6	131.5	800	3	635	600	DoubleProRack with door	**02.045.163.1**	1 unit
482.6	176.0	800	4	635	600	DoubleProRack with door	**02.045.164.1**	1 unit
482.6	43.6	500	1	460	400	DoubleProRack 19" no door	**02.045.151.1**	1 unit
482.6	87.1	500	2	460	400	DoubleProRack 19" no door	**02.045.152.1**	1 unit
482.6	131.5	500	3	460	400	DoubleProRack 19" no door	**02.045.153.1**	1 unit
482.6	176.0	500	4	460	400	DoubleProRack 19" no door	**02.045.154.1**	1 unit
482.6	43.6	600	1	560	400	DoubleProRack 19" no door	**02.045.151.1**	1 unit
482.6	87.1	600	2	560	400	DoubleProRack 19" no door	**02.045.152.1**	1 unit
482.6	131.5	600	3	560	400	DoubleProRack 19" no door	**02.045.153.1**	1 unit
482.6	176.0	600	4	560	400	DoubleProRack 19" no door	**02.045.154.1**	1 unit
482.6	43.6	700	1	660	600	DoubleProRack 19" no door	**02.045.161.1**	1 unit
482.6	87.1	700	2	660	600	DoubleProRack 19" no door	**02.045.162.1**	1 unit
482.6	131.5	700	3	660	600	DoubleProRack 19" no door	**02.045.163.1**	1 unit
482.6	176.0	700	4	660	600	DoubleProRack 19" no door	**02.045.164.1**	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, CW = Clear width, U = standard height unit (1 U = 44.45 mm), UP = unit of packaging, kg = weight, WxL = Surface area, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SCH00062

Writing Board
For 19" drawer with lock

- For drawer depth 400 mm and 600 mm

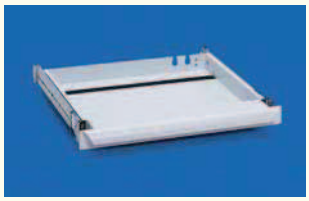
Material/finish
Sheet steel, 1.0 mm, powder-coated texture

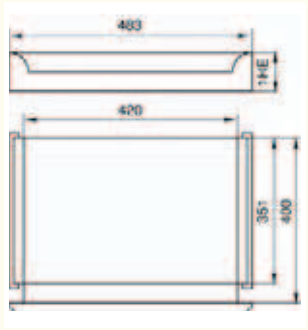
Color
RAL 7035 light gray

Supply schedule
1 writing board
Mounting material

How supplied
Flat-packed kit

W	H	D	U	d	L	For rack type	Order no.	UP
					400		**02.045.202.9**	1 unit
					600		**02.045.203.9**	1 unit


SCH00059



SCH00055

19" Keyboard Drawer, 1 U
For 19" keyboard

- With hand support
- With cable strain relief
- No telescopic slides locking

Material
Main unit, sheet steel, 1.0 mm
Front panel, sheet steel, 1.0 mm

Finish/color
Powder-coated texture, RAL 7035 light gray

Supply schedule
1 19" keyboard drawer, 1 U
1 pair of telescopic slides
Velcro strip for keyboard fixing
Mounting material

How supplied
Preassembled

W	H	D_{Rack}	U	d	L	For rack type	Order no.	UP
482.6	43.6	600	1	440		Miracel/Smaract 19"	**02.011.101.1**	1 unit
482.6	43.6	800	1	565		Miracel/Smaract LAN	**02.011.101.1**	1 unit
482.6	43.6	800	1	640		Miracel/Smaract 19"	**02.011.101.1**	1 unit
482.6	43.6	900	1	665		Miracel/Smaract LAN	**02.011.101.1**	1 unit
482.6	43.6	900	1	740		Miracel/Smaract 19" Server	**02.011.101.1**	1 unit
482.6	43.6	1000	1	740		Miracel 19" Server	**02.011.101.1**	1 unit
482.6	43.6	600	1	435		DoubleProRack with door	**02.011.101.1**	1 unit
482.6	43.6	800	1	635		DoubleProRack with door	**02.011.101.1**	1 unit

VHP00155

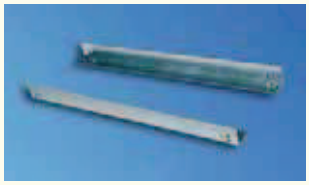
19" Compact Keyboard
IBM-compatible keyboard with trackball

- Suitable for keyboard drawer 01.136.378.1
- Flat keyboard with 84 keys and integrated trackball

Electrical data
- Power supply:
+ 5 V/DC max. 18 mA
- Mains cable (1.6 m) with tapping for two 6-pin mini DIN plugs (PS/2)
- For Windows 98/ME/NT/2000/XP

Dimensions
Length x width x height
370 x 138.5 x 20 mm

W	H	S	U	A1	A2	Pmax	Model	Order no.	UP
							German	**06.002.048.3**	1 unit


MEC20162

MEC20167

MEC20167

Slot-in Rail
Hang-on and screw-on

- For installation in 19" rack and enclosure
- Hang-on for quick and easy mounting
- Can also be screwed for heavier load ratings
- Can be screwed from inside (use in rack suites)
- Height setting possible for various main section heights

Material/finish
Sheet steel, 2.0 mm
Zinc-passivated, blue chrome-plated

Load rating
1000 N max., with even distribution

Supply schedule
2 slot-in rails
Mounting material

How supplied
In pairs

Note
When selecting the slot-in rail, please note the slot-in depth d of the rack or enclosure 4 19" extrusions are required for mounting

W	H	D_{Rack}	U	d	L	For rack type	Order no.	UP
		600		365	336	Miracel/Smaract	**01.103.051.0**	1 pair
		600		440	411	Miracel/Smaract	**01.103.052.0**	1 pair
		800		565	536	Miracel/Smaract	**01.103.053.0**	1 pair
		800		640	611	Miracel/Smaract	**01.103.054.0**	1 pair
		900		665	636	Miracel/Smaract	**01.103.055.0**	1 pair
		From 900		740	711	Miracel/Smaract/CoolTherm	**01.103.056.0**	1 pair

MEC20189

Aluminum Slot-In Rail
Screw-on

- For installation in 19" rack and enclosure
- Can be screwed from inside (use in rack suites)
- Height setting possible for various main section heights

Material/finish
Extruded aluminum, 1.4 mm, polished

Load rating
700 N max., with even load distribution

■ **Supply schedule**
2 slot-in rails
Mounting material

■ **How supplied**
In pairs

■ **Note**
When selecting the slot-in rail, please note the slot-in depth d of the rack or enclosure 4 19" extrusions are required for mounting

B_{Rack}	H_{Rack}	D_{Rack}	U	d	L	For rack type	Order no.	UP
		600		365	336	Miracel/Smaract	**01.103.101.0**	1 pair
		600		440	411	Miracel/Smaract	**01.103.102.0**	1 pair
		800		565	536	Miracel/Smaract	**01.103.103.0**	1 pair
		800		640	611	Miracel/Smaract	**01.103.104.0**	1 pair
		800		665	636	Miracel/Smaract	**01.103.105.0**	1 pair
		From 900		740	711	Miracel/Smaract/CoolTherm	**01.103.106.0**	1 pair
		500		285	254	ConAct	**01.103.111.0**	1 pair
		600		385	354	ConAct	**01.103.112.0**	1 pair
		600		435	403	DoubleProRack with door	**01.103.118.0**	1 pair
		800		635	603	DoubleProRack with door	**01.103.119.0**	1 pair
		500		460	428	DoubleProRack with door	**01.103.122.0**	1 pair
		600		560	528	DoubleProRack with door	**01.103.123.0**	1 pair
		700		660	628	DoubleProRack with door	**01.103.124.0**	1 pair

MEC20163

MEC20166

Slot-in runner, depth-variable, threaded connection

- For installation in 19" rack and enclosure
- Depth-variable
- Can be screwed from inside (use in rack suites)
- Height setting possible for various main section heights

■ **Material/finish**
Sheet steel, 1.25 mm
Zinc-passivated, blue chrome-plated

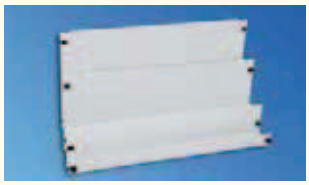
■ **Load rating**
200 N max., with even load distribution

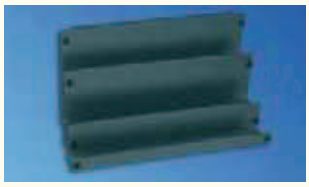
■ **Supply schedule**
2 basic rails
2 extension rails
Mounting material

■ **How supplied**
In pairs

■ **Note**
When selecting the slot-in rail, please note the slot-in depth d of the rack or enclosure 4 19" extrusions are required for mounting.

W	H	D	U	d	For rack type	Order no.	UP
		600		365-440	Miracel/Smaract	**01.103.091.0**	1 pair
		800-1200		565-740	Miracel/Smaract	**01.103.092.0**	1 pair
		900-1200		740	CoolTherm	**01.103.092.0**	1 pair
		600		385	ConAct	**01.103.091.0**	1 pair
		500-600		435-460	DoubleProRack	**01.103.091.0**	1 pair
		600-800		560-660	DoubleProRack	**01.103.092.0**	1 pair


MEC20179


MEC20180

MEC20178

19" Blanking Panel, QuickFix mounting without tools

- For covering free 19" spaces (cold-hot separation)
- Quick and easy assembly without tools (one click) and disassembly (quarter turn)
- Suitable for 9.5 x 9.5 square holes

■ **Material**
Sheet steel, 1.0 mm

■ **Finish**
Final digit of order number .1:
Powder-coated texture, RAL7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL7021, dark gray

■ **Supply schedule**
X (see ON for quantity) QuickFix 19" Blanking Panel
Mounting material

■ **How supplied**
In sets (see ON for quantity); fixing clips pre-mounted

W	H	D	U	d	L	For rack type	Order no.	UP
482.6	43.6		1			Powder-coated	**01.103.301.X**	6 units
482.6	88.1		2			Powder-coated	**01.103.302.X**	3 units
482.6	132.5		3			Powder-coated	**01.103.303.X**	2 units
482.6	265.9		6			Powder-coated	**01.103.306.X**	1 unit
482.6	399.2		9			Powder-coated	**01.103.309.X**	2 unit
482.6	932.6		21			Powder-coated	**01.103.321.X**	1 unit

MEC20181

MEC20178

19“ Blanking Panel, QuickFix mounting without tools

- For orderly cable management in the rack internal space
- Quick and easy assembly without tools (one click) and disassembly (quarter turn)
- Suitable for 9.5 x 9.5 square holes

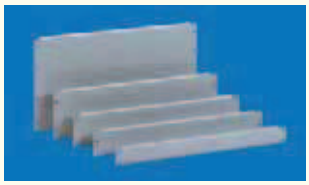
■ **Material**
Sheet steel, 1.0 mm

■ **Finish**
Final digit of order number .1:
Powder-coated texture, RAL7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL7021, dark gray

■ **Supply schedule**
6 QuickFix 19" blanking panel cable ports
Mounting material

■ **How supplied**
In sets; fixing clips pre-mounted

W	H	D	U	d	L	For rack type	Order no.	UP
482.6	43.6		1			Powder-coated	**01.103.331.X**	6 units



CUD00005

CUD00004

19" Blanking Panel Screw-on

– For covering free 19" spaces (cold-hot separation)

Material
Sheet steel, 1.0 mm

Finish
Final digit of order number .1:
Powder-coated texture, RAL7035, light gray
Final digit of order number .8:
Powder-coated texture, RAL7021, dark gray

Supply schedule
X (see ON for quantity) 19" Blanking Panel

How supplied
In sets (see ON for quantity)

Note
Please also order front panel mounting material!

W	H	D	U	d	L	For rack type	Order no.	UP
482.6	43.6		1			Powder-coated	**01.103.201.X**	6 units
482.6	88.1		2			Powder-coated	**01.103.202.X**	3 units
482.6	132.5		3			Powder-coated	**01.103.203.X**	2 unit
482.6	265.9		6			Powder-coated	**01.103.206.X**	1 unit
482.6	399.2		9			Powder-coated	**01.103.209.X**	2 unit

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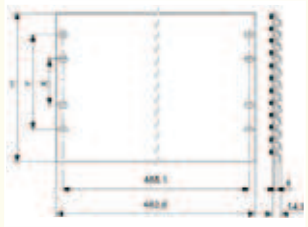


MEC20110

19" Ventilation Front Panel

– For additional ventilation of 19" racks and 19" pedestals in accordance with IEC 297

Material
Aluminum

Finish
Final digit of order number .1:
Powder-coated texture, light gray RAL 7035
Final digit of order number .6:
colorless anodized E 6 / EV 1

Supply schedule
1 ventilation front panel

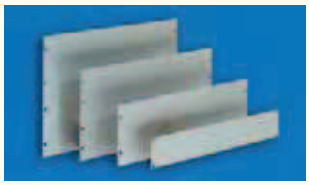
How supplied
In units

Note
Please also order front panel mounting material.

H	X	Y	U	Model	Order no.	UP
43.6		31.7	1	Powder-coated, RAL 7035	**02.008.101.1**	1 unit
43.6		31.7	1	Anodized	**02.008.101.6**	1 unit
132.5		57.1	3	Powder-coated, RAL 7035	**02.008.103.1**	1 unit
132.5		57.1	3	Anodized	**02.008.103.6**	1 unit

Dimensions in mm: W= Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, CW = Clear width
U = standard height unit, 1 U = 44.45 mm, UP = unit of packaging, kg = weight, WxL = Surface area
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound



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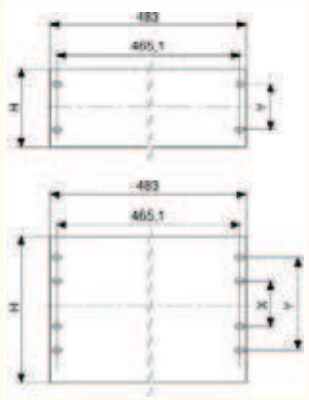


MEC20109

19" Front Panel, aluminum, 3 mm

Material/finish
Final digit of order number .0:
AlMg3 - F23 polished with lamination sheet
Final digit of order number .1:
AlMg3 - F23, powder-coated, RAL 7035, light gray
Final digit of order number .6:
AlMg3 - F23 EB (anodize-enabled), anodized E6/EV1 Final digit of order number .8:
AlMg3 - F23, powder-coated, RAL 7021, dark gray

Supply schedule
1 19" front panel

How supplied
In units

Note
Please also order front panel mounting material.

H	X	Y	U	Model	Order no.	UP
43.6		31.7	1	Polished	**02.008.021.0**	1 unit
88.1		76.2	2	Polished	**02.008.022.0**	1 unit
132.5		57.1	3	Polished	**02.008.023.0**	1 unit
177.0		101.6	4	Polished	**02.008.024.0**	1 unit
221.4		146.0	5	Polished	**02.008.025.0**	1 unit
265.9	76.2	190.4	6	Polished	**02.008.026.0**	1 unit
43.6		31.7	1	Powder-coated, RAL 7035	**02.008.021.1**	1 unit
88.1		76.2	2	Powder-coated, RAL 7035	**02.008.022.1**	1 unit
132.5		57.1	3	Powder-coated, RAL 7035	**02.008.023.1**	1 unit
177.0		101.6	4	Powder-coated, RAL 7035	**02.008.024.1**	1 unit
221.4		146.0	5	Powder-coated, RAL 7035	**02.008.025.1**	1 unit
265.9	76.2	190.4	6	Powder-coated, RAL 7035	**02.008.026.1**	1 unit
43.6		31.7	1	Powder-coated, RAL 7021	**02.008.021.8**	1 unit
88.1		76.2	2	Powder-coated, RAL 7021	**02.008.022.8**	1 unit
132.5		57.1	3	Powder-coated, RAL 7021	**02.008.023.8**	1 unit
43.6		31.7	1	Anodized	**02.008.071.6**	1 unit
88.1		76.2	2	Anodized	**02.008.072.6**	1 unit
132.5		57.1	3	Anodized	**02.008.073.6**	1 unit
177.0		101.6	4	Anodized	**02.008.074.6**	1 unit
221.4		146.0	5	Anodized	**02.008.075.6**	1 unit
265.9	76.2	190.4	6	Anodized	**02.008.076.6**	1 unit

FRO00007

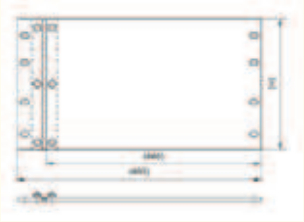
19" Front Panel, Hinged

– With 19" adapter and hinge

Material
Aluminum 3 mm

Finish
Anodized

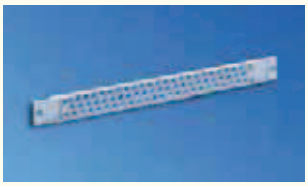
Supply schedule
1 front panel, hinged
1 19" adapter
1 hinge



FR000006

- **How supplied**
  Flat-packed kit
- **Note**
  Please also order front panel mounting material.

W	H	D	U	Model	Order no.	UP
			3	Anodized	**01.110.780.6**	1 unit
			6	Anodized	**01.110.781.6**	1 unit



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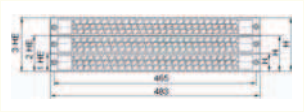


LUF00093

19" Front Ventilation Panel

- For additional ventilation of 19" racks and 19" pedestals in acc. with IEC 297

- **Material/color**
  Final digit of order number .1:
  ABS (UL 94 V0), light gray RAL 7035
  Final digit of order number .9:
  ABS (UL 94 V0), dark gray RAL 9011
- **Supply schedule**
  1 front ventilation panel
  2 connection holders
- **How supplied**
  Flat-packed kit
- **Note**
  Please also order front panel mounting material.

W	H	D	U	Model	Order no.	UP
483	43.6		1		**02.008.111.1**	1 unit
483	43.6		1		**02.008.111.9**	1 unit

MEC20144

MEC20149

Panel Filter for 19" front ventilation panel

- For use in conjunction with the 19" front ventilation panel

- **Material/color**
  Filter fibers and screen cloth
- **Supply schedule**
  1 panel filter
  Mounting material
- **How supplied**
  Flat-packed kit

W	H	D	U	Model	Order no.	UP
			1		**02.008.131.9**	1 unit

MEC20027

Document Holder

- Self-adhesive; use 6 mm bore holes with higher stresses
- For DIN A4 documents

- **Material**
  High-impact PS
- **Color**
  Gray
- **Supply schedule**
  1 document holder

W	L	D	Order no.	UP
264	236	30	**05.016.045.0**	1 unit

Dimensions in mm: W= Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, CW = Clear width, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, WxL = Surface area, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

Dimensions in mm:
W= Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length
CW = Clear width
U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight
WxL = Surface area
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

Dimensions in mm:
W = Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length
CW = Clear width
U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight
WxL = Surface area
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

The right mounting set for every rack type

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order no.	UP
	●				●						Mounting set T-slot, M5 wide	**05.041.320.9**	1 set
		●				●					Mounting set Mount. holes, M5/Bl 1.5	**05.041.325.9**	1 set
●			●	●			●				Mounting set Mount. holes M5/Bl 2.5	**05.041.323.9**	1 set
								●			Mounting set dpr T-slot, M5 narrow	**05.041.322.9**	1 set
									●		Mounting set dpr Mount. holes, M5	**05.041.324.9**	1 set
										●	Mounting set ConAct M5		

The right mounting set for front panel mounting
Model: Z-form screw

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order no.	UP
	●				●						FP mounting set T-slot, M5 wide	**05.041.335.9**	1 set
		●				●				●	FP mounting set Mount. holes M5/Bl 1.5	**05.041.336.9**	1 set
●			●	●			●		●		FP mounting set Mount. holes M5/Bl 2.5	**05.041.337.9**	1 set
								●			FP mounting set T-slot, M5 narrow	**05.041.338.9**	1 set

Model: Countersunk screw+rosette

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order no.	UP
	●				●						FP mounting set T-slot, M5 wide	**05.041.340.9**	1 set
		●				●				●	FP mounting set Mount. holes M5/Bl 1.5	**05.041.341.9**	1 set
●			●	●			●		●		FP mounting set Mount. holes M5/Bl 2.5	**05.041.342.9**	1 set
								●			FP mounting set T-slot, M5 narrow	**05.041.343.9**	1 set

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, U = standard height unit (1 U = 44.45 mm), UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

The right accessories for every rack type

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order no.	UP
	●				●						Spring nut M5 wide	**01.350.431.9**	1 set
								●			Spring nut M5 narrow	**05.041.503.9**	1 set
	●				●						Spring nut M6	**01.350.405.9**	1 set
		●				●				●	Caged nut M5/BI 1.5	**05.041.513.7**	1 set
●			●	●			●		●		Caged nut M5/BI 2.5	**05.041.518.7**	1 set
	●				●			●			Oval head screw Z-form M5 x 10	**05.041.330.9**	1 set
●		●	●	●		●	●		●	●	Oval head screw Z-form M5 x 16	**05.041.331.9**	1 set
	●				●			●			Countersunk screw M5 x 12 + rosette	**05.041.203.9**	1 set
●		●	●	●		●	●		●	●	Countersunk screw M5 x 16 + rosette	**05.041.290.9**	1 set

MIR00114

Mounting Tool for Caged Nut

– Makes clipping the caged nut into the extrusion easier

■ **Material**
Spring steel

■ **Supply schedule**
1 mounting tool

W	H	D	U	d	L	Model	Order no.	UP
							01.130.985.9	1 unit

Dimensions in mm: W= Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length

U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight

= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

MEC20125

T-slot mounting set, M5, wide for Miracel®/ Smaract®

– For mounting 19" front panels and 19" components

Supply schedule
100 spring nuts, M5 wide
100 oval head screws, Z-form, M5 x 10
20 caged nuts M5 /plate, 1.5 mm
20 cylinder screws, M5 x 8

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							05.041.320.9	1 set

MEC20126

Mounting Holes Mounting Set, M5 / Plate, 1.5 mm For Miracel®/ Smaract®

– For mounting 19" front panels and 19" components

Supply schedule
100 caged nuts M5 /plate, 1.5 mm
100 oval head screws, Z-form, M5 x 16
20 spring nuts, M5 wide
20 cylinder screws, M5 x 8

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							05.041.321.9	1 set

MEC20126

Mounting Holes-Server Extrusion Mounting Set M5 / Plate 2.5 mm for Miracel®/ Smaract®/ DCM®

– For mounting 19" front panels and 19" components

Supply schedule
100 caged nuts M5 /plate, 2.5 mm
100 oval head screws, Z-form, M5 x 16
20 spring nuts, M5 wide
20 cylinder screws, M5 x 8

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							05.041.325.9	1 set

MEC20127

T-Slot Mounting set, M5, Narrow for DoubleProRack®

– For mounting 19" front panels and 19" components

Supply schedule
100 spring nuts, M5 narrow
20 oval head screws, Z-form, M5 x 10
50 cylinder screws, M5 x 10
30 oval head screws, Z-form, M5 x 8

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							05.041.323.9	1 set

MEC20126

Mounting Holes Mounting Set, M5 For DoubleProRack®

– For mounting 19" front panels and 19" components

Supply schedule
100 caged nuts M5 /plate, 2.5 mm
50 oval head screws, Z-form, M5 x 16
40 spring nuts, M5 narrow
40 cylinder screws, M5 x 10

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							05.041.322.9	1 set

MEC20096

Mounting Holes Mounting Set, M5 For ConAct®

– For mounting 19" front panels and 19" components

Supply schedule
50 caged nuts M5 /plate, 1.5 mm
50 oval head screws, Z-form, M5 x 16
50 cylinder screws, M5 x 8
25 locking nuts, M5

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
							05.041.324.9	1 set

MEC20129

MEC20130

Front panel mounting set, T-slot, M5 wide For Miracel®/ Smaract®

– For mounting 19" front panels and 19" components

Supply schedule
Type 1:
50 spring nuts, M5 wide
50 oval head screws, Z-form, M5 x 10
Type 2:
50 spring nuts, M5 wide
50 countersunk screws, M5 x 12
50 rosettes

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						Type 1: Z-form screw	05.041.335.9	1 set
						Type 2: Screw+rosette	05.041.340.9	1 set

MEC20098

Front Panel Mounting Set, Mounting Holes, M5/Plate, 1.5 mm For Miracel®/ Smaract®/ ConAct®

- For mounting 19" front panels and 19" components

Supply schedule
Type 1:
50 caged nuts M5 /plate, 1.5 mm
50 oval head screws, Z-form, M5 x 16
Type 2:
50 caged nuts M5 /plate, 1.5 mm
50 countersunk screws, M5 x 16
50 rosettes

MEC20097

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						Type 1: Z-form screw	**05.041.336.9**	1 set
						Type 2: Screw+rosette	**05.041.341.9**	1 set

MEC20098

MEC20097

Front Panel Mounting Set, Mounting Holes, M5/Plate, 2.5 mm For Miracel®/Smaract®/DoubleProRack®/ DCM®

– For mounting 19" front panels and 19" components

■ **Supply schedule**
Type 1:
50 caged nuts M5 /plate, 2.5 mm
50 oval head screws, Z-form, M5 x 16
Type 2:
50 caged nuts M5 /plate, 2.5 mm
50 countersunk screws, M5 x 16
50 rosettes

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						Type 1: Z-form screw	**05.041.337.9**	1 set
						Type 2: Screw+rosette	**05.041.342.9**	1 set

MEC20129

MEC20130

T-Slot Mounting Set, M5, narrow for DoubleProRack®

– For mounting 19" front panels and 19" components

■ **Supply schedule**
Type 1:
50 spring nuts, M5 narrow
50 oval head screws, Z-form, M5 x 10
Type 2:
50 spring nuts, M5 narrow
50 countersunk screws, M5 x 12
50 rosettes

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						Type 1: Z-form screw	**05.041.338.9**	1 set
						Type 2: Screw+rosette	**05.041.343.9**	1 set

MEC00060

Spring Nut

– For clipping into T-slots at any position

Type 1: M5 wide
For Miracel / Smaract
T-nut size: 10 x 13 mm
Type 2: M5 narrow
For DoubleProRack
T-nut size: 8 x 13 mm
Type 3: M6
For Miracel / Smaract
T-nut size: 10 x 13 mm

■ **Supply schedule**
50 spring nuts

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						Type 1: M5 wide	**01.350.431.9**	1 set
						Type 2: M5 narrow	**05.041.503.9**	1 set
						Type 3: M6	**01.350.405.9**	1 set

MEC20139

Caged Nut

– For clipping into extrusions with mounting holes

Type 1: Plate, 1.5 mm
For Miracel / Smaract / ConAct / SoHo
Type 2: Plate, 2.5 mm
For Miracel Server / Smaract Server / DoubleProRack mounting holes

■ **Supply schedule**
50 caged nuts

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						M5: Type 1: Plate 1.5 mm	**05.041.513.7**	1 set
						M5: Type 2: Plate 2.5 mm	**05.041.518.7**	1 set
						M6: Type 1: Plate 1.5 mm	**05.041.514.7**	1 set
						M6: Type 2: Plate 2.5 mm	**05.041.519.7**	1 set

MEC20140

Oval Head Screw

– IEC DIN 967

■ **Supply schedule**
50 oval head screws, Z-form

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						M5 x 10	**05.041.330.9**	1 set
						M5 x 16	**05.041.331.9**	1 set
						M6 x 10	**05.041.332.9**	1 set
						M6 x 16	**05.041.333.9**	1 set

MEC20141

Countersunk Screw + Rosette

– IEC DIN EN ISO 7047

■ **Supply schedule**
50 countersunk screws
50 rosettes

■ **How supplied**
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						M5 x 12	**05.041.203.9**	1 set
						M5 x 16	**05.041.290.9**	1 set

MEC80020

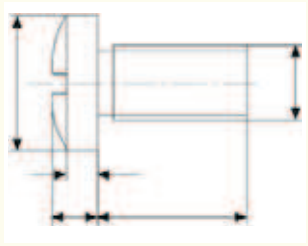
Self-Guiding Oval Head Screw

- DIN 7500
- Suitable for system accessories fixed on the inside of the 19" extrusions
- Suitable for 19" steel and 19" aluminum extrusions
- Easy screwing

Supply schedule
50 oval head screws, M6x10

How supplied
Flat-packed kit

W	H	D	U	d	L	Model	Order no.	UP
						M6 x 10	**05.041.334.9**	1 set



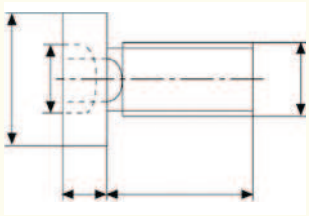
MEC00014

Oval Head Screw with Phillips head

- IEC DIN EN ISO 7045

Supply schedule
1 set of 50 units

W	H	D	U	d	L	Model	Order no.	UP
					8	M 5 no washer	**05.041.611.8**	1 set
					12	M 4 no washer	**05.041.609.8**	1 set
					12	M 5 with washer	**05.041.613.8**	1 set
					16	M 5 with washer	**05.041.614.8**	1 set
					16	M 6 with washer	**05.041.616.8**	1 set



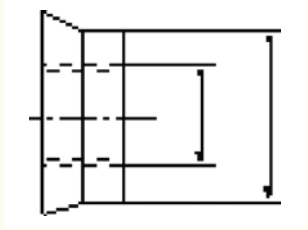
MEC00013

Cylinder Screw with hexagon head

- IEC ISO 4762 (modified)

Supply schedule
1 set of 50 units

W	H	D	U	d	L	Model	Order no.	UP
					8	M 5	**05.041.574.8**	1 set
					8	M 5 microencapsulated	**05.041.575.9**	1 set



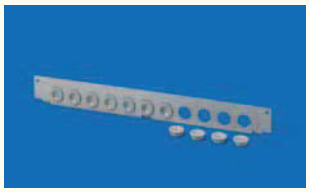
MEC20021

Tensiloc Nut

Material
Steel nickel-plated

Supply schedule
1 set of 50 units

W	H	D	U	d	L	Model	Order no.	UP
						M 5	**05.041.533.8**	1 set



HEI00234

Cable Entry Rail

Alternative to cable entry via brush strips when installing distributor box in open frames

Material/finish
Sheet steel, zinc-passivated

Supply schedule
1 cable port panel
11 bushing sockets
Mounting material

W	H	D	Model	Order no.	UP
				03.013.386.1	1 unit

ELM00058

Luminestra Rack Lighting

- Only for rack type Miracel W 700, W 800
- Mounting is made on the basic frame above the vertical extrusions
- With 13 watt fluorescent tube
- With on/off rocker switch
- With 2 m power supply lead and EURO plug
- Complete with mounting material
- Only with 123 mm front jumpering space

Color
White

Supply schedule
1 Luminestra rack lamp
2 mounting brackets
Mounting material

W	H	D	U	h	d	w	Model	Order no.	UP
70	20	555						**01.131.227.9**	1 unit

ELM00135

Compact Rack Lamp

Features
With magnetic mounting
Energy-saving lamp
Protective contact socket
On/off switch
3 m power supply lead
With cover panel

Approval
VDE, ICE

Protection rating IP20

Technical data
- Operating voltage
230 V / 50-60 Hz
- Lighting Compact fluorescent tube with integrated starter
- Power consumption: 11 W ^= 75 W bulb
- Light intensity: 900 Lm
- Interference suppression in acc. with VDE 0712, IEC 82
- Socket: 230 VAC / 16A
- Connections: 3-pole screw clamp 2.5 mm² with strain relief

W	H	D	U	h	d	w	Model	Order no.	UP
65	65	365						**01.131.465.9**	1 unit

HEI00379

Distribution Box

- For mounting installation technology DIN rail components, such as fuses, clamps, relays, etc.
- In the built-in status, the mounting level can be pulled out at the front, locked in position, and as a result, significantly simplifies the wiring of the individual components
  Not with “fixed installation” model
  On request: Delivered assembled and wired
  Further versions and models on request
- Installation space for up to 22 pieces of equipment with 18 mm width each
- Mounting of the TS35 DIN rail on several levels with simple plug-in connection
  Not with "fixed installation" version
- "Snap-in" mounting of DIN rail components
- Easy access to the protective earth and neutral conductor rails from the front
- Various positioning options prepared or N and PE rails
  Not with "fixed installation" version
- Cable entry at the rear via double brush strip (optionally via bushing sockets)
- Cable strain relief on the inside and therefore accessible from the front
- Labeling strips on the front, above and below the installation space
- Installation options for power distribution with 230 V AC, but also in the low voltage range (e.g. 48 V DC)
- 19” slot-in, 3 U, depth 150 mm

Material/finish
- Covers, powder-coated texture, RAL 7035 light gray
- Main unit, zinc-passivated sheet steel

Supply schedule
1 distribution box
Including N and PE rails, cable entry, cable strain relief, empty panel covers and earth set

How supplied
Fully assembled

W	H	D	U	19”	Model	Order no.	UP
482.6	134	150	3	•	Pull-out	**03.013.385.1**	1 unit
482.6	134	150	3	•	Fixed installation	**03.013.470.1**	1 unit

HEI20282

Dimensions in mm: W= Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length, CW = Clear width, U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, WxL = Surface area, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

ELM00137

Door Contact Switch

- On/off switch, 4 A, 230 V ~
- Activation with door opening and closing

Supply schedule
1 door contact switch (not wired)
1 mounting brackets
Mounting material

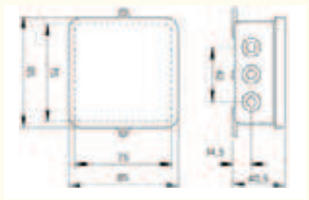
W	H	S	U	h	d	kg	Model	Order no.	UP
								01.110.722.9	1 unit

ELM00033

Cable Junction Box

- For 230V electro-installation on-site
- As fixed-location exchange point
- Quick and easy mounting

Supply schedule
1 cable junction box



ELM00034

W	H	D	U	h	d	w	Model	Order no.	UP
								00.078.720.9	1 unit

ELM00128

Modular Terminal Box

- For 230V electro-installation on-site
- With series terminal, 8 x 4² mm
- Pg 11/16 entry
- IP 54

Material
High-impact, fire-resistant polystyrene

Supply schedule
1 modular terminal box
4 Pg compression glands, Pg11

W	H	S	U	h	d	kg	Model	Order no.	UP
								01.117.521.9	1 unit

ELM00114

Equipotential Bonding Bar

- For central earthing of all protective conductors
- With sealing cover
- Connection options:
- 1 x round conductor 8-10 mm Ø
- 1 x flat conductor up to 30 mm wide or round conductor 8-10 mm Ø
- 7 x single or several-wire conductors up to 16 mm² or fine wire conductor up to 10 mm²

Material
Base and cover, high-impact plastic
Brass nickel-plated contact strip

Supply schedule
1 equipotential bonding bar

W	H	S	U	h	d	kg	Model	Order no.	UP
								01.117.524.3	1 unit

ELM00068

Earthing Bar

- For safe earthing and equipotential bonding of equipment and installation components

Material
Electrolyte copper, 9x9

Supply schedule
1 earthing bar
2 brackets
Mounting material

W	H	S	U	h	d	kg	Model	Order no.	UP
			24				For DoubleProRack	**01.240.546.9**	1 unit
			21				For DoubleProRack	**01.240.545.9**	1 unit
			18				For DoubleProRack	**01.240.544.9**	1 unit
			15				For DoubleProRack	**01.240.543.9**	1 unit
			45				For Miracel	**01.110.709.9**	1 unit
			41				For Miracel	**01.110.708.9**	1 unit
			12				For Miracel	**01.110.703.9**	1 unit

DOP20016

Contact Clamp

- For safe and secure connection of equipment and installation components with the earthing bar
- For cables up to 25 mm²

Supply schedule
20 contact clamps

W	H	S	U	h	d	kg	Model	Order no.	UP
								01.110.715.9	20 unit

Dimensions in mm: W= Width
H = Height
D = Depth
h = installation height
d = useful depth
L = length
U = standard height unit
1 U = 44.45 mm
UP = unit of packaging
kg = weight
= Express item

Conversion: 1 mm = 0.03937 inch
1 kg = 2.2046 pound

Rack PDUs

Liebert MPX™ 2.4 to 2.11
Liebert MPH™ 2.12 to 2.17
Knürr DI-STRIP® 2.18 to 2.57
Inline Metering (IMS) 2.58 to 2.64

Safe, efficient and economical: Rack PDUs from Emerson Network Power

A reliable power supply is particularly important in a server rack! Emerson Network Power's "Power Distribution Units" (PDU) provide the highest possible level of **safety, security and availability** with their robust electro-mechanical setup.

The rack PDUs ensure a sound **economical benefit.** The Liebert MPX™'s modularity also enables requirements-oriented and constantly compatible expansion.

The rack PDUs provide the perfect economical solution for every specific requirement and exceptional efficiency with numerous technical features.

Interacting with rack PDUs, rack monitoring systems and cooling systems, Liebert NFORM guarantees the monitoring and controlling of all relevant infrastructure parameters in server rooms and data centers, alarms as required, and even intercepts controlling to prevent damages.

PDU product series overview:

BASIC

Features:

- High stability and torsional strength provided with closed sheet steel extrusions and ideal integration into Knürr rack systems.
- Best possible conductivity: continuous brass busbars with many models.
- Double spring contacts for shock hazard-proof and low contact resistance.

MANAGED

Additional features:

- Highest possible safety, security and availability with an operating temperature of max. 55°C.
- Extensive measurement functions (power, current, voltage and energy), with higher measurement accuracy of up to ± 1%.
- Remote-switchable outputs with many models.
- Same communication cards used as with Liebert MPX, which means same software interface as with administration.
- Up to 4 Liebert MPX/MPH can be controlled via one IP.
- External sensors and a display can also be connected.

ADAPTIVE

Additional features:

- The Liebert MPX is a modular PDU; input and output modules can be flexibly equipped as required.
- Additional wiring between the module is not required; a fixed databus is integrated on a continuous busbar.
- Highest power density up to max. 3 x 63 A per bar possible.
- Possible failures can be detected early on with additional monitoring (N-conductor, apparent power, crest factor and power factor).
- Depending on the output module, measuring and remote switching is possible up to output level, which allows each server to be monitored.
- The output modules can be changed during running operation; there are no downtimes.

Emerson Network Power Rack PDUs Europe – product series overview

Overview : Emerson Network Power Rack PDUs Europe

	Knürr DI-STRIP Basic Rack PDU®			Liebert MPH™ Managed Rack PDU		Liebert MPX™ Adaptive Rack PDU			
Features	Knürr DI-STRIP	Knürr DI-STRIP M	Knürr DI-STRIP RM	Liebert MPH Branch Monitored	Liebert MPH controlled	Liebert MPX Elementary	Liebert MPX Elementary Phase monitored	Liebert MPX Branch monitored	Liebert MPX Receptacle managed
Power distribution	●	●	●	●	●	●	●	●	●
Modular						●	●	●	●
Display		Fixed	Fixed	Modular	Modular		Modular	Modular	Modular
Remote interface			●	●	●		●	●	●
Measuring at input level		●	●	●	●		●	●	●
Measuring per group				●	●			●	●
Measuring per output									●
Switching per output					●				●
Measurement parameters		A	A	A,V,W,KWh, Hz	A,V,W,KWh, Hz		A,V,W,KWh, Hz	A,V,W,KWh, VA, Hz, power factor	A,V,W,KWh, VA, Hz, power factor, crest factor
Input power	1ph + 3ph max 32A	1ph + 3ph max 32A	1ph + 3ph max 32A	1ph + 3ph max 32A	1ph + 3ph max 32A	1ph + 3ph max 63A	1ph + 3ph max 63A	1ph + 3ph max 63A	1ph + 3ph max 63A
Outputs	IEC C13&C19 Schuko Switzerland France	IEC C13&C19 Schuko Switzerland France	IEC C13&C19 Schuko Switzerland France	IEC C13&C19	IEC C13&C19	IEC C13&C19 Schuko	IEC C13&C19 Schuko	IEC C13&C19 Schuko	IEC C13&C19 Schuko
Connection of different kinds of sensors				●	●		●	●	●

The Liebert MPX™ and Liebert MPH™ accessories are largely identical, which simplifies administration!

INFO

You will find further details and order numbers in our product catalog:
www.EmersonNetworkPower.eu

Emerson Network Power Rack PDUs

Liebert MPX™ 2.4
Products 2.8

Liebert MPH™ 2.12
Products 2.14

Knürr DI-STRIP® 2.18

Knürr DI-STRIP®
DI-STRIP® RM 2.22
DI-STRIP® M 2.23
DI-STRIP HighPower® 2.24
TDI-STRIP® TriplePower® 2.26
DI-STRIP® BladePower® 2.28
DI-STRIP® PizzaPower® 2.29

DI-STRIP® Classic 2.29
DI-STRIP® Compact 2.30
DI-STRIP® Protector 2.31
DI-STRIP® Power Cleaner 2.33
DI-STRIP® Safety Basic 2.34
DI-STRIP® Safety Standard 2.35
DI-STRIP® Master-Slave 2.36
DI-STRIP® Combi 2.37
GST18, 1-phase 2.38
GST18, 3-phase 2.40

Knürr DI-STRIP®
Euro Plug System 2.42

Knürr DI-STRIP®
for France 2.45

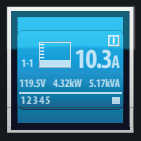
Knürr DI-STRIP®
for Switzerland 2.55

Inline Metering System (IMS)
Knürr DI-STRIP® IMS 2.62
Liebert MPX™ IMS 2.63
Knürr Modular IMS 2.64

INPUT POWER
- Configurable: 20 to 60 A (USA); 16 to 63 A (EU);
- Single-phase and three-phase
- Cable routing from above and below

OUTPUT DISTRIBUTOR
- Scalable, combination-compatible and swappable during operation
- Single-phase NEMA 5-20R, IEC-C13, IEC-C19, Schuko
- Load balance

MODULARITY
- Input modules
- Output modules
- External display
- External sensors



MONITORING
- Various levels: Input level, module level, output level
- Temperature and humidity
- Door contacts and floating break input contacts

REMOTE SOCKET CONTROL
- Socket level

LOCAL MONITORING
- Display for user
- Can also be mounted outside the rack

REMOTE MONITORING
- Secure web and SNMP interfaces Liebert Nform Avocent DSView

OVERLOAD PROTECTION
- Physically and electrically insulated circuit breakers for every socket module

RACK PDU ARRAY™
- One IP for up to 4 rack PDUs
- Liebert MPX™ and Liebert MPH™ in the same private network

FORM FACTOR
- Vertical mounting (0 U)
- Fits into trade standard 23/42 U racks and/or 800 mm wide racks

Liebert MPX™ Adaptive Rack PDU: Respond requirements-oriented to every change!

reddot design award
winner 2011

The Liebert MPX™ modular rack PDU system is particularly impressive with its maximum flexibility, highest possible availability and low operating costs. With the Liebert MPX™ user can quickly and specifically react to new requirements for power supply and rack management. The Liebert MPX™ gives users the ability to dimension their rack PDU system so that all current requirements are met first off. The system can be flexibly adjusted when requirements change later on. The Liebert MPX™ builds on a design that is based on a power supply/ communication bus and on input/ output modules.

Status display (RPC-BDM)
Can be easily positioned at the optimum spot for the individual rack; also functions outside the rack. This connected display can be mounted just as the user wishes.

Highest possible security and availability with:

- Redundant control electronics power supply (with redundant tapping of various phase in the Power Entry Module).
- Fixed databus on the busbar (making cable breaks a thing of the past).
- With complete data tapping on the PEM (without any additional external monitoring devices).
- Additional neutral conductor measurement.
- Crest factor measurement (mains quality evaluation, allowing power supply failures to be identified early on).

Maximum flexibility and scalability with:

- Configuration of all modules according to their requirements (patented quick fixing for safe installation).
- One busbar for different networks and power levels – input module can be freely selected.
- All other components are "hot swappable" in running operation.
- Mobile display for reading all MPX™ data on the rack.
- Optical slot space display (easy server slot space identification at the push of a button).

Highest possible power levels in all areas with:

- Power illustration up to 28 kVA per bar and 55°C ambient temperature.
- Only one IP address for up to 4 bars with 24 modules.
- Plug&Play for numerous sensors.
- Extensive monitoring with a measuring accuracy of +/- 1% up to output level.
- Module and sensor autodetect function with operating software.
- Lowest possible MPX™ system power loss.

Perfect for blade servers and changing environments

Data centers work more and more with blade servers and require more processor power on low rack space; cabling must be simplified; power consumption must be reduced. With the Liebert MPX™ the data center can quickly react to changes, which is why our product is the right choice for you infrastructure's administration.

Liebert MPX™: Four equipment models for different requirements

The Liebert MPX™ modular rack PDU consists of various modules. The foundation stone is a busbar, which is responsible for the power and communication distribution to the individual modules. The input power is routed via the Liebert MPX™ Power Entry Module (Liebert MPX™ PEM) to the Liebert MPX™ system. Different output modules (Liebert MPX™ Branch Receptacle Modules, Liebert MPX™ BRM) are available as required. Four different variants can be set up depending on the busbars' equipping:

1. Liebert MPX™ Elementary

Modular basic power distribution without measurement and control function. An upgrade to another equipment model is no problem!

2. Liebert MPX™ Elementary Phase monitored

Modular power distribution with measurement on the input per output module. An upgrade to the next line up is possible by equipping with the respective output modules.

3. Liebert MPX™ Branch monitored

Modular power distribution with measurement on the input per output module. An upgrade or downgrade to another line is possible by equipping with the respective output modules.

4. Liebert MPX™ Receptacle managed

Modular power distribution with measurement on the input per output module and per output. The individual outputs can also be switched on and off remotely. A downgrade to another line is possible by equipping with the respective output modules.

A combination of the "Elementary Phase monitored", "Branch monitored" and "Receptacle managed" lines on a shared busbar is also possible and is one of the exceptional features of the **Liebert MPX™**. Interfaces for the network communication, the sensors and/or the local display are provided by the Liebert Rack PDU Card (Liebert RPC) in the Liebert MPX™ PEM. The Liebert RPC Card enables connection to an optional RPC Basic Display Module (RPC BDM) to display the local status and alarms.

Liebert MPX™, equipment models in Europe

			Four equipment models			
		Order number	**Liebert MPX™** Elementary	**Liebert MPX™** Elementary Phase monitored	**Liebert MPX™** Branch monitored	**Liebert MPX™** Receptacle managed
Busbar	Length 1035	MPXPRC-V1035XXX	x	x	x	x
	Length 1880	MPXPRC-V1880XXX	x	x	x	x
Input modules	1ph 32A fixed *	MPXPEM-EHAEXQ30	x			
		MPXPEM-EHAAXQ30		x	x	x
	3ph 16A fixed	MPXPEM-EHAEXT30	x			
		MPXPEM-EHAAXT30		x	x	x
	3ph 32A fixed	MPXPEM-EHAEXR30	x			
		MPXPEM-EHAAXR30		x	x	x
	3ph 63A fixed	MPXPEM-EHBEXZ30	x			
		MPXPEM-EHBAXZ30		x	x	x
Output modules Elementary	IEC-C13 L1	MPXBRM-EEBC7N1N	x	x		
	IEC-C13 L2	MPXBRM-EEBC7N2N	x	x		
	IEC-C13 L3	MPXBRM-EEBC7N3N	x	x		
	IEC-C19 L1	MPXBRM-EEBC4O1N	x	x		
	IEC-C19 L2	MPXBRM-EEBC4O2N	x	x		
	IEC-C19 L3	MPXBRM-EEBC4O3N	x	x		
	Schuko L1	MPXBRM-EEBC3P1N	x	x		
	Schuko L2	MPXBRM-EEBC3P2N	x	x		
	Schuko L3	MPXBRM-EEBC3P3N	x	x		
Output modules Branch monitored	IEC-C13 L1	MPXBRM-EBBC6N1N			x	
	IEC-C13 L2	MPXBRM-EBBC6N2N			x	
	IEC-C13 L3	MPXBRM-EBBC6N3N			x	
	IEC-C19 L1	MPXBRM-EBBC4O1N			x	
	IEC-C19 L2	MPXBRM-EBBC4O2N			x	
	IEC-C19 L3	MPXBRM-EBBC4O3N			x	
	Schuko L1	MPXBRM-EBBC3P1N			x	
	Schuko L2	MPXBRM-EBBC3P2N			x	
	Schuko L3	MPXBRM-EBBC3P3N			x	
Output modules Receptacle managed	IEC-C13 L1	MPXBRM-ERBC6N1N				x
	IEC-C13 L2	MPXBRM-ERBC6N2N				x
	IEC-C13 L3	MPXBRM-ERBC6N3N				x
	IEC-C19 L1	MPXBRM-ERBC4O1N				x
	IEC-C19 L2	MPXBRM-ERBC4O2N				x
	IEC-C19 L3	MPXBRM-ERBC4O3N				x
	Schuko L1	MPXBRM-ERBC3P1N				x
	Schuko L2	MPXBRM-ERBC3P2N				x
	Schuko L3	MPXBRM-ERBC3P3N				x
Sensors	1xTemp.	SN-Z01		x	x	x
	3xTemp.	SN-Z02		x	x	x
	3xT. + 1xHum	SN-Z03		x	x	x
	1xTemp. Mod.	SN-T		x	x	x
	Temp/Hum Mod.	SN-TH		x	x	x
	2xDoor Mod.	SN-2D		x	x	x
	3xInput Mod.	SN-3C		x	x	x
Display ext.		RPCBDM-1000		x	x	x

Upgrade possible!

Different combinations possible!

* When using 1ph input modules then only L1 output modules can be equipped.

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Liebert MPX™ - Input Module/Power Supply

Elementary and Monitored type:
- The MPX PEM is fixed on the MPX PRC and provides the connection to the power supply.
- Cable is connected fixed, 3 m long
- With IEC60309 plug, 1Ph/N/PE 6h blue, 3Ph/N/PE 6h red

Monitored type:
- The MPX PEM provides the connection to the databus for the data communication.
- Integrated Liebert RPC-1000 communication card enables remote monitoring and maintenance of MPH units.
- Provides the following measured values of the phase inputs: effective power, current, voltage, frequency and consumption.
- Power alarm functions for the individual phases and their operating status are also supported.
- Further important features: Three displays inform the user about the current status of each individual input.
  An acoustic alarm is activated with specific overload conditions.
- The communication card centralizes the Liebert MPX's local and remote administration.
- There is administration via web and SNMP for systems connected to the Ethernet.
- Also serves as the connection point for versatile support options and devices, such as the display module (RPC BDM), various sensors and connection to other Liebert MPX or Liebert MPH systems, for example.
- Has RJ-45 ports for all connections and does not require any special cabling.
- Supports 10 and 100 MBit Ethernet and provides on-site firmware upgrade.

Technical data Interfaces:
- RJ-45 LAN port (10/100 MBit) – for connecting to the local network (LAN) via an Ethernet cable.
- Expansion/administration port for local configuration using a computer/laptop, for setting up a link-up of several PDUs (Liebert MPX or MPH).
- Display port for connecting the RPC BDM (display module).
- External sensor port for connecting optional sensors.

Supported technologies:
- Web support, provides Liebert MPX control and management. Authorized users can view status information via their network.
- SNMP support, provides Liebert MPX SNMP management.
- Easy integration in Liebert Nform, Avocent DSView and Nagios.

Material/finish
Housing: Aluminum
Cover: Sheet steel
Power contacts: Silvered
Databus contacts: Gilded
(only Monitored type)

Dimensions
Width: 75 mm
Height: 65 mm
Cable: 3 m

Color
Housing: Aluminum/RAL7021 dark gray

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- BV GS

Supply schedule
1 MPX PEM power input module
incl. connection cable
incl. RPC-1000 communication card
(only Monitored type)

L	W	H	U	Feed	Load rating	Type	Order no.	UP
220	75	65		Fixed	230VAC, max 32A	Elementary	**MPXPEM-EHAEXQ30**	1 unit
220	75	65		Fixed	230/400VAC, max 16A	Elementary	**MPXPEM-EHAEXT30**	1 unit
220	75	65		Fixed	230/400VAC, max 32A	Elementary	**MPXPEM-EHAEXR30**	1 unit
266	75	65		Fixed	230/400VAC, max 63A	Elementary	**MPXPEM-EHBEXZ30**	1 unit
220	75	65		Fixed	230VAC, max 32A	Monitored	**MPXPEM-EHAAXQ30**	1 unit
220	75	65		Fixed	230/400VAC, max 16A	Monitored	**MPXPEM-EHAAXT30**	1 unit
220	75	65		Fixed	230/400VAC, max 32A	Monitored	**MPXPEM-EHAAXR30**	1 unit
266	75	65		Fixed	230/400VAC, max 63A	Monitored	**MPXPEM-EHBAXZ30**	1 unit

Dimensions in mm: L = Length, W = Width, S = Switch,
n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20153

Liebert MPX™ BRM - Output Module

- The MPX BRM takes care of the power distribution to the individual consumers.
- Each module taps a phase; this is color-identified on the module.
- All modules are protected against overload with a 20A circuit breaker.
- Changing the modules during operation enables a user-defined installation, without having to shut down the Liebert MPX.
- Up to 3 BRM output modules can be installed on a 1,035 mm PRC busbar; up to 6 BRM output modules can be installed on a 1,880 mm PRC busbar.

Type E - Elementary:
- Module for power distribution via respective outputs

Type B – Branch monitored:
- Module for power distribution via respective outputs with measuring function on module level
- The MPX BRMs have an LED-ID indicator, which clearly identifies every module with a number.
- The modules are administered in the software
- Provides the following measured values: power, current, voltage, apparent power, kWh and power factor
- Power alarm functions and the operating status are supported

Type R – Receptacle managed:
- Module for power distribution via respective outputs with measuring function on module level and output level
- The MPX BRMs have an LED-ID indicator, which clearly identifies every module with a number.
- The modules are administered in the software
- Provides the following measured values: power, current, voltage, apparent power, kWh, frequency, power factor and crest factor
- Power alarm functions and the operating status are supported
- The individual outputs can be switched on and off remotely

Material/finish
Housing: Aluminum
Cover: Sheet steel
Power contacts: Silvered
Databus contacts: Gilded (only type B and R)

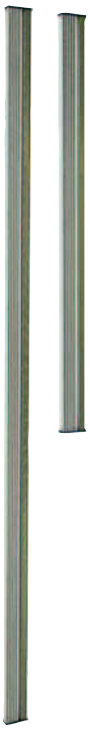
Dimensions
Width: 75 mm
Height: 65 mm

Color
Housing: Aluminum/RAL7021 dark gray

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- Innova GS

Supply schedule
1 MPX BRM Output Module
Operating instructions

L	n	Outputs	Load rating per output	Phase tapping	Type	Order no.	UP
266	7	IEC320 C 13	10A	L1	E	**MPXBRM-EEBC7N1N**	1 unit
266	7	IEC320 C 13	10A	L2	E	**MPXBRM-EEBC7N2N**	1 unit
266	7	IEC320 C 13	10A	L3	E	**MPXBRM-EEBC7N3N**	1 unit
266	4	IEC320 C 19	16A	L1	E	**MPXBRM-EEBC4O1N**	1 unit
266	4	IEC320 C 19	16A	L2	E	**MPXBRM-EEBC4O2N**	1 unit
266	4	IEC320 C 19	16A	L3	E	**MPXBRM-EEBC4O3N**	1 unit
266	3	Schuko CEE 7/4	16A	L1	E	**MPXBRM-EEBC3P1N**	1 unit
266	3	Schuko CEE 7/4	16A	L2	E	**MPXBRM-EEBC3P2N**	1 unit
266	3	Schuko CEE 7/4	16A	L3	E	**MPXBRM-EEBC3P3N**	1 unit
266	6	IEC320 C 13	10A	L1	B	**MPXBRM-EBBC6N1N**	1 unit
266	6	IEC320 C 13	10A	L2	B	**MPXBRM-EBBC6N2N**	1 unit
266	6	IEC320 C 13	10A	L3	B	**MPXBRM-EBBC6N3N**	1 unit
266	4	IEC320 C 19	16A	L1	B	**MPXBRM-EBBC4O1N**	1 unit
266	4	IEC320 C 19	16A	L2	B	**MPXBRM-EBBC4O2N**	1 unit
266	4	IEC320 C 19	16A	L3	B	**MPXBRM-EBBC4O3N**	1 unit
266	3	Schuko CEE 7/4	16A	L1	B	**MPXBRM-EBBC3P1N**	1 unit
266	3	Schuko CEE 7/4	16A	L2	B	**MPXBRM-EBBC3P2N**	1 unit
266	3	Schuko CEE 7/4	16A	L3	B	**MPXBRM-EBBC3P3N**	1 unit
266	6	IEC320 C 13	10A	L1	R	**MPXBRM-ERBC6N1N**	1 unit
266	6	IEC320 C 13	10A	L2	R	**MPXBRM-ERBC6N2N**	1 unit
266	6	IEC320 C 13	10A	L3	R	**MPXBRM-ERBC6N3N**	1 unit
266	4	IEC320 C 19	16A	L1	R	**MPXBRM-ERBC4O1N**	1 unit
266	4	IEC320 C 19	16A	L2	R	**MPXBRM-ERBC4O2N**	1 unit
266	4	IEC320 C 19	16A	L3	R	**MPXBRM-ERBC4O3N**	1 unit
266	3	Schuko CEE 7/4	16A	L1	R	**MPXBRM-ERBC3P1N**	1 unit
266	3	Schuko CEE 7/4	16A	L2	R	**MPXBRM-ERBC3P2N**	1 unit
266	3	Schuko CEE 7/4	16A	L3	R	**MPXBRM-ERBC3P3N**	1 unit



DOS20153

Liebert MPX™ PRC - Power Distribution Unit/Communication Bus

- The MPX PRC is the foundation stone of the Liebert MPX PDU.
- Power and data transfer buses are integrated fixed over the entire length of the MPX PRC.
- The MPX BRMs (output modules) and the MPX PEM (Power Entry Module) are fixed on the MPX PRC and depending on the type take care of the modules' power feed, output, monitoring and management.

Material/finish
Busbars housing: Aluminum
Busbars: Copper
Databus: Gilded

Dimensions
Width: 68 mm
Height: 24 mm

Color
Housing: Aluminum

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- BV GS

Load rating
Max. current intensity: 3 x 63 A
Nominal voltage (L-N / L-L): 230 / 400 VAC

Supply schedule
1 MPXTM PRC - Power Distribution Unit/ Communication Bus
1 mounting set

L	W	H	U	Model	Order no.	UP
1035	68	24	23	1 PEM (220 mm) + 3 BRM	**MPXPRC-V1035XXX**	1 unit
1880	68	24	42	1 PEM (220/266 mm) + 6 BRM	**MPXPRC-V1880XXX**	1 unit

DOS20153

Liebert MPX™/MPH™ Sensors

- The sensors are designed for tool-less installation in a Knürr Miracel Rack, but they can also be installed in any other rack.
- "Fixed" type sensors are fixed to a cable.
- "Modular" type sensors can be connected with the delivered cable.
- Are affixed to the RPC-1000 communication card
- Several sensors can be connected in rows (max. length: 20m)
- Are automatically displayed in the Liebert MPX/ MPH software
- Temperature measuring range: 5-55°C
- Accuracy: +/- 0.5°C
- Humidity measuring range: 10 – 95%
- Accuracy: +/- 3.5%

Note
The sensors are not required for operating the Liebert MPX or MPH, but they require the Liebert RPC-1000 (communication card)

Supply schedule
1 sensor with connection cable
Operating instructions

Cable length	Type	Model	Order no.	UP
3660	Fixed	Single temp. sensor	SN-Z01	1 unit
5180	Fixed	Triple temp. sensor	SN-Z02	1 unit
5180	Fixed	Triple temp. sensor + single humidity	SN-Z03	1 unit
2000	Modular	Single temp. sensor	SN-T	1 unit
2000	Modular	Triple temp. sensor + single humidity	SN-TH	1 unit
2000	Modular	2 x door contact - input module*	SN-2D	1 unit
2000	Modular	3 x digital input	SN-3C	1 unit

* Suitable door contact switch: Order no.: 06.108.115.9

DOS20153

Liebert RPC BDM - 1000 Display Module

- Provides the local display of the monitored data for all connected Liebert MPX and Liebert MPH systems.
- Operated with the aid of a navigation switch.
- Connected via a cable with the Liebert RPC, which provides the user the option of placing the displays where they can be easily read in accordance with the local space conditions.
- An individual display can be used for up to four Liebert MPX or Liebert MPH PDUs, which are connected to a PDU array.

Note
The Display Module is not required for operating the Liebert MPX or MPH, but it itself requires the Liebert RPC-1000 (communication card)

Supply schedule
1 RPCBDM-1000 Display Module
1 connection cable, 2 m
1 mounting set

L	W	H	U	Model	Order no.	UP
					RPCBDM-1000	1 unit

Liebert Power distribution BRM Elementary Safety bracket

- Safety brackets are available for strain relief for network equipment power supply cords.
- Safety brackets are sold in kits of 3 pieces.

Supply schedule
3 safety brackets
Mounting material

How supplied
flat-packed kit

Please note
Suitable for MPXBRM-EEBC7NxN (x=1,2,3)

L	W	H	U	Model	Order no.	UP
					03.910.219.9	1 unit

Liebert Power distribution BRM Cable Restraints kit

- Cable restraints are available for strain relief for network equipment power supply cords.
- Cable restraints support most IEC C13 plug types with grip edge around the plug body (application confirmation required).
- Cable restraints are sold in kits of 18 pieces.

Supply schedule
1 cable restraints kit (18 pieces).

How supplied
Flat-packed kit

Please note
Optimum locking function only with connection cable 04.000.051.9.
Suitable only for MPXBRM-EBBC6NxN and MPXBRM-ERBC6NxN (x=1,2,3).

L	W	H	U	Model	Order no.	UP
					03.910.216.9	1 unit

Liebert MPH™ Managed Rack-PDU Systems monitoring and control

The Liebert MPH™ Managed Rack PDU is a power supply system with monitoring and control functions. The housing consists of a robust sheet steel enclosure, so that the PDU can be easily installed in a Knürr rack, or even into other enclosure systems. The Liebert MPH™ can be installed vertically or horizontally (19"), depending on the type. The PDU is delivered pre-installed with the same communication card (RPC-1000) as the Liebert MPX™. All Liebert MPX™ external modules can therefore be connected (e.g. sensors, display module). Up to four Liebert MPX™/MPH™ can be connected as rack PDU array to consolidate the user's IP connection and the device monitoring.

The Liebert MPH™ is available in two equipment models:

1. Liebert MPH™ Type RM

The Liebert MPH™ Type RM is a monitored PDU that monitors the phase inputs. Measured per phase are: power, current, voltage and consumption. The power is also monitored per group (only 32A model).
Different threshold values enable detailed alarm signals.

2. Liebert MPH™ Type C

The Liebert MPH™ Type C can also switch the individual outputs on and off remotely.

Highest possible security and availability with:

- Power illustration up to 22 kVA per PDU and 55°C ambient temperature
- N-conductor current display with 3-phase feed, which prevents feed cable overload.
- Overload protection can be extended per group with all 32A models; minimizes danger with cascaded PDU overload.
- Setting alarm threshold values, which means possible failures are detected early on.

Flexibility with:

- Connection option for an external display, which is easy to mount and can also be combined with the Liebert MPX™.
- Connection option for external sensors, which means temperatures and humidity can be monitored.
- Doors and alarm contacts can also be monitored and displayed via external input contacts.
- Versatile installation in the rack as 19" or space-saving vertical installation.
- Same, compatible monitoring platform for Liebert MPH™ and Liebert MPX™.

Low operating costs with:

- Rack PDU array setup, which means up to 4 MPH/MPX can be controlled with one IP address; installation becomes quicker and easier.
- Extensive energy and current measurement, which provides data required for maximizing the power and cooling infrastructure.
- Special switching technology of the individual sockets, which reduces the rack PDU's power loss.
- Data interface with http and https protocol; no external software required for configuration and monitoring. The PDU can, however, also be integrated via SNMP into other management platforms.

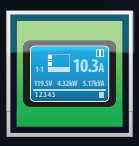
INPUT POWER
- 20 to 30 A (USA);
- 16 to 32 A (EU);
- Single-phase and three-phase

OUTPUT DISTRIBUTOR
- NEMA 5-20R single-phase,
- IEC-C13 and IEC-C19;
- Combination systems

MODULARITY
- Communication card
- External display
- External sensors

MONITORING
- Input level
- Group level depending on type
- Temperature and humidity
- Door contacts and floating break input contacts

REMOTE SOCKET CONTROL
- Socket level



LOCAL MONITORING
- Display for user
- Can also be mounted outside the rack

REMOTE MONITORING
- Secure web and SNMP interfaces
  Liebert Nform
  Avocent DSView

OVERLOAD PROTECTION
- Circuit breakers for every group

RACK PDU ARRAY™
- One IP for up to 4 rack PDUs
- Liebert MPX™ and Liebert MPH™ in the same private network

FORM FACTOR
- Vertical mounting (0 U)
- Rack installation
- Slimline 0 U form factor for positioning two PDUs in just one rack

DOS20153

Liebert MPH™ Rack PDU

- The **Liebert MPH® Type RM** is a monitored power distribution unit that monitors the phase inputs.
  Measured per phase are: power, current, voltage and consumption. The power is also monitored per group (only 32A model).
- The Liebert MPH® Type C can also switch the individual outputs on and off remotely.
- Integrated Liebert RPC 1000 communication card enables remote monitoring and maintenance of MPH units.
- The RPC-1000 enables the interconnection of several MPH or MPX units and the connection of Liebert MPH® with the Liebert MPX® units for monitoring and administration.
- The Liebert MPH® can be monitored directly on-site with the RPC BDM-1000, an optional display module that is connected directly with the communication card. The monitoring unit can be flexibly mounted on the rack.

Material/finish
Housing: Sheet steel extrusion

Dimensions
Width: 50 mm (vertical), 178 mm (19")
Height: 80 mm (vertical), 44 mm (19")
Cable Length: 3 m

Color
Housing: RAL 7021 dark gray

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS

Supply schedule
1 Liebert MPH® Socket Strip (PDU)
1 mounting brackets
Operating instructions

L	Type	Input values	Input plug	Outputs IEC320	Order no.	UP
438*	RM	230Vac, 16A	IEC320 Sheet I	9xC 13	**MPH-EBR09NXXO30**	1 unit
438*	RM	230Vac, 32A	IEC60309 1ph/N/PE 6h	9xC 13	**MPH-EBR09NXXQ30**	1 unit
1730	RM	230Vac, 16A	IEC320 Sheet I	27xC 13	**MPH-EBV27NXXO30**	1 unit
1730	RM	230Vac, 16A	IEC320 Sheet I	21xC 13/6xC 19	**MPH-EBV27NOXO30**	1 unit
1730	RM	230Vac, 32A	IEC60309 1ph/N/PE 6h	21xC 13/6xC 19	**MPH-EBV27NOXQ30**	1 unit
1730	RM	230Vac, 32A	IEC60309 1ph/N/PE 6h	27xC 13	**MPH-EBV27NXXQ30**	1 unit
1730	RM	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	27xC 13	**MPH-EBV27NXXT30**	1 unit
1730	RM	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	21xC 13/6xC 19	**MPH-EBV27NOXT30**	1 unit
1730	RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	27xC 13	**MPH-EBV27NXXR30**	1 unit
1730	RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	21xC 13/6xC 19	**MPH-EBV27NOXR30**	1 unit
438*	C	230Vac, 16A	IEC320 Sheet I	9xC 13	**MPH-ECR09NXXO30**	1 unit
438*	C	230Vac, 32A	IEC60309 1ph/N/PE 6h	9xC 13	**MPH-ECR09NXXQ30**	1 unit
1730	C	230Vac, 16A	IEC320 Sheet I	27xC 13	**MPH-ECV27NXXO30**	1 unit
1730	C	230Vac, 16A	IEC320 Sheet I	21xC 13/6xC 19	**MPH-ECV27NOXO30**	1 unit
1730	C	230Vac, 32A	IEC60309 1ph/N/PE 6h	21xC 13/6xC 19	**MPH-ECV27NOXQ30**	1 unit
1730	C	230Vac, 32A	IEC60309 1ph/N/PE 6h	27xC 13	**MPH-ECV27NXXQ30**	1 unit
1730	C	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	27xC 13	**MPH-ECV27NXXT30**	1 unit
1730	C	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	21xC 13/ 6xC 19	**MPH-ECV27NOXT30**	1 unit
1730	C	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	27xC 13	**MPH-ECV27NXXR30**	1 unit
1730	C	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	21xC 13/ 6xC 19	**MPH-ECV27NOXR30**	1 unit

* (19")

DOS20153

Liebert MPX™/MPH™ Sensors

- The sensors are designed for tool-less installation in a Knürr Miracel Rack, but they can also be installed in any other rack.
- "Fixed" type sensors are fixed to a cable.
- "Modular" type sensors can be connected with the delivered cable.
- Are affixed to the RPC-1000 communication card.
- Several sensors can be connected in rows (max. length: 20m).
- Are automatically displayed in the Liebert MPX/MPH software.
- Temperature measuring range: 5-55°C
- Accuracy: +/- 0.5°C
- Humidity measuring range: 10 – 95%
- Accuracy: +/- 3.5%

Note
The sensors are not required for operating the Liebert MPX or MPH, but they require the Liebert RPC-1000 (communication card).

Supply schedule
1 sensor with connection cable
Operating instructions

Cable length	Type	Model		Order no.	UP
3660	Fixed	Single temp. sensor		SN-Z01	1 unit
5180	Fixed	Triple temp. sensor		SN-Z02	1 unit
5180	Fixed	Triple temp. sensor + single humidity	SN-Z03	1 unit	
2000	Modular	Single temp. sensor		SN-T	1 unit
2000	Modular	Triple temp. sensor + single humidity	SN-TH	1 unit	
2000	Modular	2 x door contact - input module *		SN-2D	1 unit
2000	Modular	3 x digital input		SN-3C	1 unit

* Suitable door contact switch: Order no.: 06.108.115.9

DOS20153

Liebert RPC BDM - 1000 Display Module

- Provides the local display of the monitored data for all connected Liebert MPX and Liebert MPH systems.
- Operated with the aid of a navigation switch.
- Connected via a cable with the Liebert RPC, which provides the user the option of placing the displays where they can be easily read in accordance with the local space conditions.
- An individual display can be used for up to four Liebert MPX or Liebert MPH PDUs, which are connected to a PDU array.

Note
The Display Module is not required for operating the Liebert MPX or MPH, but it itself requires the Liebert RPC-1000 (communication card).

Supply schedule
1 RPCBDM-1000 Display Module
1 connection cable, 2 m
1 mounting set

L	W	H	U	Model	Order no.	UP
					RPCBDM-1000	1 unit

Accessories and software application, Liebert MPX™ and Liebert MPH™

Infrastructure management

Secure web and SNMP interfaces

- User-configured alarm threshold (3 threshold values per measuring point).
- Socket status and delayed switching.
- Electrical measurement: V, A, kW and kW/h, crest factor, Hz, power factor.
- Rack PDU array: Device consolidation.
- PDU Explorer: intuitive hierarchical interface.
- PDU status display according to strip or socket.
- Device Explorer: search according to user-defined device names.
- Environment monitoring: temperature and humidity, floating contacts.

Liebert Nform

- Control technology for Liebert devices in the LAN.
- E-mail alarm and local notifications.
- Scalable software solution for IT environment.

Avocent Rack Power Manager

- Alarm and incident administration of all equipment at the site.
- Control technology in real-time.
- Individually adjustable user interface.
- Trend and alarm reports.

Web-based monitoring

- PDU parameters monitoring via web browser.
- No application-specific software required.
- Simultaneous display of up to 4 PDUs.

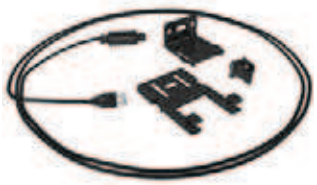
Network management system

- Open standard solution.
- For all SNMP devices.
- Scalable software solution for all company sizes.

Optional hardware

Local display module – RPC-BDM

- Electrical and ambient parameters.
- 1 RPC BDM for up to 4 PDUs in the array.
- PDU Explorer.
- Device Explorer:

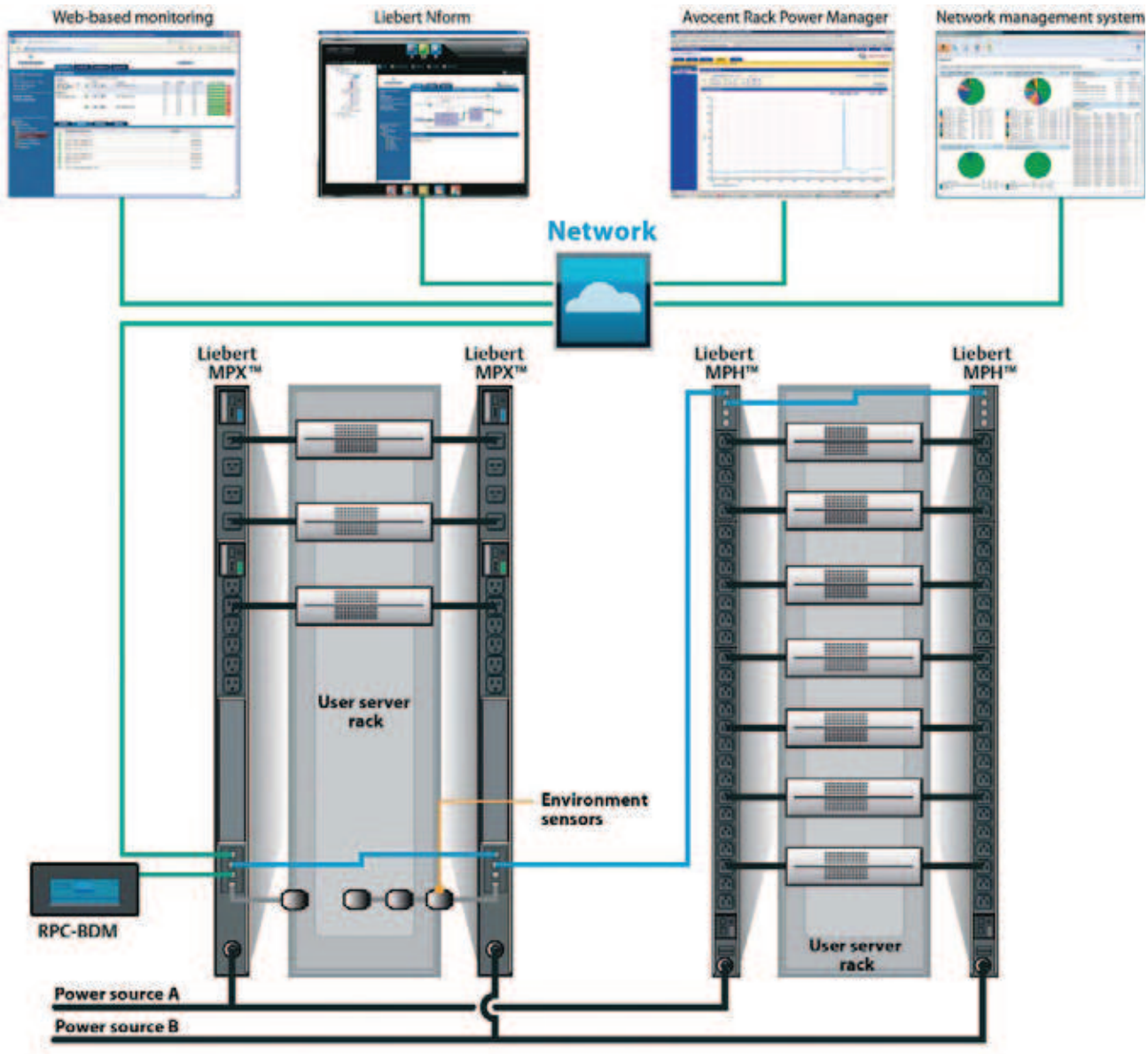


Liebert SN product family: Rack Sensors

- Temperature measurement with single or multiple sensors.
- Temperature and humidity measurement with multiple sensors.
- Door contact sensors and floating input contacts.

Flexible power distribution

Easy integration of the rack PDUs into new or existing management platforms



Rack PDU array (up to four systems)

Emerson Network Power Rack PDUs

Knürr DI-STRIP®

DI-STRIP® RM	2.22
DI-STRIP® M	2.23
DI-STRIP HighPower®	2.24
TDI-STRIP® TriplePower®	2.26
DI-STRIP® BladePower®	2.28
DI-STRIP® PizzaPower®	2.29
DI-STRIP® Classic	2.29
DI-STRIP® Compact	2.30
DI-STRIP® Protector	2.31
DI-STRIP® Power Cleaner	2.33
DI-STRIP® Safety Basic	2.34
DI-STRIP® Safety Standard	2.35
DI-STRIP® Master-Slave	2.36
DI-STRIP® Combi	2.37
GST18, 1-phase	2.38
GST18, 3-phase	2.40

Knürr DI-STRIP®

Euro Plug System	2.42

Knürr DI-STRIP®

for France	2.45

Knürr DI-STRIP®

for Switzerland	2.55

INPUT POWER
- Single-phase or three-phase
- Up to 22 kVa
- Easy input supply

OUTPUT DISTRIBUTOR
- NEMA 5-20R single-phase, IEC-C13 and C19, combination systems
- Schuko, France, Switzerland

MODULARITY
- More connectivity with expansion unit for Basic Rack PDU GST18-PDUs

FORM FACTOR
- Vertical mounting (0 U)
- Rack installation

LOCAL MONITORING
- Fixed display

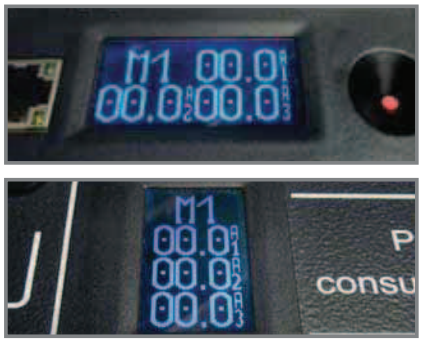
REMOTE MONITORING
- Secure web and SNMP interfaces Liebert Nform

OVERLOAD PROTECTION
- Circuit breakers/fuses per branching cable/output as required

Knürr DI-STRIP®
Basic Rack PDU: Robust PDUs with helpful equipment features

Knürr's Basic Rack PDUs are the solution for every data center looking for robust, economical and flexible rack concepts.

For power distribution the Knürr DI-STRIP® product family meets the requirements of numerous IT applications and other areas. Specially configured for the growing number of electronic components in network switching racks of server racks. Available with different accessories, such as circuit breakers, overvoltage (surge) protection, mains filter, master-slave function, emergency off button, fault current circuit breaker, local and remote power measurement, for example.



All DI-STRIP M / RM with display rotation for better reading.

■ **Highest possible safety, security and availability with:**
- Closed sheet steel extrusion, which means high stability and torsional strength.
- Extensive certification in acc. with international standard.
- Double spring contacts for shock hazard-proof and low contact resistance.
- Unbalanced load monitoring with 3-phase feed prevents feed cable overload (only DI-STRIP versions M and RM).
- Optimum load monitoring with servers' installation (only DI-STRIP versions M and RM).
- Individual outputs backup with DI-STRIP BladePower and Pizza Power.

■ **Maximum flexibility with:**
- Configurations and options with international compatibility
- 2.5 m or 4 m power cable for more spatial flexibility.
- Rotating display in 90° steps (only DI-STRIP versions M and RM).
- Tool-less installation, which means quick and easy extension in the rack (only DI-STRIP HighPower).

■ **Extremely low operating costs with:**
- Quick and easy installation on the rack requires minimum space and shorter installation time.
- Automatic background light reduction extends the display's service life and reduces the rack PDU power loss (only DI-STRIP models M and RM).
- Especially flat housing extrusion, providing full accessibility to the 19" level with 600 mm wide server racks.

Knürr DI-STRIP®: Three equipment models for precisely your requirements

Knürr DI-STRIP® Elementary:
Basic Rack PDU, Knürr DI-Strip Elementary® for simple power distribution requirements. The PDUs are available in different structures, depending on the rack installation requirements. Additional functions such as overvoltage (surge), mains filter, master-slave function, emergency off button and fault current circuit breaker are also

All DI-STRIP HighPower are equipped with especially flat housing extrusions and side cable entry. This enables installation without any loss of usable height units and cable entry from above and below. Full accessibility to the 19" level with 600 mm wide server racks is also a given.

Knürr DI-STRIP M® – local metered:
Basic Rack PDU Knürr DI-STRIP M® for simple power distribution requirements and local power measurement for your data center. Available in single and three-phase versions up to 22 kVa, with and without power measurement.

Local power measurement features:

- M = power measurement (local)
- Tried, tested and proven DI-STRIP® PDU with integrated local power measurement module.
- Large transparent LCD display.
- Meets the strictest EMC requirements with radiation and irradiation interference.
- Integrated unbalanced load monitoring with three-phase feed.
- Rotatable displays in 90° steps.
- Automatic background light reduction.
- Optimum load monitoring with servers' installation.

Knürr DI-STRIP RM® – remote metered:
Basic Rack PDU Knürr DI-STRIP RMRM® for simple power distribution requirements and remote power measurement for your data center. Available in single and three-phase versions up to 22 kVa, with local and remote power measurement. Knürr DI-STRIP RM® provides safe and reliable power supply in a robust, extruded enclosure.

Remote power measurement module features:

- RM = power measurement (remote) Tried, tested and proven DI-STRIP® PDU with integrated local power measurement module.
- Large transparent LCD display.
- Meets the strictest EMC requirements with radiation and irradiation interference.
- Can be set for up to 3 threshold values and unbalanced load monitoring.
- Rotatable displays in 90° steps.
- Automatic background light reduction.
- Protocols: HTTP, SNMP, Syslog.

Knürr DI-Strip®
Equipment models in Europe

Full overview:

1

Sample model

2

Sample model

3

Sample model

Options		Input power	Outputs	Knürr DI-STRIP® equipment models		
				Knürr DI-Strip Elementary®	**Knürr DI-Strip M®** local metered	**Knürr DI-Strip RM®** remote metered
1	**Euro Plug System IEC 320**	1x16A up to 3.68kVA	IEC60320 C13 & C19	x	x	x
1	**Classic**	1x16A up to 3.68kVA	Schuko, France, Switzerland	x		
1	**Compact**	1x16A up to 3.68kVA	Schuko, France, Switzerland	x	x	x
1	**Protector FI**	1x16A up to 3.68kVA	Schuko, France, Switzerland	x		
1	**Protector LS**	1x16A up to 3.68kVA	Schuko, France, Switzerland	x		
1	**Protector FI / LS**	1x16A up to 3.68kVA	Schuko, France, Switzerland	x		
1	**Protector Emergency STOP**	1x16A up to 3.68kVA	Schuko, France	x		
1	**Protector Emergency STOP FI/LS**	1x16A up to 3.68kVA	Schuko, France	x		
1	**Power Cleaner**	1x16A up to 3.68kVA	Schuko, France	x		
1	**Safety Basic**	1x16A up to 3.68kVA	Schuko, France, Switzerland	x		
1	**Safety Standard**	1x16A up to 3.68kVA	Schuko, France, Switzerland	x		
1	**Master Slave**	1x16A up to 3.68kVA	Schuko, France	x		
1	**Combi**	1x16A up to 3.68kVA	Schuko, France	x		
1	**GST18 Plug System**	1x16A, 3x16A up to 11kVA	Schuko, France, IEC60320	x	x	x
1	**TriplePower**	3x16A up to 11kVA	IEC60320 C13 & C19 Schuko	x	x	x
2	**BladePower**	1x32A, 3x32A up to 22kVA	IEC60320 C13 & C19	x		
2	**PizzaPower**	1x32A, 3x32A up to 22kVA	IEC60320 C13 & C19 Schuko	x	x	x
3	**HighPower**	1x32A, 3x32A up to 22kVA	IEC60320 C13 & C19	x		x

DOS80002

Knürr DI-STRIP® RM

- Real RMS value display for the alternating current per phase
- LCD display rotation in 90° steps
- Display bright/dark switchover
- Warning display for unbalanced load
- Load changes signaling
- Automatic background light dimming
- Cable: 4 m H05VV-F5 G 4 mm² (Pizza Power)
- Cable: 2,5 m H05VV-F5 G / 2,5 mm² (Triple Power)
- Cable: 2,5 m H05VV-F36 / 1,5 mm² (others)

Data interface:
- The plug strip can be integrated into the network via an RJ45 plug.
- Access is possible without special software via a remote browser.
- Three variable limit values and a warning for unbalanced loads can be specified.
- The module enables access for up to 5 users or administrators; access is password-protected.
- The software displays the name and place of the PDU; this information can be entered by an administrator.
- The user can specify a static IP address or access using DHCP.
- Firmware updates can be made via a web browser.
- Supported protocols: HTTP, SNMP (Traps, SET, GET), Syslog

Material/finish
- PizzaPower model:
  Housing: sheet steel, zinc passivated, powder-coated
- Other models:
  Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
  Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

Dimensions
Width: 84 mm (PizzaPower), 44.4 mm (others)
Height: 60 mm (PizzaPower), 44.4 mm (others)

Color
PizzaPower model:
Housing: RAL 9005 black
Other models:
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS

Supply schedule
1 socket strip (PDU) with remote ampere meter
1 mounting bracket
Operating instructions

L	Type	Input values	Input plug	Outputs IEC60320			Order no.	UP
				C 13	C 19	Schuko		
733	DI-STRIP® Compact RM 8	230Vac, 16A	Schuko CEE 7/4			8	**03.307.008.1**	1 unit
1183	DI-STRIP® Compact RM 17	230Vac, 16A	Schuko CEE 7/4			17	**03.307.017.1**	1 unit
633	IEC320 RM9	230Vac, 16A	Schuko CEE 7/4	9			**03.607.009.1**	1 unit
933	IEC320 RM18	230Vac, 16A	Schuko CEE 7/4	18			**03.607.018.1**	1 unit
1133	DI-STRIP® TriplePower RM	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	24			**03.607.825.1**	1 unit
1833	DI-STRIP® TriplePower RM	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	45			**03.607.845.1**	1 unit
1233	DI-STRIP® TriplePower RM	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	18	6		**03.607.824.1**	1 unit
1833	DI-STRIP® TriplePower RM	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	36	6		**03.607.842.1**	1 unit
1111	DI-STRIP® PizzaPower® RM	230Vac, 32A	IEC60309 1ph/N/PE 6h	24			**03.637.023.1**	1 unit
871	DI-STRIP® PizzaPower® RM	230Vac, 32A	IEC60309 1ph/N/PE 6h	12	4		**03.637.016.1**	1 unit
1168	DI-STRIP® PizzaPower® RM	230Vac, 32A	IEC60309 1ph/N/PE 6h	21	4		**03.637.025.1**	1 unit
563	DI-STRIP® PizzaPower® RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h		6		**03.637.006.1**	1 unit
995	DI-STRIP® PizzaPower® RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	6	12		**03.637.018.1**	1 unit
1022	DI-STRIP® PizzaPower® RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	21			**03.637.021.1**	1 unit
1157	DI-STRIP® PizzaPower® RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	18	6		**03.637.024.1**	1 unit
1751	DI-STRIP® PizzaPower® RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	36	6		**03.637.042.1**	1 unit

DOS80002

Knürr DI-STRIP® M

- With big transparent LCD display
- Effective value display of alternating currents per phase (1-phase or 3-phase, depending on model)
- LCD display rotation in 90° steps
- Display can be switched bright or dark
- Unbalanced-load warning display with 3-phase model
- Load changes signaling
- Automatic background light reduction
- Cable: 4m H05VV—F 5 G 4mm² (PizzaPower M)
- Cable: 2.5m H05VV-F 5 G 2.5mm² (TriplePower M)
- Cable: 2.5m H05VV-F 3G 1.5mm² (DI-STRIP Compact M, DI-STRIP IEC320 M)

Material/finish
PizzaPower®: model:
Housing: Sheet steel, zinc-passivated, powder-coated
Other models:
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable

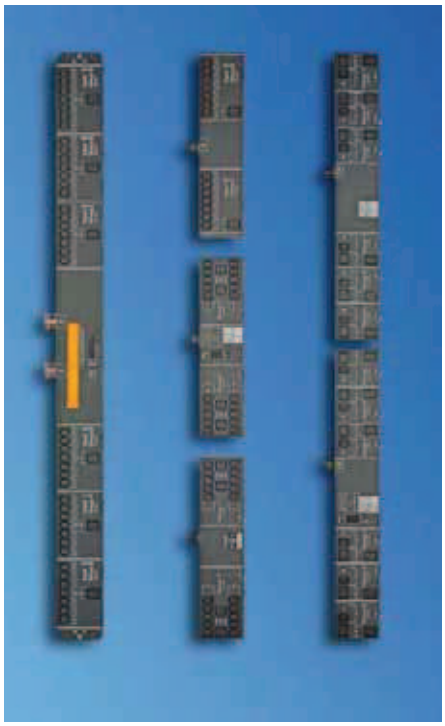
Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC: EN61326-1, EN61000-3-2, EN61000-3-3
- FCC Class B
- CSA NRTL (PizzaPower m, TriplePower M, IEC320 M)
- CB-Scheme (TriplePower M, DI-STRIP compact M, IEC320M, ampere meter GST18i)

Color
PizzaPower M model:
Housing: RAL 9005 black
Other models:
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Supply schedule
1 socket strip with ampere meter
2 mounting brackets
2 19" mounting brackets (with 19" installation option)

Note
- Other models (e.g. 19" outputs) on request

L	Type	Input values	Input plug	Outputs IEC60320			Order no.	UP
				C 13	C 19	Schuko		
483	DI-STRIP® PizzaPower® M	230Vac, 32A	IEC60309 1ph/N/PE 6h	7			**03.636.007.1**	1 unit
933	DI-STRIP® PizzaPower® M	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	21			**03.636.021.1**	1 unit
1033	DI-STRIP® TriplePower® M	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	21			**03.606.821.1**	1 unit
1833	DI-STRIP® TriplePower® M	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	45			**03.606.845.1**	1 unit
1133	DI-STRIP® TriplePower® M	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	18	6		**03.606.824.1**	1 unit
1733	DI-STRIP® TriplePower® M	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	36	6		**03.606.842.1**	1 unit
483	DI-STRIP® Compact M	230Vac, 16A	Schuko			6	**03.306.006.1**	1 unit
483	DI-STRIP® IEC320 M	230Vac, 16A	Schuko	9			**03.606.009.1**	1 unit
233	DI-STRIP® Ampere Meter	230Vac, 16A	GST18				**03.606.200.1**	1 unit



Knürr DI-STRIP®

HighPower®

The **Knürr DI-STRIP® HighPower** is a solution for every data center with high power requirements and low space in the rack. The special shape enables space-saving installation in the rack. This means free access to the servers, even with 600 mm wide racks. Maintenance of the servers (e.g. power supply changes) is possible at no further expense.

The Knürr DI-STRIP® product family meets the power distribution requirements of many IT applications and other areas. Specially configured for the growing number of electronic components in network switching racks of server racks. The **DI-STRIP® HighPower** is available with and without remote power measurement (DI-STRIP® HighPower RM).

Knürr DI-STRIP® HighPower
Strong points

Flexibility

With or without remote power measurement.
Easy expansion in the rack with tool-less installation.
3 m power cable for more spatial flexibility.

RM model:
Current values can be read via a big transparent LCD display.
Rotating display in 90° steps; the display can always be read the same regardless of the installation direction.
The power measurement module can be integrated into different management programs via different protocols (SNMP, http, Syslog).

High availability

Meets the strictest EMC requirements with radiation and irradiation interference. Robust and stable with a closed sheet steel housing.
Reliable, robust solution.
Extensive certification in acc. with international standard.

RM model:
Different threshold values can be flexibly specified; power values can therefore be monitored and load drops can be signaled.
With 3-phase PDUs the unbalanced load can be monitored, which means the neutral conductor is protected from overloads.

Low operating costs

Especially flat housing extrusion, providing full accessibility to the 19" level with 600 mm wide server racks.
Server power supply changes are very quick and easy.
Quick and easy installation on the rack requires minimum space and shorter installation time.

RM model:
Automatic background light reduction extends the display's service life and reduces power loss.

DOS20153

Knürr DI-STRIP® HighPower

- Flat design provides access to the 19" level, even with 600 mm wide racks.
- Individual backup for outputs (groups with 10 A).
- Outputs divided into groups with max. 20 A per group
- Modular expansion in the rack with tool-less PDU installation.

Additional functions for HighPower RM type (remote metered)
- With big transparent LCD display
- Effective value display of alternating current
- LCD display rotation in 90° steps
- Display can be switched bright or dark
- Load changes signaling
- Automatic background light reduction
- See DI-STRIP RM for technical description for data interface

Material/finish
Housing: Sheet steel, zinc-passivated, powder-coated

Dimensions
Width: 134 mm
Height: 47 mm
Cable: 3 m

Color
Housing: RAL 9005 black

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS

Supply schedule
1 socket strip (PDU)
1 integrated remote ampere meter (only HighPower RM)
2 mounting bracket
Operating instructions

L	Type	Input values	Input plug	Outputs IEC60320			Order no.	UP
				C 13	C 19	Schuko		
540	DI-STRIP® HighPower	230Vac, 32A	IEC60309 1ph/N/PE 6h	20	4		**03.632.100.8**	1 unit
850	DI-STRIP® HighPower	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	6	12		**03.632.102.8**	1 unit
850	DI-STRIP® HighPower	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	18	6		**03.632.103.8**	1 unit
540	DI-STRIP® HighPower RM	230Vac, 32A	IEC60309 1ph/N/PE 6h	20	4		**03.632.200.8**	1 unit
850	DI-STRIP® HighPower RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	6	12		**03.632.202.8**	1 unit
850	DI-STRIP® HighPower RM	230/400Vac, 32A	IEC60309 3ph/N/PE 6h	18	6		**03.632.203.8**	1 unit

Three Phase Knürr DI-STRIP®

TriplePower®

The **TriplePower®** name represents the performance of our latest development. Die **DI-STRIP® TriplePower®** supplies network racks with three times the normal power. This requirement is generated by the increasingly higher packing densities and constantly rising energy requirements in racks, which are often caused by aptly named "Blade Servers" or 1 U "Pizza Servers", more than 40 of which can be integrated into a Knürr Miracel rack.

The **DI-STRIP® TriplePower®** uses a classic 3-phase feed with 3x16A, which it optimally distributes throughout the whole rack. The 23 U and 41 U standard lengths cover the entire rack height range of the Knürr Smaract2 and Miracel rack families.

In the maximum configuration level, up to 48 users can now be connected to a **DI-STRIP® TriplePower®** (Euro socket strip). With redundant feed, 96A can consequently be provided in a 19" rack with only two **DI-STRIP® TriplePower®**.

DOS20149

DOS20148

Dimensions in mm:
L = Length, S = Switch, n = Number of sockets,
F1 = Standard side, F2 = Design side,
19" = Suitable for 19" installation, Safe = Child-safe

U = Standard height unit, UP = Unit of packaging

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

1 DOS20131

Knürr DI-STRIP® TriplePower®
Strong points

1 **Cost-conscious**
Quick and easy mounting on the rack extrusion.
Costs reduction with mounting and wiring.

2 **Feed**
- 3x16A as standard
- Ideal for implementing redundancy (e.g. 96 A)

3 **At a glance**
Phase assignment color coding (L1, L2, L3).

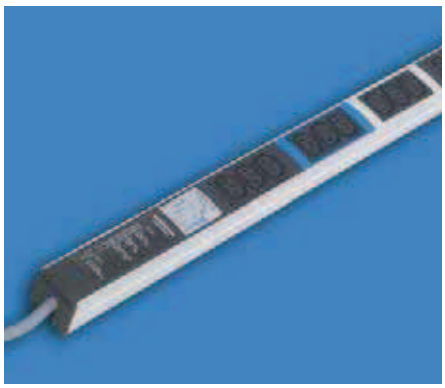
4 **Installation**
Optimum distribution over the entire rack height
(standard: 23 U and 41 U).

Technical alternatives
- For 3-phase GST18 system
(see page 2.36).

3 DOS20126

2 DOS20147

4 DOS20129



DOS20126

DI-STRIP® TriplePower® Euro Plug-In System, IEC 320
with cable

- Cable: H05VV-F 5 G 2.5 mm²
- Cable: 2.5 m
(optional with IEC60309 plug, 3Ph/N/PE 6h)
- Easy mounting on the rack extrusion
- 3x16A feed as standard
- Ideal for implementing redundancy (e.g. 96 A with redundant feed)
- Unmistakable phase assignment color-coding
- Optimum distribution over the entire rack height (23 U and 41 U)
- Alternative for 3-phase GST18 system
(see page 170)

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

Dimensions
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS, CSA NRTL/C, CB-scheme

Color
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Load rating
100-240/173-415 Vac
Input: 3x 16 A
Output: 10 A (C 13)
Output: 16 A (C 19)

Approval symbols for IEC 320 3-way Euro combinations
VDE, UR, CSA

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	19"	Input values	Input plug	Outputs IEC60320 C 13	Outputs IEC60320 C 19	Order no.	UP
1033		24	•		230/400Vac, 16A	Open end	24		**03.600.024.1**	1 unit
1833		48	•		230/400Vac, 16A	Open end	48		**03.600.048.1**	1 unit
1033		24	•		230/400Vac, 16A	IEC60309 3ph/N/PE 6h	24		**03.600.824.1**	1 unit
1833		48	•		230/400Vac, 16A	IEC60309 3ph/N/PE 6h	48		**03.600.848.1**	1 unit
1133		24	•		230/400Vac, 16A	IEC60309 3ph/N/PE 6h	18	6	**03.600.524.1**	1 unit
1733		42	•		230/400Vac, 16A	IEC60309 3ph/N/PE 6h	36	6	**03.600.542.1**	1 unit
483		6	•	•	230/400Vac, 16A	IEC60309 3ph/N/PE 6h	6		**03.600.506.1**	1 unit

Three Phase – Knürr DI-STRIP®

BladePower®
PizzaPower®

A new generation of the power distribution units of the DI-STRIP® range now ensures even more power: **BladePower®** and **PizzaPower®** for fail-safe power supply distribution in network racks.
Increasingly higher packing densities and therefore constantly increasing energy requirements in server racks caused by blade servers or 1 U pizza servers will now be handled electrically.
Up to 35 kW dissipated heat can be removed from modern CoolTherm® server racks. But how is the necessary power supplied into the rack, which can cause such power losses?
The PDUs (3x32 A) optimally distribute the required power over the entire rack, with connection of up to 21 consumers possible in the highest configuration level. 192 A can be supplied to the rack with redundant feed.

Knürr DI-STRIP®
Strong points

Cost-conscious
Quick and easy installation on the server rack's extrusion.
Costs reduction with mounting and wiring.

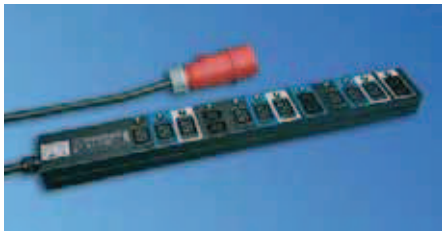
Feed
- Single-phase 32 A and three-phase 32 A.
- ≤22 kVA
- Ideal for providing redundancy (e.g. 192 A)

Crystal clear assignment
Unmistakable phase assignment color-coding (L1, L2, L3).

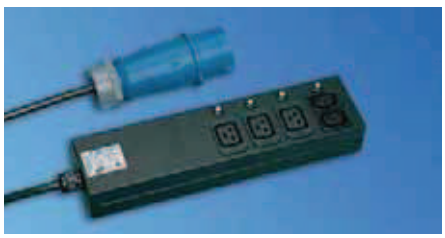
Installation
Optimum distribution of blade center and pizza server supply with easy power distribution unit (PDU) installation.

Availability
Prevention of "Single Point of Failure" with individual fusing.

Certification



DOS20153



DOS20155

Knürr DI-STRIP® BladePower®
Technical data

- EC 320 sockets (10 A and 16 A).
- Individually fused via thermal circuit breaker that can be reset in acc. with IEC 60934
- Cable: H05VV-F 5 G 4 mm²
- Cable: 4 m
- With IEC60309 plug, 1Ph/N/PE 6h blue, 3Ph/N/PE 6h red

Material/finish
Housing: sheet steel, zinc passivated, powder-coated

Dimensions
Height: approx. 60 mm
Housing width: 84 mm

Color
Housing: RAL 9005, black

Approvals
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CSA NRTL/C (only without plug)

Load rating
100-240 / 173-415 Vac
Input: 1x32 A or 3x32 A
Output: 10 A / 16 A

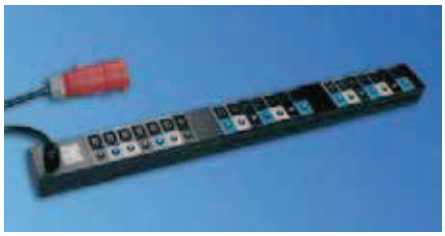
Supply schedule
1 socket strip (PDU)
2 mounting bracket
1 19" mounting bracket
(additional with 19" installation option)
Operating instructions

L	S	n	F1	19"	Plug	Model	Order no.	UP
375		5	●	●	●	BladePower® PDU 1x 32 A	**03.630.005.1**	1 unit
740		15	●		●	BladePower® PDU 3x 32 A	**03.630.015.1**	1 unit
375		5	●	●		BladePower® PDU 1x 32 A	**03.630.805.1**	1 unit
740		15	●			BladePower® PDU 3x 32 A	**03.630.815.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20158

DOS20159

Knürr DI-STRIP® PizzaPower®
Technical data

- Individually fused via thermal circuit breaker that can be reset in acc. with IEC 60934
- Cable: H05VV-F 5 G 4 mm²
- Cable: 4 m

Material/finish
Housing: sheet steel, zinc-passivated, powder-coated

Dimensions
Height: approx. 60 mm
Housing width: 84 mm
Height with cable: approx. 176 mm

Color
Housing: RAL 9005, black

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CSA NRTL/C (only without plug)

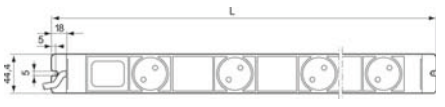
Load rating
100-240 / 173-415 Vac
Input: 1x32 A or 3x32 A
Output: 10 A (C 13)
Output: 16 A (C 19)

Supply schedule
1 socket strip (PDU)
2 mounting bracket
1 19" mounting bracket
(additional with 19 installation option)
Operating instructions

L	S	n	F1	19"	Input values	Input plug	Outputs IEC60320 C 13	Outputs IEC60320 C 19	Order no.	UP
400		7	●		230Vac, 32A	IEC60309 1ph/N/PE 6h	7		**03.631.007.1**	1 unit
400		7	●		230Vac, 32A	Open end	7		**03.631.807.1**	1 unit
720		16	●		230Vac, 32A	IEC60309 1ph/N/PE 6h	12	4	**03.631.124.1**	1 unit
960		24	●		230Vac, 32A	IEC60309 1ph/N/PE 6h	24		**03.631.240.1**	1 unit
1017		25	●		230Vac, 32A	IEC60309 1ph/N/PE 6h	21	4	**03.631.214.1**	1 unit
933		21	●		230/400Vac, 32A	IEC60309 3ph/N/PE 6h	21		**03.631.021.1**	1 unit
933		21	●		230/400Vac, 32A	Open end	21		**03.631.821.1**	1 unit
408		6	●		230/400Vac, 32A	IEC60309 3ph/N/PE 6h	6		**03.631.006.1**	1 unit
939		21	●		230/400Vac, 32A	IEC60309 3ph/N/PE 6h	9	12	**03.631.912.1**	1 unit
1362		36	●		230/400Vac, 32A	IEC60309 3ph/N/PE 6h	36		**03.631.360.1**	1 unit
1002		24	●		230/400Vac, 32A	IEC60309 3ph/N/PE 6h	18	6	**03.631.186.1**	1 unit

DOS00403

DOS00260 With switch



DOS00261 Without switch

Knürr DI-STRIP® Classic
Standard DIN 49 440

- Optionally with lit switch, 2-pole switching
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Optionally with Euro plug, IEC320 for UPS application

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94)
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 100 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme
- VDE

Color
RAL 7035 light gray

Load rating
100-240 Vac/16 A

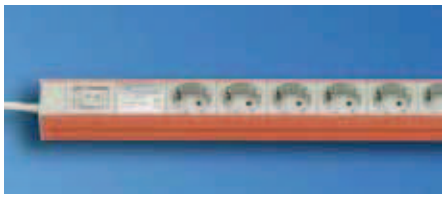
Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1783		17	●					**03.300.067.1**	1 unit
1383		13	●					**03.300.063.1**	1 unit
983		9	●					**03.300.059.1**	1 unit
583		5	●					**03.300.055.1**	1 unit
1733	●	16	●				With switch	**03.302.066.1**	1 unit
1333	●	12	●				With switch	**03.302.062.1**	1 unit
933	●	8	●				With switch	**03.302.058.1**	1 unit
533	●	4	●				With switch	**03.302.054.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS00401 With switch

DOS00262 With switch

DOS20020 Without switch

DOS20021 With switch

DOS00263 Without switch

Knürr DI-STRIP® Compact
Standard DIN 49 440

- Optionally with lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- 2 versions: Standard side panel or Design side panel
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug
- Optionally with Euro plug, IEC320 for UPS applications

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme
- VDE

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		15	●					**03.300.015.x**	1 unit
732		11		●				**03.300.111.x**	1 unit
683		11	●					**03.300.011.x**	1 unit
532		7		●		●		**03.301.107.x**	1 unit
532		7		●				**03.300.107.x**	1 unit
483		7	●		●			**03.300.007.x**	1 unit
483		8	●		●			**03.300.008.1**	1 unit
382		4		●		●		**03.301.104.x**	1 unit
382		4		●				**03.300.104.x**	1 unit
333		4	●					**03.300.004.x**	1 unit
883	●	14	●				With switch	**03.302.014.x**	1 unit
732	●	10		●			With switch	**03.302.110.x**	1 unit
683	●	10	●				With switch	**03.302.010.x**	1 unit
532	●	6		●		●	With switch	**03.303.106.x**	1 unit
532	●	6		●			With switch	**03.302.106.x**	1 unit
483	●	6	●		●		With switch	**03.302.006.x**	1 unit
483		7	●		●		With switch	**03.302.007.1**	1 unit
382	●	3		●		●	With switch	**03.303.103.x**	1 unit
382	●	3		●			With switch	**03.302.103.x**	1 unit
333	●	3	●				With switch	**03.302.003.x**	1 unit

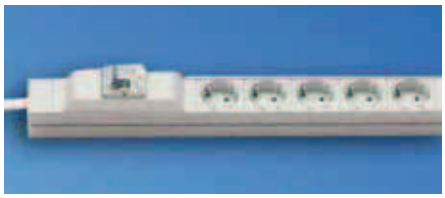
Knürr DI-STRIP® Compact UPS
Standard DIN 49 440

L	S	n	F1	19"	Input values	Input plug	Outputs Schuko CEE7/4	Order no.	UP
483		8	●	●	230Vac, 10A	ICE60320 Sheet E	8	**03.300.308.1**	1 unit
483		8	●	●	230Vac, 16A	ICE60320 Sheet I	8	**03.300.408.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20065 With fault current circuit breaker

DOS00264 With fault current circuit breaker

Knürr DI-STRIP® Protector FI
Standard DIN 49 440

Protector FI
RCCB for user protection
- Protection with indirect contact as error protection by switching off with inadmissible high contact voltage through contact with electrical equipment
- Protection with direct contact as back-up protection
- Residual operating current I**g** = 10 mA for alternating and pulsating direct fault current
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 78 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

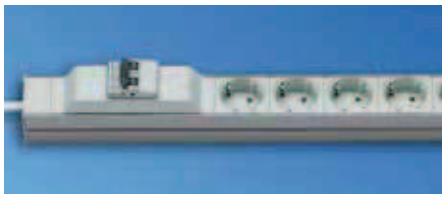
Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					**03.304.013.1**	1 unit
683		9	●					**03.304.009.1**	1 unit
483		5	●		●			**03.304.005.1**	1 unit



DOS00692 With circuit breaker

DOS00264 With circuit breaker

Knürr DI-STRIP® Protector LS
Standard DIN 49 440

Protector LS
- Circuit breaker for overload and short circuit
- Protects cables and feeds with rapid switching off with short circuit and defined delayed cutoff with overload
- Circuit breaker: 16 A
- Tripping characteristic, type B, 2-pole
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 78 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme
- VDE

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					**03.308.013.1**	1 unit
683		9	●					**03.308.009.1**	1 unit
483		5	●		●			**03.308.005.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS00693

DOS00264

Knürr DI-STRIP® Protector FI / LS
Standard DIN 49 440

Protector FI / LS
- RCCB and circuit breaker
- Provides a combination of user, overload and short circuit protection
- Residual operating current I**g** = 30 mA for alternating and pulsating direct fault current
- Circuit breaker: 16 A
- Tripping characteristic, type B, 2-pole

- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: Closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 78 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

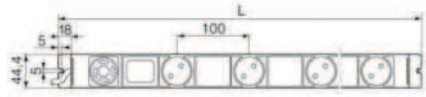
Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					**03.310.013.1**	1 unit
683		9	●					**03.310.009.1**	1 unit
483		5	●		●			**03.310.005.1**	1 unit

DOS20059



Classic with emergency stop switch

DOS00486

Protector with emergency stop switch

DOS00487

Knürr DI-STRIP® Protector Emergency STOP
Standard DIN 49 440

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switching off of the connected consumers
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: Classic: 100 mm, Compact: 50 mm
Height: 101 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme
- VDE

Color combinations
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

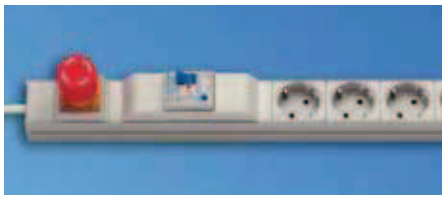
Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		10	●				Compact	**03.326.010.1**	1 unit
483		6	●		●		Compact	**03.326.006.1**	1 unit
1333		12	●				Classic	**03.326.062.1**	1 unit
933		8	●				Classic	**03.326.058.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS00456

DOS00488

Knürr DI-STRIP® Protector Emergency Stop FI /LS
Standard DIN 49 440

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switching off of the connected consumers
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing:
Compact: 50 mm
Height: 101 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combinations
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Additionally:
With 2-pole fault current switch and circuit breaker
Provides a combination of user, overload and short circuit protection

Load rating
100-240Vac/16 A

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		8	●					**03.328.008.1**	1 unit

DOS20061

DOS00266

Knürr DI-STRIP® Power Cleaner
Standard DIN 49 440

- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5 MHz. This high-frequency rate overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behavior is harmonized with the typical interference spectrum.
- The mains filter works in both directions. This means that glitches from the equipment to the socket strip are also filtered from the mains.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

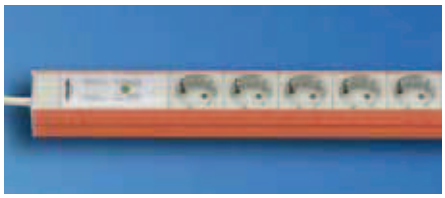
Technical data
Nominal voltage: max. 250 Vac, 50 Hz
Nominal current: max. 16 A
Filter in acc. with VDE 0565-3 (EN 60939-1)

Supply schedule
1 socket strip
2 mounting bracket
2 19" mounting bracket (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					**03.312.013.x**	1 unit
683		9	●					**03.312.009.x**	1 unit
483		5	●		●			**03.312.005.x**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20068 With overvoltage protection

DOS00306 With overvoltage protection

DOS00270 With overvoltage protection

Knürr DI-STRIP® Safety Basic
Standard DIN 49 440

- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used.
  Send the socket strip to the manufacturer for the safety arrester to be replaced!
  The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection.
  The protection devices of the test and requirements categories 1 and 2 and B and C must be preconnected in the building installation to ensure optimum protection.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

Technical data
Test category: Type 3
- In acc. with DIN EN 61643-11
Requirements class: D
- In acc. with VDE 0675-6
Mains voltage: 230 VAC
Nominal current: max. 16 A
Cut-off discharge current (8/20 µs): 10 kA
Response time: ‹ 25 ns
Protection level
(with 100 A varistor peak current):
- L with respect to N: ‹ 800 V
- L/N with respect to PE: ‹ 1500 V

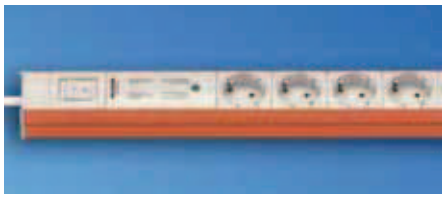
Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
732		10		●				**03.316.110.1**	1 unit
683		10	●					**03.316.010.x**	1 unit
532		6		●		●		**03.317.106.1**	1 unit
532		6		●				**03.316.106.1**	1 unit
483		6	●		●			**03.316.006.x**	1 unit
432		4		●		●		**03.317.104.1**	1 unit
432		4		●				**03.316.104.1**	1 unit
383		4	●					**03.316.004.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20069 With overvoltage protection and mains filter

DOS00307 With overvoltage protection and mains filter

DOS00271

Knürr DI-STRIP® Safety Standard
Standard DIN 49 440

- The "Safety Standard" models consist of a combined overvoltage (surge) protection/mains filter element.
- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used. Send the socket strip to the manufacturer for the safety arrester to be replaced!
- The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection. The protection devices of the test and requirements categories 1 and 2 and B and C must be preconnected in the building installation to ensure optimum protection.
- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5 MHz.
- This high-frequency rate overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behavior is harmonized with the typical interference spectrum.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: HO5VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

Technical data
Mains voltage: 230 VAC
Nominal current: max. 16 A
Cut-off discharge current (8/20 µs): 10 kA
Response time: ‹ 25 ns
Protection level
(with 100 A varistor peak current):
- L with respect to N: ‹ 800 V
- L/N with respect to PE: ‹ 1500 V
Overvoltage protection
- Test category: Type 3 in acc. with DIN EN61643-11
- Feature class: D
- In acc. with VDE 0675-6
Mains filter
- In acc. with VDE 0565 (EN 60939)

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883	●	13	●				With switch	**03.318.013.x**	1 unit
732	●	9		●		●	With switch	**03.319.109.x**	1 unit
732	●	9		●			With switch	**03.318.109.x**	1 unit
683	●	9	●				With switch	**03.318.009.x**	1 unit
532	●	5		●		●	With switch	**03.319.105.x**	1 unit
532	●	5		●			With switch	**03.318.105.x**	1 unit
483	●	5	●		●		With switch	**03.318.005.x**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20070 With master-slave module

DOS00268 With master-slave module

Knürr DI-STRIP® Master-Slave
Standard DIN 49 440

- If the master equipment is switched, the slave sockets are also switched (together, with a short delay to the master). This means convenient switching on and off of several hard to access devices. Switching thresholds can be set from outside via potentiometer.
- Note:
  - The master equipment power consumption must be continuously above the switching-on threshold. When switching off the master consumer, the power consumption must fall below the switch-off threshold.
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: H05VV-F 3G 1.5 mm²
  - Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
Max. 250 Vac/16 A

Technical data
Switching threshold setting range
On: 20 mA - 200 mA (approx. 55 mA delivery status)
Off: 16 mA - 160 mA (approx. 44 mA delivery status)
Switching delay: 550 ms +/- 20 %
Electronic module: 2-pole switching

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		9	•					**03.314.009.1**	1 unit
483		5	•		•			**03.314.005.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS00325

With master-slave overvoltage protection and mains filter

DOS00272

DOS00273

With master-slave overvoltage protection and mains filter

Knürr DI-STRIP® Combi
Standard DIN 49 440

- Master-slave with overvoltage protection and mains filter
- Automatic consumer switching
- Combines Master-Slave (page 7.16) and Safety Standard (page 7.15) functions
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Technical data
Overvoltage protection and mains filter:
Mains voltage: max. 250 Vac
Nominal current: 16 A
Requirements class: D (precision protection in acc. with VDE 0675)
Protection level (8/20 µs wave):
Max. 10 kA
Protection level (1.5/50 µs wave): ‹ 1500 V (L + N against PE)
Master-slave function:
Switching threshold setting range
On: 20 mA - 200 mA (approx. 55 mA delivery status)
Off: 16 mA - 160 mA (approx. 44 mA delivery status)
Switching delay: 550 ms +/- 20 %
Electronic module: 2-pole switching

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
782		9		•				**03.320.109.1**	1 unit
733		9	•					**03.320.009.1**	1 unit
582		5		•		•		**03.321.105.1**	1 unit
582		5		•				**03.320.105.1**	1 unit
533		5	•					**03.320.005.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

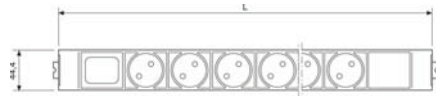
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20060

DOS00663

DOS20045 With switch



DOS20046 Without switch

Knürr DI-STRIP® GST18 Plug System (Wieland) Compact
Standard DIN 49 440

- Quick and efficient plug connection system
- Plug-in electro-installation in place of conventional wiring
- Speed:
  - With easy pre-configured element plugging together
- Flexibility:
  - With cable (cable length)
- Rational:
  - Easy exchange of socket strips, without extensive cabling
- Safety:
  - Faulty installations are ruled out with plug system
- Space-saving:
  - Use of protection and switching functions can be extended with further cabling without and plug space loss (max. load rating 16 A)

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme
- VDE

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583	●	6	●				With switch	**03.302.206.1**	1 unit
433	●	3	●				With switch	**03.302.203.1**	1 unit
533		7	●					**03.300.207.1**	1 unit
383		4	●					**03.300.204.1**	1 unit

DOS20072

Knürr DI-STRIP® Safety Basic
with GST18 plug system

- With overvoltage protection
- Technical description, see page 2.34

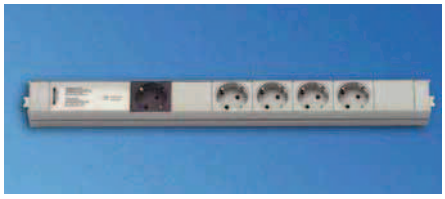
L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
433		4						**03.316.204.1**	1 unit

DOS20073

Knürr DI-STRIP® Safety Standard
with GST18 plug system

- With overvoltage (surge) protection, with integrated mains filter and lit switch
- Technical description, see page 2.35

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583		5						**03.318.205.1**	1 unit



DOS00464

Knürr DI-STRIP® Master Slave
with GST18 plug system

- Technical description, see page 2.36

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
533		5						**03.314.205.1**	1 unit

DOS20112

DOS20107 Input

DOS20106 Output for further cabling

Knürr DI-STRIP® Euro Plug System, IEC 320
with GST18 plug system

- With 3-way Euro combinations of IEC 320 sockets
- Without fusing

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable

Dimensions
Socket spacing: 24 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CSA NRTL/C
- CB-scheme

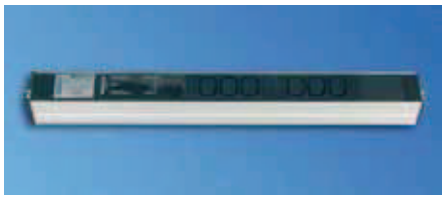
Color
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Load rating
100-240 Vac/10 A

Approval symbols for IEC 320 3-way Euro combinations
VDE, UR, CSA

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
383		6	•					**03.600.206.1**	1 unit



DOS20110

Knürr DI-STRIP® Safety Basic Euro Socket System IEC 320
with GST18 plug system

- With overvoltage protection
- Technical description, see page 2.34

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483		6						**03.616.206.1**	1 unit

DOS20109

Knürr DI-STRIP® Safety Standard with GST18 Plug System

- With overvoltage (surge) protection with integrated mains filter
- Technical description, see page 2.35

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483		6						**03.618.206.1**	1 unit

DOS20108

Knürr DI-STRIP® Power Cleaner
with GST18 plug system

- Technical description, see page 2.33

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483		6						**03.612.206.1**	1 unit

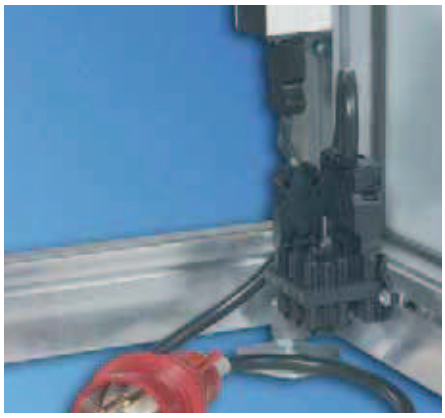
Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, U = Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

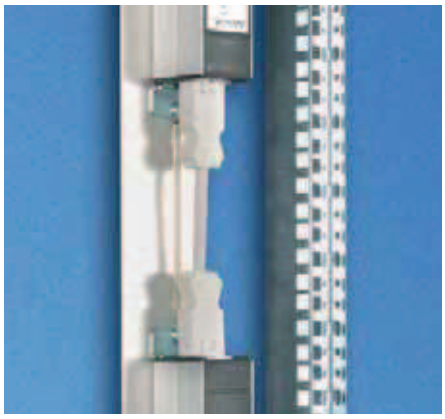
1 DOS20147

3-phase in rack with GST18
Strong points



2 DOS20132

3 DOS20142



3 DOS20135

1 Requirement
Constantly increasing energy requirements in the rack caused by high packing densities (e.g. 1 U Pizza Servers, Blade Servers, etc.)

2 Solution
3-phase distributor with GST18 plug system, e.g. 96 A and more with redundant feed

3 Benefits
- Modularity
- Plug-in (no wiring required)
- Expandability
- Cascadability
- Easy provision of redundancies/UPS secured circuits
- Combination of DIN Schuko and IEC320, for example
- Installation position freely selectable
- Good alternative for 3-phase DI-STRIP Triple Power (see page 156)

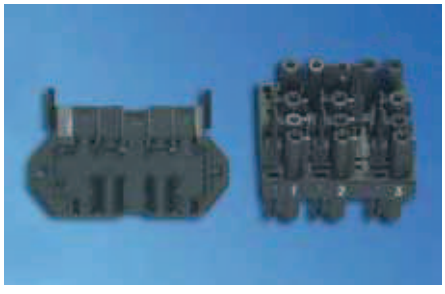
DOS20104

Power Supply Cable, 3-Phase
Accessories for GST 18 plug system

- GST 18 socket for connecting GST18i5 distributor block with 3 phases
- 5-pole (L1, L2, L3, N, PE) 250/400 V ~
- Cable: HO5VV-F 5G 2.5 mm²

Color
Black

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								**04.000.048.0**	1 unit



DOS20103

GST18i5 Distributor Block, 3-phase

- For individual connection at the customer
- Modular plug-in connection
- 3 phase distribution on various socket strips
- Including mounting panel

Color
Black

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								04.000.038.9	1 unit

DOS00467

Power Supply Cable, 1-Phase
Accessories for GST 18 plug system

- Mains plug CEE/VII - GST18 socket (Wieland)
- Cable - H05VV-F3G 1.5 mm²

Color
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								**04.000.040.0**	1 unit
5000								**04.000.041.0**	1 unit

DOS00469

DOS20105

Connection Cable
Accessories for GST 18 plug system

- GST 18 plug
- GST 18 socket
- Cable - H05VV-F3G 1.5 mm²

Color
For color coding circuits (e.g. UPS)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
200							White	**04.000.042.0**	1 unit
200							Black	**04.000.042.9**	1 unit
500							White	**04.000.037.0**	1 unit
500							Black	**04.000.037.9**	1 unit
1000							White	**04.000.044.0**	1 unit
1000							Black	**04.000.044.9**	1 unit
5000							White	**04.000.045.0**	1 unit

DOS00471

GST18 Socket Part

- With screw terminal for cross-section 1.5-2.5 mm² with cable strain relief
- For individual connection at the customer

Color
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								04.000.046.0	1 unit

DOS00470

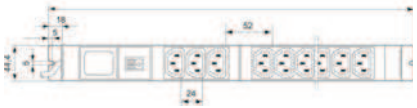
GST18 Plug Part

- With screw terminal for cross-section 1.5-2.5 mm² with cable strain relief
- For individual, further cabling at the customer

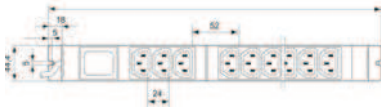
Color
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								04.000.047.0	1 unit

DOS20062



DOS00498



DOS20042

Knürr DI-STRIP® Euro Plug System, IEC 320
mit Winkelstecker

- Optionally with lit switch, 2-pole switching
- 19" installation option
- With Euro combinations of IEC 320 sockets C 13 and C 19
- Cable: H05VV-F 3G 1.5 mm²
- Cable: 2.5 m
- Without fusing

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

Dimensions
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Load rating
250 Vac/10 A, C 13
250 Vac/16 A, C 19

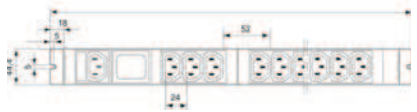
Approval symbols for IEC 320 3-way Euro combinations
VDE, UR, CSA

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	19"	Input values	Input plug	Outputs C 13	Outputs C 19	Order no.		UP
333		6	●		230Vac, 16A	Schuko CEE7	6		**03.600.006.1**	Express	1 unit
483	●	9	●	●	230Vac, 16A	Schuko CEE7	9		**03.602.009.1**	Express	1 unit
483		12	●	●	230Vac, 10A	IEC60320 Sheet E	12		**03.600.312.1**		1 unit
783		18	●		230Vac, 16A	IEC60320 Sheet I	15	3	**03.600.418.1**		1 unit
783		18	●		230Vac, 16A	IEC60309 1ph/N/PE 6h	15	3	**03.600.518.1**		1 unit

DOS00458

DOS20041 With switch



DOS20040 Without switch

Knürr DI-STRIP® Euro Plug System, IEC 320
Euro input in plug panel

- With fine-wire fuse 10A
- Optionally with lit switch, 2-pole switching
- 19" installation option
- With 3-way Euro combinations of IEC 320sockets

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

Dimensions
Socket spacing: 24 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CSA NRTL/C
- CB-scheme

Color
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Load rating
100-240 Vac
Input: (DC max. 10 A)
Output: (DC max. 10 A)

Approval symbols for IEC 320 3-way Euro combinations
VDE, UR, CSA

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.		UP
383		6	●					**03.622.006.1**	Express	1 unit
483		9	●		●			**03.622.009.1**	Express	1 unit
433	●	6	●				With switch	**03.624.006.1**		1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
Express = Express item
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS00460

DOS00461

DOS20043 With switch

DOS20044 Without switch

Knürr DI-STRIP® Euro Plug System, IEC 320
Euro input on side panel

- With fine-wire fuse 10A
- Optionally with lit switch, 2-pole switching
- 19" installation option
- With 3-way Euro combinations of IEC 320sockets

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

Dimensions
Socket spacing: 24 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CSA NRTL/C
- CB-scheme

Color
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Load rating
100-240 Vac
Input: (DC max. 10 A)
Output: (DC max. 10 A)

Approval symbols for IEC 320 3-way Euro combinations
VDE, UR, CSA

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
333		6	●					**03.622.706.1**	1 unit
433		9	●					**03.622.709.1**	1 unit
383	●	6	●				With switch	**03.624.706.1**	1 unit
483	●	9	●				With switch	**03.624.709.1**	1 unit

DOS20102

Knürr DI-STRIP® Euro Plug System, IEC 320
with cable and right angle plug

- With thermal overload protection, 10 A (can be reset)
- With lit switch, 1-pole switching
- 19" installation option
- With 2 5-way Euro combinations of IEC 320 sockets
- Cable: H05VV-F 3G 2.5 mm²
- Cable: approx. 5 m
- Molded right angle plug, CEE7/VII, optional blue 16 A-6h (2P+PE) CEE17 plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

Dimensions
Socket spacing: 24 mm Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color
Housing: RAL 7035 light gray
Plastic parts: RAL 7021 dark gray

Load rating
250 Vac/10 A

Approval symbols for IEC 320 5-way Euro combinations
UR, CSA, VDE

Supply schedule
1 socket strip
2 mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483	●	10	●		●		With switch	**03.632.010.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS00076

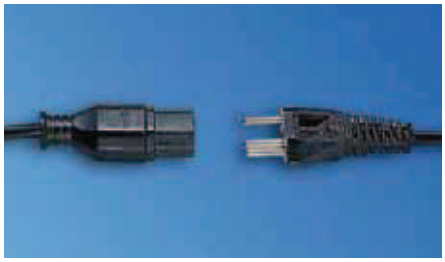
Mains cable for Euro socket strip
For DIN 49 440 and French/Belgian standard

- Mains plug CEE/VII - Euro socket IEC 320
- Cable - H05VV-F 3G 1 mm²

Mains voltage
250 VAC

Nominal current
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								**04.000.054.9**	1 unit
6000								**04.000.053.9**	1 unit



DOS00077

Netzkabel für Kaltgeräte-Steckdosenleiste für Schweizer Standard

- Mains plug: Type 12 - Euro socket IEC320
- Cable - H05VV-F 3G 1 mm²

Mains voltage
250 VAC

Nominal current
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								**04.000.055.9**	1 unit

DOS00078

Mains cable for Euro socket strip
For British standard

- Mains plug: Type BS 1363 - Euro socket IEC 320
- Cable - H05VV-F 3G 1 mm²

Mains voltage
250 VAC

Nominal current
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								**04.000.056.9**	1 unit

DOS00519

Euro Connection Cable

- Mains plug: IEC 320 - Euro socket IEC320
- Cable - H05VV-F 3G 1 mm²
- USA: SJT AWG18 with USA approval

Mains voltage
250 VAC

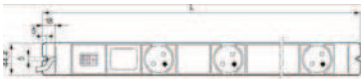
Nominal current
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
900							EU	**04.000.051.9**	1 unit
900							USA	**04.000.052.9**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20018

DOS20019

Knürr DI-STRIP® Classic
Standard CEE 7-V (UTE) / France

- Optionally with lit switch, 2-pole switching
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: Closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 100 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1783		17	●			●		**03.400.067.x**	1 unit
1383		13	●			●		**03.400.063.x**	1 unit
983		9	●			●		**03.400.059.x**	1 unit
583		5	●			●		**03.400.055.x**	1 unit
1733	●	16	●			●	With switch	**03.402.066.x**	1 unit
1333	●	12	●			●	With switch	**03.402.062.x**	1 unit
933	●	8	●			●	With switch	**03.402.058.x**	1 unit
533	●	4	●			●	With switch	**03.402.054.x**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, U = Standard height unit, UP = Unit of packaging,
= Express item

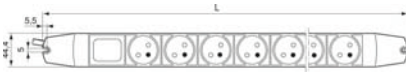
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20023 With switch

DOS20022 Without switch

DOS20025 With switch



DOS20024 Without switch

Knürr DI-STRIP® Compact
Standard CEE 7-V (UTE) / France

- Optionally with lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- 2 versions: Standard side panel or Design side panel
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

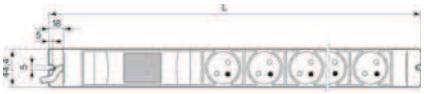
Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		15	●			●		**03.400.015.x**	1 unit
732		11		●		●		**03.400.111.x**	1 unit
683		11	●			●		**03.400.011.x**	1 unit
532		7		●		●		**03.400.107.x**	1 unit
483		7	●		●	●		**03.400.007.x**	1 unit
382		4		●		●		**03.400.104.x**	1 unit
333		4	●			●		**03.400.004.x**	1 unit
883	●	14	●			●	With switch	**03.402.014.x**	1 unit
732	●	10		●		●	With switch	**03.402.110.x**	1 unit
683	●	10	●			●	With switch	**03.402.010.x**	1 unit
532	●	6		●		●	With switch	**03.402.106.x**	1 unit
483	●	6	●		●	●	With switch	**03.402.006.x**	1 unit
382	●	3		●		●	With switch	**03.402.103.x**	1 unit
333	●	3	●			●	With switch	**03.402.003.x**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20026

Knürr DI-STRIP® Protector FI
Standard CEE 7-V (UTE) / France

Protector FI
RCCB for user protection
- Protection with indirect contact as error protection by switching off with inadmissible high contact voltage through contact with electrical equipment
- Protection with direct contact as back-up protection
- Residual operating current I**g** = 10 mA for alternating and pulsating direct fault current
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 78 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			●		**03.404.013.1**	1 unit
683		9	●			●		**03.404.009.1**	1 unit
483		5	●		●	●		**03.404.005.1**	1 unit

DOS20026

Knürr DI-STRIP® Protector LS
Standard CEE 7-V (UTE) / France

Protector LS
- Circuit breaker for overload and short circuit
- Protects cables and feeds with rapid switching off with short circuit and defined delayed cutoff with overload
- Circuit breaker: 16 A
- Tripping characteristic, type B, 2-pole
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 78 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			●		**03.408.013.1**	1 unit
683		9	●			●		**03.408.009.1**	1 unit
483		5	●		●	●		**03.408.005.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS 20026

Knürr DI-STRIP® Protector FI / LS
Standard CEE 7-V (UTE) / France

Protector FI / LS
- RCCB and circuit breaker
- Provides a combination of user, overload and short circuit protection
- Residual operating current I**g** = 30 mA for alternating and pulsating direct fault current
- Circuit breaker: 16 A
- Tripping characteristic, type B, 2-pole
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: Closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 78 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			●		**03.410.013.1**	1 unit
683		9	●			●		**03.410.009.1**	1 unit
483		5	●		●	●		**03.410.005.1**	1 unit

DOS20027 Classic with emergency stop switch

DOS20028 Compact with emergency stop switch

Knürr DI-STRIP® Protector Emergency STOP
Standard CEE 7-V (UTE) / France

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switching off of the connected consumers
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: Classic: 100 mm, Compact: 50 mm
Height: 101 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combinations
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting brackets
2 19" mounting bracket (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		10	●			●	Compact	**03.426.010.1**	1 unit
483		6	●		●	●	Compact	**03.426.006.1**	1 unit
1333		12	●			●	Classic	**03.426.062.1**	1 unit
933		8	●			●	Classic	**03.426.058.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20029 With emergency Off switch and FI-/ LS circuit breaker

Knürr DI-STRIP® Protector Emergency Stop FI /LS
Standard CEE 7-V (UTE) / France

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switching off of the connected consumers
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing:
Compact: 50 mm
Height: 101 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combinations
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Additionally:
With 2-pole fault current switch and circuit breaker
Provides a combination of user, overload and short circuit protection

Load rating
100-240Vac/16 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		8	●			●		**03.428.008.1**	1 unit

DOS20030 With mains filter

Knürr DI-STRIP® Power Cleaner
Standard CEE 7-V (UTE) / France

- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5 MHz. This high-frequency rate overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behavior is harmonized with the typical interference spectrum.
- The mains filter works in both directions. This means that glitches from the equipment to the socket strip are also filtered from the mains.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

Load rating
Nominal voltage: max. 250 Vac, 50 Hz
Nominal current: max. 16 A

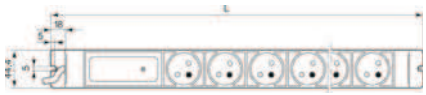
Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			●		**03.412.013.x**	1 unit
683		9	●			●		**03.412.009.x**	1 unit
483		5	●		●	●		**03.412.005.x**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20031

DOS20032

Knürr DI-STRIP® Safety Basic
Standard CEE 7-V (UTE) / France

- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used. Send the socket strip to the manufacturer for the safety arrester to be replaced!

The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection.
The protection devices of the test and requirements categories 1 and 2 and B and C must be pre-connected in the building installation to ensure optimum protection.

- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color
Final digit of order number .1:
RAL 7035 light gray

Technical data
Test category: Type 3
- In acc. with DIN EN 61643-11
Requirements class: D
- In acc. with VDE 0675-6
Mains voltage: 230 VAC
Nominal current: max. 16 A
Cut-off discharge current (8/20 µs): 10 kA
Response time: ‹ 25 ns
Protection level
(with 100 A varistor peak current):
- L with respect to N: ‹ 800 V
- L/N with respect to PE: ‹ 1500 V

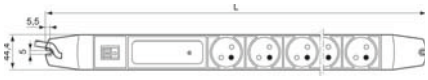
Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
732		10		•		•		**03.416.110.1**	1 unit
683		10	•			•		**03.416.010.1**	1 unit
532		6		•		•		**03.416.106.1**	1 unit
483		6	•		•	•		**03.416.006.1**	1 unit
432		4		•		•		**03.416.104.1**	1 unit
383		4	•			•		**03.416.004.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20033 With overvoltage protection and mains filter



DOS20034 With overvoltage protection and mains filter

Knürr DI-STRIP® Safety Standard
Standard CEE 7-V (UTE) / France

- The "Safety Standard" models consist of a combined overvoltage protection/mains filter element.
- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used. Send the socket strip to the manufacturer for the safety arrester to be replaced!
- The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection. The protection devices of the test and requirements categories 1 and 2 and B and C must be preconnected in the building installation to ensure optimum protection.
- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5 MHz.
- This high-frequency rate overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behavior is harmonized with the typical interference spectrum.
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: HO5VV-F 3G 1.5 mm²
  - Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

Technical data
Mains voltage: 230 VAC
Nominal current: max. 16 A
Cut-off discharge current (8/20 µs): 10 kA
Response time: ‹ 25 ns
Protection level
(with 100 A varistor peak current):
- L with respect to N: ‹ 800 V
- L/N with respect to PE: ‹ 1500 V
Overvoltage protection
Requirements class: D
- In acc. with VDE 0675-6
Mains filter
- In acc. with VDE 0565 (EN 60939)

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883	●	13	●			●	With switch	**03.418.013.x**	1 unit
732	●	9		●		●	With switch	**03.418.109.x**	1 unit
683	●	9	●			●	With switch	**03.418.009.x**	1 unit
532	●	5		●		●	With switch	**03.418.105.x**	1 unit
483	●	5	●		●	●	With switch	**03.418.005.x**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20035 With master-slave module

Knürr DI-STRIP® Master-Slave
Standard CEE 7-V (UTE) / France

- If the master equipment is switched, the slave sockets are also switched (together, with a short delay to the master). This means convenient switching on and off of several hard to access devices. Switching thresholds can be set from outside via potentiometer.
- Note:
  - The master equipment power consumption must be continuously above the switching-on threshold. When switching off the master consumer, the power consumption must fall below the switch-off threshold.
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: H05VV-F 3G 1.5 mm²
  - Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
Max. 250 Vac/16 A

Technical data
Switching threshold setting range
On: 20 mA - 200 mA (approx. 55 mA delivery status)
Off: 16 mA - 160 mA (approx. 44 mA delivery status)
Switching delay: 550 ms +/- 20 %
Electronic module: 2-pole switching

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		9	•			•		**03.414.009.1**	1 unit
483		5	•		•	•		**03.414.005.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20037 Master-slave, overvoltage protection and mains filter

DOS20036 Master-slave, overvoltage protection and mains filter

Knürr DI-STRIP® Combi
Standard CEE 7-V (UTE) / France

- Master-slave with overvoltage protection and mains filter
- Automatic consumer switching
- Combines Master-Slave (page 7.32) and Safety Standard (page 7.31) functions
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Technical data
Overvoltage protection and mains filter:
Mains voltage: max. 250 Vac
Nominal current: 16 A
Requirements class: D (precision protection in acc. with VDE 0675)
Protection level (8/20 µs wave):
Max. 10 kA
Protection level (1.5/50 µs wave): ‹ 1500 V (L + N against PE)
Master-slave function:
Switching threshold setting range
On: 20 mA - 200 mA (approx. 55 mA delivery status)
Off: 16 mA - 160 mA (approx. 44 mA delivery status)
Switching delay: 550 ms +/- 20 %
Electronic module: 2-pole switching

Supply schedule
1 socket strip
2 mounting brackets

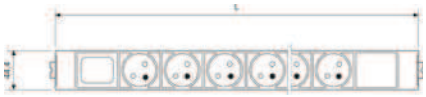
L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
782		9		●		●		**03.420.109.1**	1 unit
733		9	●			●		**03.420.009.1**	1 unit
582		5		●		●		**03.420.105.1**	1 unit
533		5	●			●		**03.420.005.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

DOS20048 GST 18 with switch



DOS20047 GST 18 without switch

Knürr DI-STRIP® Compact GST 18 Plug System (Wieland)
Standard CEE 7-V (UTE) / France

- Quick and efficient plug connection system
- Plug-in electro-installation in place of conventional wiring
- Speed:
  - With easy pre-configured element plugging together
- Flexibility:
  - With cable (cable length)
- Rational:
  - Easy exchange of socket strips, without extensive cabling
- Safety:
  - Faulty installations are ruled out with plug system
- Space-saving:
  - Use of protection and switching functions can be extended with further cabling without and plug space loss (max. load rating 16 A)

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), re-cyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/16 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583	●	6	●			●	With switch	**03.402.206.1**	1 unit
433	●	3	●			●	With switch	**03.402.203.1**	1 unit
533		7	●			●		**03.400.207.1**	1 unit
383		4	●			●		**03.400.204.1**	1 unit

DOS20051

Knürr DI-STRIP® Safety Basic
with GST18 plug system / France

- With overvoltage (surge) protection
- Technical description, see page 2.50

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
433		4				●		**03.416.204.1**	1 unit

DOS20052

Knürr DI-STRIP® Safety Standard
with GST18 plug system

- With overvoltage protection, with integrated mains filter and lit switch
- Technical description, see page 2.51

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583		5				●		**03.418.205.1**	1 unit

DOS20054

Knürr DI-STRIP® Master Slave
with GST18 plug system

- Technical description, see page 2.52

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
533		5				●		**03.414.205.1**	1 unit

DOS00717

DOS00664 Classic with switch

DOS00665 Classic without switch

Knürr DI-STRIP® Classic
Standard CH SEV 1011

- With/without switch, socket spacing, 100 mm
- Optionally with lit switch, 2-pole switching
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 100 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Final digit of order number .6:
Housing: RAL 2003 pastel orange
Plastic parts: RAL 7035 light gray

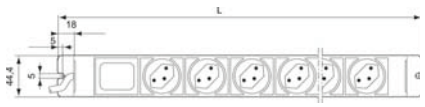
Load rating
100-240 Vac/10 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1783		17	●					**03.700.067.x**	1 unit
1383		13	●					**03.700.063.x**	1 unit
983		9	●					**03.700.059.x**	1 unit
583		5	●					**03.700.055.x**	1 unit
1733	●	16	●				With switch	**03.702.066.x**	1 unit
1333	●	12	●				With switch	**03.702.062.x**	1 unit
933	●	8	●				With switch	**03.702.058.x**	1 unit
533	●	4	●				With switch	**03.702.054.x**	1 unit

DOS20074

DOS00666



DOS20038

DOS20039

DOS00667

Knürr DI-STRIP® Compact
Standard CH SEV 1011

- Optionally with lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- 2 models, standard side or design side
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/10 A

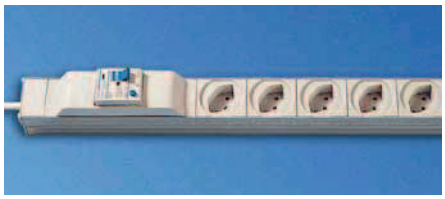
Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		15	•					**03.700.015.1**	1 unit
732		11		•				**03.700.111.1**	1 unit
683		11	•					**03.700.011.1**	1 unit
532		7		•				**03.700.107.1**	1 unit
483		7	•		•			**03.700.007.1**	1 unit
382		4		•				**03.700.104.1**	1 unit
333		4	•					**03.700.004.1**	1 unit
732	•	10		•			With switch	**03.702.110.1**	1 unit
683	•	10	•				With switch	**03.702.010.1**	1 unit
532	•	6		•			With switch	**03.702.106.1**	1 unit
483	•	6	•		•		With switch	**03.702.006.1**	1 unit
382	•	3		•			With switch	**03.702.103.1**	1 unit
333	•	3	•				With switch	**03.702.003.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS00719

DOS00668

Knürr DI-STRIP® Protector FI/LS
Standard CH SEV 1011

Protector FI / LS
- RCCB and circuit breaker
- Provides a combination of user, overload and short circuit protection
- Residual operating current I**g** = 30 mA for alternating and pulsating direct fault current
- Circuit breaker: 10 A
- Tripping characteristic, type B, 2-pole

- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded right angle plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 78 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

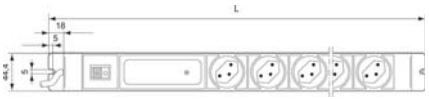
Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Load rating
100-240 Vac/10 A

Supply schedule
1 socket strip
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		9	●					**03.710.009.1**	1 unit
483		5	●		●			**03.710.005.1**	1 unit

DOS00720



DOS00669

With overvoltage protection and mains filter

Knürr DI-STRIP® Safety Standard
Standard CH SEV 1011

- With overvoltage protection and integrated mains filter
- With lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm²
- Molded plug

Material/finish
Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
Internal conductor: full-length busbar, brass

Dimensions
Socket spacing: 50 mm
Height: 45.5 mm
Housing width: 44.4 mm (= 1 U)
Cable 2.5 mm

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- GS
- CB-scheme

Color combination
Final digit of order number .1:
RAL 7035 light gray
Plastic parts: RAL 7035 light gray

Description and technical data
(See page 165)
Nominal current: 10 A

Supply schedule
1 socket strip
2 mounting brackets
2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683	●	9	●				With switch	**03.718.009.1**	1 unit
483	●	5	●		●		With switch	**03.718.005.1**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

Inline Metering System (IMS) – Optimum upgrade solution for existing installations

Monitoring is already part of the everyday routine in most data centers when it comes to system availability. For this reason you decide with new systems for socket strips/ **PDUs with integrated monitoring** (Managed PDUs or Adaptive PDUs). But what do you do with existing systems in which socket strips/PDUs are usually installed without measuring functions?

Emerson Network Power's solution for this is called IMS (Inline Metering System). These modules allow existing racks with installed basic power distributors to be upgraded accordingly. As almost all server racks are supplied with an A and a B-feed,**later installation is possible without interruption.** The IMS modules can also be installed space-savingly inside or outside the rack, e.g. in the shelf. The Inline Metering Systems (IMS) are divided into **three different product groups, with different features**.

Emerson Network Power Inline Metering Systems (IMS) benefits:

- Existing rack PDUs do not have to be swapped out, as the modules
- All consumers (where possible) can be integrated into the monitoring system, as numerous plug systems are provided (1ph – 3ph, max. 63A per phase).
- Flexible installation inside or outside the rack (e.g. in raised floor).

Inline Metering System (IMS)

IMS model series overview:

Knürr **DI-STRIP IMS**

Features:

- Fast installation and easy data recording with graphic and numerical power consumption overview; can be retrieved via web interface.
- The power value can be read directly on the rack, as a local display is installed in every module.
- An N-conductor overload with 3-phase systems can be prevented, as the phase symmetry is monitored.
- Alarm signal when incidents occur, as the threshold values (phase symmetry, bottom limit, pre-warning and alarm) can be set flexibly.

Liebert **MPX IMS**

Features:

- Liebert Rack PDUs familiar software interface, as the same communication card as with Liebert MPX/MPH is used.
- Highest possible safety, security and availability with an operating temperature of max. 55°C.
- Extensive measurement functions (power, current, voltage and energy), with higher measurement accuracy of up to +-1%.
- An N-conductor overload with 3-phase systems can be prevented, as the N-conductor current is monitored.
- Easy connection to the network with only 1 IP address of up to 4 Liebert MPX IMS / MPH / MPX .
- External sensors and a display can also be connected.

Knürr **MODULAR IMS**

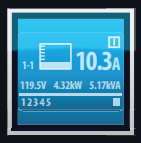
Features:

- Extensive measurement functions (power, current, voltage, energy and power factor), with higher measurement accuracy of up to 0.17% referring to the end value.
- Very high input currents can be measured (up to 850A per phase via external transducer).
- The modular setup means the solution can be adjusted customer-specific (e.g. up to 4 in-feeds per module with different input plugs or even fixed.
- Up to 75 modules can be controlled via one IP address.
- Saving in external databases possible without additional software.

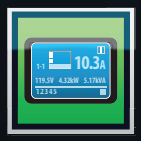
INPUT POWER
- Single-phase or three-phase
- 16A up to max. 63A

OUTPUT DISTRIBUTOR
- Single-phase or three-phase
- 16A up to max. 63A

MODULARITY
- Depending on the type of communication card, external displays or external sensors



MONITORING
- Input level



LOCAL MONITORING
- Display for user (MPX IMS and DI-STRIP IMS)

REMOTE MONITORING
- Secure web and SNMP interface

RACK PDU ARRAY™
- One IP address, up to 4 rack PDUs (MPX IMS)
- Liebert MPX, Liebert MPH and Liebert IMS in the same private network

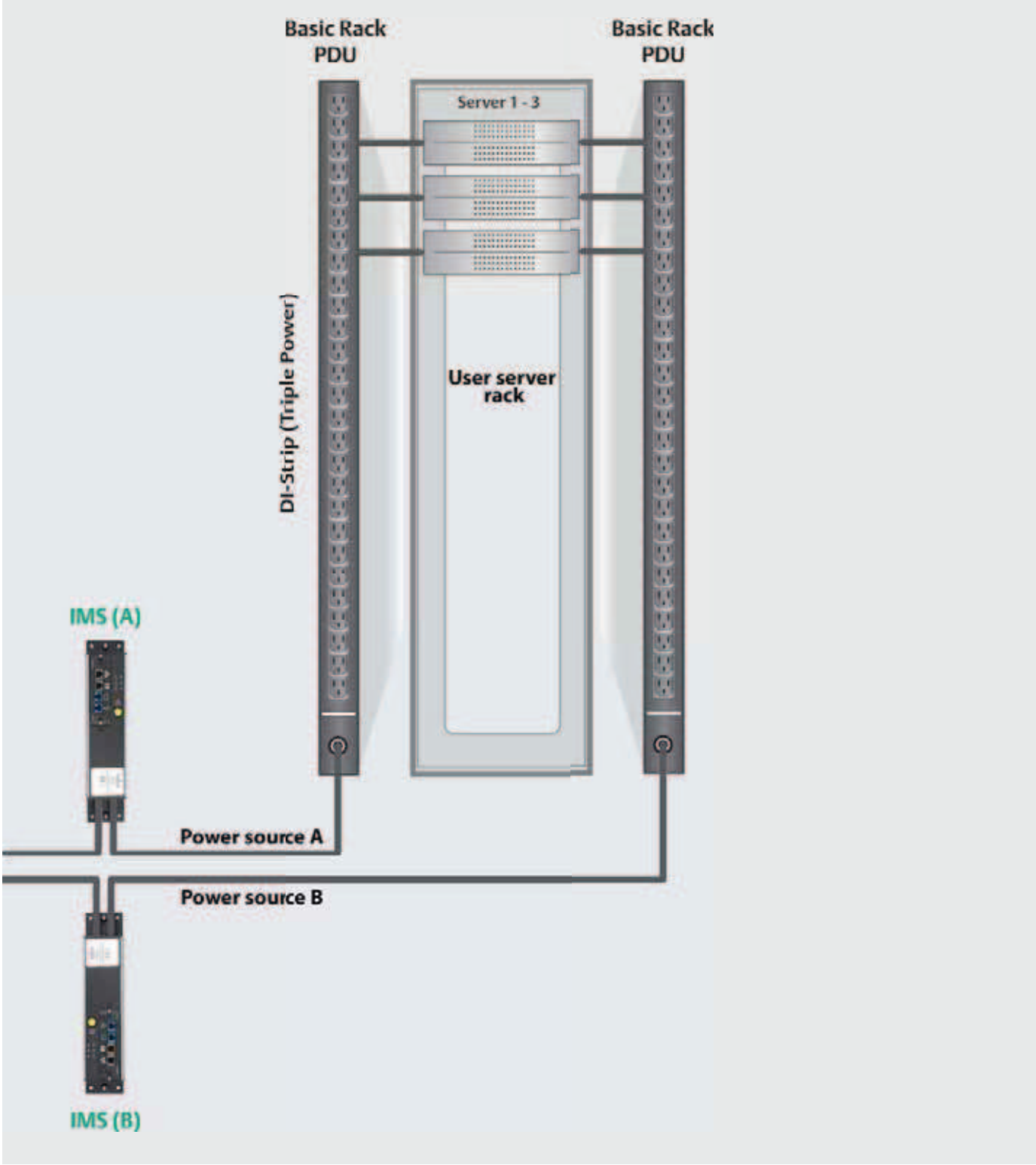
Emerson Network Power IMS – product series

Features	Knürr DI-STRIP® IMS	Liebert MPX™ IMS	Knürr Modular IMS
Measurement module	x	x	x
Modular			x
Display	Fixed	External	
Remote interface	x	x	x
Measuring at input level	x	x	x
Measurement modules per IP address	1	4	75
Max. measurement points per IP address	1	4	300
Visualization at PDU level	x	x	x
Visualization at rack level		x	x
Visualization at room level	Only with additional software Liebert Nform	Only with additional Liebert Nform or Avocent DSView	x
Measurement parameters	A	A,V,W,kWh	A,V,W,VA, Var, kWh, cosphi.
Phase asymmetry analysis	x	x	x
Connection option for external sensors		x	x
Input power	1ph + 3ph, max 32A	1ph + 3ph, max 32A	1ph + 3ph, max 63A (max 4 feeds), max. 3ph 999A (via external transducer)
Connection option	IEC 60309, IEC60320, Schuko	IEC 60309	IEC 60309, GST18, fixed connection
Protocols	HTTP, SNMP, Syslog	HTTP, HTTPs, SNMP, Telnet	HTTP, HTTPs, SNMP v3,
Storage in external database	with additional software Liebert Nform	with additional software Liebert Nform or Avocent DSView	Oracle, MySQL, MSSQL

Order numbers:

Order number 1 ph. 16 A	036072001	MPXIMS-EHBAXS30	030145118
Order number 1 ph. 32 A	036072011	MPXIMS-EHBAXQ30	030145128
Order number 3 ph. 16 A	036072021	MPXIMS-EHBAXT30	030145138
Order number 3 ph. 32 A	036072031	MPXIMS-EHBAXR30	030145148
Control unit	not required	not required	030145108

Easy upgrade from basic power distributor to measurement-enabled power distributor



Knürr DI-STRIP® IMS
16 A, single phase

- Quick and efficient plug connection system
- Plug-in electro-installation in place of conventional wiring
- Speed with easy preconfigured elements plugging together
- Cable flexibility (cable length)
  Easy socket strip swap-out, without costly cabling
- Faulty installations are ruled out with plug system
- Space-saving use of protection and switching functions can be extended with further cabling without any plug space loss on additional socket strips (max. load rating 16 A)
- With big transparent LCD display
- Effective value display of alternating current
- LCD display rotation in 90° steps
- Display can be switched bright or dark
- Load changes signaling
- Automatic background light reduction
- Meets the highest EMC requirements (interference Criterion A; radiated emission: Class B)

Data interface
- The plug strip can be integrated into the network via an RJ45 plug.
- The sockets can be accessed directly and remotely with a web browser; extra software is not required.
- The power values are shown graphically and numerically in the software. Three threshold values and an unbalanced load warning can be variably set.
- Up to 5 users or administrators can access the module password-protected.
- The software displays the name and place of the PDU; this information can be entered by an administrator.
- The user can specify a static IP address or access via DHCP. Firmware updates can be made via a web browser.
- Supported protocols: HTTP, SNMP (Traps, SET, GET), Syslog

Material/finish
- Housing: Closed sheet steel extrusion, zinc-passivated, powder-coated fine texture
- Plastic parts: Vampamid 6 0024 V0 (UL94), recyclable, colored, fine textured

Dimensions
- Height: 45.5 mm
- Housing width: 44.4 mm (1 U)
- Length: 333 mm

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- FFC
- GS Certificate
- CB-scheme

Color
- Housing: RAL 7035 light gray
- Plastic parts: RAL 7021 dark gray

Load rating
Nominal voltage: 230 VAC ± 10%
Nominal current: 16 A

Supply schedule
1 plug adaptor module with ampere meter
2 mounting brackets
Operating instructions

How supplied
Flat-packed kit

L	Input	Output	Order no.	UP
333	GST18 inst. plug	GST18 inst. socket	**03.607.200.1**	1 unit

Knürr DI-STRIP® GST plug system Cable set
for Knürr DI-STRIP® IMS, single phase

- Set consisting of one input and one output cable
- Cable - H05VV-F3G 1.5 mm²

Dimensions
Input cable: Length, 2.5 m
Output cable: Length, 0.5 m

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC

Supply schedule
1 cable set

How supplied
Flat-packed kit

Model	Input	Output	Order no.	UP
I/O Set GST18i / Schuko	Schuko CEE7/4 - GST18i	GST18i - Schuko CEE7/4	**03.607.200.2**	1 unit
I/O Set GST18i / IEC320 16 A	IEC60320 Sheet I - GST18i	GST18i - IEC60320 C 19	**03.607.200.3**	1 unit
I/O Set GST18i / IEC320 10 A	IEC60320 Sheet E - GST18i	GST18i - IEC60320 C 13	**03.607.200.4**	1 unit
I/O Set GST18i / IEC320 16 A	IEC60309 1ph/N/PE 6h - GST18i	GST18i - IEC60309 1ph/N/PE 6h	**03.607.200.5**	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19"= Suitable for 19" installation, Safe = Child-safe, U =Standard height unit, UP = Unit of packaging,
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of your color combination:
.1 = RAL 7035, **.6** = RAL 7035/RAL 2003

Knürr DI-STRIP® IMS
32 A single phase; 16 A and 32 A three phase

- Modules each have an IEC60309 input and IEC60309 output
- With big transparent LCD display
- Effective value display of alternating current
- LCD display rotation in 90° steps
- Display can be switched bright or dark
- Load changes signaling
- Automatic background light reduction
- Meets the highest EMC requirements (interference: Criterion A; radiated emission: Class B)

Data interface
- The plug strip can be integrated into the network via an RJ45 plug.
- The sockets can be accessed directly and remotely with a web browser; extra software is not required.
- The power values are shown graphically and numerically in the software. Three threshold values and an unbalanced load warning can be variably set.
- Up to 5 users or administrators can access the module password-protected.
- The software displays the name and place of the PDU; this information can be entered by an administrator.
- The user can set a static IP address or access via DHCP. Firmware updates can be made via a web browser.
- Supported protocols: HTTP, SNMP (Traps, SET, GET), Syslog

Material/finish
- Housing: closed sheet steel extrusion, zinc-passivated, powder-coated texture
- Plastic parts: Vampamid 6 0024 V0 (UL94), recyclable, colored, fine textured

Dimensions
- Height: 45.5 mm
- Housing width: 44.4 mm (1 U)
- Length: 389 mm
- Input cable length, 2.5 m
- Output cable length, 0.5 m

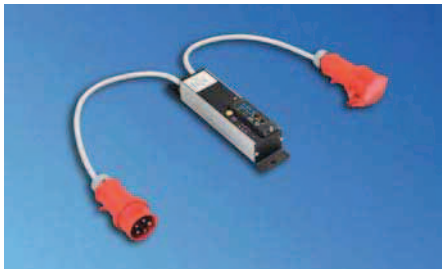
Approvals/certificates
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- FFC
- GS Certificate
- CB-scheme

Color
- Housing: RAL 7035 light gray
- Plastic parts: RAL 7021 dark gray

Supply schedule
1 plug adaptor module with ampere meter
2 mounting brackets
Operating instructions

How supplied
Flat-packed kit

Model	L	Input values	Input plug	Output socket	Order no.	UP
DI-STRIP RM Inline 1x32A	389	230Vac; 32A	IEC60309 1ph/N/PE 6h	IEC60309 1ph/N/PE 6h	**03.607.201.1**	1 unit
DI-STRIP RM Inline 3x16A	389	230/400Vac; 16A	IEC60309 3ph/N/PE 6h	IEC60309 3ph/N/PE 6h	**03.607.202.1**	1 unit
DI-STRIP RM Inline 3x32A	389	230/400Vac; 32A	IEC60309 3ph/N/PE 6h	IEC60309 3ph/N/PE 6h	**03.607.203.1**	1 unit



Liebert MPX™ IMS

- Existing rack PDUs do not have to be swapped out, as the modules can be upgraded
- All consumers (where possible) can be integrated into the monitoring system, as numerous plug systems are provided (1ph - 3ph, max. 32 A per phase)
- Flexible installation inside or outside the rack (e.g. in raised floor)
- Liebert Rack PDUs familiar software interface, as the same communication card as with Liebert MPX/MPH is used
- Highest possible safety, security and availability with an operating temperature of max. 55 °C
- Extensive measurement functions (power, current, voltage and energy), with higher measurement accuracy of up to ± 1%
- An N-conductor overload with 3-phase systems can be prevented, as the N-conductor current is monitored
- Easy connection to the network with only 1 IP address of up to 4 Liebert MPX IMS / MPH / MPX
- External sensors and a display can also be connected.

Technical data

Interfaces:
- RJ-45 LAN port (10/100 MBit) – for connecting to the local network (LAN) via an Ethernet cable (not included).
- Expansion/administration port for: - local configuration using a computer/laptop, for setting up a link-up of several PDUs
- Display port for connecting the RPC BDM (display module)
- External sensor port for connecting optional sensors

Supported technologies:
- Web support, provides Liebert MPX network management and control. Authorized users can view status information via their network.
- SNMP support, provides Liebert MPX SNMP management.
- Easy integration into Liebert Nform, Avocent DSView3 and Nagios

Material/finish
- Housing: Aluminum
- Cover: Sheet steel

Dimensions
- Height: 81 mm
- Width: 75 mm
- Length: 266 mm
- Input cable length, 3 m
- Output cable length, 0.5 m

Approvals
- CE label in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- BV GS

Color
- Housing: Aluminum/RAL 7021 dark gray

Supply schedule
1 MPXIMS Module / power supply

How supplied
Flat-packed kit

Model	L	Input values	Input plug	Output socket	Order no.	UP
Liebert MPX™ IMS 1x16A	266	230Vac; 16A	IEC60309 1ph/N/PE 6h	IEC60309 1ph/N/PE 6h	**MPXIMS-EHBAXS30**	1 unit
Liebert MPX™ IMS 1x32A	266	230Vac; 32A	IEC60309 1ph/N/PE 6h	IEC60309 1ph/N/PE 6h	**MPXIMS-EHBAXQ30**	1 unit
Liebert MPX™ IMS 3x16A	266	230/400Vac; 16A	IEC60309 1ph/N/PE 6h	IEC60309 1ph/N/PE 6h	**MPXIMS-EHBAXT30**	1 unit
Liebert MPX™ IMS 3x32A	266	230/400Vac; 32A	IEC60309 1ph/N/PE 6h	IEC60309 1ph/N/PE 6h	**MPXIMS-EHBAXR30**	1 unit

Knürr Modular IMS

- Existing rack PDUs do not have to be swapped out, as the modules can be upgraded
- All consumers (where possible) can be integrated into the monitoring system, as numerous plug systems are provided (1ph - 3ph, max. 63 A per phase)
- Flexible installation inside or outside the rack (e.g. in raised floor)
- Extensive measurement functions (power, current, voltage, energy and power factor), with higher measurement accuracy of up to 0.17% referring to the end value.
- Very high input currents can be measured (up to 999A per phase via external transducer)
- The modular setup means the solution can be adjusted customer-specific (e.g. up to 4 in-feeds per module with different input plugs or even fixed feed are possible)
- Up to 75 modules can be controlled via one IP address
- Saving in external databases possible without additional software

Technical data
- The measurement modules can only be operated with a control unit
- Max. 75 measurement modules can be connected to a control unit
- 2 RJ 45 LAN ports 10/100MBit for connecting to local network (on the control unit)
- Visualization of all connected measurement modules via WEB
- Status information can be viewed via WEB
- Protocols: HTTP, HTTPs, SNMPv3
- Storage in external database possible (Oracle, MySQL, MSSQL)
- Integration into building systems also possible via potential-free contacts
- Temperature sensors can be connected

Dimensions
- Length/depth (control unit): 600 mm
- Length/depth (modules): 400 mm
- Width: 483 mm (19")
- Height: 88.8 mm (2 U)
- Power supply cable: Length, 2 m
  Output: Input socket fixed on device

Approvals/certificates
- CE Symbol in accordance with Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- FFC
- GS Certificate
- CB-scheme

Color
- RAL 7021 dark gray

Supply schedule
Measurement modules, control unit

How supplied
Flat-packed kit

Model	L	Input values	Input plug	Output socket	Order no.	UP
Knürr Modular IMS 1x16A		2x 230Vac; 16A	2x IEC60309 1ph/N/PE 6h	2x IEC60309 1ph/N/PE 6h	**03.014.511.8**	1 unit
Knürr Modular IMS 1x32A		2x 230Vac; 32A	2x IEC60309 1ph/N/PE 6h	2x IEC60309 1ph/N/PE 6h	**03.014.512.8**	1 unit
Knürr Modular IMS 3x16A		2x 230/400Vac; 16A	2x IEC60309 1ph/N/PE 6h	2x IEC60309 1ph/N/PE 6h	**03.014.513.8**	1 unit
Knürr Modular IMS 3x32A		2x 230/400Vac; 32A	2x IEC60309 1ph/N/PE 6h	2x IEC60309 1ph/N/PE 6h	**03.014.514.8**	1 unit
Knürr Modular Control Unit					**03.014.510.8**	1 unit

Knürr PowerTrans®

Power Distribution Rack

Central connection unit for power supplies for individual server racks.

2.66 to 2.69

Knürr PowerTrans®
Power Distribution Rack

Knürr PowerTrans®
... forms the interface between the low voltage feed and the PDUs of the DI-STRIP® product family and other components for supplying servers and other IT equipment. The rack's basis: to connect Knürr Miracel® with the existing PowerTrans® 19" slot-in units the elements are simply slotted in and fixed at a free spot. The electrical connection to the rack is set up immediately. The power distribution is performed in the individual slot-in units and therefore no longer has to be installed fixed in the building.

Up to 8 slot-in units can be integrated. Each slot-in is supplied with an A and B feed (redundancy). With max. 250 A per phase one single rack can provide loads of up to 346 kVA. Plug & Play: only the main feed on the rack must be installed by an electrician.
The individual slot-in units and the PDUs can be connected per Plug & Play installation, making later extensions cost-effective. Slot-in units with measurement function are also available. This slot-in unit allows you to measure and monitor the electrical measured variables at the early main distributor stage. This slot-in unit will replace standard analog volt and ampere meters and measuring devices for power outputs and power factor.

The required measured variables can be "customized" in six display panels. The system can also be connected to an LAN. The measured values are then displayed and saved on a PC in the LAN or on the Internet.

- Clear and transparent displays.
- Customized setting of measured variables for standard displays.
- Wide range of application with flexible adjustment of input variables.
- Connection error detection with installation.
- Communication with LAN enables integration into energy management.
- Easy reading and display of measured data with MS Excel allows the user to flexibly configure their own solutions.

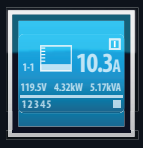
Equipping and installation
The outputs of the slot-in units can be flexibly equipped as the customer wishes with the most diverse features: different CEE and GST18 type plug connections (e.g. Adaptive, Managed and Basic PDUs and flexible power distribution with the GST18i5 distributor block, 3-phase).

Measurement slot-in unit with extensive measurement functions (local or remote)
Can be integrated into various management programs.

INPUT POWER
- Max 250 A per phase
- 1 ph. or 3 ph. feed
- Max. 2 feeds per rack

OUTPUT DISTRIBUTOR
- 230/400V - 32A via IEC 60309 socket
- 230/400V - 16A via GST 18 socket
- 230V - 32A via IEC 60309 socket

MODULARITY
- Output distributors can be modularly equipped during running operation.



MONITORING
- Power Trans Rack complete and each individual slot-in and output.

LOCAL MONITORING
- Display for user
- Display at rack level and at slot-in level/ output level

REMOTE MONITORING
- Secure web and SNMP interface

OVERLOAD PROTECTION
- Circuit breakers for every output

MIR20377

Knürr PowerTrans®
19" Power Distribution Rack

– Feed of 2 separate 3-phase 400V mains, L1, L2, L3, N, PE
– Each with a 250A circuit breaker in the input
– Distribution to the individual plugs via busbars and contact-safe plug-in connections
– Up to 8 slot-in units with A feed and B feed are possible

Material/finish
- Basic rack, extruded aluminum, polished
- Corner piece, die-cast aluminum, polished
- Glass infill front door, single safety glass panel, 4 mm
- Covers, zinc-passivated sheet steel, powder-coated texture

Color
RAL 7021 dark gray

Supply schedule
1 rack with covers and front door
1 plinth for cable entry on the side and rear with leveling feet (0-25 mm)
2 plinth panels for front and rear, with vent slots and fixing for filter mat
2 plinth panels, closed
1 set of busbars, safe from contact for A feed and B feed
2 circuit breakers with max. 250 A
16 power supply plugs for the slot-in units wired on the busbars
5 multifunctional braces with jumper bracket
2 19" T-slot extrusions
16 slot-in rails
1 complete earthing set
1 complete locking set

How supplied
Assembled

W	H	D	U	h	d	kg	Model	Order no.	UP
800	2120	1000						**03.014.501.8**	1 unit

MIR20383

MIR20382

Knürr PowerTrans® 19" Slot-in

– 19" slot-in housing
– Width 19"
– Height 3 U
– Depth 480 mm
– Color: RAL 7021 dark gray
– 2 separate 3-phase inputs with max. 63A phase current
– Outputs acc. to variants 1-4

Variant 1 slot-in
- 2 protected 3-phase outputs, 230V/400V 32A via IEC60309 socket, 3Ph/N/PE 6h, red
- Suitable for connecting 2 PizzaPower 3-phase (03.631.021.1) or 2 BladePower 3-phase (03.630.015.1)

Variant 2 slot-in
- 4 protected 1-phase outputs, 230V 32A via IEC60309 socket, 1Ph/N/PE 6h, blue
- Suitable for connecting 4 PizzaPower 1-phase (03.631.007.1) or 4 BladePower 1-phase (03.630.005.1)

Variant 3 slot-in
- 6 protected 1-phase outputs 230V/400V 16A via GST18i5 Euro installed socket, 3Ph
- Suitable for connecting GST18i5 distributor block, 3-phase (04.000.038.9, for flexible distribution to 1-phase socket strips) as well as connecting a TriplePower 3-phase (03.600.024.1 or 03.600.048.1)

Variant 4 slot-in
- Empty housing
- For customer-specific equipping

How supplied
Assembled

W	H	D	U	Model	Order no.	UP
19"		479	3	Variant 1	**03.014.003.8**	1 unit
19"		479	3	Variant 2	**03.014.002.8**	1 unit
19"		479	3	Variant 3	**03.014.001.8**	1 unit

... multifunctional use

Connection example for 3-phase (32 A) power distribution in data centers with blade servers and pizza servers.

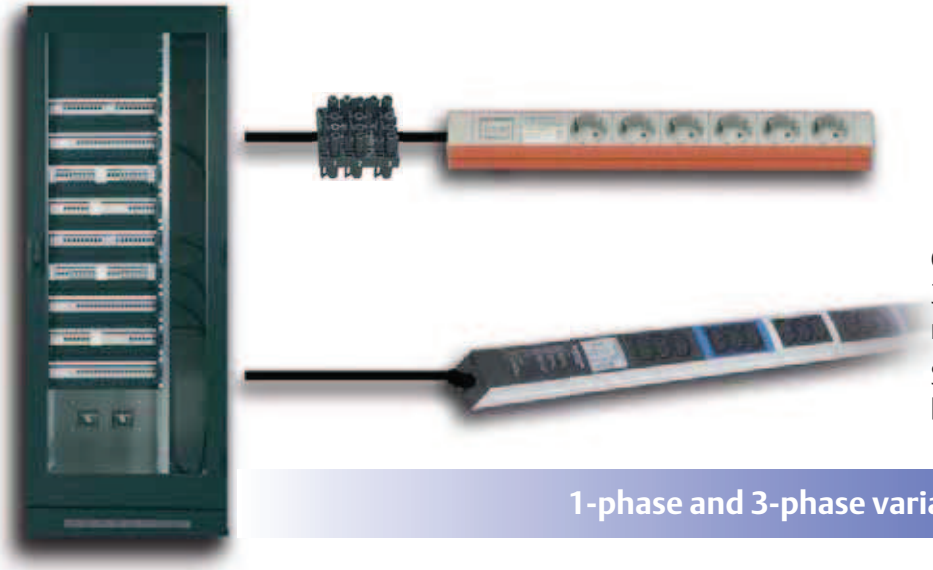
Socket strip connection cable length can be freely selected (max. 20 m).

3-phase variant: BladePower® and PizzaPower®

Connection example for 1-phase (32 A) power distribution in data centers with blade servers and pizza servers.

Socket strip connection cable length can be freely selected (max. 20 m).

1-phase variant: BladePower® and PizzaPower®



Connection example for 1-phase and 3-phase (16 A) power distribution in network racks.

Socket strip connection cable length can be freely selected (max. 20 m).

1-phase and 3-phase variant: DISTRIP® and TriplePower®

UPS

Uninterruptible Power Supply

2.72 to 2.80

Uninterruptible Power Supplies:

UPS
Strong points 2.72

Liebert PSI XR 2.73

Liebert PSI 2.76

Liebert GXT3 2.78

Tower Solutions • 19” Chassis • Large Scale Systems

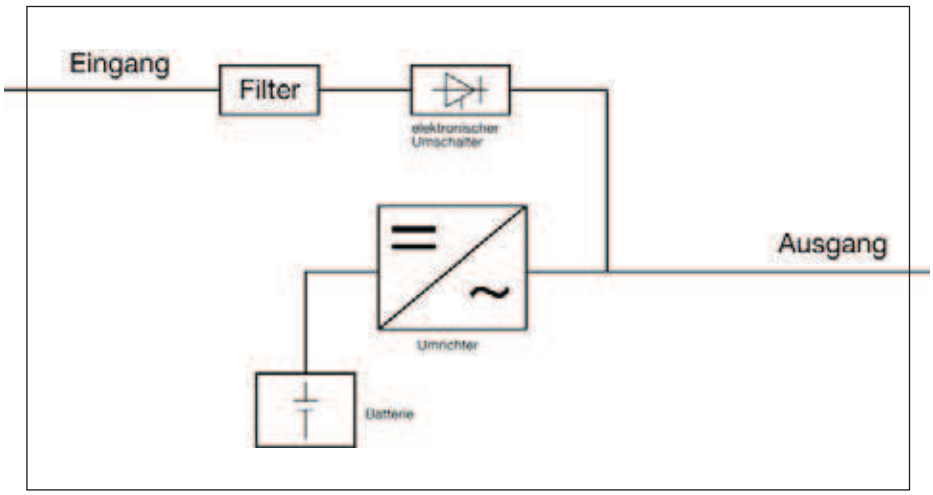
UPS

UPS20082

Uninterruptible Power Supplies
Strong points

- **Safety:**
  High-grade online and line interactive technology guarantees safe and uninterruptible operation of your systems.
- **Efficiency:**
  The 19” modules provide high performance on minimum installation space with compact construction and modular setup.
- **Focus on the future:**
  Our solutions grow with your requirements, can be flexibly used and are easily expanded.
- **Central UPS systems:**
  Higher power classes, 10 kVA to 4800 kVA, with installation and maintenance on request.
- **Modularity:**
  The individual components of this range can be combined according to requirements and consequently produce specifically defined solutions.
- **User-friendliness:**
  Comprehensive displays and interactive interfaces for external analysis of status messages provide the user with current system information at all times.
- **Highest possible protection:**
  Online UPS systems provide the highest possible protection against the 10 most frequent mains disturbances.

Line-InterActive / PowerSure PSI XR
IEC 62040-3 VI-SS-313



UPS20085

The line interactive UPS model uses an inverter in inverse operation to recharge the battery with stable mains supply.
If the mains power supply fails, then the working direction changes and the battery powers the inverter.
Because the transducer constantly monitors the mains input, it can react quicker to failures and correct voltage breaks.
The transducer connected upstream from the consumer has a specific filtering effect against mains disturbances.
This technology is highly recommendable for uninterruptible power supplies for many applications, particularly with regard to PC requirements.

Power Quality Systems

Liebert PSI XR

Protection in rack and tower use for networks, telecommunications and servers

- Hot-swappable batteries
- Line-InterActive Design
- Universal communication options
- Extendable bridging times
- Professional desktop PCs
- Switches, hubs, routers & bridges
- Data center facilities
- Telecommunication switchgear units

Liebert® PSI-XR
High-performance rack & tower UPS system for network protection

The **Liebert PSI-XR** is a compact UPS system with line-interactive technology, which was specially designed for IT applications, such as network racks and small data centers, for example.

The Liebert PSI-XR's flexible design allows the unit to be configured as a standalone tower and rack installation over 2 U.
The Liebert PSI-XR is available as both 230-V and 120-V model in four different power classes.

The UPS is especially impressive with its innovative line-interactive design and automatic voltage regulation. This protects against voltage fluctuations by increasing or reducing the power supply to the level required by the connected devices. The UPS system also ensures longer battery service life, as the devices are supplied for as long as possible via the mains.

PSI XR 2U Rack version

PSI XR 2U Tower version

Liebert PSI-XR standard equipment:
Flexibility:
- Six or seven battery backed-up outputs
- Configurable input voltage range
- Free swivel display panel
- Automatic frequency scanning
- Several communication options (serial, USB, SNMP and contact closure)

Higher availability:
- Data cable overvoltage (surge) protection
- UPS system status early warning system
- Fully automatic battery test
- Lightning and overvoltage (surge) protection
- Remote emergency stop
- Hot-swappable batteries the user can change
- Sufficient battery run time under full charge with power failures for proper shut down of the connected equipment

Lowest possible TCO (Total Cost of Ownership)
- The 0.9 power factor for more power for protected devices and more energy-efficient operation.
- Wide input voltage range
- Reduced installation input (costs and time)
- Standard two year warranty

Ideal for:
- PCs
- Networked workstations
- Servers
- Network racks
- Big network peripheries
- VoIP

Liebert® PSI XR specifications

Model	PS1000RT3-230XR	PS1500RT3-230XR	PS2200RT3-230XR	PS3000RT3-230XR
Power data				
VA	1000VA	1500VA	2200VA	3000VA
W	900W	1350W	1980W	2700W
Dimensions and weight				
Device (WxDxH mm)	440 x 490.5 x 88	440 x 490.5 x 88	440 x 700.5 x 88	440 x 700.5 x 88
Shipping size (WxDxH mm)	560 x 612 x 228	560 x 612 x 228	560 x 821 x 228	560 x 821 x 228
Weight - device (kg)	25	28	42	46
Shipping weight (kg)	29	32	47	51
Input parameters				
Frequency	220			
Voltage range without battery operation	165 to 300 VAC (configurable)			
Frequency range	45 - 65 Hz, (± 0.5 Hz)			
Input connection	IEC320-C14	IEC320-C14	IEC320-C20	IEC320-C20
Output parameters				
Output connections	(6) IEC320-C13	(6) IEC320-C13	(6) IEC320-C13 (1) IEC320-C19	(6) IEC320-C13 (1) IEC320-C19
Voltage (Normal Mode)	220/230/240 VAC (configurable)			
Voltage (Battery Mode)	220/230/240 VAC (configurable); ± 5% before low-battery warning			
Transfer Time	4-6 ms typical			
On-Battery Waveform	Sine wave			
Overload Warning	›100%			
Battery Parameters				
Type	Valve-regulated, nonspillable, lead acid			
Quantity x Voltage x Rating	4 x 12 x 7,2	4 x 12 x 9	8 x 12 x 7,2	8 x 12 x 9
Recharge Time	5 hours to 90% of rated capacity, after full discharge into resistive load			
Battery Backup Time				
Environmental				
Operating / Storage Temperature, °C	0 to 40 / -15 to 40			
Relative Humidity	0% to 90%, non-condensing			
Operating Altitude	Up to 3000m at 35° without derating			
Audible Noise	‹ 40 dBA, internal fan(s) Off; ‹ 45 dBA, internal fan(s) On			
Agency				
Safety	IEC 62040-1-1			
EMC	IEC/EN/AS 62040-2 2nd Ed Class A			
Transportation	ISTA Procedure 1A Certification			
Warranty	2 years standard (+ 1 year warranty extension available)			
Packaging	User Manual on CD, Software CD, DB9 Serial cable, USB Cable, Tower Stands, Rack-Handles w/mounting hardware, Safety Instruction Sheet, Environment protection sheet, REPO mate socket, (2) IEC output cables for 1000/1500 VA and (3) IEC output cables for 2200/3000 VA, for PS 2200/3000; (1) "Schuko" CEE 7/7 to IEC-320-C19 input cord and (1) UK plug to IEC-320-C19 input cord			
Order no.	**06.099.027.1**	**06.099.028.1**	**06.099.029.1**	**06.099.030.1**
Order no. SNMP Card	**06.099.022.1**			

Liebert® PSI XR Battery Cabinet Specifications

Model	PSRT3-24VBXR	PSRT3-48VBXR
Used w/UPS Model	PS1000RT3-230XR / PS1500RT3-230XR	PS2200RT3-230XR / PS3000RT3-230XR
Dimensions, W x D x H, mm		
Unit / Shipping	440 x 490.5 x 88 / 560 x 675 x 228	
Weight, kg		
Unit / Shipping	29 / 33	
Batteries		
Type	Valve-regulated, nonspillable, lead acid	
Quantity x Voltage x Rating	8 x 12 x 7.2	8 x 12 x 7.2
Battery Manufacturer	CSB, YUASA or Equivalent	
Environmental		
Operating / Storage Temperature, °C	0 to 40 / -15 to 40	
Relative Humidity	0% to 90%, non-condensing	
Maximum Operating Altitude	3000m at 35° without derating	
Agency		
Safety / Emissions	IEC/EN/AS 62040-1-1 / IEC/EN/AS 62040-2 2nd Ed Class A	
Transportation	ISTA Procedure 1A Certification	
Order no.	**06.099.034.1**	**06.099.035.1**

Battery runtime chart (runtimes in minutes; with fully charged batteries; ambient temperature 25 °C)

Number of batteries	PS1000RT3-230XR	PS1500RT3-230XR	PS2200RT3-230XR	PS3000RT3-230XR
Internal Battery (half/full load)	15 / 6	13 / 5	14 / 5	13 / 5
1 Cabinet (half/full load)	73 /31	55 / 18	45 / 15	31 / 12
2 Cabinet (half/full load)	129 / 65	95 / 46	67 / 29	56 / 18
3 Cabinet (half/full load)	181 / 96	131 / 64	95 / 48	73 / 31
4 Cabinet (half/full load)	233 / 124	167 / 82	143 / 72	95 / 47
5 Cabinet (half/full load)	285 / 151	203 / 106	167 / 84	113 / 56
6 Cabinet (half/full load)	336 / 179	239 / 124	191 / 102	131 / 65

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- Overvoltage Protection

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Liebert® PSI
High-performance rack & tower UPS system for network protection

The Liebert PSI is a compact UPS system with line-interactive technology, which was specially designed for IT applications, such as network racks and small data centers, for example.

The Liebert PSI's flexible design allows the unit to be configured as a standalone tower and rack installation over 2 U.
The Liebert PSI-XR is available as both 230-V and 120-V model in four different power classes.

The UPS is especially impressive with its innovative line-interactive design and automatic voltage regulation. This protects against voltage fluctuations by increasing or reducing the power supply to the level required by the connected devices. The UPS system also ensures longer battery service life, as the devices are supplied for as long as possible via the mains.

Flexibility:
- Battery backed-up outputs
- Configurable input voltage range
- Free swivel display panel
- Automatic frequency scanning
- Rack runner rails
- Several communication options Contact closure, USB and SNMP

Higher availability:
- Data cable overvoltage (surge) protection
- UPS system status early warning system
- Up to five minutes battery runtime with power failures (fully charged)
- Fully automatic battery test
- Overvoltage (surge) protection
- Remote emergency stop
- Hot-swappable batteries

Lowest possible TCO (Total Cost of Ownership):
- Power factor 0.9
- Wide input voltage range
- Reduced installation input (costs and time)
- Warranty

Ideal for:
- PCs
- Networked workstations
- Servers
- Network racks
- Big network peripheries
- VoIP

PSI 2U Rack version

PSI 2U Tower version

Liebert® PSI specifications

Model	PS750RT3-230	PS1000RT3-230	PS1500RT3-230	PS2200RT3-230	PS3000RT3-230
Power Rating	750VA/675W	1000VA/900W	1500VA/1350W	2200VA/1980W	3000VA/2700W
Dimensions, W x D x H - mm					
Unit		440 x 412 x 88		446 x 657 x 88	
Shipping		560 x 595 x 228		560 x 776 x 228	
Weight - kg					
Unit	15	19.4	20.9	33.8	37.2
Shipping	18.2	22.6	24.1	38.3	41.5
Input AC Parameters					
Surge Protection			220J		
Voltage Range Without Battery Operation			165-300, Configurable		
Frequency Range			45-65Hz, (+ 0.5Hz)		
Input Socket		IEC-320-C14		IEC-320-C20	
Output Receptacles		(8) IEC-320-C13		(8) IEC-320-C13 - (1) IEC-320-C19	
Voltage, Normal Mode			220/230/240 VAC, Configurable, +10%		
Voltage, Battery Mode			220/230/240 VAC, Configurable; +5% Before Low Battery Warning		
Transfer Time			4-6 ms, Typical		
Waveform			Sine wave		
Overload Warning			› 100%		
Battery Parameters					
Type			Valve-Regulated, Nonspillable, Lead Acid		
Quantity x Voltage x Ah	2 x 12 x 7.2	3 x 12 x 7.2	3 x 12 x 9	6 x 12 x 7.2	6 x 12 x 9
Backup Time			See Load Autonomy table below		
Recharge Time			5 hours to 90% of rated capacity, after full discharge into resistive load		
Environmental					
Operating Temperature			0°C to 40°C (32°F to 104°F)		
Storage Temperature			-15° to 40°C (5°F to 104°F)		
Relative Humidity			0% to 90%, non-condensing		
Operating Altitude			Up to 3000m (10,000 ft.) at 35°C (95°F) without derating		
Audible Noise			‹ 45 dBA		
Agency					
Safety			IEC/FN/AS 62040-1-1		
Surge			IEC/FN/AS 61000-4-2		
ESD			IEC/FN/AS 61000-4-3		
Susceptibility			IEC/FN/AS 61000-4-4		
Electrical Fast Transient			IEC/EN/AS 62040-2 2nd Ed class A		
Emissions			IEC/FN/AS 61000-4-6		
Conducted Immunity			IEC/EN/AS 61000-3-2		
Harmonics			IEC/FN/AS 61000-4-6		
Transportation			ISTA Procedure 1A Certification		
Environmental			ROHS compliant		
Warranty			2 years standard (+1 year warranty extension available)		
Packaging			Multi-Language User Manual on CD, Liebert Multi inkk. Software on CD, Contact Closure (MI 9P9S) Cable USB Cable, Tower Stand, Mounting Hardware, Rack-Mount-Handles, Fixed Mounting Rails, FPO Connector, Input Power Cord. 2200/3000 only: 2- (1) Schuko to IEC-320-C19 and (1) UKplug to IEC-320-C19 input cord. IEC Output Cable, 750/1000/1500 only: 2 - (2) IEC-320-C13, IEC Output Cable, 2200/3000 only: 3 - (3) IEC-320-C13			
Order no.	**06.099.061.1**	**06.099.062.1**	**06.099.063.1**	**06.099.064.1**	**06.099.065.1**
Order no. SNMP Card			**06.099.022.1**		

Load Autonomy - Liebert PSI 750VA-3000VA

	Load %	750VA	1000VA	1500VA	2200VA	3000VA
	10	84	93	76	82	76
	20	45	47	32	44	32
	30	25	26	17	19	17
	40	15	15	12	14	12
Internal Battery	50	11	12	9	11	9
	60	9	9	7	9	7
	70	7	7	5	7	5
	80	5	6	4	5	4
	90	4	5	3	4	3
	100	4	4	3	3	3

Note: All run times are in minutes, assume fully charged batteries and are typical at 25°C (77°F) with resistive loads.

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- Services
- Overvoltage Protection

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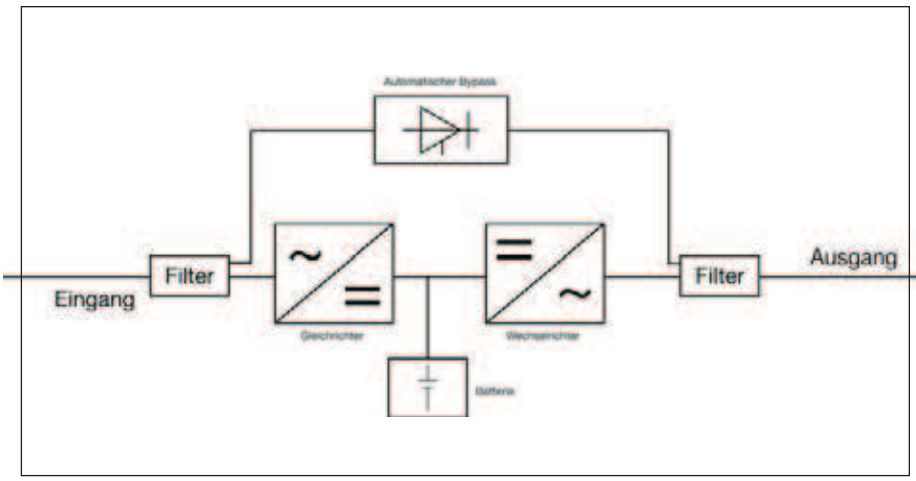
Online / GXT3
IEC 62040-3 VFI-SS-111



USV20086

On-line UPS systems have the advantage of effectively filtering out spikes and drop outs by converting alternating voltage into direct voltage and back into alternating voltage.

Our online UPS systems are series equipped with interfaces, so that unattended computers can be specifically powered down automatically and powered up again after the mains supply has returned.

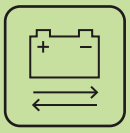
If faults occur in the system itself due to battery aging processes, an automatic by-pass switch ensures bridging and direct connection to the mains without interruption.
The user is acoustically and optically informed about defective functions and power failures.

The accumulator takes over from the rectifier without any interruption when there is a mains failure and provides the necessary energy for a certain length of time. On-line systems provide high levels of security and are particularly recommended for high-grade and sensitive consumers.

Systems for quality power

GXT3

True Online Power
Full energy for your company


Hot-swap batteries

Online technology

Diverse communication options

Extendable back-up times

Professional PC workstations

Small hubs, routers & bridges

Data center

Telecom equipment

Liebert® GXT3, 700VA - 3000VA Model
Reliable online UPS protection in compact 2 U package

The **Liebert GXT3** is a true online UPS, which continuously supplies the IT equipment with quality alternating current. No interruption with changeover to batteries. They protect devices from almost all power supply faults – be they caused by power failures, voltage spikes, voltage drops or whatever other faults. The UPS is available as rack and tower version.

One of the most economical and reliable UPS systems in its class: The Liebert GXT2 is the industry leader in terms of dimensions, performance and reliability.

The 0.9 power factor ensures more power for protected devices and more energy-efficient operation.

The optionally available MicroPOD Output Distribution And Maintenance Bypass Module guarantees operation – even during planned UPS maintenance work.

Flexibility:
- Up to six battery backed-up outputs
- Free swivel display panel
- Automatic frequency scanning
- Installation flexibility:
- Several communication options (SNMP/WEB & USB)
- Compatible with Liebert MultiLink, Liebert Nform, Liebert Multiport and the Liebert Intellislot Relay Interface card

Higher availability:
- Advance early warning of UPS system status
- 4-8 minutes of battery backup time at full load
- Scalable runtime
- Full sequenced battery testing
- User replaceable hot swappable batteries

Lowest possible TCO (Total Cost of Ownership)
- Power factor 0.9
- Wide input voltage range
- Intelligent fan operation
- Efficient operation
- Warranty

Ideal for:
- PCs
- Networked workstations
- Servers
- Network racks
- Big network peripheries
- VoIP

The Liebert GXT3 can be configured for rack or tower installation. The LED display swivels and can be easily read in all positions.

The Liebert GXT3 has internal batteries and can also supply up to four external battery racks (2 U).

Liebert® GTX3, 700VA-3000VA Model specifications

Model	GXT3-700RT230	GXT3-1000RT230	GXT3-1500RT230	GXT3-2000RT230	GXT3-3000RT230
Power Rating	700VA/630W	1000VA/900W	1500VA/1350W	2000VA/1800W	3000VA/2700W
Dimensions, W x D x H - mm					
Unit	497 x 430 x 85		497 x 430 x 85		602 x 430 x 85
Shipping	617 x 570 x 262		617 x 570 x 262		717 x 570 x 262
Weight - kg					
Unit	16.8	16.8	23.2	28	32
Shipping	20	20	26	24	28
Input AC Parameters					
Voltage Range Without Battery Operation	230VAC nominal; variable based on output load				
Frequency Range	40Hz - 70Hz; Auto Sensing				
Input Socket	IEC-320-C14	IEC-320-C14	IEC-320-C14	IEC-320-C20	IEC-320-C20
Output Sockets	(6) IEC-320-C13	(6) IEC-320-C13	(6) IEC-320-C13	(6) IEC-320-C13	(6) IEC-320-C13
				(1) IEC-320-C19	(1) IEC-320-C19
Voltage	220/230/240 VAC (user configurable) +3%				
Waveform	Sine wave				
Battery Parameters					
Type	Valve-Regulated, Nonspillable, Lead Acid				
Quantity x Voltage x Rating	4 x 12V x 5.0Ah		4 x 12V x 7.2Ah	4 x 12V x 9.0Ah	6 x 12V x 9,0Ah
Recharge Time	3 hours to 90% capacity after full discharge with 100% load till UPS auto-shutdown (Internal Batteries Only)				
Battery Backup Time	See table below				
Environmental					
Operating	0°C to 40°C (32°F to 104°F)				
Storage Temperature	-15° to 50°C (5°F to 122°F)				
Relative Humidity	0% RH to 90% RH, non-condensing				
Operating Altitude	Up to 3000m (10,000 ft.) at 40°C (104°F) without derating				
Audible Noise	‹ 45 dBA max at. 1 meter				
	‹ 46 dBA, at 1 meter 3.2 ft from the rear		3.2 ft front and side	‹ 48 dBA max. at 1 meter 3.2 ft front and side	
	‹ 46 dBA, at 1 meter 3.2 ft from the front or sides		‹ 46 dBA, at 1 meter 3.2 ft rear	‹ 48 dBA, at 1 meter 3.2 ft rear	
Agency					
Safety	IEC/FN/AS 62040-1-2008				
RFI/FMI	IEC/FN/AS 62040-2 2nd Fd=CISPR22 Class A				
Surge Immunity	IEC 62040-2 2nd Fd				
Transportation	ISTA Procedure 1A				
Compliance					
Order no.	**06.099.070.1**	**06.099.071.1**	**06.099.072.1**	**06.099.073.1**	**06.099.075.1**
Order no. SNMP Card			**06.099.039.1**		
Order no. Relay Card			**06.099.037.1**		
Bundles	**06.099.170.1***	**06.099.171.1***	**06.099.172.1***	**06.099.173.1***	**06.099.175.1***

Liebert® GXT3 Battery Cabinet Specifications

Model	GXT3-700RT230	GXT3-1000RT230	GXT3-1500RT230	GXT3-2000RT230	GXT3-3000RT230
Used w/UPS Model	GXT3-48VBATT				GXT3-VBATT
Dimensions, W x D x H - mm					
Unit	497 x 430 x 85				602 x 430 x 85
Shipping	617 x 570 x 262				717 x 570 x 262
Weight - kg					
Unit	32				42
Shipping	35				46
Batteries					
Type	Valve-regulated, nonspillable, lead acid				
Quantity x Voltage x Rating	2 x 4 x 12V x 9.0Ah				2 x 6 x 12V x 9.0Ah
Environmental					
Operating / Storage Temperature, °C	0°C to 40°C (32°F to 104°F) / -15°C to +40°C (19°F to 104°F)				
Relative Humidity	0% to 95%, non-condensing				
Maximum Operating Altitude	Up to 3000m (10,000 ft.) at 104°F (40°C) without derating				
Agency					
Safety / Emissions	EC/EN/AS 62040-1-1:2008 / FCC Part 15, Class A=CISPR22 Class B				
Transportation	ISTA Procedure 1A				
Order no.	**06.099.074.1**				**06.099.076.1**
Order no. Bundles	**06.099.174.1***				**06.099.176.1***

***incl. 19" install. kit**

Battery runtime chart (runtimes in minutes; with fully charged batteries; ambient temperature 25 °C)

Number of batteries	700VA	1000VA	1500VA	2000VA	3000VA
Internal Battery (full load)	6	4	4	4	4
Internal Battery + 1 External Cabinet (full load)	50	27	24	15	18
Internatl Battery + 2 External Battery Cabinets (full load)	82	58	48	29	44
Internatl Battery + 3 External Battery Cabinets (full load)	116	78	82	45	62
Internatl Battery + 4 External Battery Cabinets (full load)	140	109	100	64	84

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Knürr RMS Compact II®

2.82 to 2.85

Knürr RMS Compact II®

Damage prevention with checks and controls

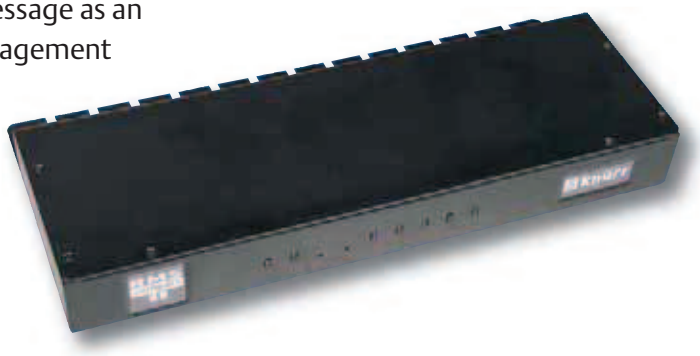
System and network management requirements mean the systems' ambient conditions must be monitored. Reliability and system availability are indispensable. Compliance with the required ambient parameters is extremely important for the fault-free operation of high-grade components.

Inadmissible fluctuations in temperature or humidity often cause hardware defects. Constant automatic monitoring of these parameters is therefore a basic requirement for ensuring properly functioning operability.
With the rack monitoring systems offered by Knürr, this information can be recorded and forwarded directly to a higher-level management system, e.g. Nagios Liebert Nform™.

This recording is not, however, sufficient to ward off damages. For short response times when faults occur, it is helpful if the monitoring system can perform actions automatically (e.g. activate additional fans).

When defined incidents occur, the Knürr RMS Compact II® can immediately send a message as an 'SNMP trap' to the management system or directly as an e-mail to a technician or an SMS gateway.
Rapid fault-finding and removal is extremely valuable!

The ability to connect additional sensors to monitoring systems not only allows racks to be monitored – so too can complete rooms or building sections. All important environmental parameters of a system can consequently be recorded and evaluated in a simple and straightforward way.



The benefits of Knürr's modern rack monitoring system:

- Guarantees fault-free operation
- Detects disturbances early
- Logs incidents
- Makes service assignments easier with automatic monitoring
- Activates countermeasures in the event of a fault
- Central control of consumables (filters, paper, toner, meter readings, inspection intervals, etc.)
- Connection of up to 12 sensors in any arrangement

RMS20013

RMS20015

Knürr RMS Compact II®

Description
- Compact construction - Zero unit solution (for mounting outside the 19" installation area)
- 19" installation with adapter bracket
- Safe clamping of all connected cables with integrated cable clamping bracket
- Cost-effective orderly installation with Plug & Play concept
- Convenient cabling with RJ45 sensor
- TCP/IP connection via Ethernet (10/100 Base T)
- Configuration via SNMP and web browser
- Web access is password-protected and optionally encrypted (https)
- 3 different user levels
- Freely programmable filter system (boolean logic) for implementing all alarm conditions
- Compatible with standard network management systems – HPOpenView, Cabletron Spectrum, Castlerock, IBM Netview, IBM Tivoli, MG-Soft, Compaq Insight Manager, SUN NetManager, etc.
- Sensors for monitoring all current environmental influences (optional)
- Internal power supply for sensor equipment (no additional power supply necessary)
- Alarms via LEDs, relay, network management or e-mail (SMTP)
- Syslog support for continuous external data storage
- System time balancing with NTP servers

Technical data
- 12 universally usable sensor inputs for temperature sensors, humidity sensors, digital (on/off) or analog sensors (0...10V)
- 3 digital outputs (2 x relay, max. 3A at 230VAC, 1x 750mA at 48VDC)
- Power supply: 100 – 240 VAC
- Operating voltage: 12VDC

Approvals
- CE Symbol in acc. with Low Voltage Directive 73/23/EEC, EMC directive 89/336/EEC

Color
- RAL 7021 dark gray

Supply schedule
1 Knürr RMS Compact II
1 power supply
2 19" mounting brackets
1 power supply mounting bracket
1 CD ROM (with manual, MIB file)

How supplied
- Flat-packed kit

W	H	D	Model	Order no.	UP
350	42	170	RMS Compact II®	**06.108.200.8**	1 set

LUF20069 RMS compact-specific

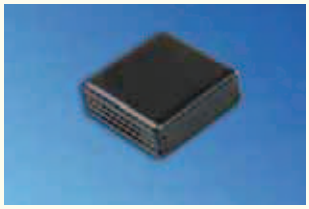
ECO Temperature Sensor

Description
- Insensitive to disturbances
- No additional power supply required
- Standard cable length, 4 m
- The sensor does not have to be recalibrated

Technical data
- Temperature measuring range, 0-60ºC
- Accuracy: +/- 5%

Supply schedule
1 sensor
1 mounting kit

W	H	D	U	h	d	kg	Model	Order no.	UP
							ECO	**06.108.220.9**	1 unit



RMS20019 (similar to picture) RMS compact-specific

Humidity Sensor

Description
- Insensitive to disturbances
- No additional power supply required
- The sensor does not have to be recalibrated

Technical data
- Humidity measuring range, 30-90%
- Accuracy: +/- 5%

Supply schedule
1 sensor with RJ45 port
1 mounting kit

Order no.	UP
06.108.212.9	1 unit

RMS20005

Smoke Detector

Description
- Optical smoke detector with VdS approval
- For early fire detection with smoke emission
- Power supply provided via RMS compact
- Standard cable length, 4 m

Technical data
- Operates between -20°C and +75°C

Supply schedule
1 sensor with 4 m connection cable
1 mounting kit

W	H	D	Model	Order no.	UP
Ø 90	75			**06.108.211.9**	1 unit

RMS20033

AC Voltage Monitoring

- **Description**
  - Monitors the AC power supply via an IEC Euro connector
  - Signals status via an integrated signal cable to the RMS Compact
- **Technical data**

Monitored AC voltage:	230 VAC 50/60 HZ
Connections:	IEC plug, RJ45 socket

- **Supply schedule**
  1 sensor
  1 mounting kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								06.108.222.9	1 unit

RMS20006

Door Contact Sensor

- **Description**
  - Magnet bridge sensor, works on every magnetic conductive material (no special mating part required)
  - Can also be used for monitoring side panels and roof
  - Standard cable length, 4 m
- **Technical data**
  - Operates between -20°C and +70°C
  - Switching voltage, max. 200 VDC
  - Switching current, max. 500mA
- **Supply schedule**
  1 sensor with 4 m connection cable
  1 mounting kit

W	H	D	Model	Order no.	UP
				06.108.215.9	1 unit

RMS20032

Fan Speed Sensor

- **Description**
  - No additional power supply required
  - Automatic detection as analog sensor
  - Does not have to be recalibrated
  - Offset and alarm parameters can be set in RMS
- **Technical data**
  - Measuring range: 0 to 0.8 l/s
  - Non-linear measurement, values table:
    < 0 m/s < 1 V
    0 m/s 1 V
    1 m/s 1.7 V
    2 m/s 2.9 V
    3 m/s 4.1 V
    4 m/s 5 V (6 V max.)
- **Supply schedule**
  1 sensor with 4 m connection cable
  1 mounting kit

W	H	D	U	h	d	kg	Model	Order no.	UP
20	39	9						**06.108.218.9**	1 unit

RMS20031

Water Sensor

- **Description**
  - Detects presence of water
- **Technical data**
  - Operating voltage: max. 24 VDC
- **Supply schedule**
  1 sensor with 2 m connection cable
  1 mounting brackets

W	H	D	U	h	d	kg	Model	Order no.	UP
								06.108.217.9	1 unit

RMS20019

Vibration Sensor

- **Description**
  - Detects vibrations
  - Theft protection
  - Reset possible via Viewer software
- **Supply schedule**
  1 sensor with 4 m connection cable

W	H	D	U	h	d	kg	Model	Order no.	UP
								06.108.213.9	1 unit

RMS20032

Passive Infrared Movement Sensor

- **Description**
  - Room monitoring with the latest state-of-the-art technology
- **Technical data**

- VdS approval	Classes A + B
- Volumetric lens range	2 - 16 m
- Long lens range	29 - 50 m
- Curtain lens range	17 - 30 m

  - Manipulation monitoring
  - Digital fault evaluation
  - Corner or wall mounting
- **Supply schedule**
  1 sensor with 4 m connection cable
  1 mounting kit

W	H	D	U	h	d	kg	Model	Order no.	UP
								06.108.214.9	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = installation height, d = useful depth, L = length; U = standard height unit 1 U = 44.45 mm, UP = unit of packaging, kg = weight, = Express item

Conversion: 1 mm = 0.03937 inch; 1 kg = 2.2046 pound

Sensor Cable

Description
- With 4 m length the cable is used for connecting further analog/ digital sensors or alarm outputs to the sensor input of the Knürr RMS compact II.
- One end of the cable has an RJ45 connection. The other end is free.
- The RMS automatically detects a sensor, which is connected with this cable, as an analog sensor.
- Using the cable a sensor can be supplied with 12 V voltage.

Technical data
Length, 4 m

Supply schedule
1 cable
1 layout overview

How supplied
Flat-packed kit

Model	L	Order no.	UP
Analog Sensor Cable	4000	**06.108.225.9**	1 unit
Digital Sensor Cable	4000	**06.108.224.9**	1 unit

Sensor Extension Cable

Description
- The cable is used for extending RMS compact II sensors.
- It consists of a cable with a connected RJ45 plug and a connected RJ45 socket.

Technical data
Length 3 m and 10 m

Supply schedule
1 cable

How supplied
Flat-packed kit

Model	L	Order no.	UP
Sensor Extension Cable	3000	**06.108.223.1**	1 unit
Sensor Extension Cable	10000	**06.108.223.5**	1 unit

Power over Ethernet (PoE) Update Set

Description
- PoE stands for power supply "over" an Ethernet cable. This saves on costly power supply installations (e.g. WLAN access points) or enables centralized UPS for decentral equipment (e.g. IP phones).
- Using the PoE Update Set the RMS can therefore support installations with the corresponding UPS concepts and/or "broom closet" installations.

Technical data
- Input: 48 V DC, 400 mA
- Output: 12 V DC (12 W)
- Operating temperature: 0° to 40° C
- Storage temperature: -40° to 70° C
- Operating air humidity: 10% to 80% rel. humidity

Dimensions
- Length, 81 mm
- Width, 52 mm
- Height, 28 mm

Approvals
- EMI: FCC Part 15 Class B, CE Class B
- Safety: UL, TUV

Supply schedule
1 PoE Adapter
1 mounting bracket for easy attaching on the RMS (similar to the classic power supply mounting bracket)

How supplied
Flat-packed kit

Model	Order no.	UP
PoE Update Set	**06.108.230.8**	1 unit

RMS20032

Carbon Monoxide Alarm Sensor

Description
- Used for detecting carbon monoxide caused by the burning of fire retardant cables.
- Sensor signals carbon monoxide to the RMS and emits a loud alarm sound itself (as carbon monoxide is toxic).
- Standard cable length, 4 m
- The RMS automatically recognizes this sensor as a digital sensor

Technical data
- Operating voltage: 12 V DC (± 20 %)
- Power consumption: approx. 190 mA (calm) approx. 280 mA (alarm)
- Sensitivity: 100 ppm CO
- Ambient temperature: -15 °C to +40 °C
- Piezo alarm: approx. 85 dB(A) at 3 m away
- Protection rating: IP 20
- Activated output 12 V DC: max. 170 mA
- Relay output: Changeover contact, max. 5 A 230 V DC, max. 5 A 30 V DC
- Reset: automatic, when the gas concentration falls below sensitivity

Dimensions
- Length, 140 mm
- Width, 125 mm
- Height, 40 mm

Color
White

Supply schedule
1 sensor
1 sensor connection cable
Mounting material
Instructions

How supplied
Flat-packed kit

Model	Order no.	UP
Carbon Monoxide Alarm Sensor	**06.108.211.8**	1 unit

Liebert Nform™

Monitoring Software

2.88 to 2.90

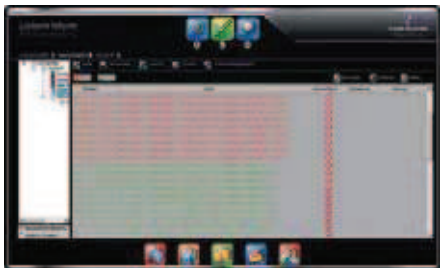
Liebert Nform™

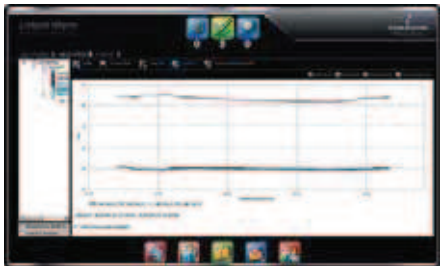
Increased reliability and energy efficiency with Emerson Network Power Monitoring solutions

Data centers are becoming more and more important in modern companies and today's society. The requirements for increasingly better IT infrastructures rise rapidly as a result. Demands are made here for the highest possible performance with very high efficiency at the same time. These requirements appear difficult to meet, because the server cooling in many data centers alone uses up as much energy as the operation itself.

An integrated monitoring is needed to increase profitability while also reducing costs, especially with increasing complexity.

Liebert Nform™ helps meet these requirements:





What is Liebert Nform™?

- Liebert Nform™ is a DC monitoring software especially for Liebert infrastructure systems with trend analysis function, alarm management and results notification.

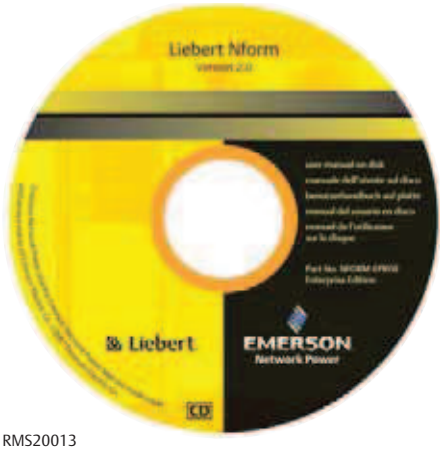
What can Nform™ do?

- Liebert Nform™ provides a uniform monitoring interface and therefore an overview of the operative status of a large number of devices, such as:
  - PDUs: Liebert MPX®, Liebert MPH®, Knürr DI-STRIP® RM
- Uninterruptible power supplies
- Water-cooled racks, such as:
  - Knürr CoolLoop®, Knürr CoolTherm®
- Thermal equipment
- Environmental monitoring systems, such as
  - Knürr RMS Compact II®

What are the customer benefits?

- Liebert Nform™ is an easy to install and use management suite that does not require complicated adjustments.
- The integration of all infrastructure components, from PDUs to RMS compact II right through to water-cooled server racks is very easy, despite the high number of monitoring data points.
- Liebert Nform™ supports a whole range of state-of-the-art features:

- Dashboard: The system has a configurable start page on which various graphics transparently illustrate the status.
- Separable window content for transparent presentation on several monitors.
- Trending enables the storage and graphic presentation of historical data.
- Optional automatic device actions if an error occurs; application execution, setting device parameters (e.g. cooling), shutting down servers and much more.
- Internationalization enables installation in various languages.



RMS20013

Liebert Nform™ – Software

Function Order number	Express Edition 06.108.502.0	Standard Edition 06.108.504.0	Enterprise Edition 06.108.506.0
Number of remote management stations	Unlimited	Unlimited	Unlimited
Users and groups	Unlimited	Unlimited	Unlimited
Supported operating systems	Windows XP, Windows 2003/08 Server, Windows Vista	Windows XP, Windows 2003/08 Server, Windows Vista	Windows XP, Windows 2003/08 Server, Windows Vista
Internationalization	✔	✔	✔
Automated device searches	✔	✔	✔
Datalogger	✔	✔	✔
SQL database	Only Nform-internal database	Only Nform-internal database	Nform-internal and Microsoft SQL
Configured dashboard	✔	✔	✔
Data and alarm export	✔	✔	✔
Online help	✔	✔	✔
Real-time monitoring and control			
Regular device query	✔	✔	✔
Number of delivered device licenses	30	30*	100*
UPS/PDU web card integration	✔	✔	✔
Maximum number of devices	30	4800	Unlimited
Open architecture – 3rd party SNMP monitoring	✔	✔	✔
Supported devices	All Liebert UPS, Power and Cooling systems that support SNMP	All Liebert UPS, Power and Cooling systems that support SNMP	All Liebert UPS, Power and Cooling systems that support SNMP
Parametered data logging	✔	✔	✔
Setpoint climate control	Yes	Yes	Yes
Alarms and actions			
Mform window goes to the front	✔	✔	✔
Sound is played	✔	✔	✔
Standard actions			
E-mail message	✔	✔	✔
Execute external commands	✔	✔	✔
Write file	✔	✔	✔
MultiLink Shutdown Clients			Unlimited including
Set Data on Event			✔
Get Data Graph on Event			✔
Software services	Access to technical information, software support website, 24-hour tele-support software updates, tool for device integration		
Number of supported device licenses	30	30*	100*
First year	incl.	inc.	incl.
1 year	**06.108.531.0**	**06.108.534.0**	**06.108.537.0**
3 years	**06.108.532.0**	**06.108.535.0**	**06.108.538.0**
5 years	**06.108.533.0**	**06.108.536.0**	**06.108.539.0**

* Upgrades available!

Upgrades			
to Nform 4.0	✖	**06.108.505.0**	**06.108.505.0**

Upgrades and software services				
Higher number of monitored devices	Order no. for device license	Order no. for software services: Access to technical information, software support website, 24-hour tele-support, software updates, tool for device integration		
		1 year	3 years	5 years
30	**06.108.513.0**	**06.108.540.0**	**06.108.541.0**	**06.108.542.0**
100	**06.108.521.0**	**06.108.543.0**	**06.108.546.0**	**06.108.545.0**
500	**06.108.525.0**	**06.108.546.0**	**06.108.547.0**	**06.108.548.0**

Knürr @Lock®

2.92 to 2.95

MIR20107

Problems with locking systems

- **Unauthorized access**
  - By own employees
  - By external companies
  - Uncontrolled access
  - Decentralized access authorizations
  - Key problem
  - Loss of key
  - Single key system
  - Many different keys

The mechanical/electro-mechanical comparison

- **Cylinder lock systems**
  + Simple technical version
  + Cost-effective with individual locking
  + No power supply required
  - Easily duplicated
  - Replacement (among other factors) problematic
  - Code conversion expensive with locking systems
  - Key-connected, which means transferable with key hand-over (theft)
  - Logging and monitoring very expensive/ time-consuming

- **Electronic systems**
  + Various locking options
  + Opening permission possible without a key being required
  + Opening permission can be granted/ withdrawn almost immediately
  + Lock control / logging possible
  + Remote opening per PC / Internet / mobile phone / SMS
  + Expandable and easy code conversion lock system
  - Power supply required

MIR20113

Locking solutions
Control components to choose from

- **Electronic locking systems**
- **Mechanical combination lock**
- **Standard locking with half-cylinder**

MIR20285

MIR20134

Modules
Control components for electronic locking systems

MIR00423

- Interlocking: security with multi-point interlocking mechanism

- **Transponder**

- **Network (server)**

Decentralized rack suite

MIR20102

- Each rack/each door can be opened separately – via its own address

- **Access authorization administration**

- **Access monitoring**

- **Locking mechanism control**

- **Access logging**

Embedded solution

MIR20099

- **Administration**

- **Monitoring**

- **Logging**

- **Remote access**

Individual Locking / Stand-Alone Solution

MIR20094

- **Access authorization administration**

- **Monitored access**

- **Locking mechanism control**

- **Access logging**

Knürr @Lock®
Strong points

MIR20109

- The very small and modular design means that no additional space or greater installation depths are required in the rack.

- Contacts for emergency power supply that can be activated externally using trade standard batteries are integrated into each swing handle.

- An integrated light-emitting diode signals with different colors to inform whether or not the current access is authorized.

- Each device of the series can be networked with the other devices, which results in numerous possible combinations and options.

- Every opening process can be logged in the network. Existing network structures can be used for networking.

Knürr @Lock® Swing Handle – Security for racks in the data and networking area

MIR20284

- Conventional keys are replaced by electro-mechanical locking components.
- A servomotor pulls the retaining awl back and releases the handle.
- Actively opening the door is, however, made with the hand as before.
- Easy exchange of the swing handle with later installation using unchanged installation opening.
- Intended for standardized installation openings of conventional swing handle.
- Can be quickly and easily upgraded to locking system.
- Convenient administration of access authorizations.

- **@Lock Swing Handle, HID/IP**
  - The swing handle opens after a registered transponder card has been read.
  - With the HID variant, the communication between swing handle and PC runs via a junction box and a server.
  - The IP swing handle, by contrast, is configured via an IP address and is connected directly via the network to the PC.
  - Up to 2,048 HID cards per swing handle can be configured using a registered master card.
  - Configuration of the cards via the network is also possible with the included software.

- **Technical data @Lock Swing Handle, HID (optional IP remote connection)**
  - 100...240VAC, power supply not included in the supply schedule
  - Operation with 12VDC/40mA (max. 430mA)
  - Multi-color status – LED
  - Real-time clock
  - Network communication is made via external server (gateway)
  - Up to 250 handles can be administered per server (IP address)

- **@Lock Swing Handle IP**
  - 100...240VAC, power supply not included in the supply schedule
  - Operation with 12VDC/40mA (max. 430mA)
  - Multi-color status – LED
  - Real-time clock
  - Network communication with cabled connection via integrated Ethernet 10/100 Base T

- **Function**
  - Opens after reading a registered card
  - Memory for 32 time segments
  - Memory for 2,048 cards per handle
  - Integrated logbook for 500 events
  - Result-related communication
  - 125 kHz transponder with unique code (HID 26 bit system)

- **Supply schedule**
  @Lock Swing Handle, HID
  1 swing handle, HID
  1 reader
  1 reader connection cable
  1 network node, CX2001
  1 network cable, CN2001

- **Supply schedule**
  @Lock Swing Handle, IP
  1 swing handle, IP
  1 reader
  1 reader connection cable
  1 data CD

Knürr @Lock®
Swing Handle Basic/Basic plus

MIR20284

– Conventional swing handles are replaced by electro-mechanical locking components.
– A servomotor pulls the retaining awl back and releases the handle.
– Actively opening the door is, however, made with the hand as before.
– Easy exchange of the swing handle with later installation using unchanged installation opening.
– Intended for standardized installation openings of conventional swing handle.
– Can be quickly and easily upgraded to locking system.
– Convenient administration of access authorizations.

@Lock Swing Handle Basic/Basic plus
- The swing handle opens when an externally activated potential-free contact is closed (@Lock Basic)
- With the @lock Basic plus variant the external contact releases the swing handle for an opening. This is show with an LED. The opening can be made by pressing a button.

Application scenarios
- @Lock Basic or Basic plus are activated on the switching outputs of existing rack lock systems.
- @Lock Basic or Basic plus are activated on RMS switching outputs per SNMP or operated with alarm states.
- @Lock Basic or Basic plus are activated on the switching outputs of other rack lock systems.

Technical data
- @Lock Swing Handle Basic/Basic plus
- 100...240 VAC, power supply not included in supply schedule
- Operation with 12 VDC / 40 mA (max. 430 mA)
- Multi-color status LED

Supply schedule
1 Swing Handle Basic/Basic plus
1 Basic Box/Basic Box plus
1 control cable

How supplied
Flat-packed kit

Variant	For rack type	Order no.	UP
Basic	Knürr Miracel®	**01.180.024.9**	1 unit
Basic	Knürr DCM® (also Miracel® with double door)	**01.180.051.9**	1 unit
Basic plus	Knürr Miracel®	**01.180.026.9**	1 unit
Basic plus	Knürr DCM® (also Miracel® with double door)	**01.180.061.9**	1 unit

Knürr @Lock®
Swing Lever, HID

MIR20284

– On the basis and networking of an RS485 BUS system, the @lock HID solution is ideal for use in big server rooms and data centers with numerous IT racks.
– The communication with the swing handle is via the @lock Gateway.
– The Gateway provides the interface between the RS485 bus and the Ethernet/LAN.
This performs both the forwarding and conversion of all information in the RS485 bus.
– The nodes always form the branch off for another swing handle.
– One Gateway can manage a maximum of 32 @Lock HID handles.

Technical data
- Two-piece hardware setup: @Lock Swing Handle and Reader Unit
- Visualization: Multi-color status LED
- Reader: for 125 kHz transponder (HID 26 bit system), alternatively 13.56 MHz (MIFARE) on request
- Reader housing: Reader unit in plastic housing, can be fixed with screws or self-adhesive pad
- Power supply: 12 V ± 10 % (DC) via low voltage socket
- Standby power (system is ready to operate): 40 mA (DC)
- Max. power consumption (with connector tightening): 440 mA (DC)
- RS232 interface: RS 232 cable (RXD, TXD, GND, Reader present, PC present), 38,400 baud
- Connection cable (reader-handle electronics): 8-pole, 350 cm, UL stranded wire AWG 26, one-side with gated RJ45 plug, one-side with crimped JST ZH connector ZHR-8 relay output (via screw clamps): 2.5 mm², can be screwed from plug side, relay contact: 12 V, 3 A, 60 W, 120 VA, terminals 3-5
- Door contact input (via screw clamps): 2.5 mm², can be screwed from plug side, terminals 1 and 2
- RS485 interface: RS485 cable to the @Lock Gateway, (+/A, -/B), 38,400 baud
- Memory space for transponder cards: 2000 + 1 master transponders
- Memory space for incidents: 500 (ring memory)
- Memory space for time profiles: 30
- Integ. real-time clock: with buffering of up to 60 min at 25 °C
- Temperature range: -20 °C ... +70 °C

Supply schedule
1 swing handle, HID
1 terminal box
1 RS485 network node
1 connection cable

How supplied
Flat-packed kit

Note
- Not included in supply schedule: Power supply, Ethernet cable, software (Administration Suite 2.0)
- Accessories required: @Lock HID Gateway art. no. 01.180.111.9

Variant	For rack type	Order no.	UP
HID	Knürr Miracel®	**01.180.122.9**	1 unit
HID	Knürr DCM® (also Miracel® with double door)	**01.180.050.9**	1 unit

Knürr @Lock®
Swing lever, IP

MIR20284

– @Lock provides you a new and comprehensive option for convenient and reliable access monitoring for server/data racks.
– The @Lock IP is especially suitable for access to server racks that are distributed in different rooms or buildings.
– Every handle is configured with an own IP address and can therefore be controlled directly via the network.
– With easy integration without setting up a BUS systems, this variant is the solution for monitoring IT racks that are set up on different floors or in different buildings.
– The communication with the swing handle is via TCP/IP.
– Every handle is configured with a static IP address and connected directly with the network.
– The @Lock IP does not require a separate BUS system setup. The very low cabling input means this system is installed quickly and easily.

Technical data
- Two-piece hardware setup: @Lock Swing Handle and Reader Unit
- Visualization: Multi-color status LED
- Reader: for 125 kHz transponder (HID 26 bit system), alternatively 13.56 MHz (MIFARE) on request
- Reader: Reader unit in plastic housing, can be fixed with screws or self-adhesive pad
- Power supply: 12 V ± 10 % (DC) via low voltage socket
- Standby power (system is ready to operate): 40 mA (DC)
- Max. power consumption (with connector tightening, without XPort operation): 440 mA (DC)
- Power increase with X-Port: 125 mA (DC) RS232 interface: RS 232 cable (RXD, TXD, GND, Reader present, PC present), 38,400 baud
- Connection cable (reader - handle electronics): 8-pole, 350 cm, UL stranded wire AWG 26, one-side with gated RJ45 plug, one-side with crimped JST ZH connector ZHR-8
- Relay output (via screw clamps): 2.5 mm², can be screwed on from plug side, relay contact: 12 V, 3 A, 60 W, 120 VA, terminals 3 - 5
- Door contact input (via screw clamps): 2.5 mm², can be screwed from plug side, terminals 1 and 2
- TCP/IP interface: Ethernet, 10/100 Autosense, up to 100 MBaud
- Memory space for transponder cards: 2000 + 1 master transponder
- Memory space for incidents: 500 (ring memory)
- Memory space for time profiles: 30 Integ. real-time clock: with buffering of up to 60 min. at 25 °C
- Temperature range: -20 °C ... +70 °C

Supply schedule
1 swing handle, IP
1 terminal box
1 connection cable

How supplied
Flat-packed kit

Note
- Not included in supply schedule: Power supply, Ethernet cable, software (Administration Suite 2.0)

Variant	For rack type	Order no.	UP
IP	Knürr Miracel®	**01.180.123.9**	1 unit
HID	Knürr DCM® (also Miracel® with double door)	**01.180.060.9**	1 unit

Knürr @Lock® Transponder card

■ **Supply schedule**
1 transponder card

■ **How supplied**
Flat-packed kit

	Order no.		UP
Knürr @Lock®	Transponder Card	**01.180.040.9**	1 unit

Knürr @Lock® Gateway HID

MIR20283

– The @lock Gateway is used for the communication between the Swing Handle HID and the administration software.
– The Gateway provides the interface between the RS485 bus and the Ethernet/LAN.
– This performs both the forwarding and conversion of all information in the RS485 bus.
– The nodes always form the branch off for another swing handle.
– One Gateway can manage a maximum of 32 @Lock HID handles.

■ **Technical data**
- Power supply: 12 V ± 10 % (DC) via low voltage socket
- Standby power (system is ready to operate): 40 mA (DC)
- Max. power consumption (with connector tightening): 440 mA (DC)
- RS232 interface: RS 232 cable (RXD, TXD, GND, Reader present, PC present), 38,400 Baud
- Connection cable (reader-handle electronics): 8-pole, 350 cm, UL stranded wire AWG 26, one-side with gated RJ45 plug, one-side with crimped JST ZH connector ZHR-8 relay output (via screw clamps): 2,5 mm², can be screwed on from plug side, relay contact: 12 V, 3 A, 60 W, 120 VA, terminals 3 - 5 Door contact input (via screw clamps): 2.5 mm², can be screwed from plug side, terminals 1 and 2
- RS485 interface: RS485 cable to the @Lock Gateway, (+/A, -/B), 38, 400 Baud
- Memory space for transponder cards: 2000 + 1 master transponders
- Memory space for incidents: 500 (ring memory)
- Memory space for time profiles: 30 Integ. real-time clock: with buffering of up to 60 min. at 25 °C
- Temperature range: -20 °C ... +70 °C

■ **Supply schedule**
1 @Lock-Gateway HIDl

■ **How supplied**
Flat-packed kit

	Order no.		UP
Knürr @Lock®	Gateway HID	**01.180.111.9**	1 unit

Knürr @Lock® Desktop Reader, HID

MIR20281

The transponder cards are read into the administration software using the desktop reader. This enables the later configuration of the access media in the system (lock plan creation). The desktop reader is connected via the RS-232 interface with the PC on which the administration software is installed. The transponder card is inserted in the read-out unit for reading the transponder ID. The reading process can then be initiated in the administration software by hitting a key.

– The Desktop Reader is recommended with the Administration Suite.
– The DesktopReader reads the transponder codes from the access media.

■ **Supply schedule**
1 desktop reader HID
1 USB cable

■ **How supplied**
Flat-packed kit

	Order no.		UP
Knürr @Lock®	Desktop Reader HID	**01.180.128.9**	1 unit

Knürr @Lock® Power Supplies

■ **Supply schedule**
1 PMI power supply

■ **How supplied**
Flat-packed kit

Variant	Order no.	UP
Power Supply, PMI 2001 EU	**01.180.035.9**	1 unit
Power Supply, PMI 2001UK	**01.180.036.9**	1 unit
Power Supply, PMI 2001 US	**01.180.037.9**	1 unit
Power Supply, PMI 2001 Japan	**01.180.038.9**	1 unit
Power Supply, PMI 2001 Australia	**01.180.039.9**	1 unit

Knürr @Lock® Network cable, CN2001

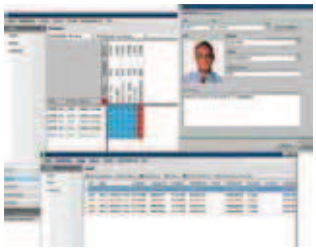
– Used for setting up connections with the CX2001 network node

■ **Supply schedule**
1 network cable, CN2001

■ **How supplied**
Flat-packed kit

	Order no.		UP
Knürr @Lock®	Network Cable, CN2001	**01.180.031.9**	1 unit

Knürr @Lock® "Administration Suite 2.0" Software



MIR20282

The @Lock software is the user interface for controlling and configuring the @Lock Swing Handle. Using this software, the administrator can create access codes and HID cards and assign users. The handle can be controlled in real-time from the software platform. All actions that are directly related with the swing handles are stored in an SQL database (e.g. opening, closing, granted accesses and accesses rejected on the basis of non-authorization).

■ **Technical data**
- MS-Windows 2000/NT etc.
- SQL database
- TCP/IP network connection to the swing handles
- The number of handles and gateways is only restricted by the capacity of the computer
- Communication with swing handle via server (gateways) or directly with @ Lock Swing Handle, IP

■ **Functions/applications**
- Client-server-based administration program for the @Lock system
- Requires max. 3-4 seconds for a status update
- Administration of users and rights
- Administration of HID cards, opening of active keys and access codes, closing, activation or deactivation of swing handles
- Observation of authorized and unauthorized access attempts
- Recording of all events connected with swing handles
- Central observation of swing handle
- Combination of all swing handles and servers
- Events recording
- Optional web interface
- Supports Sarbanes/Oxley and HIPPA requirements

	Order no.		UP
Knürr @Lock®	Software "Administration Suite 2.0"	**01.180.049.9**	1 unit

Knürr CombiLock
Desktop Reader, HID

MIR20095

– This additional lock, the aptly named "Override", produces a combination swing handle with particularly special advantages.

– Innovative combination swing handle with two activation options
– Independent opening and closing of the swing handle via combination or cylinder lock
– General key function possible with rack suites
– Can be used for right and left closing doors

Installation
In the standard installation opening of Knürr Miracel® rack doors. Quick mounting with plug-in connections and screw fittings.

Technical data
- Cylinder lock
- Combination lock can be individually set with 3 digits
- Independent activation

Supply schedule
1 swing handle with combi lock
1 mounting material set

	Order no.	UP
Knürr CombiLock	**01.137.013.9**	1 unit

Glossary

Adaptive Architecture

Liebert Adaptive Architecture™
The Liebert Adaptive Architecture is a product and technology family that really impresses on the basis of its optimum minimum TCO and optimum availability balance.

Open Architecture/Closed Architecture
With open architecture cooling coils and the room's air volume can be used as thermal storage to guarantee continuity with power failures.

With a closed architecture the rack is completely closed off. The cooling coils are inside the rack. Other provisions must be made for bridging power failures.

Redundancy
Measure for a system's failure tolerance and for the ability to perform maintenance work on a product in operation and without and function loss.

- Systems without redundancy can fail as soon as one single component fails, or cannot be operated during maintenance work.
- Redundancy is not achieved with the parallel setup of the same components, of which at least one component is not required to reach 100% system functioning. Such a setup means that even the failure of important components or planned maintenance work will not impair the product's continuous operation. Redundancy concepts can therefore help achieve very high system availability levels.
- The highest level of redundancy is attained with the installation of two systems independent of one another, whose incoming and outgoing lines are also optimally separated. Preventive maintenance work or component faults then do not cause any impairment in the system's performance because the second system can take over the entire desired functionality at any time.

Industry terms and phrases

Availability
A proven technology or a system for minimizing fault risks and downtimes on your IT system ensure the required availability.

Business Critical Continuity
The continuity of business-critical systems – our promise to the customer that their infrastructure will not fail and bring business processes to a standstill.

Flexibility
"Flexible" products and systems can be reconfigured or extended to meet the requirements of new technologies, provide even more protection, or meet the requirements of corporate growth or business changes.

Total Cost Of Ownership
All operating costs (TCO) of a solution, including purchase, future changes and maintenance.

Power supply

Power supply, three-phase (EMEA)
A three-phase power circuit has three conductors, earth and in most cases a neutral conductor. Typical voltages for such power circuits are 380 V, 400 V and 415 V.

Power supply, single-phase (EMEA)
Single-phase power circuits have two cables and an earth. Typical voltages are 220 V, 230 V and 240 V.

Power density
More power. More heat generation. Less space. Power density increases (from less than 50 to more than 300 watt pro m^2) because processors are higher performance and get less space. This generates far more heat and concentrated hot spots in your data center.

UPS types: Online and Line Interactive
An online UPS is used to back up critical applications and guarantees continuous power supply, free of all supply faults. Frequency and wave form are also regulated. A line-interactive UPS protects against voltage peaks and inadmissible power supply parameters. This energy-efficient technology regulates the power supply and the battery backup system and is especially ideal for installations that rarely suffer power failures, but frequently suffer supply fluctuations.

Battery capacity
The percentage power capacity of your batteries, depending on their age, usage period, environment, ambient temperature and maintenance status. A normal VRLA battery can possibly achieve 80% and has to be swapped out after 3-5 years.

Battery runtime
The time (in minutes) for which your batteries can take over the power supply with power or system failures and protect your information.

kW
Standard unit for electrical power. 1 kW is 1,000 W or power consumption of 1,000 joules per second. (1 joule is the required energy amount to heat 1 kg of water by 1°C.)

Cooling

Back cooling
Containing the rise in heat generation caused by air-cooled condensers and dry coolers for all ambient temperatures or heights. Hot air or hot water is drawn off; water is cooled and returned.

Precision cooling
The precise controlling and regulation of temperatures, moisture or air filtering.

Hot Aisle / Cold Aisle
A highly efficient method for power increases with existing raise floor systems with high-density rack-based installations. The racks and frames are set up to produce "hot" and "cold aisles". Perforated bottom covers from which the raised floor's cool air flows are only placed in the cold aisles.

Sensible heat
"Sensible" or "tangible" heat can be directly sensed or measured. Sensible heat changes a material's temperature. These are practically temperature information similar to weather forecast information. Sensible heat is measured with a thermometer. Severs, for example, only give off sensible heat.

Latent heat
"Latent heat is the heat energy that goes into a material's state change. With a thermally managed cooling process the latent heat is diverted with the condensation of the vapor in the air when the air is cooled to below the dew point (dehumidification). Latent heat discharge does not have any effect on the temperature you feel.

Total heat
The total heat is composed of the heat content of the air (sensible heat) and the water-vapor mixture (latent heat). It is crucial for the thermal device's nominal power.

BTU
BTU is a heat energy unit. It is equal to the required energy amount for changing the temperature of a British pound of water by 1 degree Fahrenheit (at sea level). One ton of cooling power is equal to 12,000 BUT/hour.

Ton
A ton in relation to cooling systems is the heat amount required to melt 1 ton of ice in 24 hours. A ton is equal to 12,000 BTU/hour or 3,025,900 calories/hour.

Emerson Network Power Core Competencies

When you work together with **Emerson Network Power** to meet your company-wide requirements in the **Business-Critical Continuity™** area, you not only benefit from our products for **supporting and protecting your technology infrastructure**. By developing a wide range of technologies, we have detailed industry knowledge and can estimate the requirements for the interaction of systems in critical environments in the overall context.
We provide this know-how with the aid of Emerson Network Power's core competencies. These are various areas **of first-class products and services**, which will help you to select the right solution for your requirements, location and area of application, so you can offer your customers the best possible services at all times.

AC Power

Business-critical processes – available at all times. With an expansive range of UP systems from Liebert® and Chloride and the respective power distribution components and racks – from individual products through to integrated systems – we ensure an uninterrupted operation of network racks, computer rooms and data centers.

Infrastructure management and monitoring

Management and monitoring of critical environments around the clock at several locations. We have the right solutions for ROI-oriented business environments: professional infrastructure management and 24/7 monitoring systems, services for constant controlling in data centers, computer rooms and network racks, as well as wireless, wireline and enterprise communication applications.

Power switching and regulation

Protection in systems against operational failure caused by power supply interruptions. We provide ASCO® Power Transfer Switches, network-parallel control cabinets for equipment/power regulation systems, touchscreen-SCADA for monitoring and controlling power supply and on-site power equipment as a backup to guarantee an uninterruptible power supply for important and business-critical communication and data processing systems, vital security systems and other critical loads. We commission industry leaders here, work with directly location-related project management and deploy the best service technicians in the industry.

Precision cooling

Guaranteed precise temperatures for reliable equipment performance. We provide "Chip-to-Room Cooling" – the most extensive range of precision cooling systems from Liebert, which allows even the smallest temperature changes to be ruled out so that your business-critical applications can be reliably protected.

Racks and integrated racks

Optimization of the technology and performance requirements for indoor IT applications. We provide standardized and customized integrated rack solutions that meet all individual requirements. Our product spectrum ranges from rack solutions from Knürr and Liebert for computer rooms of every size through to integrated enclosures with their own thermal management, UPS and cable management in a robust, lockable rack.

Overvoltage protection

Protection for power supply, voice content and data in the network against network fluctuations and dangerous electrical faults. Depending on the application we provide Liebert and PowerSure™ AC Power Protection, Islatrol™ Active Tracking Filters or Edco™ data/signal overvoltage (surge) protection equipment for securing the power supply, minimizing downtimes, saving valuable work time and extending equipment and device service life.

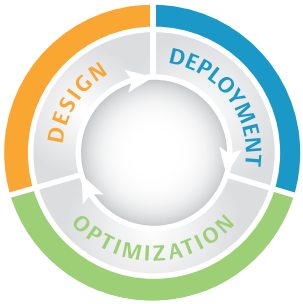
Services

Provision of reliable analysis and test programs – supported by the biggest global service organization in the industry. Our offering includes engineering, installation, start-up services, project management, training and extensive on-site operational management, preventative and prognostic maintenance and energy consumption monitoring.

Infrastructure services and support

Emerson Network Power's core competencies are supported by the biggest global service organization in the industry. The services:

– Design, installation and start-up
– Warranty service
– Preventive maintenance
– Remote around the clock monitoring
– Emergency service
– Site audits



Design

Advance planning is critical for a successful operation. We therefore offer flexible services in development and installation for a smooth startup and lifelong efficient and effective operation.

Installation

Right now today, we already integrate the flexibility and scalability for your growth tomorrow.

Efficiency

Optimization means using your infrastructure efficiently. Emerson Network Power offers you optimized support for your daily requirements and long-term plans – for energy savings in particular.

Chloride LIFE.net

- Maximized system availability – real-time diagnostics and removal of every kind of.
- Minimized downtime – qualified service technicians available around the clock.
- Reduced operational costs – thanks to preventive maintenance.

Emerson Network Power
Data center infrastructure

Precision cooling

SmartAisle™
- Aisle containment.
- Highest energy efficiency.
- Compatible with all Liebert cooling units.

Liebert PCW / Liebert HPM
From 4 kW to 230 kW, DX-Digital Scroll-CW.
- First class energy efficiency.
- Certified performance (Eurovent).
- User-friendly iCOM controls.

Liebert HPC
Extensive range of highly efficient chillers with free cooling of 40 kW to 1600 kW.
- Specially designed for data center applications in combination with SmartAisle™.
- First class energy efficiency.
- iCOM control.

Liebert CRV
- Highly-efficient linked precision cooling units, available in the DX or CW version.
- Decoupled control for airflow and cooling capacity.
- Cooling capacity modulation with Digital Scroll.
- iCOM control with remote rack sensors.

Liebert XD
- Cooling agent-based high-density cooling applications close to servers.
- "Hot spot" management for up to 30 kW per rack.
- On-demand upgrade as with "Plug&Play"
- High efficiency and 100% . sensitive cooling.

AC Power

Chloride Trinergy
- Dynamic function modes (VFI, VI, VFD) with an average efficiency level of 97.9%.
- Three-level module design for optimum scalability (up to 9.6 MW).
- Maximum availability thanks to internal redundancy and simultaneous maintenance.

Liebert NXL
- UPS for critical high power applications.
- Higher capacity and reliability
- Meets the power and energy efficiency requirements of high availability data centers.

Liebert STS
- Solid state digital bus transfer switch for uninterruptible power supply.
- Dual bus power supply systems for connecting critical loads with two independent UPS systems.
- High reliability with Triple-Logic redundancy with power control.

Power Distribution Rack
Central connection unit to power supplies for individual server racks.
- Interface between the low voltage feed and the PDU (Power Distribution Unit).
- Individually pluggable slot-in units.
- Up to 346 kVA/rack.

Rack PDU
Rack-based power distribution units.
- Supports measurement at socket strip level, switching at socket level and measurement and switching at socket level for remote power management/power control.
- Horizontal and vertical models for different rack configurations in branch and external offices.

Racks and integrated racks

Knürr CoolTherm® 4–35 KW
Energy-efficient server rack technology.
- Significant reduction in TCO (Total Cost of Ownership).
- Autonomous server rack; independent of environmental conditions.
- Up to 30% improved cooling system energy efficiency.

Knürr DCD®
Passive cooling water heat exchanger.
- Cools up to 30 kW.
- Neutralizes room heat.
- Combinable with Knürr and other manufacturer products.

Knürr DCM®
19" rack platform for server, telecommunications and network technology.
- Aluminum construction
- Threaded connection system
- T-slot system

Surge protection

Liebert TVSS
- Easy to connect to the UPS, the distributor or the service entrance of the systems.
- Surge protective devices (SPD) for protecting sensitive equipment against damage caused by short voltage rises.

Infrastructure management and monitoring

Avocent MergePoint® Unity Appliance
Secure remote access to servers (KVM over IP).
- Secure remote access to servers in data centers and branch offices.
- More error-tolerant and comprehensive remote management solution with simultaneous use of in-band and out-of-band tools.

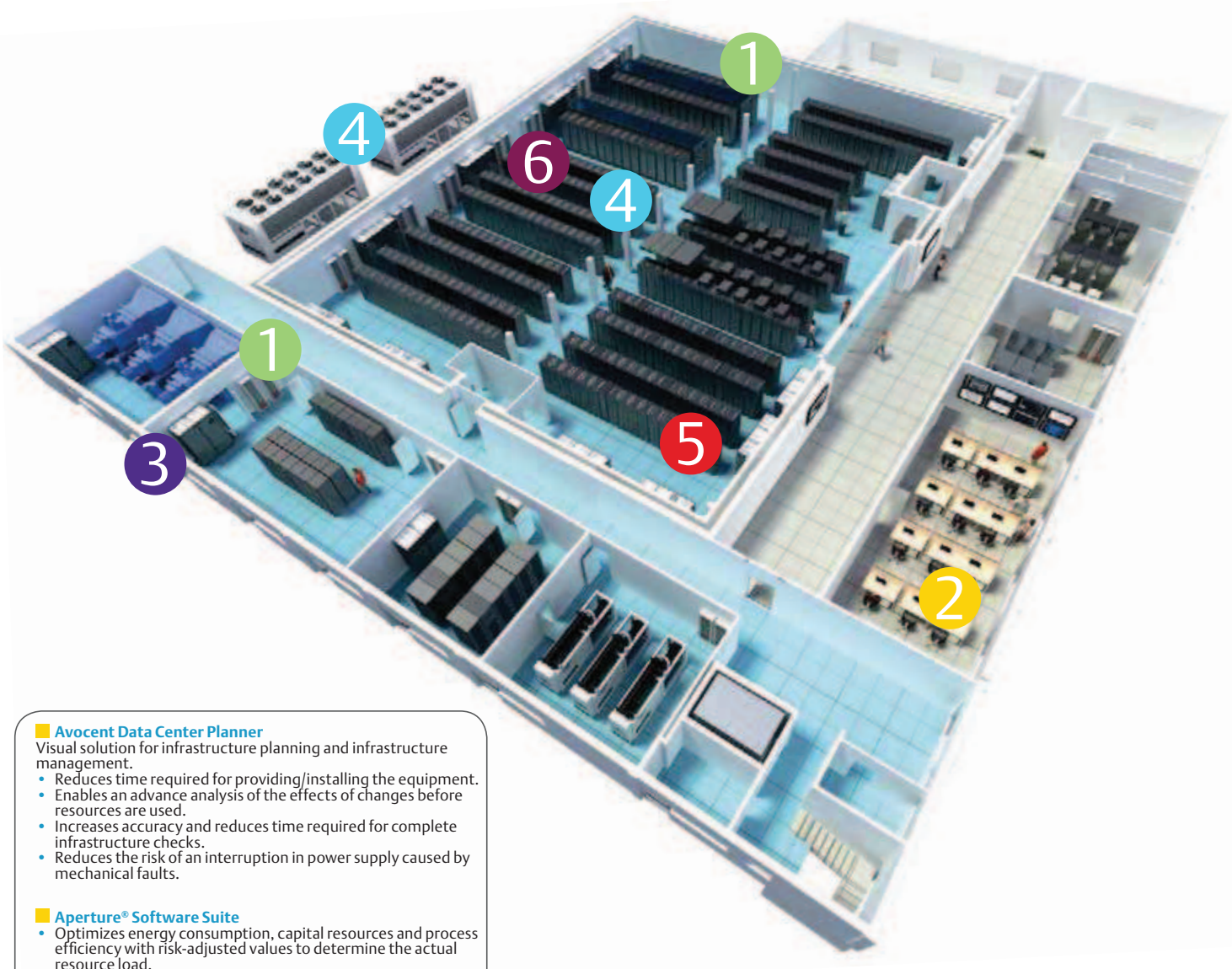
Avocent MergePoint® Service Processor Manager
Secure ESP remote management (Embedded Service Processor).
- One console for different service processor types and IPMI.
- SoL, power control and hardware monitoring support.

Avocent ACS Console Server
Secure remote access (Serial over IP) to console equipment.
- Remote access to servers, routers and other console-based equipment.
- Physical use or encapsulation in one virtual machine.

Alber Battery Monitoring
- Monitors batteries and prevents premature battery failures.
- Internal direct current resistance test method to rule out doubts.
- Specification of the actual battery status by the user – comparable with ultrasound.

Knürr Synergy®
Consoles, monitor walls and mobile equipment trolleys for control rooms.
- Standards compliance and ergonomics.
- Manually height-adjustable, even in basic version.
- Modular construction.

Avocent DSView® 3 Management Software
Centralized data center management.
- Remote across, remote monitoring and remote controlling on various platforms and at different locations (time and location-independent).
- Secure, centralized out-of-band management of all connected IT and network devices in distributed data centers.



Avocent Data Center Planner
Visual solution for infrastructure planning and infrastructure management.
- Reduces time required for providing/installing the equipment.
- Enables an advance analysis of the effects of changes before resources are used.
- Increases accuracy and reduces time required for complete infrastructure checks.
- Reduces the risk of an interruption in power supply caused by mechanical faults.

Aperture® Software Suite
- Optimizes energy consumption, capital resources and process efficiency with risk-adjusted values to determine the actual resource load.
- Correct measurement of the physical infrastructure and extended service life of the data center with holistic view of the infrastructure.
- Provides a central, secure information source for the entire data center in a business service view.

Avocent DSView® 3 Power Manager
Detailed performance and environmental data and effortless control.
- Provides a power monitoring function in addition to DSView 3 software access and control functions.
- Monitors and measures IT energy consumption and defines the cost/development trends of internal and remote data centers.

1 AC Power

2 Infrastructure Management & Monitoring

3 Power Switching & Controls

4 Precision Cooling

5 Racks & Integrated Cabinets

6 Surge Protection

System dimensioning

The right dimensioning of a critical power supply system for current and future requirements is of essential importance.

Current requirements

The estimates of the currently required system dimension in kilovolt-ampere (kVA) can be made in various ways. Site plans of the IT installation, type labels on devices and system and maintenance data are frequently consulted. The kVA and kW requirements can be determined using the following formulas:

V = Volt	pf = Power factor
A = Ampere	
kVA = Kilovolt-ampere	BTU/h = British Heat Units per hour (heat output)
kW = Kilowatt	Kcal/h = kilo-calories per hour (heat output)

1. System's power profile (This formula provides the reliable basis for estimating the current kVA load.)

With three-phase systems whereby V is the phase voltage	With single-phase systems
$kVA = \frac{V \cdot A \cdot 1.73}{1000}$	$kVA = \frac{V \cdot A}{1000}$

2. Kilowatt (kW) and power factor (pf).
(If pf is not given, use 0.8 for pf.)

$$kVA = \frac{kW}{pf}$$

3. Ampere details for site power supply (with three-phase systems).

$$A = \frac{kVA \cdot 1000}{V \cdot 1.73}$$

4. BTU/h or Kcal/h:
(If pf is not given, use 0.8 for pf.)

$$kVA = \frac{BTU/(h)}{3413} = \frac{kcal/(h)}{860}$$

$$kVA = \frac{kW}{pf}$$

If the currently required kVA capacity has been determined, the future growth potential and the consumers' special properties must also be considered.

Capacities for growth

A critical power supply must also be configured for future growth. The capacities required in data centers for data processing double rapidly. It is therefore appropriate that the system should be configured for double the current kVA load. Even with low growth rates the power supply system should be estimated at 125% of the current kVA load.

Special consumer characteristics

Plant specialists should be deployed to determine special consumer characteristics and the corresponding system dimensioning.

Earth connections

The earth connection of a regulated power supply system has a big influence on its capacity.

Maintenance for all your power supply and additional devices.

Without proper maintenance your investment in power supply and cooling solutions loses its value. Even the best systems won't work properly if they are not maintained regularly.

Emerson Network Power can perform the maintenance of the most diverse UPS and precision cooling systems, batteries and distribution solutions in your data centers or in other business-critical systems whose availability is indispensable.

We maintain the following components:

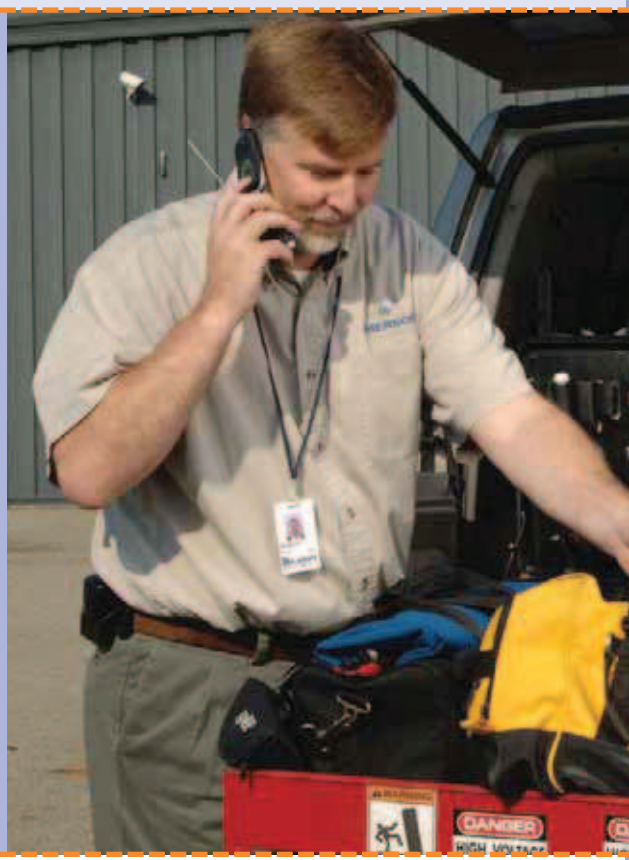
- All UPSs and batteries
- Automatic transfer switches
- Static transfer switches
  System control cabinets
- PDUs
- Bypass racks
- Power regulation
  Precision air-cooling systems
- Generators
- DC supply devices

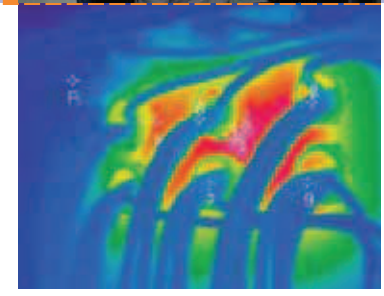
Secure availability.

With its special tools, industry know-how and efficient service infrastructure Emerson Network Power ensures that your system is available at all times. Our "Grid to Chip" maintenance strategy is based on a systematic service concept for your critical systems, which goes beyond the scope of standardized services. We provide you with a comprehensive service solution, which incorporates the power supply and cooling requirements of your entire company. We have good reasons for such a promise; some are listed here below.

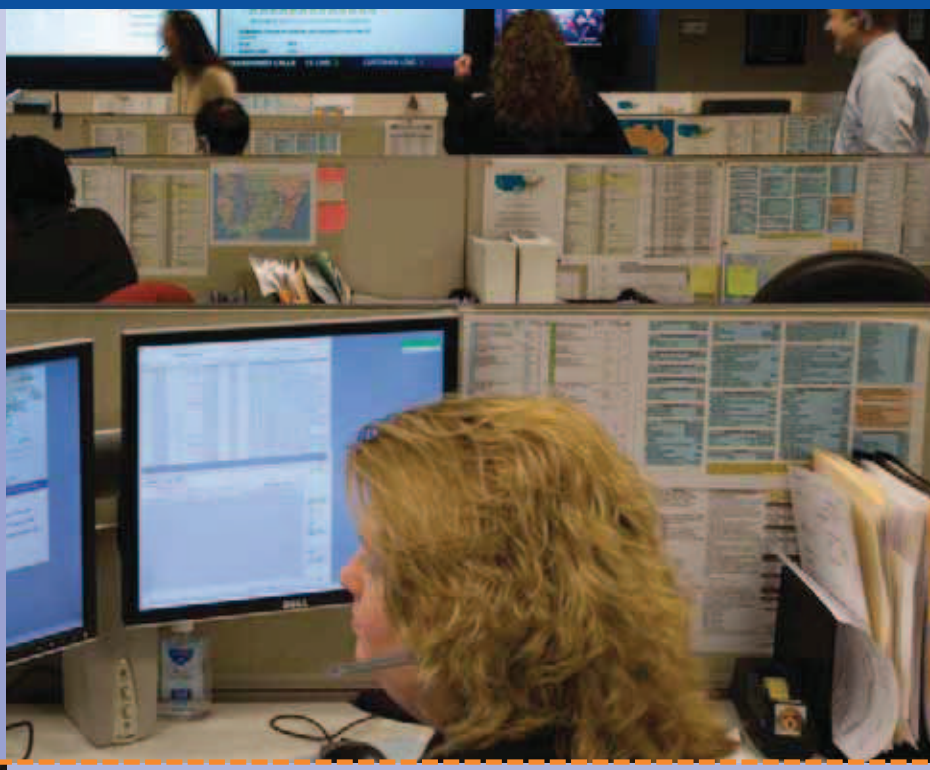
Our support services for business-critical systems include:

- Design — Availability analyses, infrared tests, electrical test, determination of the cooling requirements and the necessary supply services.
- Preventive maintenance — Regular maintenance ensures the continued operability and high load rating of your systems. Maintenance makes an important contribution to availability and reduces the systems' overall operating costs.
- Prognoses — We point out problems and faults before they occur. You consequently get a more sustainable and more reliable network.
- Remote monitoring — We can monitor the functioning of all your business-critical systems, including the products of other manufacturers. Use this solution if you want to know your systems' statuses, but you don't have the time or staff to take care of it yourself.





You get an answer. And a solution.



Unforeseen failures can happen any time. Our customers know that they have a partner that will get their business-critical systems up and running in next to no time. When the unexpected happens you need a partner that has the right answers, quick service and the right parts at the ready so that your systems go back on line as quickly as possible.

We have the resources
Our customer center supports you 24 hours a day – every day. Competent contact people that know your technology and your equipment are constantly at your disposal here. No automatic messages. No callbacks. We process 100,000 calls a year, and resolve the situation in an average of two and a half minutes.

We have the people
Emerson Network Power's service unit has the necessary skills and expertise to help you out of every situation. We have the most specialists in the industry: 375 of these experts trained in the plant are distributed across the entire country. What does this mean for you? In 2006 we needed an average of only 1.6 hours to be on-site to resolve problems.

We have the parts
To ensure activities can be performed when they are required, we provide certified parts in an unrivaled scope, which our perfected logistics deliver to every required site. You therefore never have to wait long for parts with system failures – almost 100% of emergency orders are delivered in less than 24 hours.

Emerson Network Power

For more energy efficiency in your IT environment

Really reliable availability of business-critical networks are a requirement for reliable network infrastructure installation, administration and continuous support.

This in turn depends on the power supply and cooling infrastructure, which supports these systems and is based on the following key components:

- ***Business-critical power supply***
- ***Business-critical cooling***
- ***Rack and enclosure systems***
- ***Monitoring and management***
- ***Proactive maintenance***

Emerson Network Power has developed new power supply, cooling, rack and enclosure systems, and monitoring solutions which also support uninterruptible availability – and offer real added value that goes well beyond the sum of the individual solutions.

With our solutions we provide unsurpassed adaptability, individualization and the ability to integrate into the most diverse products and services.

We put together comprehensive knowledge of our challenges and are in a position to meet their requirements.

Our solutions are more reliable, more comprehensive and tailored to your requirements – and therefore provide the benefit of an optimized strategic and operational effect, higher reliability, higher flexibility and lower overall operating costs.

We focus on the combined use of our knowledge, our experience and our resources – for a solution from one single source that meets all requirements.

The result – an infrastructure that stays abreast of current and future requirements.

EMERSON™
Network Power

Emerson Network Power, a business of Emerson (NYSE:EMR), protects and optimizes critical infrastructure for data centers, communications networks, healthcare and industrial facilities.

The company provides new-to-the-world solutions, as well as established expertise and smart innovation in areas including AC and DC power and renewable energy, precision cooling systems, infrastructure management, embedded computing and power, integrated racks and enclosures, power switching and controls, and connectivity. Our solutions are supported globally by local Emerson Network Power service technicians. Learn more about Emerson Network Power products and services at

www.EmersonNetworkPower.com

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Emerson Network Power™
Leading global provider of Business-Critical Continuity™ solutions.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power
- Infrastructure Management & Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

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