

Our Products



A lifetime of commitment to automation



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CONTROL

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Focus on Benefits



More Benefits for your application

The "Features & Benefits" approach is firmly permeating the language of Carlo Gavazzi Automation since years.

Today, we aim to extend the same kind of approach to this catalogue, adopting a set of images to present strength, suitability and advantages of the products. Fourteen Features & Benefits Icons therefore able to represent the whole range of products' characteristics, adding effectiveness at a glance.



Application Durability

The product's features will prolong the application lifetime by reducing mechanical and thermal stress.



User Friendly

Installs in minutes with straightforward wiring and requires absolutely no programming. Could provide a status indication or a means to quickly connect.



Space Optimization

The product is a compact version of most others on the market, thus minimizing installation or panel space.



Cost Saving

Cost effective design of the product will save the customer money in installation, start-up and running of the application.



Long Term Reliability

The product is designed to provide higher performance than similar types of products over an extended lifetime.



Inventory Reduction

The design is multi-function, multi-voltage, contains multiple ranges, provides multiple outputs or could be modular.



For Harsh Environments

The product is resistant to harsh conditions, such as high or low temperatures, corrosion, vibration, shock or electrical noise.



Time Saving

Reduces the customer's time around the application



Simplified Set-Up

A more complex product, simplified by it's programming, teach-in or troubleshooting capabilities



Diagnostic Warning

Features an alarm output or warning indication for prompt intervention, should there be a problem with the application.



Maximizing Productivity

Reduces downtime and waste, thus increasing efficiency by minimizing the need for emergency maintenance calls.



Communication Capabilities

Integration is possible via a PLC, PC, bus network, GSM, etc.



Tamper Resistant

Provides a means for protection, thus helping to secure the application, against improper use or programming.



Minimizing Costs

The product will manage power consumption, resulting in reduced energy costs.

Advantages

A guarantee of Reliability

Our products have earned the independent approval of all the relevant bodies which govern our own industry and the many industries we serve.

They are developed and manufactured in full compliance with the most important international standard regulations.

All Automation Components facilities operates following certified Quality Management Systems.



Sense





Inductive Proximity Sensors, NAMUR, DC

Types

Housing

M12

M18

Steel

Plastic

Steel

Plastic

Flush Mountable



Dimensions (mm)

short body

M12 x 1 x 30

M12 x 1 x 30

M18 x 1 x 30

M18 x 1 x 30

Dimensions (mm)

long body

M12 x 1 x 50

M12 x 1 x 50

M18 x 1 x 50

M18 x 1 x 50

Thread (mm)

M12 x 1

M12 x 1

M18 x 1

M18 x 1

Operating frequency

1.4 kHz

1.4 kHz

500 Hz

500 Hz

Sensing distance (Sn)

2 mm

2 mm

5 mm

5 mm

References

Short body cable

IA12ESF02UC

IA12CSF02UC

IA18ESF05UC

IA18CSF05UC

Long body cable

IA12ELF02UC

IA12CLF02UC

IA18ELF05UC

IA18CLF05UC

Short body plug

IA12ESF02UCM1

IA12CSF02UCM1

IA18ESF05UCM1

IA18CSF05UCM1

Long body plug

IA12ELF02UCM1

IA12CLF02UCM1

IA18ELF05UCM1

IA18CLF05UCM1

Non-Flush Mountable



Dimensions (mm)

short body

M12 x 1 x 30

M12 x 1 x 30

M18 x 1 x 30

M18 x 1 x 30

Dimensions (mm)

long body

M12 x 1 x 50

M12 x 1 x 50

M18 x 1 x 50

M18 x 1 x 50

Thread (mm)

M12 x 1

M12 x 1

M18 x 1

M18 x 1

Operating frequency

1.2 kHz

1.2 kHz

200 Hz

200 Hz

Sensing distance (Sn)

4 mm

4 mm

8 mm

8 mm

References

Short body cable

IA12ESN04UC

IA12CSN04UC

IA18ESN08UC

IA18CSN08UC

Long body cable

IA12ELN04UC

IA12CLN04UC

IA18ELN08UC

IA18CLN08UC

Short body plug

IA12ESN04UCM1

IA12CSN04UCM1

IA18ESN08UCM1

IA18CSN08UCM1

Long body plug

IA12ELN04UCM1

IA12CLN04UCM1

IA18ELN08UCM1

IA18CLN08UCM1

**Characteristics
Flush and Non-Flush
Mountable**

Rated operating voltage

7 - 9 VDC

7 - 9 VDC

7 - 9 VDC

7 - 9 VDC

Degree of protection

IP 67

IP 67

IP 67

IP 67

Housing material

Stainless steel

Thermoplastic
Polyester

Stainless steel

Thermoplastic
Polyester

Operating temperature

-25°C to +70°C

-25°C to +70°C

-25°C to +70°C

-25°C to +70°C

LED color

Yellow

Yellow

Yellow

Yellow

Approvals/Marks

CE - UL - CSA









CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

























Types	M30	
Housing	Steel	Plastic
Flush Mountable		
		
Dimensions (mm) short body	M30 x 1.5 x 30	M30 x 1.5 x 30
Dimensions (mm) long body	M30 x 1.5 x 50	M30 x 1.5 x 50
Thread (mm)	M30 x 1	M30 x 1
Operating frequency	300 Hz	300 Hz
Sensing distance (Sn)	10 mm	10 mm
References		
Short body cable	IA30ESF10UC	IA30CSF10UC
Long body cable	IA30ELF10UC	IA30CLF10UC
Short body plug	IA30ESF10UCM1	IA30CSF10UCM1
Long body plug	IA30ELF10UCM1	IA30CLF10UCM1
Non-Flush Mountable		
		
Dimensions (mm) short body	M30 x 1.5 x 30	M30 x 1.5 x 30
Dimensions (mm) long body	M30 x 1.5 x 50	M30 x 1.5 x 50
Thread (mm)	M30 x 1.5	M30 x 1.5
Operating frequency	100 Hz	100 Hz
Sensing distance (Sn)	15 mm	15 mm
References		
Short body cable	IA30ESN15UC	IA30CSN15UC
Long body cable	IA30ELN15UC	IA30CLN15UC
Short body plug	IA30ESN15UCM1	IA30CSN15UCM1
Long body plug	IA30ELN15UCM1	IA30CLN15UCM1
Characteristics		
Flush and Non-Flush Mountable		
Rated operating voltage	7 - 9 VDC	7 - 9 VDC
Degree of protection	IP 67	IP 67
Housing material	Stainless steel	Thermoplastic Polyester
Operating temperature	-25°C to +70°C	-25°C to +70°C
LED color	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA











Inductive Proximity Sensors, 2-Wire, DC, Extended Range

Types	M8, Short Body	M12, Short Body	
Connections	2 m Cable	2 m Cable	M12 Connector
Flush Mountable	   	  	  
Dimensions (mm)	M8 x 30	M12 x 49	M12 x 63
Thread (mm)	M8 x 1 x 30	M12 x 1 x 38	M12 x 1 x 38
Operating frequency	2 kHz	1 kHz	1 kHz
Sensing distance (Sn)	2.0 mm	4.0 mm	4.0 mm
References	NO IA08BSF02DO NC IA08BSF02DC	NO IA12DSF04DO NC IA12DSF04DC	NO IA12ASF04DOM1 NC IA12ASF04DCM1
Non-Flush Mountable	   	  	  
Dimensions (mm)	M8 x 34	M12 x 53	M12 x 67
Thread (mm)	M8 x 1 x 30	M12 x 1 x 38	M12 x 1 x 38
Operating frequency	2 kHz	800 Hz	800 Hz
Sensing distance (Sn)	4.0 mm	8.0 mm	8.0 mm
References	NO IA08BSN04DO NC IA08BSN04DC	NO IA12DSN08DO NC IA12DSN08DC	NO IA12ASN08DOM1 NC IA12ASN08DCM1
Characteristics			
Flush and Non-Flush Mountable			
Rated operating voltage	10 - 30 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	≤ 8 VDC @ max. load	≤ 3 VDC @ max. load	≤ 3 VDC @ max. load
Degree of protection	IP 67	IP 67	IP 67
Protection Short-circuit (S)			
Reverse polarity (P)			
Transients (T)	SPT	SPT	SPT
Output current	3 - 100 mA	5 - 100 mA	5 - 100 mA
Housing material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Operating temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
LED color	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA





Types	M18, Short Body		M30, Short Body	
Connections	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Flush Mountable				
	 	 	 	 
Dimensions (mm)	M18 x 42	M18 x 55	M30 x 44	M30 x 55
Thread (mm)	M18 x 1 x 30	M18 x 1 x 30	M30 x 1.5 x 30	M30 x 1.5 x 30
Operating frequency	500 Hz	500 Hz	400 Hz	400 Hz
Sensing distance (Sn)	8.0 mm	8.0 mm	15 mm	15 mm
References	IA18DSF08DO IA18DSF08DC	IA18ASF08DOM1 IA18ASF08DCM1	IA30DSF15DO IA30DSF15DC	IA30ASF15DOM1 IA30ASF15DCM1
Non-Flush Mountable				
	 	 	 	 
Dimensions (mm)	M18 x 50	M18 x 63	M30 x 56	M30 x 67
Thread (mm)	M18 x 1 x 30	M18 x 1 x 30	M30 x 1.5 x 30	M30 x 1.5 x 30
Operating frequency	400	400	200	200
Sensing distance (Sn)	14 mm	14 mm	22 mm	22 mm
References	IA18DSN14DO IA18DSN14DC	IA18ASN14DOM1 IA18ASN14DCM1	IA30DSN22DO IA30DSN22DC	IA30ASN22DOM1 IA30ASN22DCM1
Characteristics				
Flush and Non-Flush Mountable				
Rated operating voltage	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	≤ 3 VDC @ max. load	≤ 3 VDC @ max. load	≤ 3 VDC @ max. load	≤ 3 VDC @ max. load
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Output current	5 - 100 mA	5 - 100 mA	5 - 100 mA	5 - 100 mA
Housing material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Operating temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
LED color	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA



Inductive Proximity Sensors, 3-Wire, DC

Types

M5 Basic - Short Body

M8 Basic - Short Body

Connections

2 m Cable

M8 Connector

2 m Cable

M8 Connector

Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M5 x 28

M5 x 1 x 25

2 kHz

0.8 mm

M5 x 45

M5 x 1 x 25

2 kHz

0.8 mm

M8 x 30

M8 x 1 x 30

2 kHz

1.5 mm

M8 x 45

M8 x 1 x 25

2 kHz

1.5 mm

References

NPN-NO

PNP-NO

NPN-NC

PNP-NC

IA05BSF10NOP

IA05BSF10POP

IA05BSF10NCP

IA05BSF10PCP

IA05BSF10NOM5P

IA05BSF10POM5P

IA05BSF10NCM5P

IA05BSF10PCM5P

IA08BSF15NO

IA08BSF15PO

IA08BSF15NC

IA08BSF15PC

IA08BSF15NOM5

IA08BSF15POM5

IA08BSF15NCM5

IA08BSF15PCM5

Non-Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M8 x 30

M8 x 1 x 27

2 kHz

2.5 mm

M8 x 45

M8 x 1 x 25

2 kHz

2.5 mm

References

NO

NC

IA08BSN25NO

IA08BSN25PO

IA08BSN25NC

IA08BSN25PC

IA08BSN25NOM5

IA08BSN25POM5

IA08BSN25NCM5

IA08BSN25PCM5

Characteristics

Flush and Non-Flush Mountable

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

10 - 30 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Red

CE - CSA

10 - 30 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Red

CE - CSA

10 - 30 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Yellow

CE - UL - CSA

10 - 30 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Yellow

CE - UL - CSA





Types

M8 Basic - Long Body

Connections

2 m Cable

M8 Connector

M12 Connector

Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M8 x 45

M8 x 1 x 45

2 kHz

1.5 mm

M8 x 60

M8 x 1 x 40

2 kHz

1.5 mm

M8 x 69

M8 x 1 x 43

2 kHz

1.5 mm

References

NPN-NO

PNP-NO

NPN-NC

PNP-NC

IA08BLF15NO

IA08BLF15PO

IA08BLF15NC

IA08BLF15PC

IA08BLF15NOM5

IA08BLF15POM5

IA08BLF15NCM5

IA08BLF15PCM5

IA08BLF15NOM1

IA08BLF15POM1

IA08BLF15NCM1

IA08BLF15PCM1

Non-Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M8 x 45

M8 x 1 x 42

2 kHz

2.5 mm

M8 x 60

M8 x 1 x 37

2 kHz

2.5 mm

M8 x 69

M8 x 1 x 40

2 kHz

2.5 mm

References

NPN-NO

PNP-NO

NPN-NC

PNP-NC

IA08BLN25NO

IA08BLN25PO

IA08BLN25NC

IA08BLN25PC

IA08BLN25NOM5

IA08BLN25POM5

IA08BLN25NCM5

IA08BLN25PCM5

IA08BLN25NOM1

IA08BLN25POM1

IA08BLN25NCM1

IA08BLN25PCM1

Characteristics Flush and Non-Flush Mountable

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

10 - 30 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Yellow

CE - UL - CSA

10 - 30 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Yellow

CE - UL - CSA

10 - 30 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Stainless steel



















-25°C to +70°C

Yellow

CE - UL - CSA



Inductive Proximity Sensors, 3-Wire, DC

Types	M12 Basic - Short Body		M12 Basic - Long Body	
Connections	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Flush Mountable				
	 	 	 	 
Dimensions (mm)	M12 x 41	M12 x 55.2	M12 x 61	M12 x 75.2
Thread (mm)	M12 x 1 x 30	M12 x 1 x 30	M12 x 1 x 50	M12 x 1 x 50
Operating frequency	2 kHz	2 kHz	2 kHz	2 kHz
Sensing distance (Sn)	2 mm	2 mm	2 mm	2 mm
References	IA12DSF02NO IA12DSF02PO IA12DSF02NC IA12DSF02PC	IA12ASF02NOM1 IA12ASF02POM1 IA12ASF02NCM1 IA12ASF02PCM1	IA12DLF02NO IA12DLF02PO	IA12DLF02NOM1 IA12ALF02POM1
				
	 	 		
Dimensions (mm)	M12 x 45	M12 x 60		
Thread (mm)	M12 x 1 x 30	M12 x 1 x 30		
Operating frequency	2 kHz	2 kHz		
Sensing distance (Sn)	4 mm	2 mm		
References	IA12DSN04NO IA12DSN04PO IA12DSN04NC IA12DSN04PC	IA12ASN04NOM1 IA12ASN04POM1 IA12ASN04NCM1 IA12ASN04PCM1		
Characteristics				
Flush and Non-Flush Mountable				
Rated operating voltage	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Output current	< 200 mA @ 25°C	< 200 mA @ 25°C	< 200 mA @ 25°C	< 200 mA @ 25°C
Housing material	Nickel-plated brass + plastic	Nickel-plated brass	Nickel-plated brass + plastic	Nickel-plated brass
Operating temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
LED color	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA





Types

M18 Basic - Short Body

M18 Basic - Long Body

Connections

2 m Cable

M12 Connector

2 m Cable

M12 Connector

Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M18 x 41.6

M18 x 1 x 30

1.5 kHz

5 mm

M18 x 55

M18 x 1 x 30

1.5 kHz

5 mm

M18 x 61.6

M18 x 1 x 50

1.5 kHz

5 mm

M18 x 75

M18 x 1 x 50

1.5 kHz

5 mm

References

NPN-NO

PNP-NO

NPN-NC

PNP-NC

IA18DSF05NO

IA18DSF05PO

IA18DSF05NC

IA18DSF05PC

IA18ASF05NOM1

IA18ASF05POM1

IA18ASF05NCM1

IA18ASF05PCM1

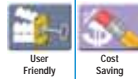
IA18DLF05PO

IA18DLF05PC

IA18ALF05POM1

IA18ALF05PCM1

Non-Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M18 x 49.6

M18 x 1 x 30

1.5 kHz

8 mm

M18 x 63

M18 x 1 x 30

1.5 kHz

8 mm

References

NPN-NO

PNP-NO

NPN-NC

PNP-NC

IA18DSN08NO

IA18DSN08PO

IA18DSN08NC

IA18DSN08PC

IA18ASN08NOM1

IA18ASN08POM1

IA18ASN08NCM1

IA18ASN08PCM1

**Characteristics
Flush and Non-Flush
Mountable**

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

10 - 40 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Nickel-plated brass
+ plastic

-25°C to +70°C

Yellow

CE - UL - CSA

10 - 40 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Nickel-plated brass

-25°C to +70°C

Yellow

CE - UL - CSA

10 - 40 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Nickel-plated brass
+ plastic

-25°C to +70°C

Yellow

CE - UL - CSA

10 - 40 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Nickel-plated brass

-25°C to +70°C

Yellow

CE - UL - CSA

Sense



Inductive Proximity Sensors, 3-Wire, DC

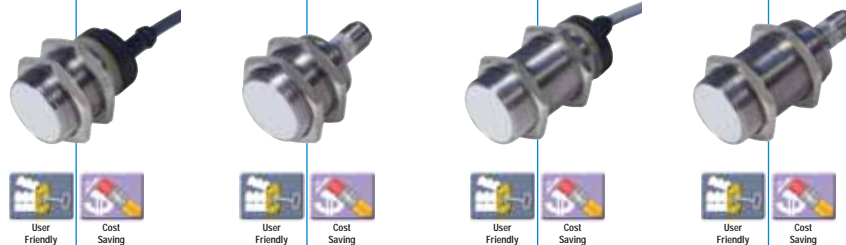
Types

	M30 Basic - Short Body		M30 Basic - Long Body	
--	------------------------	--	-----------------------	--

Connections

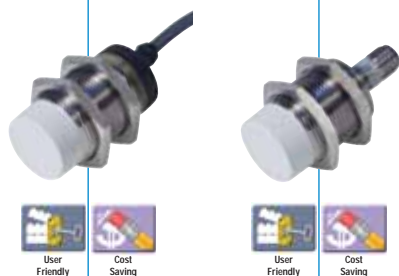
	2 m Cable	M12 Connector	2 m Cable	M12 Connector
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Flush Mountable



Dimensions (mm)	M30 x 43.6	M30 x 55	M30 x 63.6	M30 x 75
Thread (mm)	M30 x 1.5 x 30	M30 x 1.5 x 30	M30 x 1.5 x 50	M30 x 1.5 x 50
Operating frequency	700 Hz	700 Hz	700 Hz	700 Hz
Sensing distance (Sn)	10 mm	10 mm	10 mm	10 mm
References				
NPN-NO	IA30DSF10NO	IA30ASF10NOM1		
PNP-NO	IA30DSF10PO	IA30ASF10POM1	IA30DLF10PO	IA30ALF10POM1
NPN-NC				
PNP-NC			IA30DLF10PC	

Non-Flush Mountable



Dimensions (mm)	M30 x 55.6	M30 x 66		
Thread (mm)	M30 x 1.5 x 30	M30 x 1.5 x 30		
Operating frequency	700 Hz	700 Hz		
Sensing distance (Sn)	15 mm	15 mm		
References				
NPN-NO	IA30DSN15NO	IA30ASN15NOM1		
PNP-NO	IA30DSN15PO	IA30ASN15POM1		
NPN-NC				
PNP-NC				

Characteristics Flush and Non-Flush Mountable

Rated operating voltage	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Output current	< 200 mA @ 25°C	< 200 mA @ 25°C	< 200 mA @ 25°C	< 200 mA @ 25°C
Housing material	Nickel-plated brass + plastic	Nickel-plated brass	Nickel-plated brass + plastic	Nickel-plated brass
Operating temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
LED color	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA





Types

M8 Basic - Extended

M12 Basic - Extended

Connections

2 m Cable

M12 Connector

2 m Cable

M12 Connector

Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M8 x 35 x 30

M8 x 1 x 35

2 kHz

2 mm

M8 x 45

M8 x 1 x 30

2 kHz

2 mm

M12 x 41

M12 x 1 x 30

1.5 kHz

4 mm

M12 x 55.2

M12 x 1 x 30

1.5 kHz

4 mm

References

NPN-NO

PNP-NO

NPN-NC

PNP-NC

IA08BSF20NO

IA08BSF20PO

IA08BSF20NC

IA08BSF20PC

IA08BSF20NOM5

IA08BSF20POM5

IA08BSF20NCM5

IA08BSF20PCM5

IA12DSF04NO

IA12DSF04PO

IA12DSF04PC

IA12ASF04NOM1

IA12ASF04POM1

Non-Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M8 x 30

M8 x 1 x 27

1 kHz

4 mm

M8 x 45

M8 x 1 x 22

1 kHz

4 mm

M12 x 45

M12 x 1 x 30

800 Hz

8 mm

M12 x 59.2

M12 x 1 x 30

800 Hz

8 mm

References

NPN-NO

PNP-NO

NPN-NC

PNP-NC

IA08BSN40NO

IA08BSN40PO

IA08BSN40NC

IA08BSN40PC

IA08BSN40NOM5

IA08BSN40POM5

IA08BSN40NCM5

IA08BSN40PCM5

IA12DSN08NO

IA12DSN08PO

IA12ASN08NOM1

IA12ASN08POM1

**Characteristics
Flush and Non-Flush
Mountable**

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

10-40 VDC

≤ 2.5 VDC

IP 67

PT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Yellow

CE - UL - CSA

10-40 VDC

≤ 2.5 VDC

IP 67

PT

< 200 mA @ 25°C

Stainless steel

-25°C to +70°C

Yellow

CE - UL - CSA

10-40 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Nickel-plated brass + plastic

-25°C to +70°C

Yellow

CE - UL - CSA

10-40 VDC

≤ 2.5 VDC

IP 67

SPT

< 200 mA @ 25°C

Nickel-plated brass

-25°C to +70°C

Yellow

CE - UL - CSA



Inductive Proximity Sensors, 3-Wire, DC, Extended Range

Types

M18 Basic - Extended

M30 Basic - Extended

Connections

2 m Cable

M12 Connector

2 m Cable

M12 Connector

Flush Mountable



Dimensions (mm)
Thread (mm)
Operating frequency
Sensing distance (Sn)

M18 x 41.6
M18 x 1 x 30
500 Hz
8 mm

M18 x 55
M18 x 1 x 30
500 Hz
8 mm

M30 x 43.6
M30 x 1.5 x 30
700 Hz
15 mm

M30 x 55
M30 x 1.5 x 30
700 Hz
15 mm

References

NPN-NO
PNP-NO
NPN-NC
PNP-NC

IA18DSF08NO
IA18DSF08PO

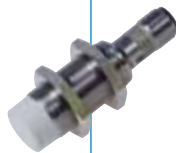
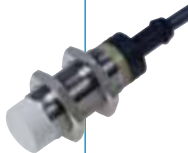
IA18ASF08NOM1
IA18ASF08POM1

IA30DSF15NO
IA30DSF15PO

IA30ASF15NOM1
IA30ASF15POM1

IA30DSF15PC

Non-Flush Mountable



Dimensions (mm)
Thread (mm)
Operating frequency
Sensing distance (Sn)

M18 x 49.6
M18 x 1 x 30
400 Hz
14 mm

M18 x 63
M18 x 1 x 30
400 Hz
14 mm

M30 x 55.6
M30 x 1.5 x 30
500 Hz
22 mm

M30 x 67
M30 x 1.5 x 30
500 Hz
22 mm

References

NPN-NO
PNP-NO
NPN-NC
PNP-NC

IA18DSN14NO
IA18DSN14PO

IA18ASN14NOM1
IA18ASN14POM1

IA30DSN22NO
IA30DSN22PO

IA30ASN22NOM1
IA30ASN22POM1

Characteristics Flush and Non-Flush Mountable

Rated operating voltage
Voltage drop
Degree of protection
Protection Short-circuit (S)
Reverse polarity (P)
Transients (T)
Output current
Housing material
Operating temperature
LED color
Approvals/Marks

10-40 VDC
≤ 2.5 VDC
IP 67

10-40 VDC
≤ 2.5 VDC
IP 67

10-40 VDC
≤ 2.5 VDC
IP 67

10-40 VDC
≤ 2.5 VDC
IP 67

PT
< 200 mA @ 25°C

PT
< 200 mA @ 25°C

SPT
< 200 mA @ 25°C

SPT
< 200 mA @ 25°C

Stainless steel

Stainless steel

Nickel-plated brass
+ plastic

Nickel-plated brass

-25°C to +70°C

-25°C to +70°C

-25°C to +70°C

-25°C to +70°C

Yellow

Yellow

Yellow

Yellow

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA





Types

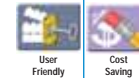
M12 Basic - Long Body

Connections

2 m Cable

M12 Connector

Flush Mountable



Dimensions (mm)
Thread (mm)
Operating frequency
Sensing distance (Sn)

M12 x 66
M12 x 1 x 50
25 Hz
2 mm

M12 x 74.5
M12 x 1 x 50
25 Hz
2 mm

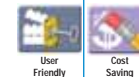
References

SCR-NO
SCR-NC

EI1202TBOSL
EI1202TBCSL

EI1202TBOSL-6

Non-Flush Mountable



Dimensions (mm)
Thread (mm)
Operating frequency
Sensing distance (Sn)

M12 x 74
M12 x 1 x 50
25 Hz
4 mm

M12 x 82.5
M12 x 1 x 50
25 Hz
4 mm

References

SCR-NO
SCR-NC

EI1204TBOSL
EI1204TBCSL

EI1204TBOSL-6

**Characteristics
Flush and Non-Flush
Mountable**

Rated operating voltage
Voltage drop
Degree of protection
Protection Short-circuit (S)
Reverse polarity (P)
Transients (T)
Output current
Housing material
Operating temperature
LED color
Approvals/Marks

20-265 VAC
≤ 8 VDC
IP 67
T
< 500 mA
Stainless Steel
-25°C to +70°C
Yellow
CE - UL - CSA

20-265 VAC
≤ 8 VDC
IP 67
T
< 500 mA
Stainless Steel
-25°C to +70°C
Yellow
CE - UL - CSA



Inductive Proximity Sensors, 2-Wire, AC

Types

M18 Basic - Short Body

M18 Basic - Long Body

Connections

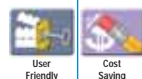
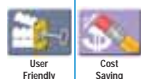
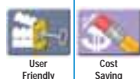
2 m Cable

M12 Connector

2 m Cable

M12 Connector

Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M18 x 57

M18 x 1 x 30

25 kHz

5 mm

M18 x 55

M18 x 1 x 30

25 kHz

5 mm

M18 x 77

M18 x 1 x 50

25 kHz

5 mm

M18 x 75

M18 x 1 x 50

25 kHz

5 mm

References

SCR-NO

SCR-NC

EI1805TBOSS

EI1805TBCSS

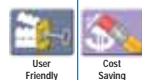
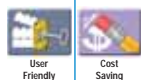
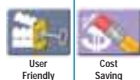
EI1805TBOSS-6

EI1805TBOSL

EI1805TBCSL

EI1805TBOSL-6

Non-Flush Mountable



Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

M18 x 73

M18 x 1 x 30

25 kHz

8 mm

M18 x 71

M18 x 1 x 30

25 kHz

8 mm

M18 x 93

M18 x 1 x 50

25 kHz

8 mm

M18 x 93

M18 x 1 x 50

25 kHz

8 mm

References

SCR-NO

SCR-NC

EI1808TBOSS

EI1808TBCSS

EI1808TBOSS-6

EI1808TBOSL

EI1808TBCSL

EI1808TBOSL-6

EI1808TBCSL-6

Characteristics

Flush and Non-Flush Mountable

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

20-265 VAC

≤ 8 VDC

IP 67

T

< 500 mA

Stainless Steel

-25°C to +70°C

Yellow

CE - UL - CSA

20-265 VAC

≤ 8 VDC

IP 67

T

< 500 mA

Stainless Steel

-25°C to +70°C

Yellow

CE - UL - CSA

20-265 VAC

≤ 8 VDC

IP 67

T

< 500 mA

Stainless Steel

-25°C to +70°C

Yellow

CE - UL - CSA

20-265 VAC

≤ 8 VDC

IP 67

T

< 500 mA

Stainless Steel

-25°C to +70°C

Yellow

CE - UL - CSA





Types

M30 Basic - Short Body

M30 Basic - Long Body

Connections

2 m Cable

M12 Connector

2 m Cable

M12 Connector

Flush Mountable



Dimensions (mm)
Thread (mm)
Operating frequency
Sensing distance (Sn)

M30 x 59
M30 x 1.5 x 30
25 Hz
10 mm

M30 x 79
M30 x 1.5 x 30
25 Hz
10 mm

M30 x 75.5
M30 x 1.5 x 30
25 Hz
10 mm

References

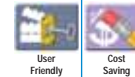
SCR-NO
SCR-NC

EI3010TBOSS
EI3010TBCSS

EI3010TBOSL
EI3010TBCSL

EI3010TBOSL-6
EI3010TBCSL-6

Non-Flush Mountable



Dimensions (mm)
Thread (mm)
Operating frequency
Sensing distance (Sn)

M30 x 99.5
M30 x 1.5 x 30
25 Hz
15 mm

M30 x 79.5
M30 x 1.5 x 30
25 Hz
15 mm

M30 x 103
M30 x 1.5 x 30
25 Hz
15 mm

M30 x 83
M30 x 1.5 x 30
25 Hz
15 mm

References

SCR-NO
SCR-NC

EI3015TBOSS
EI3015TBCSS

EI3015TBOSS-6
EI3015TBCSS-6

EI3015TBOSL
EI3015TBCSL

EI3015TBOSL-6
EI3015TBCSL-6

**Characteristics
Flush and Non-Flush
Mountable**

Rated operating voltage
Voltage drop
Degree of protection
Protection Short-circuit (S)
Reverse polarity (P)
Transients (T)
Output current
Housing material
Operating temperature
LED color
Approvals/Marks

20-265 VAC
≤ 8 VDC
IP 67
T
< 500 mA
Stainless Steel
-25°C to +70°C
Yellow
CE - UL - CSA



















20-265 VAC
≤ 8 VDC
IP 67
T
< 500 mA
Stainless Steel
-25°C to +70°C
Yellow
CE - UL - CSA

20-265 VAC
≤ 8 VDC
IP 67
T
< 500 mA
Stainless Steel
-25°C to +70°C
Yellow
CE - UL - CSA

20-265 VAC
≤ 8 VDC
IP 67
T
< 500 mA
Stainless Steel
-25°C to +70°C
Yellow
CE - UL - CSA















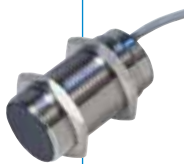




Inductive Proximity Sensors, 2-Wire, AC

Types	M18 - Short Body	M18 - Long Body		M30 - Long Body
Connections	2 m Cable	2 m Cable	M12 Connector	2 m Cable
Flush Mountable				
	 	 		 
Dimensions (mm)	M18 x 41.6	M18 x 55		M30 x 79
Thread (mm)	M18 x 1 x 30	M18 x 1 x 30		M30 x 1.5 x 50
Operating frequency	500 Hz	500 Hz		25 Hz
Sensing distance (Sn)	8 mm	8 mm		10 mm
References	EI1805TBOPS	EI1805TBOPL		EI3010TBOPL
SCR-NO				
Non-Flush Mountable				
		 	 	 
Dimensions (mm)		M18 x 93	M18 x 91	M30 x 103
Thread (mm)		M18 x 1 x 50	M18 x 1 x 50	M30 x 1.5 x 50
Operating frequency		25 Hz	25 Hz	25 Hz
Sensing distance (Sn)		8 mm	8 mm	15 mm
References		EI1808TBOPL EI1808TBCPL	EI1808TBCPL-6	EI3015TBOPL
SCR-NO				
SCR-NO				
Characteristics				
Flush and Non-Flush Mountable				
Rated operating voltage	20-265 VAC	20-265 VAC	20-265 VAC	20-265 VAC
Voltage drop	≤ 8 VDC	≤ 8 VDC	≤ 8 VDC	≤ 8 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	T	T	T	T
Output current	< 500 mA	< 500 mA	< 500 mA	< 500 mA
Housing material	Thermoplastic polyester	Thermoplastic polyester	Thermoplastic polyester	Thermoplastic polyester
Operating temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
LED color	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA




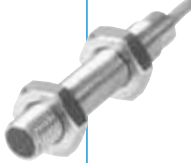

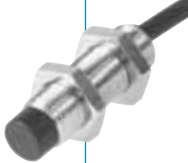










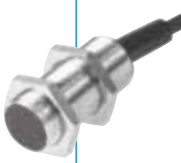

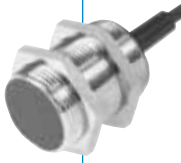









Types	M8 Analog.-Short	M12 Analog.-Short	M12 Analogue-Long	
Connections	2 m Cable	2 m Cable	2 m Cable	2 m Cable
Flush Mountable				
	 			
Dimensions (mm)	M8 x 45	M12 x 50	M12 x 80	M12 x 50
Thread (mm)	M8 x 1 x 40	M12 x 1 x 40	M12 x 1 x 70	M12 x 1 x 45
Sensing distance (Sn)	0.1 - 1.5 mm	0.3 - 5 mm	0.3 - 3 mm	0.1 - 3 mm
Output	20 - 40 mA	0 - 10 mA	1 - 10 mA	20 - 4 mA
References				
PNP	IA08ALC15AG-K	IA12ASC05AK-K	IA12ALC03AK-K	IA12ALC03AG-K
Characteristics				
Rated operating voltage	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	PT	PT	PT	PT
Housing material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Operating temperature	0°C to +50°C	0°C to +70°C	0°C to +70°C	0°C to +50°C
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA

Types	M18 Analogue-Long	M30 Analog.-Short	M30 Analog.-Long	
Connections	2 m Cable	2 m Cable	2 m Cable	2 m Cable
Flush Mountable				
				
Dimensions (mm)	M18 x 80	M18 x 55	M30 x 55	M30 x 55
Thread (mm)	M18 x 1 x 54	M18 x 1 x 50	M30 x 1.5 x 40	M30 x 1.5 x 50
Sensing distance (Sn)	0 - 5 mm	0.1 - 6 mm	3.5- 11 mm	0.5- 10 mm
Output	0 - 1.6 V	20 - 4 mA	0 - 10 V	20 - 4 mA
References				
PNP	IA18ALC05AH-K	IA18ALC06AG-K	IA30ASC11AK-K	IA30ALC10AG-K
Characteristics				
Rated operating voltage	12 - 30 VDC	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	PT	PT	PT	PT
Housing material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Operating temperature	-25°C to +70°C	0°C to +50°C	-25°C to +70°C	0°C to +50°C
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA



Inductive Proximity Sensors, High Temperature

Types	M5	M8	M12	
Connections	2 m Cable	2 m Cable	2 m Cable or M12 Connection	
Flush or Non Flush Mountable				
	 	 	 	 
Dimensions (mm)	M5 x 30	M8 x 45	M12 x 40	M12 x 40
Thread (mm)	M5 x 0.5 x 25	M8 x 1 x 40	M12 x 1 x 40	M12 x 1 x 34
Sensing distance (Sn)	0.8 mm	1 mm	2 mm	4 mm
Output	≤ 5 mA	≤ 5 mA	≤ 20 mA	≤ 20 mA
References				
NPN-NO Cable	IA05BSF08NOHT-K	IA08BSF10NOHT-K	IA12ASF02POHT-K	IA12ASN04NOHT-K
PNP-NO Cable	IA05BSF08POHT-K	IA08BSF10POHT-K	IA12ASF02POM1HT-K	IA12ASN04POHT-K
PNP-NO Plug				IA12ASN04POM1HT-K
Characteristics				
Rated operating voltage	15 - 30 VDC	15 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection	Short-circuit	Short-circuit	Short-circuit	Short-circuit
Housing material	Stainless steel	Stainless steel	Nickel-plated brass	Nickel-plated brass
Operating temperature	-25°C to +120°C	-25°C to +120°C	-40°C to +100°C	-40°C to +100°C
Approvals/Marks	CE	CE	CE	CE

Types	M18		M30	
Connections	2 m Cable or M12 Connection		2 m Cable or M12 Connection	
Flush or Non Flush Mountable				
	 	 	 	 
Dimensions (mm)	M18 x 40	M18 x 40	M30 x 40	M30 x 40
Thread (mm)	M18 x 1 x 40	M18 x 1 x 32	M30 x 1.5 x 40	M30 x 1.5 x 28
Sensing distance (Sn)	5 mm	8 mm	10 mm	15 mm
Output	≤ 25 mA	≤ 25 mA	≤ 25 mA	≤ 25 mA
References				
PNP-NO Cable	IA18ASF05POHT-K	IA18ASN08POHT-K	IA30ASF10POHT-K	IA30ASN15POHT-K
PNP-NO Plug	IA18ASF05POM1HT-K	IA18ASN08POM1HT-K	IA30ASF10POM1HT-K	IA30ASN15POM1HT-K
Characteristics				
Rated operating voltage	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection	Short-circuit	Short-circuit	Short-circuit	Short-circuit
Housing material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Operating temperature	-40°C to +100°C	-40°C to +100°C	-40°C to +100°C	-40°C to +100°C
Approvals/Marks	CE	CE	CE	CE





Types

Micro Switch

Connections

2 m Cable



Dimensions Body(mm)	30 x 19 x 15
Dimensions Tip(mm)	Ø12 x 16
Operation Frequency	1 kHz
Sensing distance (Sn)	4.0 mm

References

NO	IG12FSF04DO
NC	IG12FSF04DC

Characteristics

Rated operating voltage	10 to 40 VDC
Voltage drop	≤ 3 VDC at max. load
Degree of protection	IP67
Protection Short-circuit (S)	
Reverse polarity (P)	
Transients (T)	SPT
Output current	≤ 5 - 100 mA
Housing material	Anodized Aluminium
Operating temperature	-25° to +70°C
Approvals/Marks	CE



Inductive Proximity Sensors, Switch, Polyester Housing

Types	Transistor NPN/PNP		Power MOSFET output AC types	
Connections	Terminals		Terminals	Terminals
Non-Flush Mountable				
Dimensions (mm)	40 x 40 x 118		40 x 40 x 118	40 x 40 x 118
Operating frequency	≤ 100 Hz		≤ 25 Hz AC; 40 Hz DC	≤ 25 Hz
Sensing distance (Sn)	30 mm		30 mm	30 mm
References	IC40CNN30NAT1 IC40CNN30PAT1		IC40CNN30COT1 IC40CNN30CCT1	IC40CNN30TAT1
Characteristics	10 - 30 VDC IP 67 SP ≤ 200 mA Thermoplastic polyester -25°C to +70°C Yellow, Green CE		20 - 250 VAC/VDC IP 67 SP 5 - 200 mA Thermoplastic polyester -25°C to +70°C Yellow, Green CE	20 - 250 VAC IP 67 SP 5 - 200 mA Thermoplastic polyester -25°C to +70°C Yellow, Green CE





Types

Single Loop

Dual Loop

Connections

Plug 11 pin circular

Plug 11 pin circular



Adjustment
 Manual fine-tune
 Loop inductance
 Input
 Output

Auto
 Yes
 15-1500 mH
 1 Loop
 2 x SPDT, 1A / 250 VAC

Auto
 Yes
 15-1500 mH
 2 Loops
 2 x SPST, 1A / 250 VAC

References
 24 VAC/DC
 115 VAC
 230 VAC

LDP1SA1BM24
LDP1SA1B115
LDP1SA1B230

LDP2TA2BM24
LDP2TA2B115
LDP2TA2B230

References
 24 VAC/DC
 115 VAC
 230 VAC

LDP1SA1BM24-2
LDP1SA1B115-2
LDP1SA1B230-2

References
 24 VAC/DC
 115 VAC
 230 VAC

LDP1SA1BM24-3
LDP1SA1B115-3
LDP1SA1B230-3

LDP1TA1BM24-3
LDP1TA1B115-3
LDP1TA1B230-3

References
 24 VAC/DC
 115 VAC
 230 VAC

LDP1SA1BM24-4
LDP1SA1B115-4
LDP1SA1B230-4

Characteristics
 Operating temperature
 Approvals/Marks

-25°C to +70°C
 CE - UL - CSA

-25°C to +70°C
 CE - UL - CSA



Capacitive Proximity Sensors, TRIPLESIELD™

Types

Connections

Flush Mountable

Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

References

NPN - NO and NC

PNP - NO and NC

Thyristor (SCR) NO

Thyristor (SCR) NC

Non-Flush Mountable

Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

References

NPN - NO and NC

PNP - NO and NC

Thyristor (SCR) NO

Thyristor (SCR) NC

Characteristics Flush and Non-Flush Mountable

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

M18-DC TRIPLESIELD™

2 m Cable

M12 Connector



M18 x 71.5

M18 x 1 x 46.5

30 Hz

3 - 8 mm (adjustable)

CA18CLF08NA

CA18CLF08PA

M18 x 83.5

M18 x 1 x 46.5

30 Hz

3 - 8 mm (adjustable)

CA18CLF08NAM1

CA18CLF08PAM1

M18-AC TRIPLESIELD™

2 m Cable

M12 Connector



M18 x 71.5

M18 x 1 x 46.5

10 Hz

3 - 8 mm (adjustable)

CA18CLF08TO

CA18CLF08TC

M18 x 83.5

M18 x 1 x 46.5

10 Hz

3 - 8 mm (adjustable)

CA18CLF08TOM6

CA18CLF08TCM6



M18 x 79.5

M18 x 1 x 46.5

30 Hz

3 - 12 mm (adjustable)

CA18CLN12NA

CA18CLN12PA

M18 x 91.5

M18 x 1 x 46.5

30 Hz

3 - 12 mm (adjustable)

CA18CLN12NAM1

CA18CLN12PAM1



M18 x 79.5

M18 x 1 x 46.5

10 Hz

3 - 12 mm (adjustable)

CA18CLN12TO

CA18CLN12TC

M18 x 91.5

M18 x 1 x 46.5

10 Hz

3 - 12 mm (adjustable)

CA18CLN12TOM6

CA18CLN12TCM6

Also available in Teflon, polypropylene and PVC housing





Types

M30-DC TRIPLESIELD™

Connections

2 m Cable M12 Connector 2 m Cable M12 Connector

Flush Mountable



Dimensions (mm)	M30 x 63.6	M30 x 75.6	M30 x 63.6	M30 x 75.6
Thread (mm)	M30 x 1.5 x 50	M30 x 1.5 x 50	M30 x 1.5 x 50	M30 x 1.5 x 50
Operating frequency	50 Hz	50 Hz	50 Hz	50 Hz
Sensing distance (Sn)	2 - 16 mm (adjustable)	2 - 16 mm (adjustable)	2 - 16 mm (adjustable)	2 - 16 mm (adjustable)

References

NPN - NO and NC	EC3016NPASL	EC3016NPASL-1	EC3016NPAPL	EC3016NPAPL-1
PNP - NO and NC	EC3016PPASL	EC3016PPASL-1	EC3016PPAPL	EC3016PPAPL-1

Non-Flush Mountable



Dimensions (mm)	M30 x 63.6	M30 x 75.6	M30 x 63.6	M30 x 75.6
Thread (mm)	M30 x 1.5 x 50	M30 x 1.5 x 50	M30 x 1.5 x 50	M30 x 1.5 x 50
Operating frequency	50 Hz	50 Hz	50 Hz	50 Hz
Sensing distance (Sn)	4 - 25 mm (adjustable)	4 - 25 mm (adjustable)	4 - 25 mm (adjustable)	4 - 25 mm (adjustable)

References

NPN-NO - NO and NC	EC3025NPASL	EC3025NPASL-1	EC3025NPAPL	EC3025NPAPL-1
PNP-NO - NO and NC	EC3025PPASL	EC3025PPASL-1	EC3025PPAPL	EC3025PPAPL-1

Characteristics
Flush and Non-Flush
Mountable

Rated operating voltage	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	< 2.5 VDC	< 2.5 VDC	< 2.5 VDC	< 2.5 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	PST	PST	PST	PST
Output current	< 200 mA	< 200 mA	< 200 mA	< 200 mA
Housing material	Stainless steel	Stainless steel	Thermoplastic polyester	Thermoplastic polyester
Operating temperature	-25°C to +80°C	-25°C to +80°C	-25°C to +80°C	-25°C to +80°C
LED color	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA



Capacitive Proximity Sensors, TRIPLESIELD™

Types

Connections

Flush Mountable

Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

References

Thyristor (SCR) NO or NC

Non-Flush Mountable

Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

References

Thyristor (SCR) NO or NC

Characteristics Flush and Non-Flush Mountable

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

M30-AC TRIPLESIELD™

2 m Cable

M12 Connector

2 m Cable

M12 Connector



M30 x 63.6

M30 x 1.5 x 50

10 Hz

2 - 16 mm (adjustable)

EC3016TBAPL

M30 x 75.6

M30 x 1.5 x 50

10 Hz

2 - 16 mm (adjustable)

EC3016TBAPL-6

M30 x 63.6

M30 x 1.5 x 50

10 Hz

2 - 16 mm (adjustable)

EC3016TBASL

M30 x 75.6

M30 x 1.5 x 50

10 Hz

2 - 16 mm (adjustable)

EC3016TBASL-6



M30 x 71.6

M30 x 1.5 x 50

10 Hz

4 - 25 mm (adjustable)

EC3025TBAPL

M30 x 83.6

M30 x 1.5 x 50

10 Hz

4 - 25 mm (adjustable)

EC3025TBAPL-6

M30 x 71.6

M30 x 1.5 x 50

10 Hz

4 - 25 mm (adjustable)

EC3025TBASL

M30 x 83.6

M30 x 1.5 x 50

50 Hz

4 - 25 mm (adjustable)

EC3025TBASL-6

20 - 250 VDC

< 10 VAC

IP 67

T

< 500 mA

Thermoplastic polyester

-25°C to +80°C

Yellow

CE - UL - CSA

20 - 250 VDC

< 10 VAC

IP 67

T

< 500 mA

Thermoplastic polyester

-25°C to +80°C

Yellow

CE - UL - CSA

20 - 250 VDC

< 10 VAC

IP 67

T

< 500 mA

Stainless steel

-25°C to +80°C

Yellow

CE - UL - CSA

20 - 250 VDC

< 10 VAC

IP 67

T

< 500 mA

Stainless steel

-25°C to +80°C

Yellow

CE - UL - CSA





Types

M12 Teach-in TRIPLESIELD™

M18 Teach-in TRIPLESIELD™

Connections

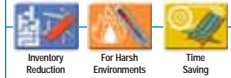
2 m Cable

M12 Connector

2 m Cable

M12 Connector

Flush Mountable



Dimensions (mm)

M12 x 82.4

M12 x 84.7

M18 x 89.55

M18 x 89.2

Thread (mm)

M12 x 1 x 50

M12 x 1 x 50

M18 x 1 x 50

M18 x 1 x 50

Operating frequency

15 Hz

15 Hz

15 Hz

15 Hz

Sensing distance (Sn)

0.5 - 8 mm (Teach-in)

0.5 - 8 mm (Teach-in)

0.5 - 12 mm (Teach-in)

0.5 - 12 mm (Teach-in)

References

NPN/PNP, NO/NC

CA12CLC08BP

CA12CLC08BPM1

CA18CLC12BP

CA18CLC12BPM1

Characteristics
Flush and Non-Flush
Mountable

Rated operating voltage

10 - 40 VDC

10 - 40 VDC

10 - 40 VDC

10 - 40 VDC

Voltage drop

< 2.5 VDC

< 2.5 VDC

< 2.5 VDC

< 2.5 VDC

Degree of protection

IP 68

IP 68

IP 68

IP 68

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

SPT

SPT

SPT

SPT

Output current

< 250 mA

< 250 mA

< 250 mA

< 250 mA

Housing material

Thermoplastic polyester

Thermoplastic polyester

Thermoplastic polyester

Thermoplastic polyester

Operating temperature

-20°C to +85°C

-20°C to +85°C

-20°C to +85°C

-20°C to +85°C

LED color

Yellow

Yellow

Yellow

Yellow

Special features

Teach-in , Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation

Teach-in , Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation

Teach-in , Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation

Teach-in , Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA



Capacitive Proximity Sensors, TRIPLESIELD™

Types

Connections

Flush Mountable

Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

References

NPN/PNP, NO/NC

Power MOFSET

Non-Flush Mountable

Dimensions (mm)

Thread (mm)

Operating frequency

Sensing distance (Sn)

References

Power MOFSET

Characteristics

Flush and Non-Flush Mountable

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Special features

Approvals/Marks

M30 Teach-in TRIPLESIELD™

2 m Cable

M12 Connector



M30 x 99.2

M30 x 1.5 x 50

15 Hz

0.5 - 30 mm (Teach-in)

CA30CLC30BP

M30 AC/DC TRIPLESIELD™

2 m Cable

M12 Connector



M30 x 63.6

M30 x 1.5 x 50

10 Hz

2 - 16 mm (adjustable)

CA30CLF16CP

M30 x 75.6

M30 x 1.5 x 50

10 Hz

2 - 16 mm (adjustable)

CA30CLF16CPM6



M30 x 71.6

M30 x 1.5 x 50

10 Hz

2 - 25 mm (adjustable)

CA30CLN25CP

M30 x 83.6

M30 x 1.5 x 50

10 Hz

2 - 16 mm (adjustable)

CA30CLN25CPM6

10 - 40 VDC

< 2.5 VDC

IP 68

SPT

< 250 mA

Thermoplastic polyester

-20°C to +85°C

Yellow

Teach-in , Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation

CE - UL - CSA

10 - 40 VDC

< 2.5 VDC

IP 68

SPT

< 250 mA

Thermoplastic polyester

-20°C to +85°C

Yellow

Teach-in , Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation

CE - UL - CSA

20 - 250 VAC/DC

< 10 VAC

IP 67

PT

< 250 mA DC

< 350 mA AC

Thermoplastic polyester

-25°C to +80°C

Yellow

CE - UL - CSA

20 - 250 VAC/DC

< 10 VAC

IP 67

PT

< 250 mA DC

< 350 mA AC

Thermoplastic polyester

-25°C to +80°C

Yellow

CE - UL - CSA





Types

M18 TRIPLESIELD™, Chemical resistant

Connections

2 m Cable

2 m Cable

2 m Cable

Flush Mountable



Dimensions (mm)

M18 x 71.5

M18 x 71.5

M18 x 71.5

Thread (mm)

M18 x 1 x 46.5

M18 x 1 x 46.5

M18 x 1 x 46.5

Operating frequency

30 Hz

30 Hz

30 Hz

Sensing distance (Sn)

3 - 8 mm (adjustable)

3 - 8 mm (adjustable)

3 - 8 mm (adjustable)

References

NPN-NO/NC

CA18HLF08NA

CA18GLF08NA

CA18FLF08NA

PNP-NO/NC

CA18HLF08PA

CA18GLF08PA

CA18FLF08PA

Non-Flush Mountable



Dimensions (mm)

M18 x

Thread (mm)

M18 x 1 x

Operating frequency

30 Hz

Sensing distance (Sn)

3 - 8 mm (adjustable)

References

NPN-NO/NC

CA18HLN12NA

PNP-NO/NC

CA18HLN12PA

Characteristics
Flush and Non-Flush
Mountable

Rated operating voltage

10 - 40 VDC

10 - 40 VDC

10 - 40 VDC

Voltage drop

≤ 2.5 VDC

≤ 2.5 VDC

≤ 2.5 VDC

Degree of protection

IP 67

IP 67

IP 67

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

SPT

SPT

SPT

Output current

< 200 mA

< 200 mA

< 200 mA

Housing material

Polypropylene

Thermoplastic polyester

Thermoplastic polyester

Operating temperature

-25°C to +80°C

-25°C to +80°C

-25°C to +80°C

LED color

Yellow

Yellow

Yellow

Approvals/Marks

CE

CE

CE



Capacitive Proximity Sensors, TRIPLESIELD™

Types	VC5510	VC5510 -Time delay	CD50	
Connections	1.5 m Cable	1.5 m Cable	2 m Cable	2 m Cable
Dimensions (mm)	55 x 35 x 15	55 x 35 x 15	50 x 30 x 7	50 x 30 x 7
Operating frequency	> 0.1 Hz	> 0.1 Hz	10 Hz	10 Hz
Sensing distance (Sn)	10 mm	10 mm	6 mm	5 mm
References				
NPN - NO	VC5510NNOP	VC5510NNOPT	CD50CNF06NO	CD50CNF05NO
NPN - NC	VC5510NNCP	VC5510NNCPT		
PNP - NO	VC5510PNOP	VC5510PNOPT		
PNP - NC	VC5510PNCP	VC5510PNCPT		
Sensing distance (Sn)			10 mm	
PNP - NO			CD50CNF10PO	
Characteristics				
Flush and Non-Flush Mountable				
Rated operating voltage	5 - 30 VDC	5 - 30 VDC	10 - 30 VDC	5 VDC
Voltage drop	≤ 1.5 VDC	≤ 1.5 VDC	< 1.5 V	< 1.5 V
Degree of protection	IP 65	IP 65	IP 67	IP 67
Output current	≤ 100 mA	≤ 100 mA	≤ 50 mA	≤ 50 mA
Housing material	Polycarbonate	Polycarbonate	Noryl, grey	Noryl, grey
Operating temperature	0°C to +50°C	0°C to +50°C	0°C to +60°C	0°C to +60°C
LED color	Red	Red		
Approvals/Marks	CE - UL	CE - UL	CE	CE





Types

CD46 Teach-in **TRIPLESIELD™**

EC 5525 **TRIPLESIELD™**

Connections

2 m Cable

2 m Cable

M12 Connection

Flush or Non Flush Mountable



Dimensions (mm)

46 x 28 x 5.5

55 x 35 x 15

55 x 35 x 15

Operating frequency

10 Hz

50 Hz

50 Hz

Sensing distance (Sn)

1.0 - 10 mm (Teach-in)

16 mm

16 mm

References

NPN-NO/NC

CD46CNC10NP

EC5525NPAP

EC5525NPAP-1

PNP-NO/NC

CD46CNC10PP

EC5525PPAP

EC5525PPAP-1

Characteristics
Flush and Non-Flush Mountable

Rated operating voltage

10 - 40 VDC

10 - 40 VDC

10 - 40 VDC

Voltage drop

< 2.5 VDC

< 2.5 VDC

< 2.5 VDC

Degree of protection

IP 68

IP 67

IP 67

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

SPT

SPT

SPT

Output current

≤ 200 mA

≤ 200 mA

≤ 200 mA

Housing material

PBT

Polycarbonate

Polycarbonate

Operating temperature

-20°C to +80°C

-25°C to +80°C

-25°C to +80°C

LED color

Yellow, green

Yellow

Yellow

Special features

Teach-in, remote setup, alarm output.

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA


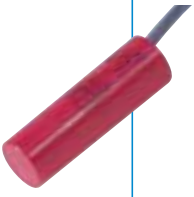






Capacitive Proximity Sensors, TRIPLESIELD™

Types	M18 Teach-in TRIPLESIELD™		M30 Teach-in TRIPLESIELD™	
Connections	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Flush or Non Flush Mountable				
Dimensions (mm)	M18 x 89.55	M18 x 89.2	M30 x 99.2	M30 x 90.45
Thread (mm)	M18 x 1 x 50	M18 x 1 x 50	M30 x 1.5 x 50	M30 x 1.5 x 50
Operating frequency	5 Hz	5 Hz	5 Hz	5 Hz
Sensing distance (Sn)	0.5 - 12 mm (Teach-in)	0.5 - 12 mm (Teach-in)	0.5 - 30 mm (Teach-in)	0.5 - 30 mm (Teach-in)
References	CA18CLL12BP	CA18CLL12BPM1	CA30CLL30BP	CA30CLL30BPM1
NPN/PNP, NO/NC				
Characteristics				
Flush and Non-Flush Mountable				
Rated operating voltage	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	< 2.5 VDC	< 2.5 VDC	< 2.5 VDC	< 2.5 VDC
Degree of protection	IP 68	IP 68	IP 68	IP 68
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Output current	< 250 mA	< 250 mA	< 250 mA	< 250 mA
Housing material	Thermoplastic polyester	Thermoplastic polyester	Thermoplastic polyester	Thermoplastic polyester
Operating temperature	-20°C to +85°C	-20°C to +85°C	-20°C to +85°C	-20°C to +85°C
Max. temperature on sensing face	120°C (248°F)	120°C (248°F)	120°C (248°F)	120°C (248°F)
LED color	Yellow	Yellow	Yellow	Yellow
Special features	Single-step Teach-in, Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation	Single-step Teach-in, Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation	Single-step Teach-in, Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation	Single-step Teach-in, Humidity compensation NPN/PNP auto detection, remote setup, alarm output. On request: Dirt and moisture compensation
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA





Types	Ø32 Capacitive Level Sensors for solid, fluid and granulated substances		
	With ON delay	With OFF delay	Without delay
Functions			
			
Dimensions (mm)	Ø32 x 101	Ø32 x 101	Ø32 x 101
Thread	Smooth	Smooth	Smooth
Operating frequency	1 Hz	1 Hz	1 Hz
Sensing distance (Sn)	4 - 12 mm (adjustable)	4 - 12 mm (adjustable)	4 - 12 mm (adjustable)
References	VC11RT12010M VC11RT23010M VC11RT92410M	VC12RT12010M VC12RT23010M VC12RT92410M	VC12RN120 VC12RN230 VC12RN924
General Characteristics			
Consumption	< 1.5 W	< 1.5 W	< 1.5 W
Hysteresis	1.5 mm at 7 mm sensing distance	1.5 mm at 7 mm sensing distance	1.5 mm at 7 mm sensing distance
Output	Relay SPDT 2 A / 240 VAC	Relay SPDT 2 A / 240 VAC	Relay SPDT 2 A / 240 VAC
Time delay	1 s - 10 m	1 s - 10 m	1 s - 10 m
Degree of protection	IP 67	IP 67	IP 67
Housing material	Thermoplastic polyester	Thermoplastic polyester	Thermoplastic polyester
Operating temperature	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C
LED color	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA



Capacitive Level Sensors

Types

Connections

Ø18 Sensors for solid, fluid and granulated substances

Ø32 Sensors

2-Wire, AC

3-Wire, DC

2-Wire, AC

2 m Cable

2 m Cable

2 m Cable



Dimensions (mm)

Thread

Operating frequency

Sensing distance (Sn)

Ø18 x 86

Smooth

10 Hz

3 - 12 mm (adjustable)

Ø18 x 86

Smooth

30 Hz

3 - 12 mm (adjustable)

Ø32 x 101

Smooth

2 - 20 mm (adjustable)

References

Thyristor (SCR) NO

Thyristor (SCR) NO ATEX

Thyristor (SCR) NC

Thyristor (SCR) NC ATEX

NPN - NO/NC

NPN - NO/NC ATEX

PNP - NO/NC

PNP - NO/NC ATEX

CB18CLN12TOFT

CB18CLN12TOFTAX

CB18CLN12TCFT

CB18CLN12TCFTAX

CB18CLN12NA

CB18CLN12NAAX

CB18CLN12PA

CB18CLN12PAAX

No

CB32CLN12TO

CB32CLN12TOAX

CB32CLN12TC

CB32CLN12TCAX

Yes

CB32CLN12TOFT

CB32CLN12TOFTAX

CB32CLN12TCFT

CB32CLN12TCFTAX

ON-delay

Thyristor (SCR) NO

Thyristor (SCR) NO ATEX

Thyristor (SCR) NC

Thyristor (SCR) NC ATEX

ON-delay

Thyristor (SCR) NO

Thyristor (SCR) NO ATEX

Thyristor (SCR) NC

Thyristor (SCR) NC ATEX

General

Characteristics

Rated operating voltage

Voltage drop

Time delay

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Output current

Housing material

Operating temperature

LED color

Approvals/Marks

20 - 250 VAC

≤ 10 VAC

30 s ON-delay

IP67

T

≤ 500 mA

Thermoplastic polyester

-25° to +80°C

Yellow

CE - UL - CSA - ATEX

10 - 40 VDC

≤ 10 VAC

-

IP67

SPT

≤ 200 mA

Thermoplastic polyester

-25° to +80°C

Yellow

CE - UL - CSA - ATEX

20 - 250 VAC

≤ 10 VAC

30 s ON-delay

IP67

T

≤ 500 mA

Thermoplastic polyester

-25° to +80°C

Yellow

CE - UL - CSA - ATEX





Types

Ø32 Level Sensors TRIPLESIELD™ - ATEX

Functions

With ON delay

With OFF delay

Without time delay



Dimensions (mm)

Ø32 x 101

Ø32 x 101

Ø32 x 101

Thread

Smooth

Smooth

Smooth

Operating frequency

5 Hz

5 Hz

5 Hz

Sensing distance (Sn)

4 - 20 mm (adjustable)

4 - 20 mm (adjustable)

4 - 20 mm (adjustable)

References

Cable length

2 m

2 m

2 m

120 VAC

CB32CLN20SUAX

CB32CLN20SVAX

CB32CLN20STAX

230 VAC

CB32CLN20RUAX

CB32CLN20RVAX

CB32CLN20RTAX

24 VAC/DC

CB32CLN20QUAX

CB32CLN20QVAX

CB32CLN20QTAX

Cable length

5 m

5 m

5 m

120 VAC

CB32CLN20SUAX5M

CB32CLN20SVAX5M

CB32CLN20STAX5M

230 VAC

CB32CLN20RUAX5M

CB32CLN20RVAX5M

CB32CLN20RTAX5M

24 VAC/DC

CB32CLN20QUAX5M

CB32CLN20QVAX5M

CB32CLN20QTAX5M

Cable length

10 m

10 m

10 m

120 VAC

CB32CLN20SUAX10M

CB32CLN20SVAX10M

CB32CLN20STAX10M

230 VAC

CB32CLN20RUAX10M

CB32CLN20RVAX10M

CB32CLN20RTAX10M

24 VAC/DC

CB32CLN20QUAX10M

CB32CLN20QVAX10M

CB32CLN20QTAX10M

General

Characteristics

Consumption

< 1.5 W

< 1.5 W

< 1.5 W

Hysteresis

3 to 20% of sensing distance

3 to 20% of sensing distance

3 to 20% of sensing distance

Output

Relay SPDT, 2 A / 240 VAC

Relay SPDT, 2 A / 240 VAC

Relay SPDT, 2 A / 240 VA

Time delay

1 s - 10 m

1 s - 10 m

IP67

Degree of protection

IP67

IP67

PBT

Housing material

PBT

PBT

-20°C to +70°C

Operating temperature

-20°C to +70°C

-20°C to +70°C

Yellow

LED color

Yellow

Yellow

CE - ATEX

Approvals/Marks

CE - ATEX

CE - ATEX



Conductive Level Sensors

Types

VN / VNI

VNY / VNYI

VPC

VPP

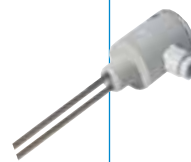
Connections

Cable (PVC) 2 m

Screw connection

Screw connection

Screw connection



Electrodes

Number of electrodes	1, 2, 3 or 4	1, 2, 3 or 4	1, 2, or 3	1, 2, or 3
Diameter/length (mm)	D5/1000	D5/1000	D4/500	D4/500
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Isolation of electrodes	Yes (VNI)	Yes (VNYI)	Yes	Yes
Isolation	Polyethylene	Polyethylene	Polyethylene	Polypropylene

Housing

Pipe thread	1 1/2"	1 1/2"	1/2" (VPC x05) or 1" (VPC x10)	1/2" (VPP x05) or 1" (VPP x10)
Material	Nylon 6	Nylon 6	PVC	Kynar (PVDF)

References











1 electrodes	VN1 VNI1	VNY1 VNYI1	VPC105 VPC110	VPP105 VPP110
2 electrodes	VN2 VNI2	VNY2 VNYI2	VPC205 VPC210	VPP205 VPP210
3 electrodes	VN3 VNI3	VNY3 VNYI3	VPC310	VPP310
4 electrodes	VN4 VNI4	VNY4 VNYI4		

Characteristics

Degree of protection	IP 67	IP 67	IP 67	IP 67
Operating temperature	0°C to +90°C	0°C to +90°C	0°C to +60°C	0°C to +100°C
Approvals/Marks	CE	CE	CE	CE















Types	VT / VTI	CLH	VH1 / VH2	A 94-10
Connections	Cable (Silicone)	Screw connection	Cable (Neoprene)	Cable (Neoprene)
				
		  		
Electrodes				
Number of electrodes	1, 2, 3 or 4	2 or 4 + reference	1 (hanging)	2 (hanging)
Diameter/length (mm)	D5/1000	D5	D18/365 or D32/755	D22/750
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Isolation of electrodes	Yes (VTI)	Yes	No (VH1) - Yes (VH2)	No
Isolation	Teflon	Kynar, Polyolefine	Nylon 6	
Housing				
Pipe thread	1 1/2"	1 1/2"		
Material	Teflon	Polypropylene	Nylon 6	Polyester
References				
1 electrodes	VT1 VTI1		VH1 or VH2	
2 electrodes	VT2 VTI2			A 94-10
3 electrodes	VT3 VTI3	CLH3*		
4 electrodes	VT4 VTI4	CLH5*		
5 electrodes				
Characteristics				
Degree of protection	IP 67	IP 65	IP 67	IP 67
Operating temperature	0°C to +145°C	-20°C to +90°C	0°C to +90°C	0°C to +60°C
Approvals/Marks	CE	CE	CE	CE
Electrodes (Stainless Steel ANSI316)				
No Insulation				
1 m		CLE1		
2 m		CLE2		
extension 1 m		CLE1X		
Kynar (DVDP) Insulation				
1 m		CLE1K		
2 m		CLE2K		
extension 1 m		CLE1KX		
Polyolefine Insulation				
1 m		CLE1P		
2 m		CLE2P		
extension 1 m		CLE1PX		

* Electrodes shall be ordered separately













Conductive Level Sensors

	Level Controller with teach-in		
Types	CLP2 Basic	CLD2	CLP2
Connections	Plug 11 pin circular    	DIN Rail   	Plug 11 pin circular   
Function	Filling or emptying. Selectable by wiring. Conductive liquids	Filling or emptying. Selectable by dip-switches. Conductive liquids	Filling or emptying. Selectable by dip-switches. Conductive liquids
Adjustable	Yes, Teach-in	Yes, Teach-in	Yes, Teach-in
Sensitivity	3.5 K to 50 K	220 to 220 K	220 to 220 K
Input	2 + reference	2 + reference	2 + reference
Output	8A / 250 VAC SPDT	5A / 250 VAC DPDT	5A / 250 VAC DPDT
Power Supply	24 V AC/DC, 115 VAC or 230 VAC	24 V AC/DC, 115 VAC or 230 VAC	24 V AC/DC, 115 VAC or 230 VAC
References	24 V AC/DC CLP2ES1BM24 115 V AC CLP2ES1B115 230 V AC CLP2ES1B230	CLD2ET1CM24 CLD2ET1C115 CLD2ET1C230	CLP2ET1CM24 CLP2ET1C115 CLP2ET1C230
General Characteristics	Time delay < 300 mS Housing material NORYL SE1 Operating temperature -20°C to +70°C Output LED color Yellow Approvals/Marks CE - UL - CSA	Time delay < 300 mS Housing material NORYL SE1 Operating temperature -20°C to +70°C Output LED color Yellow Approvals/Marks CE - UL - CSA	Time delay < 300 mS Housing material NORYL SE1 Operating temperature -20°C to +70°C Output LED color Yellow Approvals/Marks CE - UL - CSA





	Level Controller with teach-in	
Types	CLD4	CLP4
Connections	DIN Rail	Plug 11 pin circular
		
	   	   
Function	Filling, emptying or combinations. Selectable by dip-switches. Conductive liquids	Filling, emptying or combinations. Selectable by dip-switches. Conductive liquids
Adjustable	Yes, Teach-in	Yes, Teach-in
Sensitivity	3.5 K to 50 K	220 to 220 K
Input	2 + reference	2 + reference
Output	8A / 250 VAC SPDT, SPST	8A / 250 VAC DPDT, SPST
Power Supply	24 V AC/DC, 115 VAC or 230 VAC	24 V AC/DC, 115 VAC or 230 VAC
References		
24 V AC/DC	CLD4MT2DM24	CLP4MT2AM24
115 V AC	CLD4MT2D115	CLP4MT2A115
230 V AC	CLD4MT2D230	CLP4MT2A230
General Characteristics		
Time delay	< 300 mS	< 300 mS
Housing material	NORYL SE1	NORYL SE1
Operating temperature	-20°C to +70°C	-20°C to +70°C
Output LED color	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA



Ultrasonic Sensors, M18 Plastic, DC, Analogue

	Integrated Amplifier Switching output	Integrated Amplifier Switching output	Basic analogue 0-10 VDC or 4-20 mA	Basic analogue 0-10 VDC or 4-20 mA
Types	UA18CL..	UA18CL..M1	UA18CLD..	UA18CLD..M1
Connections	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Dimensions (mm)	M18 x 89	M18 x 97	M18 x 89	M18 x 97
References Diffuse reflective				
Operating frequency	25 Hz	25 Hz		
Sensing distance (Sn)	100 - 600 mm adj.	100 - 600 mm adj.	100 - 600 mm	100 - 600 mm
Output slope			20 mV/mm	20 mV/mm
NPN-NO	UA18CLD06NO	UA18CLD06NOM1		
PNP-NO	UA18CLD06PO	UA18CLD06POM1		
0-10 VDC			UA18CLD06AK	UA18CLD06AKM1
Output slope			32 µA/mm	20 µA/mm
4-20 mA			UA18CLD06AG	UA18CLD06AGM1
Operating frequency	8 Hz	8 Hz		
Sensing distance (Sn)	200 - 1500 mm adj.	200 - 1500 mm adj.	200 - 1500 mm adj.	200 - 1500 mm adj.
Output slope			5.5 mV/mm	5.5 mV/mm
NPN-NO	UA18CLD15NO	UA18CLD15NOM1		
PNP-NO	UA18CLD15PO	UA18CLD15POM1		
0-10 VDC			UA18CLD15AK	UA18CLD15AKM1
Output slope			8.8 µA/mm	8.8 µA/mm
4-20 mA			UA18CLD15AG	UA18CLD15AGM1
References True Scan				
Operating frequency		25 Hz		
Sensing distance (Sn)		100 - 600 mm adj.		
PNP-NO		UA18CLS06POM1		
Operating frequency		8 Hz		
Sensing distance (Sn)		200 - 1500 mm adj.		
PNP-NO		UA18CLS15POM1		
Characteristics				
Rated operating voltage	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC		
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Load current	< 500 mA	< 500 mA	See sensor type	See sensor type
Housing material	PBTB	PBTB	PBTB	PBTB
Operating temperature	-15°C to +70°C	-15°C to +70°C	-15°C to +70°C	-15°C to +70°C
LED color	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL





	Integrated Amplifier Switching output		Basic analogue 0-10 VDC or 4-20 mA	
Types	UA30CLD..	UA30CLD..M1	UA30CLD..	UA30CLD..M1
Connections	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Dimensions (mm)	M30 x 125	M30 x 137	M30 x 125	M30 x 137
References Diffuse reflective				
Operating frequency	1 Hz	1 Hz		
Sensing distance (Sn)	300 - 2500 mm adj.	300 - 2500 mm adj.	300 - 2500 mm adj.	300 - 2500 mm adj.
Output slope			3.7 mV/mm	3.7 mV/mm
NPN-NO	UA30CLD25NO	UA30CLD25NOM1		
PNP-NO	UA30CLD25PO	UA30CLD25POM1		
0-10 VDC			UA30CLD25AK	UA30CLD25AKM1
Output slope			5.9 µA/mm	5.9 µA/mm
4-20 mA			UA30CLD25AG	UA30CLD25AGM1
References True Scan				
Operating frequency				
Sensing distance (Sn)		300 - 2500 mm adj.		
PNP-NO		1 Hz		
		UA30CLS25POM1		
Characteristics				
Rated operating voltage	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC		
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Load current	< 500 mA	< 500 mA	See sensor type	See sensor type
Housing material	PBTB	PBTB	PBTB	PBTB
Operating temperature	-15°C to +70°C	-15°C to +70°C	-15°C to +70°C	-15°C to +70°C
LED color	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL


















Ultrasonic Sensors, M18 Plastic, DC, Analogue

	Programmable RS232	Integrated Amplifier	Sensor head for UC EU 80-1	Amplifier for UC80CND
Types	UA30CLD..M7	UA30CLD....TI	UC80CND80FS..	UCEU80-1
Connections	M16 Connector	M12 Connector	M12 Connector	Terminals
Dimensions (mm)	M30 x 136	M30 x 128	80 x 80 x 43	100 x 75 x 110
References				
Diffuse reflective				
Operating frequency	5 - 30 Hz Programmable	1 Hz	See Amplifier	
Sensing distance (Sn)	150 - 1500 mm adj.	150 - 1500 mm Teach	800 - 8000 mm	
0-10 VDC	UA30CLD15FKM7	UA30CLD15AKM1TI		
Sensor head			UC80CND80FSM1	
4-20 mA	UA30CLD15FGM7			
Operating frequency	5 - 30 Hz Programmable	1 Hz		
Sensing distance (Sn)	250 - 2000 mm adj.	250 - 2000 mm Teach		
PNP-NO	UA30CLD20FKM7	UA30CLD20POM1TI		
0-10 VDC	UA30CLD20FGM7	UA30CLD20AKM1TI		
4-20 mA	UA30CLD20AGM1TI			
Operating frequency	5 - 30 Hz Programmable	1 Hz		
Sensing distance (Sn)	350 - 3500 mm adj.	350 - 3500 mm adj.		
0-10 VDC	UA30CLD35FKM7	UA30CLD35AKM1TI		
4-20 mA	UA30CLD35FGM7			
Amplifier				UCEU80-1
Evaluation unit				
-PLC				
-Display				
-RS232				
-Sensor supply				
Programmable functions				Full setup
Characteristics				
Rated operating voltage	19 - 30 VDC	19 - 30 VDC	19 - 30 VDC	19 - 30 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC		≤ 2.5 VDC
Degree of protection	IP67	IP67	IP67	IP 40
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Load current	< 100 mA Analogue see type	2 x transistor output < 100 mA Analogue see type	< 50 mA	< 200 mA
Housing material	PBTB	PBTB	PET	ABS
Operating temperature	-15°C to +70°C	-15°C to +70°C	0°C to +70°C	0°C to +50°C
LED colour	Yellow + Green	Yellow + Green	Yellow + Green	Yellow
Remarks	Hold/sync. input RS232	Teach Button		Two set points Over range Under range Analogue outputs: • 0 - 10 VDC • 4 - 20 mA
Approvals/Marks	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL




















Integrated Amplifier, Switching output

Types	UA12CLD..M1TR	UA18CLD..TR	UA18CLD..M1TR
Connections	M12 Connector	2 m Cable	M12 Connector
			
	   	   	   
Dimensions (mm)	M12 x 79	M18 x 93	M18 x 93
References			
Diffuse reflective			
Operating frequency	20 Hz	1.2 Hz	1.2 Hz
Sensing distance (Sn)	25 - 200 mm adj.	200 - 2000 mm adj.	200 - 2000 mm adj.
NPN-NO/NC	UA12CLB02NPM1TR	UA18CLD20NPTR	UA18CLD20NPM1TR
PNP-NO/NC	UA12CLB02PPM1TR	UA18CLD20PPTR	UA18CLD20PPM1TR
Operating frequency		4.7 Hz	4.7 Hz
Sensing distance (Sn)		100 - 800 mm adj.	100 - 800 mm adj.
NPN-NO/NC		UA18CLD08NPTR	UA18CLD08NPM1TR
PNP-NO/NC		UA18CLD08PPTR	UA18CLD08PPM1TR
Operating frequency		4.7 Hz	4.7 Hz
Sensing distance (Sn)		60 - 500 mm adj.	60 - 500 mm adj.
NPN-NO/NC		UA18CLD05NPTR	UA18CLD05NPM1TR
PNP-NO/NC		UA18CLD05PPTR	UA18CLD05PPM1TR
Characteristics			
Rated operating voltage	10 - 30 VDC	12 - 30 VDC	12 - 30 VDC
Voltage drop	≤ 4.5 V	≤ 4.5 V	≤ 4.5 V
Degree of protection	IP 65	IP 67	IP 67
Protection Short-circuit (S)			
Reverse polarity (P)			
Transients (T)	SPT	SPT	SPT
Load current	< 100 mA	< 500 mA	< 500 mA
Housing material	Stainless Steel	ABS	ABS
Operating temperature	-20°C to +70°C	-15°C to +70°C	-15°C to +70°C
Approvals/Marks	CE	CE	CE



Integrated Amplifier, Switching output

	UA30CLD..TR	UA30CLD..M1TR	UC80CND
Types	UA30CLD..TR	UA30CLD..M1TR	UC80CND
Connections	2 m Cable	M12 Connector	M12 Connector
			
	   	   	   
Dimensions (mm)	M30 x 123.5	M30 x 125	80 x 80 x 50
References			
Diffuse reflective			
Operating frequency	1 Hz	1 Hz	1 Hz
Sensing distance (Sn)	300 - 3500 mm adj.	300 - 3500 mm adj.	600 - 6000 mm adj.
NPN-NO/NC	UA30CLD35NPTR	UA30CLD35NPM1TR	UC80CND60NPM1TR
PNP-NO/NC	UA30CLD35PPTR	UA30CLD35PPM1TR	UC80CND60PPM1TR
Characteristics			
Rated operating voltage	12 - 30 VDC	12 - 30 VDC	15 - 30 VDC
Voltage drop	≤ 4.5 V	≤ 4.5 V	≤ 4.5 V
Degree of protection	IP 67	IP 67	IP 65
Protection Short-circuit (S)			
Reverse polarity (P)			
Transients (T)	SPT	SPT	SPT
Load current	< 500 mA	< 500 mA	< 500 mA
Housing material	ABS	ABS	ABS
Operating temperature	-15°C to +70°C	-15°C to +70°C	-15°C to +70°C
Approvals/Marks	CE	CE	CE





	Remote teach analogue, 0 - 10 VDC or 4 - 20 mA			
Types	UA18CLD..TR	UA18CLD..M1TR	UA30CLD..TR	UA30CLD..M1TR
Connections	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Dimensions (mm)	M18 x 93	M18 x 93	M30 x 123,5	M30 x 123,5
References				
Diffuse reflective				
Sensing distance (Sn)	200 - 2000 mm	200 - 2000 mm	300 - 3500 mm	300 - 3500 mm
Output slope	Adjustable	Adjustable	Adjustable	Adjustable
0 - 10 VDC	UA18CLD20AKTR	UA18CLD20AKM1TR	UA30CLD35AKTR	UA30CLD35AKM1TR
Output slope	Adjustable	Adjustable	Adjustable	Adjustable
4 - 20 mA	UA18CLD20AGTR	UA18CLD20AGM1TR	UA30CLD35AGTR	UA30CLD35AGM1TR
Sensing distance (Sn)	100 - 800 mm	100 - 800 mm		
Output slope	Adjustable	Adjustable		
0 - 10 VDC	UA18CLD08AKTR	UA18CLD08AKM1TR		
Output slope	Adjustable	Adjustable		
4 - 20 mA	UA18CLD08AGTR	UA18CLD08AGM1TR		
Sensing distance (Sn)	60 - 500 mm	60 - 500 mm		
Output slope	Adjustable	Adjustable		
0 - 10 VDC	UA18CLD05AKTR	UA18CLD05AKM1TR		
Output slope	Adjustable	Adjustable		
4 - 20 mA	UA18CLD05AGTR	UA18CLD05AGM1TR		
Characteristics				
Rated operating voltage	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC	18 - 30 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Load current	See sensor type	See sensor type	See sensor type	See sensor type
Housing material	PBTB	PBTB	PBTB	PBTB
Operating temperature	-15°C to +70°C	-15°C to +70°C	-15°C to +70°C	-15°C to +70°C
Approvals/Marks	CE	CE	CE	CE



Types

Remote teach analogue,
0 - 10 VDC or 4 - 20 mA

UC80CND60A.M1TR

Connections

M12 Connector



Dimensions (mm)

80 x 80 x 50

References

Diffuse reflective

Sensing distance (Sn)

600 - 6000 mm

Output slope

Adjustable

0 - 10 VDC

UC80CND60AKM1TR

Output slope

Adjustable

4 - 20 mA

UC80CND60AGM1TR

Characteristics

Rated operating voltage

18 - 30 VDC

Degree of protection

IP 65

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

SPT

Load current

See sensor type

Housing material

PBTB

Operating temperature

-15°C to +70°C

Approvals/Marks

CE





Through-beam, Transistor Output

Types

PB10..

PA12

PB18..

PE12..

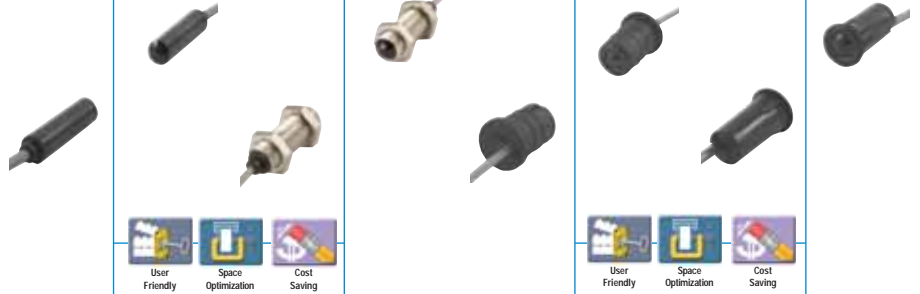
Connections

5 m cable

M12 Connector

5 m cable

5 m cable



Dimensions (mm)

Ø10

M12

Ø18

Ø12

Through-beam Emitter

Sensing distance (Sn)

20 m

20 m

15 m

15 m

Single channel

PB10CNT20

PA12BNT20

PB18CNT15

PE12CNT15

Channel 1

PB10C1T20

PA12B1T20

PE12C1T15

Channel 2

PB10C2T20

PA12B2T20

PE12C2T15

Channel 3

PB10C3T20

PA12B3T20

PE12C3T15

Through-beam Receiver

Operating frequency

100 Hz (for 3 ch 30 Hz)

100 Hz (for 3 ch 30 Hz)

100 Hz

100 Hz

Sensing distance (Sn)

25 m

25 m

15 m

15 m

NPN NO Single channel

PB10CNT20NO

PA12BNT20NO

PB18CNT15NO

PE12CNT15NO

NPN NC Single channel

PB10CNT20NC

PA12BNT20NC

PB18CNT15NC

PE12CNT15NC

PNP NO Single channel

PB10CNT20PO

PA12BNT20PO

PB18CNT15PO

PE12CNT15PO

PNP NC Single channel

PB10CNT20PC

PA12BNT20PC

PB18CNT15PC

PE12CNT15PC

NPN NO Channel 1

PB10C1T20NO

PA12B1T20NO

PE12C1T15NO

NPN NC Channel 1

PB10C1T20NC

PA12B1T20NC

PE12C1T15NC

PNP NO Channel 1

PB10C1T20PO

PA12B1T20PO

PE12C1T15PO

PNP NC Channel 1

PB10C1T20PC

PA12B1T20PC

PE12C1T15PC

NPN NO Channel 2

PB10C2T20NO

PA12B2T20NO

PE12C2T15NO

NPN NC Channel 2

PB10C2T20NC

PA12B2T20NC

PE12C2T15NC

PNP NO Channel 2

PB10C2T20PO

PA12B2T20PO

PE12C2T15PO

PNP NC Channel 2

PB10C2T20PC

PA12B2T20PC

PE12C2T15PC

NPN NO Channel 3

PB10C3T20NO

PA12B3T20NO

PE12C3T15NO

NPN NC Channel 3

PB10C3T20NC

PA12B3T20NC

PE12C3T15NC

PNP NO Channel 3

PB10C3T20PO

PA12B3T20PO

PE12C3T15PO

PNP NC Channel 3

PB10C3T20PC

PA12B3T20PC

PE12C3T15PC

Characteristics

Rated operating voltage

10 - 30 VDC

10 - 30 VDC

10 - 30 VDC

10 - 30 VDC

Voltage drop /

≤ 1.5 VDC / IP 67

≤ 1.5 VDC / IP 67

≤ 1.5 VDC / IP 67

≤ 1.5 VDC / IP 67

Degree of protect.

IP 67

IP 67

IP 67

IP 67

Protection Short-circuit(S)

Rev. polarity(P)

Transients(T)

Load curr

≤ 100 mA

≤ 100 mA

≤ 100 mA

≤ 100 mA

Housing material

PC

PC

PTE

PC

Operating temperature

-20°C to +50°C

-20°C to +50°C

-20°C to +50°C

-20°C to +50°C

LED colour

Green (E), Yellow (R)

Green (E), Yellow (R)

Green (E), Yellow (R)

Green (E), Yellow (R)

Approvals/Marks

UL 508

UL - cUL

UL - cUL

UL - cUL

UL - cUL

UL 325

UL - cUL

UL - cUL

UL - cUL

UL - cUL

NB! For pig-tail connector versions add C2 after the part number

Sense



Photoelectric Sensors

Types

Connections

Dimensions (mm)

Diffuse reflective

Operating frequency
Sensing distance (Sn)
NPN NO+NC
PNP NO+NC
Sensing distance (Sn)
NPN NO+NC
PNP NC+NC
Sensing distance (Sn)
NPN NO+NC
PNP NC+NC
Sensing distance (Sn)
NPN NO+NC
PNP NC+NC

Retro reflective Polariz.

Operating frequency
Sensing distance (Sn)
NPN NO+NC
PNP NO+NC

Retro reflective

Operating frequency
Sensing distance (Sn)
NPN NO+NC
PNP NO+NC

Through-beam Emitter

Sensing distance (Sn)

Through-beam Receiver

Operating frequency
Sensing distance (Sn)
NPN NO+NC
PNP NO+NC

Retro reflective

Operating frequency
Sensing distance (Sn)
NPN NO+NC
PNP NO+NC

Characteristics

Rated operating voltage
Voltage drop
Degree of protection
Protection Short-circuit(S)
Rev. polarity(P)-Transients(T)
Load current
Housing material
Operating temperature
LED colour
Approvals/Marks

M18 Plastic, DC, Integrated Amplifier

PA18CS.

2 m Cable



PA18CS.M1

M12 Connector



M18 Metal, DC, Integrated Amplifier

E.18..

2 m Cable



E.18..-1

M12 Connector



	M18 x 55	M18 x 67	M18 x 55	M18 x 67
Operating frequency	100 Hz	100 Hz	100 Hz	100 Hz
Sensing distance (Sn)	100 mm, fixed	100 mm, fixed		
NPN NO+NC	PA18CSD01NA	PA18CSD01NAM1		
PNP NO+NC	PA18CSD01PA	PA18CSD01PAM1		
Sensing distance (Sn)	200 mm, fixed	200 mm, fixed		
NPN NO+NC	PA18CSD02NA	PA18CSD02NAM1		
PNP NC+NC	PA18CSD02PA	PA18CSD02PAM1		
Sensing distance (Sn)	400 mm, fixed	400 mm, fixed		
NPN NO+NC	PA18CSD04NA	PA18CSD04NAM1		
PNP NC+NC	PA18CSD04PA	PA18CSD04PAM1		
Sensing distance (Sn)	400 mm, adjustable	400 mm, adjustable	400 mm, adjustable	400 mm, adjustable
NPN NO+NC	PA18CSD04NASA	PA18CSD04NAM1SA	EO1804NPAS	EO1804NPAS-1
PNP NC+NC	PA18CSD04PASA	PA18CSD04PAM1SA	EO1804PPAS	EO1804PPAS-1
Operating frequency	100 Hz	100 Hz	100 Hz	100 Hz
Sensing distance (Sn)	2 m, fixed	2 m, fixed	2 m, adjustable	2 m, adjustable
NPN NO+NC	PA18CSP20NA	PA18CSP20NAM1	EP1820NPAS	EP1820NPAS-1
PNP NO+NC	PA18CSP20PA	PA18CSP20PAM1	EP1820PPAS	EP1820PPAS-1
Operating frequency	100 Hz	100 Hz	100 Hz	100 Hz
Sensing distance (Sn)	3 m, fixed	3 m, fixed	3 m, adjustable	3 m, adjustable
NPN NO+NC	PA18CSR30NA	PA18CSR30NAM1	ER1830NPAS	ER1830NPAS-1
PNP NO+NC	PA18CSR30PA	PA18CSR30PAM1	ER1830PPAS	ER1830PPAS-1
Sensing distance (Sn)	10 m	10 m	20 m	20 m
	PA18CST10	PA18CST10M1	ET1820	ET1820-1
Operating frequency	100 Hz	100 Hz	100 Hz	100 Hz
Sensing distance (Sn)	10 m, fixed	10 m, fixed	20 m, adjustable	20 m, adjustable
NPN NO+NC	PA18CST10NA	PA18CST10NAM1	ET1820NPAS	ET1820NPAS-1
PNP NO+NC	PA18CST10PA	PA18CST10PAM1	ET1820PPAS	ET1820PPAS-1
Operating frequency			100 Hz	100 Hz
Sensing distance (Sn)			Fibre dependent	Fibre dependent
NPN NO+NC			EF1801NPAS	EF1801NPAS-1
PNP NO+NC			EF1801PPAS	EF1801PPAS-1
Rated operating voltage	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Rev. polarity(P)-Transients(T)	SPT	SPT	SPT	SPT
Load current	< 200 mA	< 200 mA	< 200 mA	< 200 mA
Housing material	Polyester (PBTP)	Polyester (PBTP)	Nickel-plated brass	Nickel-plated brass
Operating temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
LED colour	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA





	M18 Plastic, AC, Integrated Amplifier		M18 Metal, AC, Integrated Amplifier	
Types	PA18CL	PA18CL.M6	PA18AL	PA18AL..M6
Connections	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Dimensions (mm)	M18 x 71.5	M18 x 83.5	M18 x 71.5	M18 x 83.5
Diffuse reflective				
Operating frequency	20 Hz	20 Hz	20 Hz	20 Hz
Sensing distance (Sn)	100 mm, fixed	100 mm, fixed		
Thyristor (SCR) NC	PA18CLD01TC	PA18CLD01TCM6		
Thyristor (SCR) NO	PA18CLD01TO	PA18CLD01TOM6		
Sensing distance (Sn)	200 mm, fixed	200 mm, fixed		
Thyristor (SCR) NC	PA18CLD02TC	PA18CLD02TCM6		
Thyristor (SCR) NO	PA18CLD02TO	PA18CLD02TOM6		
Sensing distance (Sn)	400 mm, fixed	400 mm, fixed		
Thyristor (SCR) NC	PA18CLD04TC	PA18CLD04TCM6		
Thyristor (SCR) NO	PA18CLD04TO	PA18CLD04TOM6		
Sensing distance (Sn)	400 mm, adjustable	400 mm, adjustable	400 mm, adjustable	400 mm, adjustable
Thyristor (SCR) NC	PA18CLD04TCSA	PA18CLD04TCM6SA	PA18ALD04TCSA	PA18ALD04TCM6SA
Thyristor (SCR) NO	PA18CLD04TOSA	PA18CLD04TOM6SA	PA18ALD04TOSA	PA18ALD04TOM6SA
Retro reflective Polariz.				
Operating frequency	20 Hz	20 Hz	20 Hz	20 Hz
Sensing distance (Sn)	2 m, fixed	2 m, fixed	2 m, adjustable	2 m, adjustable
Thyristor (SCR) NC	PA18CLP20TC	PA18CLP20TCM6	PA18ALP20TCSA	PA18ALP20TCM6SA
Thyristor (SCR) NO	PA18CLP20TO	PA18CLP20TOM6	PA18ALP20TOSA	PA18ALP20TOM6SA
Retro reflective				
Operating frequency	20 Hz	20 Hz	20 Hz	20 Hz
Sensing distance (Sn)	3 m, fixed	3 m, fixed	3 m, adjustable	3 m, adjustable
Thyristor (SCR) NC	PA18CLR30TC	PA18CLR30TCM6	PA18ALR30TCSA	PA18ALR30TCM6SA
Thyristor (SCR) NO	PA18CLR30TO	PA18CLR30TOM6	PA18ALR30TOSA	PA18ALR30TOM6SA
Characteristics				
Rated operating voltage	20 - 265 VAC	20 - 265 VAC	20 - 265 VAC	20 - 265 VAC
Voltage drop	≤ 10 VAC	≤ 10 VAC	≤ 10 VAC	≤ 10 VAC
Off state current	≤ 5 mA AC	≤ 5 mA AC	≤ 5 mA AC	≤ 5 mA AC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	PT	PT	PT	PT
Load current	< 500 mA	< 500 mA	< 500 mA	< 500 mA
Housing material	Polyester (PBTP)	Polyester (PBTP)	Nickel-plated brass	Nickel-plated brass
Operating temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
LED colour	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA

Sense



Photoelectric Sensors

Types

Connections

Dimensions (mm)

Retro reflective

Operating frequency
Sensing distance (Sn)
Mute NPN NO/NC
Mute PNP NC/NC
Dust NPN NO/NC
Dust PNP NC/NC
Remote NPN NO/NC
Remote PNP NC/NC

Retro reflective Polariz.

Operating frequency
Sensing distance (Sn)
Mute NPN NO/NC
Mute PNP NC/NC
Dust NPN NO/NC
Dust PNP NC/NC
Remote NPN NO/NC
Remote PNP NC/NC

Trough-beam Emitter

Sensing distance (Sn)
NPN
PNP

Trough-beam Receiver Mute function

Operating frequency
Sensing distance (Sn)
Remote NPN NO/NC
Remote PNP NC/NC
Dust NPN NO/NC
Dust PNP NC/NC

Characteristics

Rated operating voltage
Voltage drop
Degree of protection
Protection Short-circuit (S)
Reverse polarity (P)
Transients (T)
Load current
Housing material
Operating temperature
LED colour
Approvals/Marks

Integrated Amplifier

PD30

2 m Cable



PD30

M8 Connector



Integrated Amplifier, Transparent

PD30

2 m Cable



PD30

M8 Connector



	Integrated Amplifier PD30 2 m Cable	Integrated Amplifier PD30 M8 Connector	Integrated Amplifier, Transparent PD30 2 m Cable	Integrated Amplifier, Transparent PD30 M8 Connector
Dimensions (mm)	10 x 30 x 20	10 x 30 x 20	10 x 30 x 20	10 x 30 x 20
Retro reflective				
Operating frequency	1000 Hz	1000 Hz	1000 Hz	1000 Hz
Sensing distance (Sn)	6 m, Teach-in	6 m, Teach-in	2 m, Teach-in	2 m, Teach-in
Mute NPN NO/NC	PD30CNR06NPMU	PD30CNR06NPM5MU	PD30CNG02NPMU	PD30CNG02NPM5MU
Mute PNP NC/NC	PD30CNR06PPMU	PD30CNR06PPM5MU	PD30CNG02PPMU	PD30CNG02PPM5MU
Dust NPN NO/NC	PD30CNR06NPDU	PD30CNR06NPM5DU		
Dust PNP NC/NC	PD30CNR06PPDU	PD30CNR06PPM5DU		
Remote NPN NO/NC	PD30CNR06NPRT	PD30CNR06NPM5RT	PD30CNG02NPRT	PD30CNG02NPM5RT
Remote PNP NC/NC	PD30CNR06PPRT	PD30CNR06PPM5RT	PD30CNG02PPRT	PD30CNG02PPM5RT
Retro reflective Polariz.				
Operating frequency	1000 Hz	1000 Hz		
Sensing distance (Sn)	6 m, Teach-in	6 m, Teach-in		
Mute NPN NO/NC	PD30CNP06NPMU	PD30CNP06NPM5MU		
Mute PNP NC/NC	PD30CNP06PPMU	PD30CNP06PPM5MU		
Dust NPN NO/NC	PD30CNP06NPDU	PD30CNP06NPM5DU		
Dust PNP NC/NC	PD30CNP06PPDU	PD30CNP06PPM5DU		
Remote NPN NO/NC	PD30CNP06NPRT	PD30CNP06NPM5RT		
Remote PNP NC/NC	PD30CNP06PPRT	PD30CNP06PPM5RT		
Trough-beam Emitter				
Sensing distance (Sn)	15 m, Teach-in	15 m, Teach-in		
NPN	PD30CNT15NMU	PD30CNT15NM5MU		
PNP	PD30CNT15PMU	PD30CNT15PM5MU		
Trough-beam Receiver Mute function				
Operating frequency	1000 Hz	1000 Hz		
Sensing distance (Sn)	15 m, Teach-in	15 m, Teach-in		
Remote NPN NO/NC	PD30CNT15NPRT	PD30CNT15NPM5RT		
Remote PNP NC/NC	PD30CNT15PPRT	PD30CNT15PPM5RT		
Dust NPN NO/NC	PD30CNT15NPDU	PD30CNT15NPM5DU		
Dust PNP NC/NC	PD30CNT15PPDU	PD30CNT15PPM5DU		
Characteristics				
Rated operating voltage	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Voltage drop	≤ 2.4 VDC@100 mA	≤ 2.4 VDC@100 mA	≤ 2.4 VDC@100 mA	≤ 2.4 VDC@100 mA
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Load current	≤ 100 mA	≤ 100 mA	≤ 100 mA	≤ 100 mA
Housing material	ABS	ABS	ABS	ABS
Operating temperature	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C
LED colour	Yellow + Green	Yellow + Green	Yellow + Green	Yellow + Green
Approvals/Marks	CE - UL508	CE - UL508	CE	CE





Integrated Amplifier, Diffuse Reflective

Laser Miniature, DC, Integrated Amplifier

Types

PD30

PD30

LD32

LD32

Connections

2 m Cable

M8 Connector

2 m Cable

M8 Connector



Dimensions (mm)

10 x 30 x 20

10 x 30 x 20

12 x 20 x 32

12 x 20 x 32

Diffuse reflective

Operating frequency

1000 Hz

1000 Hz

4000 Hz

4000 Hz

Sensing distance (Sn)

1 m, Teach-in

1 m, Teach-in

150 mm, Teach-in

150 mm, Teach-in

NPN NO+NC

PNP NC+NC

Dust output

NPN NO/NC

PNP NC/NC

Remote teach

NPN NO/NC

PNP NC/NC

PD30CND10NPDU
PD30CND10PPDU

PD30CND10NPM5DU
PD30CND10PPM5DU

LD32CND15NPT
LD32CND15PPT

LD32CND15NPM5T
LD32CND15PPM5T

PD30CND10NPRT
PD30CND10PPRT

PD30CND10NPM5RT
PD30CND10PPM5RT

Diffuse reflective background suppress.

Operating frequency

1000 Hz

1000 Hz

4000 Hz

4000 Hz

Sensing distance (Sn)

150 mm, Teach-in

150 mm, Teach-in

60 mm, Teach-in

60 mm, Teach-in

NPN NO/NC

PNP NC/NC

PD30CNB15NPRT
PD30CNB15PPRT

PD30CNB15NPM5RT
PD30CNB15PPM5RT

LD32CNB06NPT
LD32CNB06PPT

LD32CNB06NPM5T
LD32CNB06PPM5T

Retro reflective Polariz.

Operating frequency

1000 Hz

1000 Hz

4000 Hz

4000 Hz

Sensing distance (Sn)

1 m, Teach-in

1 m, Teach-in

1 m, Teach-in

1 m, Teach-in

NPN NO+NC

PNP NC+NC

LD32CNP10NPT
LD32CNP10PPT

LD32CNP10NPM5T
LD32CNP10PPM5T

Characteristics

Rated operating voltage

10 - 30 VDC

10 - 30 VDC

10 - 30 VDC

10 - 30 VDC

Voltage drop

≤ 2.4 VDC@100 mA

≤ 2.4 VDC@100 mA

≤ 2.4 VDC

≤ 2.4 VDC

Degree of protection

IP 67

IP 67

IP 67

IP 67

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Load current

≤ 100 mA

≤ 100 mA

≤ 100 mA

≤ 100 mA

Housing material

ABS

ABS

ABS

ABS

Operating temperature

-25°C to +55°C

-25°C to +55°C

-25°C to +60°C

-25°C to +60°C

LED colour

Yellow + Green

Yellow + Green

Yellow + Green

Yellow + Green

Approvals/Marks

CE - UL508

CE - UL508

CE - cUL

CE - cUL

Light Source

Laser Class 2

Laser Class 2

Sense



Photoelectric Sensors

Types

Connections

Dimensions (mm)

Diffuse reflective background suppress.

Operating frequency
Sensing distance (Sn)
NPN NO+NC
PNP NC+NC

Retro reflective Polariz.

Operating frequency
Sensing distance (Sn)
NPN NO+NC
PNP NC+NC

Characteristics

Rated operating voltage
Voltage drop
Degree of protection
Protection Short-circuit (S)
Reverse polarity (P)
Transients (T)
Load current
Housing material
Operating temperature
LED colour
Approvals/Marks

	DC, Integrated Amplifier		DC, Integrated Amplifier	
	PA.	PA...-1	PB.	PB...-1
	2 m Cable	M12 Connector	2 m Cable	M12 Connector
Dimensions (mm)	36 x 18 x 63	36 x 18 x 63	18 x 75 x 36	18 x 75 x 36
Diffuse reflective background suppress.				
Operating frequency	1000 Hz	1000 Hz	1000 Hz	1000 Hz
Sensing distance (Sn)	150 mm, adjustable	150 mm, adjustable	150 mm, adjustable	150 mm, adjustable
NPN NO+NC	PA15INPA	PA15INPA-1	PB15INPA	PB15INPA-1
PNP NC+NC	PA15IPPA	PA15IPPA-1	PB15IPPA	PB15IPPA-1
Retro reflective Polariz.				
Operating frequency	1000 Hz	1000 Hz	1000 Hz	1000 Hz
Sensing distance (Sn)	3 m, adjustable	3 m, adjustable	3 m, adjustable	3 m, adjustable
NPN NO+NC	PA3PNPA	PA3PNPA-1	PB3PNPA	PB3PNPA-1
PNP NC+NC	PA3PPPA	PA3PPPA-1	PB3PPPA	PB3PPPA-1
Characteristics				
Rated operating voltage	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC
Degree of protection	IP 67	IP 67	IP 67	IP 67
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	SPT	SPT	SPT
Load current	≤ 200 mA	≤ 200 mA	≤ 200 mA	≤ 200 mA
Housing material	Aluminium	Aluminium	Reinforced ABS	Reinforced ABS
Operating temperature	-25°C to +60°C	-25°C to +60°C	-25°C to +60°C	-25°C to +60°C
LED colour	Yellow	Yellow	Yellow	Yellow
Approvals/Marks	CE	CE	CE	CE





Integrated Amplifier

Types

PC50

PC50..M1

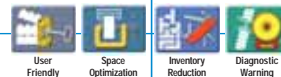
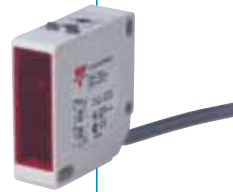
PC50

Connections

2 m Cable

M12 Connector

2 m Cable



Dimensions (mm)	17 x 50 x 50	17 x 50 x 50	17 x 50 x 50
Diffuse reflective			
Operating frequency	500 Hz	500 Hz	20 Hz
Sensing distance (Sn)	1 m, adjustable	1 m, adjustable	
NPN/PNP NO+NC	PC50CND10BA	PC50CND10BAM1	
Sensing distance (Sn)	2 m, adjustable	2 m, adjustable	
NPN/PNP NO+NC	PC50CND20BA	PC50CND20BAM1	
Sensing distance (Sn)			1 m, adjustable
Relay SPDT Multivoltage			PC50CND10RP
Sensing distance (Sn)			2 m, adjustable
Relay SPDT Multivoltage			PC50CND20RP
Diffuse reflective background suppress.			
Operating frequency	250 Hz	250 Hz	
Sensing distance (Sn)	500 mm, adjustable	500 mm, adjustable	
NPN/PNP NO+NC	PC50CNB50BA	PC50CNB50BAM1	
Retro reflective Polariz.			
Operating frequency	500 Hz	500 Hz	
Sensing distance (Sn)	6 m, adjustable	6 m, adjustable	
NPN/PNP NO+NC	PC50CNP06BA	PC50CNP06BAM1	
Mute High	PC50CNP06BAMH	PC50CNP06BAM1MH	
Mute Low	PC50CNP06BAML	PC50CNP06BAM1ML	
Relay SPDT Multivoltage			PC50CNP06RP
Retro reflective			
Operating frequency	500 Hz	500 Hz	20 Hz
Sensing distance (Sn)	10 m, adjustable	10 m, adjustable	10 m, adjustable
NPN/PNP NO+NC	PC50CNR10BA	PC50CNR10BAM1	
Relay SPDT Multivoltage			PC50CNR10RP
Through-beam Emitter			
Sensing distance (Sn)	20 m	20 m	20 m
	PC50CNT20B	PC50CNT20BM1	PC50CNT20R
Through-beam Receiver			
Operating frequency	500 Hz	500 Hz	20 Hz
Sensing distance (Sn)	20 m, adjustable	20 m, adjustable	20 m, adjustable
NPN/PNP NO+NC	PC50CNT20BA	PC50CNT20BAM1	
Relay SPDT Multivoltage			PC50CNT20RP
Characteristics			
Rated operating voltage	10 - 30 VDC	10 - 30 VDC	12-240 VDC/24-240 VAC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC	Relay SPDT
Degree of protection	IP 67	IP 67	IP 67
Protection Short-circuit (S)			
Reverse polarity (P)			
Transients (T)	SPT	SPT	PT
Load current	≤ 200 mA	≤ 200 mA	≤ 3 A
Housing material	Reinforced ABS/PC	Reinforced ABS/PC	Reinforced ABS/PC
Operating temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
LED colour	Yellow + Green	Yellow + Green	Yellow + Green
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA

Sense



Types

Connections

Dimensions (mm)

Diffuse reflective

Operating frequency

Sensing distance (Sn)

NPN NO+NC

PNP NC+NC

Sensing distance (Sn)

NPN NO+NC

PNP NC+NC

NPN/PNP NO+PC

NPN/PNP NO+PC

Through-beam Emitter

Sensing distance (Sn)

Through-beam Receiver

Operating frequency

Sensing distance (Sn)

NPN NO + NC

PNP NO + NC

Characteristics

Rated operating voltage

Voltage drop

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Load current

Housing material

Operating temperature

LED colour

Approvals/Marks

DC, Integrated Amplifier

E.55...

E.55...-1

2 m Cable

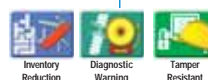
M12 Connector



Integrated Amplifier Colour Sensors

PD12..

M12 Connector



Dimensions (mm)	35 x 55 x 15	35 x 55 x 15	61 x 26 x 125
Operating frequency	500 Hz (*100 Hz)	500 Hz (*100 Hz)	500 Hz
Sensing distance (Sn)	200 mm, adjustable	200 mm, adjustable	4-50 mm (fiber depend.)
NPN NO+NC	ED5502NPAP	ED5502NPAP-1	
PNP NC+NC	ED5502PPAP	ED5502PPAP-1	
Sensing distance (Sn)	600 mm, adjustable*	600 mm, adjustable*	
NPN NO+NC	ED5506NPAP	ED5506NPAP-1	
PNP NC+NC	ED5506PPAP	ED5506PPAP-1	
NPN/PNP NO+PC			PD12CNC01BPT 1 Output
NPN/PNP NO+PC			PD12CNC04BPT 4 Outputs
Sensing distance (Sn)	5 m	5 m	
	ET5505	ET5505-1	
Operating frequency	100 Hz	100 Hz	
Sensing distance (Sn)	5 m, adjustable	5 m, adjustable	
NPN NO + NC	ET5505NPAP	ET5505PPAP	
PNP NO + NC	ET5505NPAP-1	ET5505PPAP-1	
Rated operating voltage	10 - 30 VDC	10 - 30 VDC	24 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2,2 VDC
Degree of protection	IP 67	IP 67	IP 65
Protection Short-circuit (S)			
Reverse polarity (P)			
Transients (T)	SPT	SPT	SPT
Load current	≤ 200 mA	≤ 200 mA	≤ 100 mA
Housing material	PC/ABS	PC/ABS	PC
Operating temperature	-20°C to +60°C	-20°C to +60°C	0°C to +40°C
LED colour	Yellow	Yellow	Yellow + Green
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - cUL

Accessories: Fibres

Dist. 18 mm:

FPDC 01 SCC 100

Dist. 50 mm:

FPDC 02 SCC 100

Dist. 6 mm:

FPDC 03 SCC 100

Dist. 4 mm:

FPDC 04 SCC 100

Dist. 4 mm:

FPDC 05 SCC 100





	Integrated Amplifier		Fork Sensor
Types	PD60..	PD60..M5	PF80..
Connections	2 m Cable	M8 Connector	M8 Connector
Dimensions (mm)	13 x 30 x 60	13 x 30 x 60	12 x 37.5 x 80
Transparent detection			
Operating frequency	1000 Hz	1000 Hz	
Sensing distance (Sn)	0.8 m, Teach-in	0.8 m, Teach-in	
NPN/PNP NO/NC	PD60CNG08BPT	PD60CNG08BPM5T	
Sensing distance (Sn)	1.4 m, Teach-in	1.4 m, Teach-in	
NPN/PNP NO/NC	PD60CNG14BPT	PD60CNG14BPM5T	
Fibre Optical Sensor			
Plastic fibres			
Operating frequency	1000 Hz	1000 Hz	
Sensing distance (Sn)	200 mm	200 mm	
NPN/PNP NO/NC	PD60CNX20BP	PD60CNX20BPM5	
Sensing distance (Sn)	200 mm, Teach-in	200 mm, Teach-in	
NPN/PNP NO/NC	PD60CNX20BPT	PD60CNX20BPM5T	
Glass fibres			
Operating frequency	1000 Hz	1000 Hz	
Sensing distance (Sn)	200 mm	200 mm	
NPN/PNP NO/NC	PD60CNV20BP	PD60CNV20BPM5	
Sensing distance (Sn)	200 mm, Teach-in	200 mm, Teach-in	
NPN/PNP NO/NC	PD60CNV20BPT	PD60CNV20BPM5T	
Contrast Sensor			
Operating frequency	20 kHz	20 kHz	
Sensing distance (Sn)	18 mm (fibre depend.)	18 mm (fibre depend.)	
NPN/PNP NO/NC	PD60CNK18BPT	PD60CNK18BPM5T	
Fork Sensor			
Operating frequency			10 kHz
Sensing distance (Sn)			3 mm, Slot width
NPN/PNP NO/NC			PF80FNT03BPM5T
Characteristics			
Rated operating voltage	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Voltage drop	≤ 2.0 VDC	≤ 2.0 VDC	≤ 2.0 VDC@100 mA ≤ 1.0 VDC@10 mA
Degree of protection	IP 65 (IP 67 CNG type)	IP 65 (IP 67 CNG type)	IP 65
Protection Short-circuit (S)			
Reverse polarity (P)			
Transients (T)	SPT	SPT	ST
Load current	≤ 100 mA	≤ 100 mA	≤ 40 mA
Housing material	PC	PC	Aluminium, black
Operating temperature	0°C to +60°C	0°C to +60°C	-20°C to +60°C
LED colour	Red	Red	Yellow + Red
Approvals/Marks	CE - UL - cUL	CE - UL - cUL	CE

Sense



Photoelectric Sensors

Types

Connections

Dimensions (mm)

Diffuse reflective

Oper. freq. / Sens. dist. (Sn)
Sensing distance (Sn)
Relay SPDT Multivoltage

Retro reflective Polariz.

Oper. freq. / Sens. dist. (Sn)
Relay SPDT Multivoltage
Relay SPST

Retro reflective

Oper. freq. / Sens. dist. (Sn)
Relay SPDT Multivoltage
Relay SPST

Through-beam Emitter

Sensing distance (Sn)

Through-beam Receiver

Oper. freq. / Sens. dist. (Sn)
Relay SPDT Multivoltage

Relay SPST

Characteristics

Rated operating voltage
Volt. drop / Degree of protect.
Protection Short-circuit(S)
Rev. polarity(P)-Transients(T)
Load curr. / Housing mat.
Operating temperature
LED colour
Approvals/Marks
Remarks

Integrated Amplifier

PM..

PM..

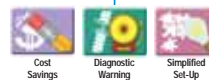
Through-beam Relay Output

PD98

Terminals Single Relay

Terminals Mute Input

Terminal Block



25 x 65 x 81

25 x 65 x 81

98 x 56 x 37

20 Hz
0.8 m, adjustable
PMD8RG / RGT
PMD8RI / RIT

20 Hz / 12 m, fixed
PMP12RG / PMP12RI

20 Hz / 10 m, fixed
PMR10RG / RGT
PMR10RI / RIT

20 m
PMT20G; PMT20I

20 Hz / 20 m, fixed
PMT20RG / RGT
PMT20RI / RIT

12 - 240 VDC / 24 - 240 VAC
Relay SPDT / IP 67

PT
≤ 3 A / PC/ABS
-25°C to +55°C

Yellow
CE - UL - CSA

G = PG 13.5 Outlet
I = 1/2" NPT Outlet - T = Timer

20 Hz / 12 m, fixed
PMP12RGM / PMP12RIM

20 m
PMT12GM / PMT12IM

20 Hz / 20 m, fixed

PMT20RGM / PMT20RIM

24 VAC/DC ±20%
Relay SPST / IP 67

PT
≤ 3 A / PC/ABS
-25°C to +55°C

Yellow
CE - UL325

G = PG 13.5 Outlet
I = 1/2" NPT Outlet - T = Timer

30 m (15 m default)
PD98CNT30QMU*

25 Hz / 30 m (15 m default)

PD98CNT30QMU*

12 V to 24 VAC/DC
Relay DPDT / IP 54











PT
1 A (500 mA) / PC/ABS
-20°C to +60°C

Yellow (receiver)
CE

Mute input

* Item number set, emitter + receiver.



	Edge Infrared Photoelectric Safety Switch	Heavy Duty Infrared Barrier
Type	IREPSS1	IRPHS20 / IRPHS60
Connections	Terminal Block	Terminal Block
		
	   	   
Dimensions (mm)	34 x 190 x 32	60 x 130 x 52
Through-beam range		
Indoor sensing distance (max) m	10	20 / 60
Outdoor sensing distance (max) m	-	15 / 40
General Data		
Technology	Infrared	Infrared
Continuous modulation	1.33 kHz	1.33 kHz
Supply voltage	12/24 VAC/VDC (depending on jumper insertion)	12/24 VAC/VDC (depending on jumper insertion)
Consumption	60mA to 24VAC (tx + rx)	110mA to 24VAC (tx + rx)
Output	changeover relay	NO and NC with double relay in series
Contact rating	1A@24VAC (resistive load)	1A@24VAC (resistive load)
Approvals	CE	CE
Conformity	EN 12453, EN 954-1, RoHS	EN 12453, EN 954-1, RoHS
Environmental Data		
Wavelength	950 nM	950 nM
Operating temperature	-20°C...+60°C	-20°C...+60°C
Degree of protection	IP 54	IP 66
Mechanical Data		
Led transmitter	Power signal	Power signal
Led receiver	Signal for alignment with transmitter	Signal for alignment with transmitter
Horizontal adjustment	-	Through a rotation support with screw block
Mounting	wall or ceiling mounted type	wall mounted type
Weight	310g (couple)	940g (couple)

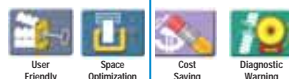


Safety Light Curtains for Lift BFL series

Types

BFL84N, BFL84P

BFL154N, BFL154P



Specific Characteristics

Diodes number	18	32
Beams number	84 max	154 max
Operating range	0 ÷ 4 m	0 ÷ 4 m
Distance between bottom beam and bottom of housing	20.5 mm	20.5 mm
Protected height	25 ÷ 1850 mm	25 ÷ 1850 mm
Light immunity	> 100 Klux	> 100 Klux
RX-TX synchronization	By wire	By wire

General Specifications

Power supply	10-30 VDC	10-30 VDC
Output	PNP or NPN NO	PNP or NPN NO
Housing material	Anodized aluminium	Anodized aluminium
Degree of protection	IP 54	IP 54
Operating temperature	-10° to +55°C, R.H. < 95%	-10° to +55°C, R.H. < 95%
Connecting cable	PUR, 4 x 0.25 mm ² , shielded	PUR, 4 x 0.25 mm ² , shielded
Dimensions (mm) W x H x D	40 x 2011 x 9 mm	40 x 2011 x 9 mm
Approvals/Marks	CE	CE

References

BFL84N
BFL84P

BFL154N
BFL154P





Safety Light Curtain Accessories for Lift

Types

BFLDIN

BFLBOX



Dimensions (mm) H x W x D
DIN RAIL housing
On surface by screws

35.5 x 81 x 62.7

Internal: 105 x 150 x 80
External: 120 x 165 x 85
(excluded cable glands)

Function

Power supply unit for lift light curtain

Plastic case including BFLDIN

Output Specifications

11-14

Max. load AC1

Max. load DC12

Electrical life

Signalling

SPST relay (NE or ND)

5A / 250 VAC

5A / 24 VDC

> 1 x 10⁵ operations

Buzzer

SPST relay (NE or ND)

5A / 250 VAC

5A / 24 VDC

> 1 x 10⁵ operations

Buzzer

General Specifications

Power supply

Degree of protection

Cable Glands

24-48 VAC/DC ±25% [D48]
100-240 VAC/DC ±10% [D23]

IP20

24-48 VAC/DC ±25% [D48]
100-240 VAC/DC ±10% [D23]

IP55

n. 2 x ø 3.5÷7 mm (for BFL cables Tx & Rx)
n.2 x ø 5÷8 mm (for BFLDIN supply and relay output cables)

Approvals/Marks

CE - UL

CE

References

BFL DIN D48
BFL DIN D23

BFL BOX D48
BFL BOX D23



Photoelectric Sensors

Types

Connections

Dimensions (mm)

Amplifier

- 12-24 VAC/DC ±15%
- Low current
- 12-24 VAC/DC ±15%
- 115 VAC ±15%
- 230 VAC ±15%

Through-beam Emitter

- Sensing distance (Sn)
- 15 m
- Ø12 x 20
- D11 x 24.5
- D18 x 25
- M14 x 23

Through-beam Receiver

- Sensing distance (Sn)
- 15 m
- Ø12 x 20
- D11 x 24.5
- D18 x 25
- M14 x 23

Characteristics

- Rated operating voltage
- Output
- Low current resistive load

- Operating frequency
- Degree of protection
- Protection Short-circuit (S)
- Reverse polarity (P)
- Transients (T)
- Housing material
- Amplifier
- Sensor Ø12+D11+D18
- Sensor
- Operating temperature
- LED colour
- Approvals/Marks
- Remarks
- Optical angle (degrees)

Sensors

MPF..

10 m Cable



See sensor type

Amplifier 1-channel

MPF1..

Terminals



70 x 57 x 86

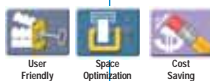
1-Channel

MPF1-912RSL
MPF1-912RS
MPF1-115RS
MPF1-230RS

Amplifier 2-channel

MPF2..

Terminals



70 x 57 x 86

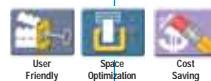
2-Channel

MPF2-912RSL
MPF2-912RS
MPF2-115RS
MPF2-230RS

Amplifier 3-channel

MPF3..

Terminals



70 x 57 x 86

3-Channel

MPF3-912RSL
MPF3-912RS
MPF3-115RS
MPF3-230RS

Output and function selection

No Dist Adjust		Dist Adjust	
Normal Mute	Inverted Mute	Normal Mute	Inverted Mute
RS	RSI	RSA	RSAI
RSL	RSLI	RSLA	RSLAI

Powered by amplifier

See amplifier reference
1 x 2 SPST in serie

RS type:
2 A@240 VAC/30 VDC
RSL type:
0.5 A@50 VAC/30 VAC

10 Hz
IP 40

PT

PC

+20°C to +60°C
Yellow

CE - UL325

Amplifier dependent
IP 67

SPT

PC + ABS
PC + Stainless steel

-20°C to +60°C

None

CE - UL

C =
Pigtail connector version

± 5

See amplifier reference
2 x 2 SPST in serie

10 Hz
IP 40

PT

PC

+20°C to +60°C
Yellow

CE - UL325

See amplifier reference
3 x 2 SPST in serie

RS type:
2 A@240 VAC/30 VDC
RSL type:
0.5 A@50 VAC/30 VAC

10 Hz
IP 40

PT

PC

+20°C to +60°C
Yellow

CE - UL325





Sensors for Amplifiers

Types

MOF..

MOF.. ATEX

MNF..

MDF..

Connections

10 m Cable

Terminals

Terminals

Terminals



Dimensions (mm)

Ø10 x 42

Ø10 x 42

Ø20 x 80

Ø13.5 x 55

Through-beam Emitter

Sensing distance (Sn)
Max. ±2° optical angle

20 m
MOFT20
MOFT20-M12-2

20 m
MOFT20AX
MOFT20-M12-2AX

Sensing distance (Sn)
Max. ±2° optical angle

50 m
MOFT50
MOFT50-M12-2

Sensing distance (Sn)
Max. ±5° optical angle

20 m
MOFT20-5
MOFT20-M12-5

20 m
MOFT20-5AX
MOFT20-M12-5AX

Sensing distance (Sn)
Max. ±8° optical angle

20 m
MOFT20-8
MOFT20-M12-8
MOFT20-M14-8

20 m
MOFT20-8AX
MOFT20-M12-8AX
MOFT20-M14-8AX

15 m
MNFT15

30 m
MDFT30

Through-beam Receiver

Operating frequency
Sensing distance (Sn)
Max. ±2° optical angle

Amplifier dependent
See emitter

Amplifier dependent
See emitter

Amplifier dependent
See emitter

Amplifier dependent
See emitter

Max. ±5° optical angle

MOFR
MOFR-M12-2
MOFR-5
MOFR-M12-5

MOFRAX
MOFR-M12-2AX
MOFR-5AX
MOFR-M12-5AX

Max. ±8° optical angle

MOFR-8
MOFR-M12-8
MOFR-M14-8

MOFR-8AX
MOFR-M12-8AX
MOFR-M14-8AX

MNFR15

MDFR30

Characteristics

Rated operating voltage
Output

Powered by Amplifier
On Amplifier

Powered by Amplifier
On Amplifier

Powered by Amplifier
On Amplifier

Powered by Amplifier
On Amplifier

Operating frequency

See Amplifier type:
S142.. - S143.. - PAM..

See Amplifier type:
S142.. - S143.. - PAM..

See Amplifier type:
S142.. - S143.. - PAM..

See Amplifier type:
S142.. - S143.. - PAM..

Degree of protection

IP 66 - IP 67

IP 66 - IP 67

IP 67

IP 67

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Housing material Sensor

SPT
Ø10: PC
M14 + M14: PC + SS

SPT
Ø10: PC
M14 + M14: PC + SS

SPT
PC
M14 + M14: PC + SS

SPT
Acetal, glass reinforced

Operating temperature

-20°C to +60°C

-20°C to +60°C

-20°C to +60°C

-20°C to +60°C

LED colour

None

None

None

None

Approvals/Marks

CE

CE - ATEX

CE

CE

Sense

*) For normally closed types change last "O" to "C"



Types

Connections

Dimensions (mm)

Description

References Amplifier

1 x SPDT relay
1 x NPN Output
1 x NPN Alarm Output

1 x SPDT relay
1 x NPN Output or alarm
1 x Emitter mute input

1 x PNP Output
1 x PNP Alarm Output
1 x Emitter mute input

1 x SPDT relay
A - Auto distance adjustment
M - Manual distance adjustment

Characteristics

Rated operating voltage
924
115
230

Relay Load current resistive load

Transistor Load current

Operation frequency

Degree of protection

Protection Short-circuit (S)

Reverse polarity (P)

Transients (T)

Housing material

Operating temperature

Approvals/Marks

Amplifiers for Sensors

11-pole plug



Long Term Reliability

For Harsh Environments

Simplified Set-Up

Diagnostic Warning

35 x 80 x 81.5

Standard amplifier with Sensor diagnostics and adjustable sensing distance

S142ARNN924

S142ARNN024

S142ARNN115

S142ARNN230

S142ARNT924

S142ARNT024

S142ARNT115

S142ARNT230

S142APPT924

S142APPT115

S142APPT230

24 VAC/DC
115 VAC
230 VAC

10 A @ 250 VAC /
25 VDC SPDT

100 mA 40 VDC

20 Hz

IP 20

SPT

Noryl SE1, Light grey

-20°C to +50°C

CE - UL - CSA

11-pole plug



Long Term Reliability

For Harsh Environments

Simplified Set-Up

Diagnostic Warning

35 x 80 x 81.5

As S142A but with adjustable time delay

S142BRNN924

S142BRNN024

S142BRNN115

S142BRNN230

S142BRNT924

S142BRNT115

S142BRNT230

S142BPPT924

S142BPPT115

S142BPPT230

24 VAC/DC
115 VAC
230 VAC

10 A @ 250 VAC /
25 VDC SPDT

100 mA 40 VDC

20 Hz, no timer

IP 20

SPT

Noryl SE1, Light grey

-20°C to +50°C

CE - UL - CSA

11-pole plug



Long Term Reliability

For Harsh Environments

Simplified Set-Up

Diagnostic Warning

35 x 80 x 81.5

As S142A but with Master / Slave function for high neighbour immunity

S142CRXA924

S142CRXA115

S142CRXA230

S142CRXM924

S142CRXM115

S142CRXM230

24 VAC/DC
115 VAC
230 VAC

10 A @ 250 VAC /
25 VDC SPDT

15 Hz @ 2 systems
4 Hz @ 6 systems

IP 20

S

Noryl SE1, Light grey

-20°C to +50°C

CE - UL - CSA

















Types	S1430 UAP..	S1430 RAL..	S1430 ROS..	PAM...
Connections	11-pole plug	11-pole plug	11-pole plug	Terminals
Dimensions (mm)	35 x 80 x 81.5	35 x 80 x 81.5	35 x 80 x 81.5	2, 3, 4, 5, 6 DIN housing
Description	3 input 3 transistors outputs	3 input 3 transistors outputs	3 input 3 double relay outputs	2-4-6-8 or 10 channel modular system
References Amplifier	S1430UAP912	S1430RAL915	S1430ROS915	
12-30 VAC/DC ±15%				
15-30 VAC/DC ±10%				
No. of channels				2 channels
-NPN output, NO				PAM02AN3ANO/NC
-PNP output, NO				PAM02AN3APO/PC
No. of channels				4 channels
-NPN output, NO				PAM04AN3ANO/NC
-PNP output, NO				PAM04AN3APO/PC
No. of channels				6 channels
-NPN output, NO				PAM06AN3ANO/NC
-PNP output, NO				PAM06AN3APO/PC
References Extension Modules				
No. of channels				2 channels
- NPN output, NO				PAM02CN3ANO
- NPN output, NC				PAM02CN3ANC
- PNP output, NO				PAM02CN3APO
- PNP output, NC				PAM02CN3APC
No. of channels				4 channels
- NPN output, NO				PAM04CN3ANO
- NPN output, NC				PAM04CN3ANC
- PNP output, NO				PAM04CN3APO
- PNP output, NC				PAM04CN3APC
Characteristics				
Rated operating voltage	See Amplifier type	See Amplifier type	See Amplifier type	18 - 33 VDC
Output	3 x Transistor NPN/PNP/NO/NC	3 x SPST	3 x 2 SPST	One output per channel
Load current resistive load	100 mA, 40 VDC, NPN	1.5 A @ 100 VAC / 30 VDC	1.5 A @ 100 VAC / 30 VDC	20 mA, 33 VDC, NPN / PNP 8 A @ 250VAC /24 VDC SPDT resistive load
Operation frequency	16 Hz	12.5 Hz	12.5 Hz	30 Hz @ 6 channels
Degree of protection	IP 20	IP 20	IP 20	IP 20
Protection Short-circuit (S)				
Reverse polarity (P)				
Transients (T)	SPT	PT	PT	SPT
Housing material:	Noryl SE1, Light grey	Noryl SE1, Light grey	Noryl SE1, Light grey	
Operating temperature	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
LED colour	Yellow + Green + Red	Yellow + Green + Red	Yellow + Green + Red	Yellow + Green + Red
Approvals/Marks	Multiplexed system	Multiplexed system	Multiplexed system	Multiplexed system, Test functions, bargraph, mute input etc.

Sense









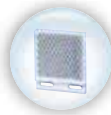
Photoelectric Level Sensors

	Integrated Amplifier		
Types	VP0.E.	VP ATEX	VP E.M
Connections	2 m Cable	2 m Cable	2 m Cable
			
	  	  	  
Dimensions	3/8" x 74 mm	3/8" x 74 mm	3/8" x 74 mm
Light type	Unmodulated	Unmodulated	Modulated
References			
Optical Level Sensor			
Operating frequency	30 Hz	30 Hz	30 Hz
Sensing dist. (Sn), Hor.	± 5 mm, fixed	± 5 mm, fixed	± 5 mm, fixed
Sensing dist. (Sn), Ver.	± 2.5 mm, fixed	± 2.5 mm, fixed	± 2.5 mm, fixed
Housing material	Polysulphone	Polysulphone	Polysulphone
NPN NO	VP02E		VP02EM
NPN NC	VP01E		VP01EM
PNP NO	VP02EP	VP02EPAX	VP02EPM
PNP NC	VP01EP	VP01EPAX	VP01EPM
Housing material	Polyamide 12	Polyamide 12	Polyamide 12
NPN NO	VP04E		VP04EM
NPN NC	VP03E		VP03EM
PNP NO	VP04EP	VP04EPAX	VP04EPM
PNP NC	VP03EP	VP03EPAX	VP03EPM
Housing material	Polysulphone		
SCR NO	VP02-110TB		
SCR NC	VP01-110TB		
SCR NO	VP02-230TB		
SCR NC	VP01-230TB		
DC-types			
Rated operational voltage	10 - 40 VDC	10 - 40 VDC	10 - 40 VDC
Voltage drop	≤ 1.0 VDC	≤ 1.0 VDC	≤ 1.0 VDC
Off-state current	≤ 12 mA	≤ 12 mA	≤ 12 mA
Load current	< 200 mA	< 200 mA	< 200 mA
AC-types (SCR)			
Rated operational voltage	110 or 230 VAC	110 or 230 VAC	110 or 230 VAC
Voltage drop	≤ 9 VAC	≤ 9 VAC	≤ 9 VAC
Off-state current	≤ 7 mA	≤ 7 mA	≤ 7 mA
Load current	< 10 - 100 mA	< 10 - 100 mA	< 10 - 100 mA
Characteristics			
Degree of protection	IP 67	IP 67	IP 67
Protection Short-circuit(S)	PT	PT	PT
Rev. polarity(P)-Transients(T)			
Operating temperature	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C
LED colour	Yellow	Yellow	Yellow
Pressure	10 bar @ +60°C	10 bar @ +60°C	10 bar @ +60°C
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA

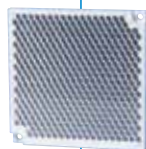
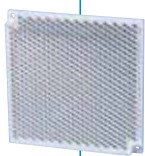




	Integrated Amplifier	
Types	VPA..../VPB....	VPA....-1/VPB....-1
Connections	2 m Cable	M12 Connector
		
	   	
Dimensions	3/8" x 70.5 mm	3/8" x 90.5 mm
Light type	Modulated	Modulated
References		
Optical Level Sensor		
Operating frequency	30 Hz	30 Hz
Sensing dist. (Sn), Hor.	± 5 mm, fixed	± 5 mm, fixed
Sensing dist. (Sn), Ver.	± 2.5 mm, fixed	± 2.5 mm, fixed
Housing material	Stainless steel/polysulphone	Stainless steel/polysulphone
NPN NO+NC	VPA1MNA	VPA1MNA-1
PNP NO+NC	VPA1MPA	VPA1MPA-1
Housing material	Stainless steel and glass	Stainless steel and glass
NPN NO+NC	VPA2MNA	VPA2MNA-1
PNP NO+NC	VPA2MPA	VPA2MPA-1
Housing material	Nickel-pl. brass/polysulphone	Nickel-pl. brass/polysulphone
NPN NO+NC	VPB1MNA	VPB1MNA-1
PNP NO+NC	VPB1MPA	VPB1MPA-1
Housing material	Nickel-plated brass and glass	Nickel-plated brass and glass
NPN NO+NC	VPB2MNA	VPB2MNA-1
PNP NO+NC	VPB2MPA	VPB2MPA-1
DC-types		
Rated operational voltage	10 - 40 VDC	10 - 40 VDC
Voltage drop	≤ 2.5 VDC	≤ 2.5 VDC
Off-state current	≤ 7 mA	≤ 7 mA
Load current	< 200 mA	< 200 mA
Characteristics		
Degree of protection	IP 67	IP 67
Protection Short-circuit(S) Rev. polarity(P)-Transients(T)	SPT	SPT
Operating temperature	-20°C to +80°C	-20°C to +80°C
LED colour	Yellow	No LED
Pressure	10 bar @ +60°C	10 bar @ +60°C
Approvals/Marks	CE - UL - CSA	CE - UL - CSA



Reflectors, rectangular



ITEM NUMBER

ER100

Dimensions (mm)

100 x 100 x 9.2

Mounting (screws not incl.)

2 x M3 screws

Reduction factor

1.2

ER840

84.5 x 84.5 x 9

2 x M3.5 screws

0.96

ER681

52 x 119 x 27

4 x M4 screws

0.92

ER686

55.3 x 126 x 9

2 x M6 screws

0.92

Reflectors, rectangular



ITEM NUMBER

ER4060

Dimensions (mm)

60 x 41 x 8

Mounting (screws not incl.)

2 x M3.5 screws

Reduction factor

0.81

ER5060

55.5 x 61 x 8

2 x M4 screws

0.80

ER42182

186 x 46.5 x 8

2 x M6 screws

0.65

ER5080

80 x 54 x 8

Adhesive

0.60

Reflectors, rectangular



ITEM NUMBER

ER483

Dimensions (mm)

32.5 x 65 x 8

Mounting (screws not incl.)

2 x M3.5 screws

Reduction factor

0.55

ER8

82 x 37 x 5.5

Adhesive

0.51

ER665

18.5 x 120 x 65

2 x M4 screws

0.45

ER530

19 x 72.5 x 8.4

2 x M3.5 screws

0.45

Reflectors, rectangular



Reflectors, cylindrical



ITEM NUMBER

ER390

Dimensions (mm)

23.5 x 47.5 x 8

Mounting (screws not incl.)

2 x M3.5 screws

Reduction factor

1.39

ER1

51 x 17.5 x 5

Adhesive

0.20

ER640

13 x 17 x 5

Adhesive

0.16

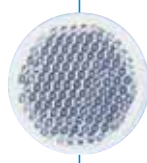
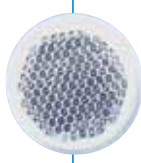
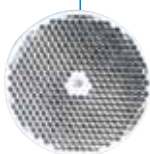
ER692

Ø 35 x 5.5

Adhesive

0.53

Reflectors, cylindrical



ITEM NUMBER

ER4

Dimensions (mm)

Ø 84 x 7.4

Mounting (screws not incl.)

1 x M4 screw

Reduction factor

1

ER460

Ø 46 x 6.5

Adhesive

0.55

ER420

Ø 42 x 6.3

Adhesive

0.54

ER423

Ø 41.5 x 6

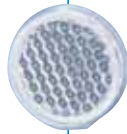
2 x M3 screws

0.54



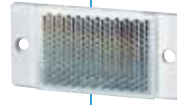


Reflectors, cylindrical



ITEM NUMBER	ER689
Dimensions (mm)	Ø 25 x 5.5
Mounting (screws not incl.)	Adhesive
Reduction factor	0.39

Micro Cube reflectors for LD32



ITEM NUMBER	EM 130-20
Dimensions (mm)	20 x 43
Mounting (screws not incl.)	2 x M3 screws
Reduction factor	1 (Micro Cube)



ITEM NUMBER	EM 120-20
Dimensions (mm)	20 x 32
Mounting (screws not incl.)	2 x M3,5 screws
Reduction factor	1 (Micro Cube)



ITEM NUMBER	EM 123-70
Dimensions (mm)	13,7 x 23
Mounting (screws not incl.)	2 x M2 screws
Reduction factor	1 (Micro Cube)

Reflectors, Tape



ITEM NUMBER	ERT25
Dimensions (mm)	25 mm x 45.7 m
Mounting	Adhesive
Reduction factor	0.23 (25 x 25 mm)



ITEM NUMBER	EM 111-40
Dimensions (mm)	10,5 x 10,5
Mounting	Adhesive
Reduction factor	1 (Micro Cube)



ITEM NUMBER	EM 121-41
Dimensions (mm)	Ø20
Mounting	Adhesive
Reduction factor	1 (Micro Cube)



ITEM NUMBER	EM 110-40
Dimensions (mm)	Ø10
Mounting	Adhesive
Reduction factor	1 (Micro Cube)

Accessories, Photoelectric Sensors



ITEM NUMBER	ERT50
Dimensions (mm)/Used for Mounting	50 mm x 45.7 m Adhesive
Reduction factor/Description	0.34 (50 x 50 mm)



ITEM NUMBER	AMPF-MB1
Dimensions (mm)	MPFT15-4 & MPFR-4
Description	Plastic mounting bracket for wall mounting.



ITEM NUMBER	AMPF-MB2
Dimensions (mm)	MPFT15-4 & MPFR-4
Description	Adaptor for fitting to an Ø18 mm rubberprofile.



ITEM NUMBER	AMPF-MB3
Dimensions (mm)	MPFT15-4 & MPFR-4
Description	Metal mounting bracket for harsh environment.



ITEM NUMBER	APA18-AK
Used for	M18 photoelectrics
Description	Ø2, Ø4, and Ø8 mm aperture.



ITEM NUMBER	APA18-RAR
Used for	M18 photoelectrics
Description	90° mirror for angle detection.



ITEM NUMBER	6IODC
Used for	S1430...
Description	Plug conversion.



ITEM NUMBER	APA3
Used for	PA.. sensors
Description	Mounting bracket in anodized aluminium.



Dimensions (mm)	1 mm fiber
Used for	PD60CNX.. EF1810..
ITEM NUMBER	FPD..S. / FPT..S..
Description	Plastic fibre optics. Separate fibre heads see datasheet.



Dimensions (mm)	0.25 to 1 mm fiber
Used for	PD60CNX.. EF1810..
ITEM NUMBER	FPD..S. / FPT..S..
Description	Plastic fibre optics. Various fibre heads see datasheet.



Dimensions (mm)	1 mm fiber
Used for	PD60CNV..
ITEM NUMBER	FGD..S. / FGT..S..
Description	Glass fibre optics. Various fibre heads see datasheet.



Used for	MOF.. sensors
ITEM NUMBER	MB-M01
Description	Ball mounting bracket for flexible mounting.



Brackets



ITEM NUMBER

Used for
Description

APA2

PA.. sensors
Mounting bracket in
steel, black.

APB-1

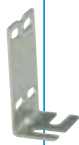
PB
Mounting bracket
in steel, black.

MB02

PM
Long mounting bracket
for wall mounting in
steel, cromated.

APD32-MB3

PD32 - LD32
Mounting bracket in
steel, cromated.



ITEM NUMBER

Used for
Description

APD30 MB1

PD.. sensors
Mounting bracket in
steel, cromated.

APD30 MB2













PD.. sensors
Mounting bracket
in steel, cromated.

ACP50-1

PC50.. sensors
Mounting bracket
in steel, cromated.





	Wind Vane	Cup Anemometer	Anemometer Amplifier
Types	DWS-D-D...	DWS-V-D...	1056G
Connections	2 m Cable	2 m Cable	2 m Cable
			
	  	  	  
Dimensions	207 x 162 mm	137 x 145	230 x 140
Use	Wind direction	Wind speed	Wind security alarm
References Wind Vane			
Wind indication	0° and 90° intervals DWS-D-DAC13		
Wind indication	±7° and left/right DWS-D-DDC13		
References Cup Anemometer			
Operating temperature		-20° to 60°C	
Heating		Yes DWS-V-DAC13	
Operating temperature		0° to 60°C	
Heating		No DWS-V-DBC05	
References Cup Anemometer			
Alarm level			At wind speed above 70 km/h 1056G
Characteristics			
Rated operating voltage	12 - 24 VDC	12 - 24 VDC	48, 115, 230 or 400 VAC
Voltage drop	Typ. 4.9 VDC	Typ. 4.9 VDC	
Degree of protection	IP 54	IP 54	IP 65
Output frequency	10 HZ pr. m/s	10 HZ pr. m/s	
Housing material	Body: Black PVC Rotor: Stainless steel	Body: Black PVC Rotor: Stainless steel	
Operating temperature	-20°C to +60°C		-20°C to +60°C
LED colour			Yellow + Green
Approvals/Marks	CE	CE	CE



General Accessories, Sensors

General Accessories

ITEM NUMBER

Dimensions (mm)

Used for

2 m cable

5 m cable

10 m cable

Description



M8 connector
3-wire DC Sensors
CONM53NF-S2
CONM53NF-S5

High-end connector



M8 connector
3-wire DC Sensors
CONM53NF-A2
CONM53NF-A5

High-end connector



M8 connector
3-wire DC Sensors
CONM54NF-S2
CONM54NF-S5
CONM54NF-S10

High-end connector



M8 connector
3-wire DC Sensors
CONM54NF-A2
CONM54NF-A5
CONM54NF-A10

High-end connector

ITEM NUMBER

Dimensions (mm)

Used for

2 m cable, 3-pin

5 m cable, 3-pin

10 m cable, 3-pin

2 m cable, 4-pin

5 m cable, 4-pin

10 m cable, 4-pin

2 m cable, 5-pin

5 m cable, 5-pin

10 m cable, 5-pin

Description



M12 connector
2-, 3- or 4-wire DC
CONG10-S2
CONG10-S5

CONG1A-S2
CONG1A-S5

High-end connector



M12 connector
2-, 3- or 4-wire DC
CONG10-A2
CONG10-A5

CONG1A-A2
CONG1A-A5

High-end connector



M12 connector
2-, 3- or 4-wire DC
CONM13NF-S2
CONM13NF-S5
CONM13NF-S10
CONM14NF-S2
CONM14NF-S5
CONM14NF-S10
CONM15NF-S2
CONM15NF-S5

High-end connector



M12 connector
2-, 3- or 4-wire DC
CONM13NF-A2
CONM13NF-A5
CONM13NF-A10
CONM14NF-A2
CONM14NF-A5
CONM14NF-A10
CONM15NF-A2
CONM15NF-A5
CONM15NF-A10

High-end connector

ITEM NUMBER

Dimensions (mm)

Used for

2 m cable, 3-pin

5 m cable, 3-pin

2 m cable

5 m cable

Description



M12 connector
2-wire AC
CONH6A-S2
CONH6A-S5

High-end connector



M12 connector
2-wire AC
CONH6A-A2
CONH6A-A5

High-end connector



M8 connector
4-wire DC Sensors
CONG5A-S2
CONG5A-S5

Low-cost connector



M8 connector
4-wire DC Sensors
CONG5A-A2
CONG5A-A5

Low-cost connector

ITEM NUMBER

Dimensions (mm)

Used for

No cable 4-pin

Description



AMB4-30
Cylindrical 4 - 30 mm

Universal sensor
mounting bracket



ST-03
65 x 27 x 130

Stand-alone sensors
Sensor tester for:
NAMUR and
2-, 3- or 4-wire DC.



M12 connector
2-, 3- or 4-wire DC
CONM14NF-S

Terminal connection



M12 connector
2-, 3- or 4-wire DC
CONM14NF-A

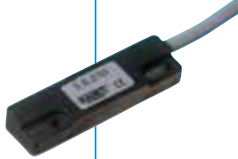

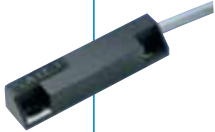







Terminal connection

Connectors available with PUR cable and/or LED indication on request


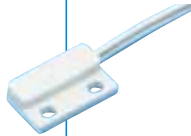










Types

	S series	SPB.2 series	SPA.1 series
			
	 	  	 
External Dimensions (mm)	21.2 x 11.5 x 79	24 x 25.5 x 85	16 x 90 x 20
References	S.A.2 S.A.8 S.C.2 S.C.8 S.S.2 S.B.2 S.B.2/S5 S.BS.2	SPB.2 SPB.2/2MT	SPA.1/S2 SPA.1/S3
Output	-Normally open		
Function	-Normal. closed -Change-over -Bistable -Bistable CO		
Output	-Faston		
Connection	-Cable		
GND Connection	-Within the output cable -Thin plate fixed on the case		
Electrical Character.			
Max. switch. voltage contact	220 - 1500 V	250 V	
Max. switch. current contact	1 - 3 A	3 A	
Max. switch. power contact	60 - 120 VA	100 VA	
Power supply			24 VDC
Output 1 / Output 2			Max. 5VA-0.5 A / Max. 100VA-4 A
General Character.			
Operating distance / Case	8 - 32 mm / Plastic	5 - 30 mm / Plastic	12 mm / ABS class V0
Prot. degree / Operat. temp.	IP 67 / -25°C to +75°C	IP 67 or IP 65 / -25°C to +75°C	IP 67 / -25°C to +80°C
Output connection	PVC cable		PVC cable
Output function		Bistable	
Output function E1 / E2			NC

Types

	M and MS series	MM series
		
	 	   
Output function		
NO	Cable break. detection	External dimensions
-	Yes	14x23.5x6.1
NC	-	7x27x11
S	-	-
	-	7x27x11
Electrical Characterist.		
Contact	Max. swit. voltage 100 - 500 V	Max. swit. voltage 100 - 500 V
	Max. swit. current 0.25 - 0.75 A	Max. swit. current 0.25 - 1 A
	Max. swit. power 5 - 10 VA	Max. swit. power 5 - 10 VA
General Characterist.		
External dimensions (mm.)	8.3 x 37 x 16	See references
Operating distance	7 - 35 mm.	10 - 50 mm.
Output connection	PVC cable	See references
Protection degree	IP 67	IP 67
Operating temperature	-25° to +80°C	-25° to +75°C
Case	Plastic or Auto extinguishing polipropylene with 30% fiber glass	Plastic



Proximity Magnetic Sensors, Cylindrical

Types

	FM... series			FMM... series
External Dimensions (mm)	Ø 9.3	M10	M12 x 1	M 8 x 1
Output Function	FM.A.3		FM.A.9/S1	FMM.A.3
			FM.A.3/S5	FMM.A.6
	FM.A.6			
	FM.A.6/S2			
Normally Closed	FM.C.3			
Change-over			FMM.S.1	
Bistable	FM.S.1			
Electrical Characterist.	100 - 500 V			100 - 500 V
Max. switch. voltage contact	0.25 - 3 A			0.25 - 0.5 A
Max. switch. current contact	5 - 60 VA			5 - 10 VA
Max. switch. power contact				
General Characteristics	PVC Cable			PVC Cable
Output connection	5 - 25 mm.			8 - 27 mm.
Operating distance	IP 67			IP 67
Degree of protection	-25°C to +75°C			-25°C to +70°C
Operating temperature	Plastic / Brass			Stainless steel
Case				

Types

	FMMP.. series			FMP... series	
External Dimensions (mm)	Ø 6:	x25	x33	x38	M 12 x 1
Output Function	FMMP.A.7/L25			FMP.A.7	
	FMMP.A.7/L33			FMP.A.9	
	FMMP.A.7/L38			FMP.A.9/S1	
				FMP.C.7	
Normally Closed			FMP.C.9		
Change-over			FMP.S.1		
Bistable			FMP.B.2		
Electrical Characterist.	100 V			100 - 250 V	
Max. switch. voltage contact	0.4 A			0.25 - 3 A	
Max. switch. current contact	10 VA			5 - 120 VA	
Max. switch. power contact	0.75 A				
Max. carry current					
General Characterist.	Twin-lead Cable			PVC Cable	
Output connection	>8 mm.				
Operating distance	IP 67			IP 67	
Degree of protection	-20°C to +75°C			-25°C to +75°C	
Operating temperature	Plastic			Plastic	
Case					





Types

FS... series



FSLP... series



Output function

Normally Open
Normally Closed
Change-over
Normally Open
Change-over
Normally Open
Change-over
Bistable

External dimensions	REFERENCES
Ø 13.5 mm	FS.A.2 ; FS.A.8
Ø 13.5 mm	FS.C.2 ; FS.C.8
Ø 13.5 mm	FS.S.2
M10 x 1.25	FS.A.2/S3/2MT
M10 x 1.25	FS.S.2/S1/2MT
M12 x 1	FS.A.2/S4/2MT
M12 x 1	FS.S.2/S4/2MT
M16 x 1.5	FS.B.2/2MT

Electrical Characteristics

Max. switch. voltage contact
Max. switch. current contact
Max. switch. power contact

220 - 1500 V
1 - 3 A
60- 120 VA

External dimensions	Ø 16 X 110 mm
Operating pole	REFERENCES
N and S	FSLP.A.7
Contact closed by N	FSLP.B.2
Contact opened by S	FSLP.B.2

100 ÷ 250 V
0.4 ÷ 3 A
10 ÷ 120 VA

General Characteristics

Output connection
Operating distance
Protection degree
Operating temperature
Case
Modular Guide External Dimensions

PVC Cable
3 - 12 mm
IP 67
-25° to +75°C
Plastic / Brass

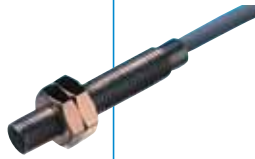
PVC Cable
18 ÷ 25 mm (front); 10 ÷ 15 mm (side)
IP 67
-30° ÷ +80°C
Plastic
20 x 200 x 10 mm



Proximity Magnetic Sensors, Cylindrical

Types

FSM... series



FSQ... series



Output Function

Normally Open

Change-over

Electrical Character.

Max. switch. voltage contact

Max. switch. current contact

Max. switch. power contact

General Characterist.

Output connection

Halogen free cable

Operating distance

Protection degree

Operating temperature

Case

High temp. applications

Dimensions	REFERENCES
M12 x 1	FSM.A.2
M12 x 1	FSM.A.7
M12 x 1	FSM.S.2
M16 x 1	FSM.S.2/S2
M16 x 1	FSM.S.2/S2/AT

220 - 500 V
0.05 ÷ 3 A
50- 100 VA

REFERENCES
Silicone / PVC Cable
7 - 23 mm.
IP 67
-25° to +75°C
Brass - Nickel plated brass
FSM.S.2/S2AT

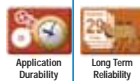
Extern. dimensions	REFERENCES
M12 x 1	FSQ.A.3/A01/2MT/HF

500 V
0.5 A
10 VA

REFERENCES
FSQ.A.3/A01/2MT/HF
7 - 30 mm.
IP 67
-25° to +75°C
Stainless steel: FSQ.A.3/A01/2MT/HF

Types

I. series



ISY. series



IM. series



Dimensions-external (mm)

Output connection

Normally open

Normal. closed

Change-over

Electrical Character.

Max. switch. voltage contact

Max. switch. current contact

Max. switch. power contact

General Character.

Output connection

Protection degree

Operating temperature

Case

75 x 50.7 x 40 mm
I.A.2 I.A.8
I.C.2 I.C.8
I.S.2

220 - 1500 V
1 - 3 A
60 - 120 VA

PVC Cable
IP 67
-25°C to +75°C
Plastic

45 x 37 x 10 mm
ISY.C.3
ISY.S.1

100 - 500 V
0.25 - 0.5 A
5 - 10 VA

PVC Cable
IP 67
-25°C to +75°C
Plastic

28 x 18.5 x 7 mm
IM.C.3
IM.S.1

100 - 500 V
0.25 - 0.5 A
5 - 10 VA

PVC Cable
IP 67
-25°C to +75°C
Plastic





Types

ILM. ILC series



Operating temperature	-10° to +120°C
	-10° to +200°C
	-20° to +120°C
	-25° to +120°C
	-25° to +80°C

Electrical Characteristics

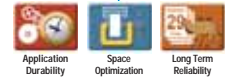
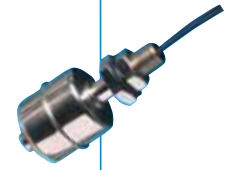
Max. switch. voltage contact	220 - 1500 V
Max. switch. current contact	1 - 3 A
Max. switch. power contact	60 - 120 VA

General Characteristics

Output connection	PVC Cable
Output function	NO, NC, Change-over
Min. liquid specific gravity	0.75 kg/dm ³
Max. pressure	20 kg/cm ²
Float diameter	Ø 50 / Ø 45 mm.
Special application	
Protection degree	IP 67
Case	AISI 316 Stainless steel

Output connection	REFERENCES
Silicon cable	ILM.2 ; ILM.8
Silicon cable	ILM.S.2
	ILC

ILMM. series



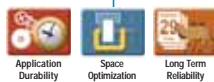
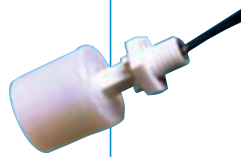
Output connection	REFERENCES
NO / NC	ILMM.5 ; ILMM.5/90
NO / NC	ILMM.5/AT/S1
NO	ILMM.5/S2/AT
NO	ILMM.5 /S1; ILMM.5/S2

240 Vac - 200 Vdc
0.5 A
50 VA

XLPE Cable
See references
0.75 kg/cm ³
10 kg/cm ²
Ø 28 mm.
ILMM.5/AT/S1-ILMM.5/S2/AT - High temp. versions
IP 68
AISI 304 / 316 Stainless steel

Types

ILMP series



Output function

NO - NC
NO - CO

Electrical Characteristics

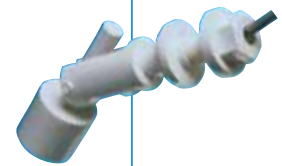
Max. switch. voltage contact	200VDC; 240VAC
Max. switch. current contact	0.5 A
Max. switch. power contact	50 VA

General Characteristics

Output connection	PVC Cable
Min. liquid specific gravity	ILMP.5: 0.65 kg/dm ³ - ILMP.5/P: 0.7 kg/dm ³
Max. pressure	2 kg/cm ²
Weight	15 g ILMP.5 - 18 g ILMP.5/P
Protection degree / Case	IP 68 / Plastic

Float diameter	Operating Temperature	REFERENCES
Ø 25 mm	-20° to +80°C	ILMP.5
Ø 25 mm	-20° to +80°C	ILMP.5/P

ILMPU - ILU - ILMU series



Float diameter	Operating Temperature	REFERENCES
Ø 17.5 mm	-20° to +80°C	ILMPU.5
Ø 31 mm	-20° to +80°C	ILMU.5
Ø 45 mm	-25° to +100°C	ILU.2 ; ILU.8
	-25° to +100°C	ILU.S.2
	-25° to +100°C	ILU.S.2/S1

220 - 1500 V
0.5 - 3 A
50- 120 VA

Silicone / PVC cable
0.7-0.75 kg/dm ³
2-100 kg/cm ²
IP 68 / Plastic



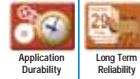
Level Magnetic Sensors

Types

ILSP. series



Magnetic Flux Sensor FLM. series



External dimensions (mm)

References

Float diameter: Ø 44 mm.
Ø 25 mm.

Electrical Characteristics

Max. switch. voltage contact
Max. switch. current contact
Max. switch. power contact
Max. carry current

General Characteristics

Output connection

Output function

Operating distance Don

Release distance Doff

Float

Min. liquid specific gravity

Max. pressure

Operating temperature

-25° to +100°C:

-25° to +80°C:

-30° to +105°C

Protection degree

Case and spring

Output function

NO-NC-CO **ILSP.2 / ILSP.8**

NO-NC-CO **ILSP.S2**

NO **ILSP.3M/S2**

220 - 1500 V

0.5 - 3 A

10 - 120 VA

Silicon Cable

0.65-0.75 kg/dm³

2-6 kg/cm²

ILSP.2 - ILSP.8 - ILSP.S.2

ILSP.3M/S2

IP 68

Plastic

M10 x 1

FLM.A.1/S1

200 V

0.4 A

10 VA

0.75 A

HT105 PVC cable ended with
6.35 mm. faston receptacle

NO

5 mm

Don - 2 mm

Temperature resistant plastic material

FLM.A.1/S1

IP 67

Stainless steel





Types

Magnetic Units CL series

Shapes

Rectangular

Trapezoidal

Cylindrical



Application Durability

Long Term Reliability

Application Durability

Long Term Reliability

Application Durability

Long Term Reliability

General Characteristics

Minimum separation:

10

20

30

50

Not mandatory

Dimensions (mm.) REFERENCES

25 x 14 x 8 **CL.1**

44.5 x 12 x 9 **CL.2**

59 x 18 x 9 **CL.3**

76 x 25 x 18 **CL.4**

Dimensions (mm.) REFERENCES

90 x 31 x 22.5 **CL.90**

Dimensions (mm.) REFERENCES

Ø 9.3 x 32 **CL.10**

Ø 13.5 x 65 **CL.11**

Ø 18 x 6 **CL.18**

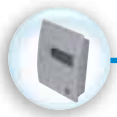
Ø 23 x 9 **CL.23**

Ø 31 x 10 **CL.31**

Ø 25.1 x 9.3 **CL.20/S1**

Ø 22.1 x 10.5 **CL.20/S3**

Ø 50 x 10 **CL.50**



Environmental Sensors - CGES Series

Types

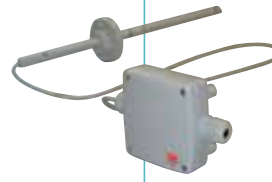
CGESHTD - CGESHTPD



CGESHTW - CGESHTPW



CGESAIRVEL



Dimensions (mm) W x H x D
Function
Mounting

80x80x37.2 (probe 200mm)
Humidity and Temperature
Duct mounting

85x100x26
Humidity and Temperature
Wall mounting

80x80x37,2 (cable lenght 1m)
Air Velocity measurement
Wall or Duct mounting

Input characteristics

Relative humidity
Working range
Accuracy @ 20°C
Temperature
Sensor
Accuracy @ 20°C
Air Velocity
Working range
Accuracy @ 20°C

10...95%
±3%RH
Pt1000 DIN A
±0.3%°C
-
-
-
-
0...95%
±2%(40...60%RH) / ±3%(10...90%RH)
Pt1000 DIN A / Pt100 DIN A
Vout: ±0.25%°C / Aout: ±0.4°C
-
-
-
-

-
-
-
-
0...10m/s (0...2000ft/min)
0...15m/s (0...3000ft/min)
0...20m/s (0...4000ft/min)
±0.2m/s +3% of m.v.

Electrical characteristics

Output
Supply Voltage
Consumption
DC supply
AC supply

0-10V or 4-20mA (2 wires)
24VAC ±20% / 15-35VDC
typical 8mA
typical 20mAeff
0-10V or 4-20mA (2 wires)
24VAC ±20% / 15-35VDC
typical 4mA
typical 15mAeff

0-10V or 4-20mA
24VAC/DC ±20%
max. 150mA
max. 90mA

General characteristics

Cable gland
Electrical connections
Working temperature range
Storage temperature range
Degree of protection
Conformity
Approvals

M16 x 1.5 cable Ø4.5-10mm
Screw terminals max. 1.5 mm²
(AWG 16)
-5...50°C
-25...60°C
IP65; Nema 4
EN 61000-6-1, EN 61000-6-3,
EN 61326-1+A1+A2
CE, RoHS
-
Screw terminals max. 1.5 mm²
(AWG 16)
-5...55°C
-25...60°C
IP20
EN 50081-1 FCC Part15 ClassB
EN 50082-1 ICES-003 ClassB
CE, RoHS

M16 x 1.5 cable Ø4.5-10mm
Screw terminals max. 1.5 mm²
(AWG 16)
-10...50°C
-30...60°C
IP65; Nema 4
EN 50081-1, EN 50082-1,
EN 50082-2
CE, RoHS

Ordering References

See on page 223

See on page 223

CGESAIRVEL



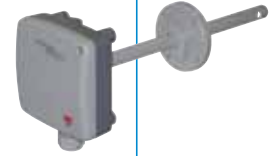


Environmental Sensors - CGES Series

Types

CGESCO2VA - CGESCO2TVA - CGESCO2THVA

CGESCO2D



Dimensions (mm) W x H x D
Function
Mounting

85x100x26
CO₂, Relative Humidity and Temperature
Wall mounting

80x80x37.2 (probe 200mm)
CO₂
Duct mounting

Input characteristics

Relative humidity
Working range
Accuracy @ 20°C
Temperature
Sensor
Accuracy @ 20°C
CO₂
Working range
Accuracy @ 20°C
2000ppm
5000ppm

10...90%
±3%(30...70%RH) ±5%(10...90%RH)
Pt1000 DIN A
Vout: ±0.3°C / Aout: ±0.7°C
0...2000ppm / 0...5000ppm
< ± 50ppm +2% of m.v.
< ± 50ppm +3% of m.v.

-
-
-
-
0...2000ppm / 0...5000ppm
< ± 50ppm +2% of m.v.
< ± 50ppm +3% of m.v.

Electrical characteristics

Output
Supply Voltage
Consumption
DC supply
AC supply

0-10V or 4-20mA or switching
24VAC ±20% / 15-35VDC
<3W
<3W

0-10V or 4-20mA or switching
24VAC ±20% / 15-35VDC
<3W
<3W

General characteristics

Cable gland
Electrical connections
Working temperature range
Storage temperature range
Degree of protection
Conformity
Approvals

-
Screw terminals max. 1.5 mm² (AWG 16)
-5...55°C
-20...60°C
IP20
EN 61000-6-3,
EN61326-1+A1+A2:05.2002
EN 61000-6-1
CE, RoHS

M16 x 1.5 cable Ø4.5-10mm
Screw terminals max. 1.5 mm²(AWG 16)
-5...55°C
-20...60°C
IP65; Nema 4
EN 61000-6-3
OVE EN61326-1+A1+A2:05.2002
EN 61000-6-1, FCC Part 15 ICES-003 ClassB
CE, RoHS

Ordering References

See on page 223

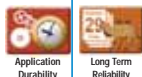
See on page 223



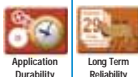
Incremental Encoders

Types

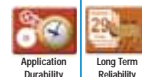
I24CS



I24HS



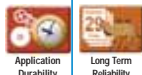
I36CS



Version	Miniature, compact shaft	Miniature, Blind hollow shaft	Compact shaft
Dimensions (mm)	Ø24x20 or 30x20	Ø24x20 or 30x20	Ø36.5x35 or 36.5x31.5
Electrical Character.			
Output	Push-pull	Push-pull	Push-pull
Supply voltage	5...24VDC or 8...30VDC	5...24VDC or 8...30VDC	5...24VDC or 8...30VDC
Max. pulse frequency	160kHz	160kHz	200kHz
Max. Resolution	1024	1024	2500
Mechanical Character.			
Shaft/Hollow shaft	Ø4-5-6mm	Ø4-6mm	Ø4-5-6mm-1/4"
Max. speed	12000min ⁻¹	12000min ⁻¹	12000min ⁻¹
Max. Shaft load rad./ax.	20/10N @ 24000	20/10N @ 24000	40/20N
Max. Operating temperature	-20...+85°C	-20...+85°C	-20...+85°C
Protection degree	IP64 housing side	IP64 housing side	IP65 housing side
Type connection	Cable	Cable	Cable
Approvals	cULus	cULus	cULus
Ordering References	G02-I24CSxxxxxxxx	G02-I24HSxxxxxxxx	G02-I36CSxxxxxxxx

Types

I36HS



I50CS



I50HS



Version	Compact hollow shaft	Universal, compact shaft	Universal, hollow shaft
Dimensions (mm)	Ø36.5x31	Ø50 (58) ¹ x53	Ø50 (58) ¹ x44
Electrical Character.			
Output	Push-pull	RS422, Push-pull 7272 or push-pull	RS422, Push-pull 7272 or push-pull
Supply voltage	5...24VDC or 8...30VDC	5VDC or 5...30VDC	5VDC or 5...30VDC
Max. pulse frequency	200kHz	300kHz	300kHz
Max. Resolution	2500	5000	5000
Mechanical Character.			
Shaft/Hollow shaft	Ø6/6.35/8mm	Ø6-8-10-12mm-1/4"-3/8"	Ø6 to 15.7mm-1/4"-5/8"
Max. speed	12000min ⁻¹	12000min ⁻¹	12000min ⁻¹
Max. Shaft load rad./ax.	-	80/40N	-
Max. Operating temperature	-20...+85°C	-40...+85°C	-40...+85°C
Protection degree	IP65 housing side	IP67	IP67
Type connection	Cable	Cable/Plug	Cable/Plug
Approvals	cULus	cULus	cULus
Ordering References	G02-I36HSxxxxxxxx	G02-I50CSxxxxxxxx	G02-I50HSxxxxxxxx

¹ flange compatible with A58 series





Absolute Encoders / Singleturn

Types

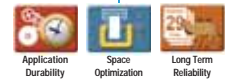
A36CS8



A36HS0



A36HS1



Version	Singleturn absolute, magnetic	Singleturn absolute, magnetic	Singleturn absolute, magnetic
Dimensions (mm)	Ø36x42	Ø36x48	Ø36x48
Electrical Character.			
Supply voltage	8...30VDC	8...30VDC	18...30VDC
Type of code	profile DS 406 V3.1	-	-
Interface	CANopen Encoder	SSI	Analog
Max. resolution	16384 (14bit)	512 (9bit)	4096 (12bit)
Mechanical Character.			
Shaft/Hollow shaft	Ø6/8mm 1/4"	Ø6/8/10mm 1/4"	Ø6/8/10mm 1/4"
Max. speed	6000min ⁻¹	6000min ⁻¹	6000min ⁻¹
Max. Shaft load rad./ax.	40/20N	-	-
Max. Operating temperature	-40...+85°C	-40...+85°C	-40...+85°C
Protection degree	IP67	IP67	IP67
Type connection	Plug/Cable	Plug/Cable	Plug/Cable
Approvals	-	-	-
Ordering References	G02-A36CS8xxxx21xx	G02-A36HS0xxxxxxxxxx	G02-I36HS1xxxxxxxxxx

Types

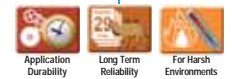
A36HS8



A58CSS3



A58CSS8



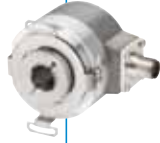
Version	Singleturn absolute, magnetic	Singleturn absolute, magnetic	Singleturn absolute, magnetic
Dimensions (mm)	Ø36x42	Ø58x38	Ø58x50
Electrical Character.			
Supply voltage	8...30VDC	5 or 10...30VDC	5 or 10...30VDC
Type of code	profile DS 406 V3.1	Binary, Gray	-
Interface	CANopen Encoder	SSI, BISS with SinCos	Profibus, CANopen, EtherCat
Max. resolution	16384 (14bit)	131072 (17bit)	65536 (16bit)
Mechanical Character.			
Shaft/Hollow shaft	Ø6-8/10mm-1/4"	Ø6-10mm-1/4"-3/8"	Ø6-10mm-1/4"-3/8"
Max. speed	6000min ⁻¹	12000min ⁻¹	9000min ⁻¹
Max. Shaft load rad./ax.	40/20N	80/40N	80/40N
Max. Operating temperature	-40...+85°C	-40...+90°C	-40...+90°C
Protection degree	IP67	IP67	IP67
Type connection	Plug/Cable	Plug/Cable	Plug/Cable
Approvals	-	cULus	cULus
Ordering References	G02-A36HS8xxxx21xx	G02-A58CSS3xxxxxxxxxx	G02-A58CSS8xxxxxxxxxx



Types

Absolute Encoders / Singleturn

A58HSS3



Version	Singleturn absolute
Dimensions (mm)	Ø58x38

Electrical Character.

Supply voltage	5 or 10...30VDC
Type of code	Binary, Gray
Interface	SSI, BISS incl. SinCos
Max. resolution	131072 (17bit)

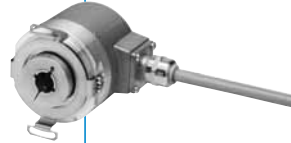
Mechanical Character.

Shaft/Hollow shaft	Ø10...15mm-3/8"-1/2"
Max. speed	9000min ⁻¹
Max. Shaft load rad./ax.	-
Max. Operating temperature	-40...+90°C
Protection degree	IP67
Type connection	Plug/Cable
Approvals	cULus

Ordering References

G02-A58HSS3xxxxxxxx

A58HSS8



Version	Singleturn absolute
Dimensions (mm)	Ø58x55

Supply voltage	10...30VDC
Type of code	Profile DS 406 V3.1
Interface	CANopen Encoder
Max. resolution	65536 (16bit)

Shaft/Hollow shaft	Ø10...15mm-3/8"-1/2"
Max. speed	9000min ⁻¹
Max. Shaft load rad./ax.	80/40N
Max. Operating temperature	-40...+80°C
Protection degree	IP67
Type connection	Plug/Cable
Approvals	cULus

G02-A58HSS8xxxxxxxx1x

Absolute Encoders / Multiturn

Types

A58CSM3



Version	Multiturn absolute
Dimensions (mm)	Ø58x49.5

Electrical Character.

Supply voltage	10...30VDC
Type of code	Binary, Gray
Interface	SSI, BISS incl. SinCos
Max. resolution	17 x 12bit progr.

Mechanical Character.

Shaft/Hollow shaft	Ø6/10mm 1/4" / 3/8"
Max. speed	12000min ⁻¹
Max. Shaft load rad./ax.	80/40N
Max. Operating temperature	-40...+90°C
Protection degree	IP67
Type connection	Plug/Cable
Approvals	cULus

Ordering References

G02-A58CSM3xxxxxxxx

A58CSM8



Version	Multiturn absolute
Dimensions (mm)	Ø58x70

Supply voltage	10...30VDC
Type of code	-
Interface	CAN/CANlift, Profibus, EtherCAT
Max. resolution	65536 (16bit)

Shaft/Hollow shaft	Ø6/10mm 1/4" / 3/8"
Max. speed	9000min ⁻¹
Max. Shaft load rad./ax.	80/40N
Max. Operating temperature	-40...+80°C
Protection degree	IP67
Type connection	Plug/Cable
Approvals	cULus

G02-A58CSM8xxxxxxxx1x





Types

Absolute Encoders / Multiturn

A58HSM3



A58HSM8



Version
Dimensions (mm)

Multiturn absolute
Ø58x56

Multiturn absolute
Ø58x58.5

Electrical Character.

Supply voltage
Type of code
Interface
Max. resolution

10...30VDC
Binary, Gray
SSI, BISS
17 x 12bit progr.

10...30VDC
-
CAN/CANlift, Profibus, EtherCAT
65536 (16bit)

Mechanical Character.

Shaft/Hollow shaft
Max. speed
Max. Shaft load rad./ax.
Max. Operating temperature
Protection degree
Type connection
Approvals

Ø10...15mm-3/8"-1/2"
9000min⁻¹
-
-40...+90°C
IP67
Plug/Cable
cULus

Ø10...15mm-3/8"-1/2"
9000min⁻¹
-
-40...+80°C
IP67
Plug/Cable
cULus

Ordering References

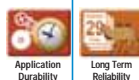
G02-A58HSM8xxxxxxxxxx

G02-A58HSM8xxxxxxxx1x

Linear Measurement System

Types

LE20I



LE50I



Version
Dimensions (mm)

Linear measurement system
10x25x40

Linear measurement system
10x25x40

Electrical Character.

Output

Push-pull, RS422

Push-pull, RS422

Mechanical Character.

Measuring range (mm)
Max. Resolution (mm)
Max. Operating temperature
Housing material
Approvals

up to 90000
0.01
-20...+80°C
Zinc die-cast

up to 90000
0.005
-20...+80°C
Zinc die-cast

Ordering References

G02-LE20I11x12xxx

G02-LE50I11x12xxx



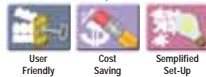
Motion Radar Sensor

Motion Radar Sensor – RAD series

Type

RAD 01

RAD 02



Dimensions (mm) W x H x D
Features

118 x 80 x 53
K-Band radar sensor compatible with all swinging and sliding automatic doors.
3-D adjustable position of the sensor offers precise orientation of the activation pattern.
Microprocessor technology filters out possible weather condition interferences.
IR remote controller can be added for easy adjustment.

118 x 80 x 53
K-Band radar sensor compatible with all swinging and sliding automatic doors.
3-D adjustable position of the sensor offers precise orientation of the activation pattern.
Microprocessor technology filters out possible weather condition interferences.
IR remote controller can be added for easy adjustment.

Input Specifications

Detection Angle

V: 0 to 90° in 15° increments
L: +/- 30° in 7.5° increments

V: 0 to 90° in 15° increments
L: +/- 30° in 7.5° increments

Detecting Area (mounting height 2.2m)
Wide sensing field
Narrow sensing field

4m (W) x 2m (D)
2m (W) x 2,5m (D)

4m (W) x 2m (D)
2m (W) x 2,5m (D)

Detection Mode

Bidirectional

Uni & Bidirectional

Motion Detecting Speed

0.05 - 1m/s

0.05 - 1m/s

Adjustments

Sensitivity

10 levels (1 to 10)

10 levels (1 to 10)

Hold Time

From 0.5 to 9 s in 10 steps

From 0.5 to 9 s in 10 steps

Immunity detection

"Quasi-presence", normal, increased immunity

"Quasi-presence", normal, increased immunity

Output characteristics

Output Relay SPDT

Maximum contact voltage

24VDC / 120VAC

24VDC / 120VAC

Maximum contact current

1 A (resistive)

1 A (resistive)

Maximum switching power

30W (DC) / 120VA (AC)

30W (DC) / 120VA (AC)

Hold time

0,5 - 9s (adjustable)

0,5 - 9s (adjustable)

Electrical Data

Frequency emitted

24,125GHz

24,125GHz

Rated supply voltage

12 - 24VAC ±10%

12 - 24 VAC ±10%

12 - 24VDC +30% / -10%

12 - 24 VDC +30% / -10%

Mains frequency

50 to 60HZ

50 to 60HZ

Power consumption

< 0.5W

< 0.5W

Approvals

CE, FCC, cURus

CE, FCC, cURus

References

Sensor

RAD 01

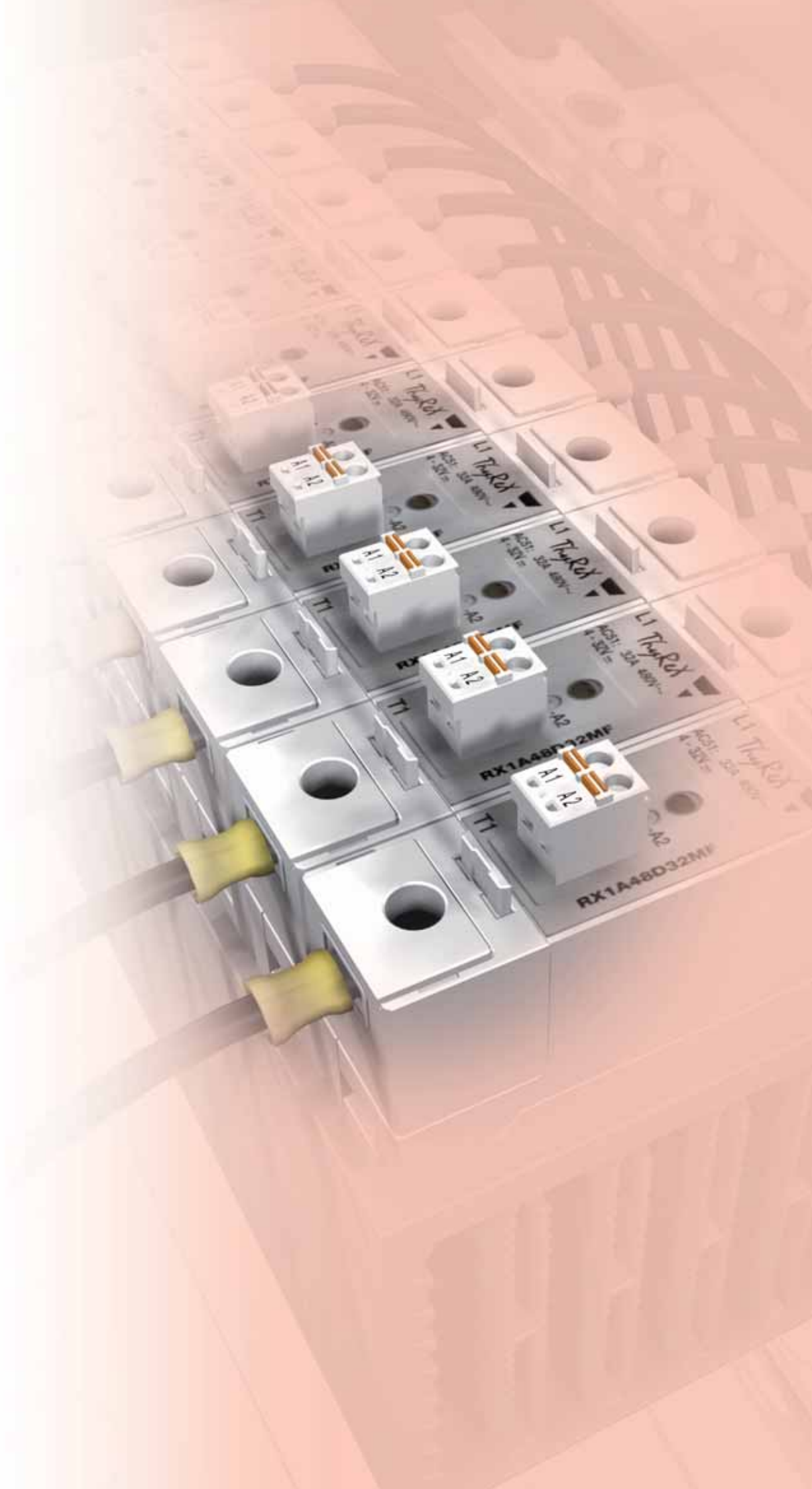
RAD 02

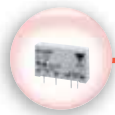
Remote controller

RAD 00 RC

RAD 00 RC

Switch





Solid State Relays PCB type: 1-Phase

Types

PCB mounting SSRs,
AC and DC operating.
Rated insulation voltage
≥4000 Vrms.

Dimensions (mm) H x W x D
Features

Input Specifications

Control input range

Max. input current

Output Specifications

Rated operational current
AC 51 @ Ta=25°C

AC 53a @ Ta=25°C

Min. operational current

Non rep. surge current
(t=20 ms)

Off-state leakage current

I²t for fusing
(t=10 ms)

Critical dV/dt off-state

General Specifications

Operational voltage range

Non rep. peak voltage

Power factor

Operating temperature

Terminals

Approvals/Marks

References

1 pole

	AC zero switching			DC switching
	RP1A - RP1B 3/5/5.5A (AC)	RP..10A 10A (AC)	RAP 3/5A (AC)	RP1D 1A, 4A, 8A (DC)
Dimensions (mm) H x W x D	25.4 x 43 x 10.5	37 x 43 x 22	25.4 x 43 x 10.5	25.4 x 43 x 10.5
Features	Standard AC switching SSR	With integral heatsink	LED indication High blocking voltage	DC switching SSR
Input Specifications				
Control input range	3-32 VDC [RP1A23..] 3-32 VDC [RP1A40..] 4-32 VDC [RP1A48..] 15-32 VAC [RP1A23A6]	3-32 VDC [RP1A23..] 4-32 VDC [RP1A40..] 4-32 VDC [RP1A48..] 4-32 VDC [RP1A60..]	3.5-40 VDC [RAP40..] 4.5-40 VDC [RAP48..]	4.5 - 32 VDC
Max. input current	10 mA	10 mA	12 mA	15 mA
Output Specifications				
Rated operational current AC 51 @ Ta=25°C	3 A [RP1...3] 5 A [RP1...5] 5.5 A [RP1...6] 2 A [RP1...3] 3 A [RP1...5] 5 A [RP1...6]	10 A	3 A [RAP...A3] 5 A [RAP...A5]	DC1: 1/4/8 ADC
AC 53a @ Ta=25°C		7 A 6 A [RP1A60..]	2.5 A [RAP...A3] 3 A [RAP...A5]	
Min. operational current	20 mA	10 mA	20 mA	1 mADC
Non rep. surge current (t=20 ms)	65 A _p [RP1...3] 80 A _p [RP1...5] 250 A _p [RP1...6]	250 A _p 250 A _p [RP1A60..]	60 A _p [RAP...A3] 90 A _p [RAP...A5]	
Off-state leakage current	≤1 mA	≤3 mA	≤1 mA	0.01 mADC
I ² t for fusing (t=10 ms)	20 A ² s [RP1...3] 50 A ² s [RP1...5] 340 A ² s [RP1...6]	340 A ² s 450 A ² s [RP1A60..]	18 A ² s [RAP...A3] 40 A ² s [RAP...A5]	
Critical dV/dt off-state	250 V/μs [RP1...3] 500 V/μs [RP1...5] 500 V/μs [RP1...6]	1000 V/μs 500 V/μs [RP1A60..]	100 V/μs	
General Specifications				
Operational voltage range	12-265Vrms [RP1A23..] 20-440Vrms [RP1A40..] 20-530Vrms [RP1A48..]	12-265Vrms [RP1A23..] 20-440Vrms [RP1A40..] 20-530Vrms [RP1A48..] 20-660Vrms [RP1A60..]	10-440Vrms [RAP40..] 20-530Vrms [RAP48..]	1- 60 VDC [RP1D060..] 1 - 350 VDC [RP1D350..]
Non rep. peak voltage	650 V _p [RP1A23..] 850 V _p [RP1A40..] 1000 V _p [RP1A48..]	650 V _p [RP1A23..] 850 V _p [RP1A40..] 1000 V _p [RP1A48..] 1200 V _p [RP1A60..]	1000 V _p [RAP40..] 1200 V _p [RAP48..]	
Power factor	0.5	0.5	0.2	0.5
Operating temperature	-20°C to +70°C	-30°C to +80°C	-20°C to +70°C	-20°C to +80°C
Terminals	4 pins x Ø 0.1 mm	4 pins x Ø 0.1 mm	4 pins x Ø 0.1 mm	4 pins x Ø 0.1 mm
Approvals/Marks	CE - UL - cUL - VDE	CE - UL - cUL	CE - UL - CSA - VDE	CE - UL - cUL
References				
1 pole	3 A RP1A23D3 RP1A40D3 RP1A48D3 5 A RP1A23D5 RP1A40D5 RP1A48D5 5.5 A RP1A23D6 RP1A23A6 RP1A40D6 RP1A48D6	10 A RP1A23D10 RP1A40D10 RP1A48D10 RP1A60D10	3 A RAP40A3 RAP48A3 5 A RAP40A5 RAP48A5	1 A RP1D350D1 4 A RP1D060D4 8 A RP1D060D8

* Other options available on request: Instant-on switching (RP1B..), see Accessories for DIN-rail adaptor.





1-Phase industrial housing

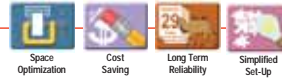
Types

RX1A*
25A, 50A (AC)

RX1A
50A, 6600A²S (AC)



Thyrex - Revolutionary Plug-in system.



Dimensions (mm) H x W x D
Features

78 x 22.5 x 56
Screw, spring or Faston terminal options, IP20, LED indication

78 x 22.5 x 56
Screw, spring or Faston terminal options, IP20, High I²t for automatic circuit breakers

Input Specifications

Control input range

4-32 VDC (RX1A..D..)
24-275VAC (RX1A..A..)

4-32 VDC (RX1A..D..)
24-275VAC (RX1A..A..)

Max. input current

12 mA

12 mA

Output Specifications

Rated operational current

AC51: 25/50 Arms
AC53a: 5/15 Arms

AC51: 50 Arms
AC53a: 20 Arms

Min. operational current

150 mA [RX1A...25]
250 mA [RX1A...50]

350 mA [RX1A...51]

Non rep. surge current (t=10 ms)

325 A_p [RX1A...25]
600 A_p [RX1A...50]

1150 A_p [RX1A...51]

Off-state leakage current

≤3 mArms

≤3 mArms

I²t for fusing (t=10 ms)

525 A²s [RX1A...25]
1800 A²s [RX1A...50]

6600 A²s [RX1A...51]

Critical dV/dt off-state

500 V/μs

500 V/μs

General Specifications

Operational voltage range

24 - 265 Vrms [RX1A23...]
42 - 552 Vrms [RX1A48...]

24 - 265 Vrms [RX1A23...]
42 - 552 Vrms [RX1A48...]

Non rep. peak voltage

≥650 V_p [RX1A23...]
≥1200 V_p [RX1A48...]

≥650 V_p [RX1A23...]
≥1200 V_p [RX1A48...]

Power factor

≥0.5

≥0.5

Operating temperature

-30°C to +70°C

-30°C to +70°C

Terminals

Spring, Screw or FASTON

Spring, Screw or FASTON

Approvals/Marks

CE - UL - CSA

CE - UL - cUL

References

1 pole

25A
230 Vrms
RX1A23D25..
RX1A23A25..
480 Vrms
RX1A48D25..
RX1A48A25..

50A
230 Vrms
RX1A23D51..
RX1A23A51..
480 Vrms
RX1A48D51..
RX1A48A51..

50A
230 Vrms
RX1A23D50..
RX1A23A50..
480 Vrms
RX1A48D50..
RX1A48A50..

* Additional suffixes are added to part nos. for selection amongst Screw, Spring and FASTON terminals. Add MP for plugs with spring terminals, VC for plugs with screw terminals and VF for plugs with screw (control) - FASTON (Power) terminals.



Solid State Relays, 1-Phase

1-Phase industrial housing

Types

RX1A on RHS23A
25A, 50A (AC)**

RX1A on RHS23B
25A, 50A (AC)**



Thyrex - Revolutionary Plug-in system.

Dimensions (mm) H x W x D
Features

78 x 22.5 x 80
Screw, spring or Faston terminal options, IP20, LED indication

78 x 22.5 x 126
Screw, spring or Faston terminal options, IP20, LED indication

Input Specifications

Control input range

4-32 VDC (RX1A..D.)
24-275VAC (RX1A..A..)

4-32 VDC (RX1A..D.)
24-275VAC (RX1A..A..)

Max. input current

12 mA

12 mA

Output Specifications

Rated operational current

AC51a @ 40°C: 15 A [RX...25H20]
20 A [RX...50/51H20]

AC51a @ 40°C: 20 A [RX...25H21]
30 A [RX...50H21]

Min. operational current

150 mA [RX1A...25]
250 mA [RX1A...50]
350 mA [RX1A...51]

150 mA [RX1A...25]
250 mA [RX1A...50]
350 mA [RX1A...51]

Non rep. surge current
(t=10 ms)

325 A_p [RX1A...25]
600 A_p [RX1A...50]
1150 A_p [RX1A...51]

325 A_p [RX1A...25]
600 A_p [RX1A...50]
1150 A_p [RX1A...51]

Off-state leakage current

≤3 mArms

≤3 mArms

I²t for fusing
(t=10 ms)

525 A²s [RX1A...25]
1800 A²s [RX1A...50]
6600 A²s [RX1A...51]

525 A²s [RX1A...25]
1800 A²s [RX1A...50]
6600 A²s [RX1A...51]

Critical dV/dt off-state

500 V/μs

500 V/μs

General Specifications

Operational voltage range

24 - 265 Vrms [RX1A23...]
42 - 552 Vrms [RX1A48...]

24 - 265 Vrms [RX1A23...]
42 - 552 Vrms [RX1A48...]

Non rep. peak voltage

≥ 650 V_p [RX1A23...]
≥ 1200 V_p [RX1A48...]

≥ 650 V_p [RX1A23...]
≥ 1200 V_p [RX1A48...]

Power factor

≥ 0.5

≥ 0.5

Operating temperature

-30°C to +70°C

-30°C to +70°C

Terminals

Spring, Screw or FASTON

Spring, Screw or FASTON

Approvals/Marks

CE - UL - CSA*

CE - UL - CSA*

References

1 pole

15A
230 Vrms
RX1A23D25H20
RX1A23A25H20
480 Vrms
RX1A48D25H20
RX1A48A25H20

32A
230 Vrms
RX1A23D51H21
RX1A23A51H21
480 Vrms
RX1A48D51H21
RX1A48A51H21

20A
230 Vrms
RX1A23D50/51H20
RX1A23A50/51H20
480 Vrms
RX1A48D50/51H20
RX1A48A50/51H20

* RX1A...51 not CSA certified.

** Suffix H20 indicates mounting of RX model to heatsink RHS23A. For mounting of RX model to heatsink RHS23B add suffix H21.





Types

Single phase, chassis mounting, industrial relays with LED status indication and IP20 protection. AC operating frequency range 45-65 Hz. Rated insulation voltage ≥ 4000 Vrms.

Industrial Housing zero switching

RS1A 10/25/40 A



RS1A..A 25/40 A



Industrial Housing zero / instant-on switching

RAM1A 25/50/75/100/125 A



RM1A 25/50/75/100 A



Dimensions (mm) H x W x D
Features

Input Specifications

Control input range

Max. input current

Output Specifications

Rated operational current

AC 51 @ Ta=25°C

AC 53a @ Ta=25°C

Min. operational current

Non rep. surge current

(t=10 ms)

Off-state leak current

I²t for fusing

(t=10 ms)

Critical dV/dt off-state

General Specifications

Operational voltage range

Non rep. peak voltage

Power factor

Operating temperature

Terminals

Approvals / Marks

References

1-phase, zero switching:
230 Vrms

400 Vrms

480 Vrms

600 Vrms

58.2 x 44.8 x 28.8
Ideal for Ohmic loads

3-32 VDC [RS1A23D...]
4-32VDC [RS.....D]
18-36 VAC/DC [RS...LA]

12 mA [RS..D.]
15 mA [RS..LA.]

10/25/40 A
150 mA
100 A_p [RS1A...10]
300 A_p [RS1A...23]
390 A_p [RS1A...40]

<3 mA
 ≤ 50 A²s [RS1A..10]
 ≤ 450 A²s [RS1A..25]
 ≤ 760 A²s [RS1A..40]

>500 V/μs

42-265Vrms [RS1A23..]
42-440Vrms [RS1A40..]
42-530Vrms [RS1A48..]

≥ 650 V_p [RS1A23..]
 ≥ 850 V_p [RS1A40..]
 ≥ 1200 V_p [RS1A48..]

≥ 0.95
-20°C to +70°C
Screw type with clamp
CE - UL - CSA

10/25/40 A
RS1A23D..
RS1A23LA..

RS1A40D..
RS1A40LA..
RS1A48D..
RS1A48LA..

58.2 x 44.8 x 28.8
AC control Ohmic loads

80-130 VAC [RS1A..A1]
200-260 VAC [RS1A..A2]
360-400 VAC [RS1A..A4]

13 mA

25/40 A
150 mA
300 A_p [RS1A...25]
390 A_p [RS1A...40]

<3 mA
 ≤ 450 A²s [RS1A..25]
 ≤ 760 A²s [RS1A..40]

>500 V/μs

42-265Vrms [RS1A23..]
42-440Vrms [RS1A40..]

≥ 650 V_p [RS1A23..]
 ≥ 850 V_p [RS1A40..]

≥ 0.95
-30°C to +70°C
Screw type with clamp
CE - UL - CSA

25/40 A
RS1A23A1..
RS1A23A2..
RS1A23A4..
RS1A40A2..
RS1A40A4..

58.2 x 44.8 x 28.8
Built-in snubber, VDE

3-32 VDC [RAM1A23D..]
4-32 VDC [RAM1A60D..]
20-280 VAC /
22-48 VDC [RAM..A.]

12 mA [RAM1A..D.]
20 mA [RAM1A..A.]

25/50/75/100/125A
5/15/17/20/30A
150 mA
325 A_p [RAM1A..25]
600 A_p [RAM1A..50]
800 A_p [RAM1A..75]
1150 A_p [RAM1A..100]
1900 A_p [RAM1A..125]

<3 mA
 < 525 A²s [RAM1A..25]
 < 1800 A²s [RAM1A..50]
 < 3200 A²s [RAM1A..75]
 < 6600 A²s [RAM1A..100]
 < 18000 A²s [RAM1A..125]
1000 V/μs

24-265Vrms [RAM1A23..]
42-660Vrms [RAM1A60..]

<650 V_p [RAM1A23..]
<1200 V_p [RAM1A60..]

≥ 0.5
-40°C to +80°C
Screw type with clamp
CE - UL - CSA - VDE

25 /50/75/100/125 A
RAM1A23D..
RAM1A23A..

RAM1A60D..
RAM1A60A..

58.2 x 44.8 x 28.8
Built-in Varistor

3-32 VDC [RAM1A23D..]
4-32 VDC [RM1A..D.]
20-280 VAC /
22-48 VDC [RM..A.]

12 mA [RM1A..D.]
5 mA [RM1A..A.]

25/50/75/100A
5/15/20/30A
150 mA
325 A_p [RM1A..25]
600 A_p [RM1A..50]
1150 A_p [RM1A..75]
1900 A_p [RM1A..100]

<3 mA
 < 525 A²s [RM1A..25]
 < 1800 A²s [RM1A..50]
 < 6600 A²s [RM1A..75]
 < 18000 A²s [RM1A..100]

1000 V/μs

24-265Vrms [RM1A23..]
42-440Vrms [RM1A40..]
42-530Vrms [RM1A48..]
42-660Vrms [RM1A60..]

<650 V_p [RM1A23..]
<850 V_p [RM1A40..]
<1200 V_p [RM1A48..]
<1400 V_p [RM1A60..]

≥ 0.5
-20°C to +70°C
Screw type with clamp
CE - UL - CSA

25 /50/75/100 A
RM1A23D..
RM1A23A..

RM1A40D..
RM1A40A..
RM1A48D..
RM1A48A..
RM1A60D..
RM1A60A..

* Other options available on request: Instant-on switching (RAM1B.. RM1B..), see Accessories for Heatsinks.



Solid State Relays, 1 -Phase

Types

Single phase, chassis mounting, industrial relays with LED status indication and IP20 protection AC operating frequency range 45-65 Hz. Rated insulation voltage ≥ 4000 Vrms.

Industrial Housing Zero switching

RM1A..M
25/50/75/100 A



Dimensions (mm) H x W x D
Features

58.2 x 44.8 x 28.8
Low voltage AC/DC control

Input Specifications

Control input range

4.25-36 VDC /
4.25-27 VAC

Max. input current

18 mA @ 24 VAC/DC

Supply voltage range

Max. supply input current

Output Specifications

Rated operational current

AC 51 @ Ta=25°C

AC 53a @ Ta=25°C

AC 56a @ Ta=25°C

Min. operational current

Non rep. surge current

(t=10 ms)

Off-state leak current

I²t for fusing

(t=10 ms)

General Specifications

Operational voltage range

Non rep. peak voltage

Power factor

Operating temperature

Terminals

Approvals/Marks

References

1-phase:

230 Vrms

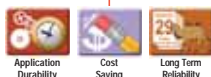
400 Vrms

480 Vrms

600 Vrms

Industrial Housing Peak switching

RM1C
25/50/75/100A



58.2 x 44.8 x 28.8
Ideal for transformers

4.25-32 VDC

18 mA

25/50/100A

10/20/30A

150 mA

325 A_p [RM1C..25]

600 A_p [RM1C..50]

1150 A_p [RM1C..75]

1900 A_p [RM1C..100]

<3 mA

≤525 A²s [RM1C..25]

≤1800 A²s [RM1C..50]

≤6600 A²s [RM1C..50]

≤18000 A²s [RM1C..50]

90-440Vrms [RM1C40D.]

150-660Vrms [RM1C60D.]

850 V_p [RM1C40D..]

1400 V_p [RM1C60D..]

≥0.95

-30°C to +80°C

Screw type with clamp

CE - UL - CSA

25/50/75/100 A

RM1C40D25

RM1C40D50

RM1C40D75

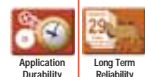
RM1C60D25

RM1C60D50

RM1C60D100

Industrial-Housing Phase angle

RM1E
25/50/100 A



58.2 x 44.8 x 28.8
Analog Phase-angle control

4-20 mA [RM1E..AA..]

0-10VDC [RM1E..V..]

0.15mA [RM1E..V..]

24 VDC [RM1E..V..]

20mA [RM1E..V..]

25/50/100A

5/15/20A

150 mA

325 A_p [RM1E..25]

600 A_p [RM1E..50]

1150 A_p [RM1E..100]

<3 mA

≤525 A²s [RM1E..25]

≤1800 A²s [RM1E..50]

≤6600 A²s [RM1E..100]

90-280/ 90-265Vrms [RM1E23AAV..]

340-460Vrms [RM1EAA..]

90-550/ 200-550Vrms [RM1E48AAV..]

410-660Vrms [RM1E60..]

<600 V_p [RM1E23..]

<850 V_p [RM1E40..]

<1200 V_p [RM1E48..]

<1400 V_p [RM1E60..]

≥0.75

-20°C to +70°C

Screw type with clamp

CE - UL - CSA*

25/50/100 A

RM1E23AA25**

RM1E23AA50**

RM1E23AA100**

RM1E40AA25**

RM1E40AA50**

RM1E40AA100**

RM1E48AA25**

RM1E48AA50**

RM1E48AA100**

RM1E60AA25**

RM1E60AA50**

RM1E60AA100**

* RM1E..V.. not CSA certified

** Replace "AA" by "V" for voltage controlled versions





Types

Single Phase relays with special functions.

2-Phase industrial relays.

Dimensions (mm) H x W x D
Features

Input Specifications

Control input range

Max. input current

Control supply

Alarm output

PNP

NPN

Output Specifications

Rated operational current

AC 51 @ Ta=25°C

AC 53a @ Ta=25°C

Min. operational current

Non rep. surge current
(t=1-10 ms)

Off-state leakage current

I²t for fusing (t=10ms)

General Specifications

Operational voltage range

Non rep. peak voltage

Power factor

Operating temperature

Terminals

Approvals/Marks

References

120 Vrms

230 Vrms

400 Vrms

480 Vrms

600 Vrms

AC Switching

RA Sense
25/50/90/110 A



RA Low Noise
10/25A



RA 2-pole*
25/40 A



58.2 x 44.8 x 28.8
Detects supply and load failure

7-32 VDC
4 mA
20-32 VDC ("40 mA)
VCC - 2VDC ("100mA)
2VDC ("100mA)

25A/50A/90A/110A
200 mArms
325 A_p [RA..25..S]
600 A_p [RA..50..S]
1150 A_p [RA..90..S]
1900 A_p [RA..110..S]
< 6 mArms
525 A²s [RA..25..S]
1800 A²s [RA..50..S]
6600 A²s [RA..90..S]
18000 A²s [RA..110..S]

60-140Vrms [RA12..S]
170-250Vrms [RA23..S]
150-440Vrms [RA40..S]
180-530Vrms [RA48..S]

650 V_p [RA12..S]
650 V_p [RA23..S]
1000 V_p [RA40..S]
1200 V_p [RA48..S]

≥0.5

-20°C to +70°C
Screw / 5 way plug
CE - UL - CSA

25 / 50 / 90 / 110 A
RA12..06..S
RA23..06..S
RA40..10..S
RA48..12..S

58.2 x 44.8 x 28.8
Complies with EN55022

3-32 VDC
32 mA

10A / 25A
2 Arms
90 A_p, t=20ms [RA..10..L]
200 A_p, t=20ms [RA..25..L]
< 1 mArms
120 A²s [RA..10..L]
200 A²s [RA..25..L]

180-265Vrms [RA24..L]
340-530Vrms [RA40..L]

650 V_p [RA24..L]
850 V_p [RA40..L]

1

-20°C to +70°C
Screw type with clamp
CE - UL - CSA - VDE

10 / 25 A
RA2410-D06L
RA2425-D06L
RA4010-D08L
RA4025-D08L

58.2 x 44.8 x 28.8
Two independent poles

4.5-32 Vrms
2 x 10 mA

25 A / 40A per pole
5 A / 15A per pole
150 mArms
325 A_p [RA2A..25]
600 A_p [RA2A..40]
325 A_p [RA2A..25M]
600 A_p [RA2A..40M]
< 3 mArms
525 A²s [RA2A..25]
1800 A²s [RA2A..40]
525 A²s [RA2A..25M]
1800 A²s [RA2A..25M]

24-265Vrms [RA2A23..]
42-440Vrms [RA2A40..]
42-530Vrms [RA2A48..]
42-660Vrms [RA2A60..]

650 V_p [RA2A23..]
850 V_p [RA2A40..]
1200 V_p [RA2A48..]
1200 V_p [RA2A60..]

≥0.95 [RA24...]
≥0.50 [RA24...M]

-20°C to +70°C
FASTONS 6.3 mm
CE - UL - VDE - CSA

25 / 40 A per pole
RA2A23..
RA2A23..M
RA2A40..
RA2A40..M
RA2A48..
RA2A48..M
RA2A60..
RA2A60..M

* RA 2-pole: for inductive loads use types with suffix "M".



Solid State Relays, 1 / 3-Phase

Types

Single phase and 3 phase industrial relays.

Dimensions (mm) H x W x D

Input Specifications

Control input range

Max. input current

Output Specifications

Rated operational current

AC 51 @ Ta=25°C

AC 53a @ Ta=25°C

Min. operational current

Non rep. surge current

(t=10 ms)

Off-state leakage current

I²t for fusing (t=10ms)

General Specifications

Operational voltage range

Non rep. peak voltage

Power factor

Operating temperature

Terminals

Approvals/Marks

References

230 Vrms

400 Vrms

480 Vrms

600 Vrms

Industrial Housing Zero switching

RA
25/50/90/110 A



Industrial Housing DC switching

RD
1/5 ADC



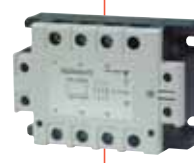
Industrial Housing Hybrid

RMD
20A



Industrial Housing 3-Phase switching

RZ3A
25/55/75A



58.2 x 44.8 x 28.8

General purpose

58.2 x 44.8 x 28.8

Ideal for DC valve coils

81 x 17.5 x 67.2

Hybrid relay

74 x 103 x 41

3-phase switching

3-32 VDC [RA..D.]
10-90 VAC/DC [RA..LA..]
90-280 VAC/DC [RA..HA..]

22 mA [RA..D.]
17 mA [RA..LA..]
6.5 mA [RA..HA..]

25A, 50A, 90A, 110A
5A, 15A, 20A, 30A

20 mA
325 A_p [RA..25.]
600 A_p [RA..50.]
1150 A_p [RA..90.]
1900 A_p [RA110.]

< 3 mA
<525 A²s [RA..25.]
<1800 A²s [RA..50.]
<6600 A²s [RA..90.]
<18000 A²s [RA..110.]

24-280Vrms[RA24.06.]
42-480Vrms[RA44.08.]
42-530Vrms[RA48.12.]
24-690Vrms[RA60.16.]

<650 V_p [RA24.06.]
<850 V_p [RA44.08.]
<1200 V_p [RA48.12.]
<1600 V_p [RA60.16.]

≥0.5
-20°C to +70°C
Screw type with clamp

CE - UL - CSA

RA24..-D..

RA24..LA..

RA24..HA..

RA44..-D..

RA44..LA..

RA44..HA..

RA48..-D..

RA48..LA..

RA48..HA..

RA60..-D..

RA60..LA..

RA60..HA..

3-32 VDC

32 mA

DC1: 1A / 5A

1 mA

< 1 mA

3-60 VDC [RD0605..D]
3-200 VDC [RD2001..D]
3-350 VDC [RD3501..D]

-20°C to +70°C
Screw type with clamp

CE - CSA

200VDC: **RD2001-D**

350VDC: **RD3501-D**

60VDC: **RD0605-D**

4-32 VDC [RMD...D20]
24-275 VAC [RMD...A20]

5mA [RMD..D20]
3mA [RMD..A20]

20A ACrms

100 mA

< 3mA
200 A²s

90-260 Vrms

<600 V_p

≥0.9
-5°C to +55°C
Screw type with clamp

CE - UL, cUL pending

RMD1H23D20

RMD1H23A20

4-32 VDC [RZ3A..D.]
24-275 Vrms [RZ3A..A.]

23 / 15 mA

25/55/75 Arms
5/15/20 Arms

325 A_p [RZ3A..25.]
600 A_p [RZ3A..55.]
1150 A_p [RZ3A..75.]

< 3 mA
525 A²s [RZ3A..25.]
1800 A²s [RZ3A..55.]
6600 A²s [RZ3A..75.]

24-440Vrms[RZ3A40.]
42-660Vrms [RZ3A60.]

<850 V_p [RZ3A40..]
<1200 V_p [RZ3A60..]

-30°C to +80°C
Screw type with clamp

CE - UL - CSA

RZ3A40D..

RZ3A40A..

RZ3A60D..

RZ3A60A..



Switch



Ready for use design - DIN rail mounting

Types

Semiconductor contactors with integrated heatsink. AC operating frequency range 45-65 Hz. Rated insulation voltage ≥ 4000 Vrms.

Solitron RJ MINI
1 pole 20/30 A



Solitron RJ MIDI
1 pole 45/50/75 A



Solitron RJ POWER
1 pole 70/90 A



Dimensions (mm) H x W x D
Features

Control Specifications

Control input range

Max. input current

Output Specifications

Rated operational current AC51 @ Ta= 25°C

AC53a @ Ta= 25°C

Min. operational current

Non-repet. surge current (t=10 ms)

I²t for fusing (t=10 ms)

On state voltage drop
Critical dV/dt off-state

General Specifications

Operational voltage range

Non-repet. peak voltage

Power factor

Operating temperature

Terminals

Approvals/Marks

References

1-phase, zero switching
AC control / 230 Vrms
DC control / 230 Vrms
AC control / 600 Vrms
DC control / 600 Vrms

AC control / 230 Vrms
DC control / 230 Vrms
AC control / 600 Vrms
DC control / 600 Vrms

AC control / 230 Vrms
DC control / 230 Vrms
AC control / 600 Vrms
DC control / 600 Vrms

80 x 22.5 x 103
Built-in snubber network and optional varistor

4-32 VDC [RJ..D.]
24-275 VAC, 24-48 VDC [RJ..A]
12mA [RJ..D.]
17mA [RJ..A.]

20 Arms [RJ..20.]
30 Arms [RJ..30.]

5 Arms [RJ..20.]
15 Arms [RJ..30.]

350 mArms [RJ..20.]
150 mArms [RJ..30.]

325 Ap [RJ..20.]
600 Ap [RJ..30.]

525 A²s [RJ..20.]
1800 A²s [RJ..30.]

1.6 Vrms
500 V/μs

24-265 Vrms [RJ1A23..]
42-660 Vrms [RJ1A60..]

650 V_p [RJ1A23..]
1200 V_p [RJ1A60..]

≥0.5

-30° to +70°C

Screw with captive wire clamp

CE - UL - CSA

20 A

RJ1A23A20E

RJ1A23D20E

RJ1A60A20E

RJ1A60D20E

30 A

RJ1A23A30E

RJ1A23D30E

RJ1A60A30E

RJ1A60D30E

81.7 x 45 x 103
Built-in snubber network and optional varistor

4-32 VDC [RJ..D.]
24-275 VAC, 24-48 VDC [RJ..A]
12mA [RJ..D.]
17mA [RJ..A.]

45 Arms [RJ..45.]
50 Arms [RJ..50.]
75 Arms [RJ..75.]
20 Arms [RJ..45.]
30 Arms [RJ..50.]
30 Arms [RJ..75.]

150 mArms

1150 Ap [RJ..45.]
1900 Ap [RJ..50.]
1900 Ap [RJ..75.]

6600 A²s [RJ..45.]
18000 A²s [RJ..50.]
18000 A²s [RJ..75.]

1.6 Vrms
500 V/μs

24-265 Vrms [RJ1A23..]
42-660 Vrms [RJ1A60..]

650 V_p [RJ1A23..]
1200 V_p [RJ1A60..]

≥0.5

-30° to +70°C

Screw with captive wire clamp

CE - UL - CSA

45 A

RJ1A23A45E

RJ1A23D45E

RJ1A60A45E

RJ1A60D45E

50 A

RJ1A23A50E

RJ1A23D50E

RJ1A60A50E

RJ1A60D50E

75 A (with fan)

RJ1A23A75EP

RJ1A23D75EP

RJ1A60A75EP

RJ1A60D75EP

81.7 x 90 x 103
Built-in snubber network and optional varistor

4-32 VDC [RJ..D.]
24-275 VAC, 24-48 VDC [RJ..A]
12mA [RJ..D.]
17mA [RJ..A.]

70 Arms [RJ..70.]
90 Arms [RJ..90.]

30 Arms [RJ..70.]
30 Arms [RJ..90.]

150 mArms

1900 Ap

18000 A²s [RJ..70.]
18000 A²s [RJ..90.]

1.6 Vrms
500 V/μs

24-265 Vrms [RJ1A23..]
42-660 Vrms [RJ1A60..]

650 V_p [RJ1A23..]
1200 V_p [RJ1A60..]

≥0.5

-30° to +70°C

Screw with captive wire clamp

CE - UL - CSA

70 A

RJ1A23A70E

RJ1A23D70E

RJ1A60A70E

RJ1A60D70E

90 A (with fan)

RJ1A23A90EP

RJ1A23D90EP

RJ1A60A90EP

RJ1A60D90EP

* Other options available on request: Instant-on switching (RJ1B..), Over temperature protection (add suffix P), SSR type connection layout (suffix U instead of E), 690 Vrms operation voltage.



1/ 2-Phase Solid State Relays type Solitron RJ

Ready for use design - DIN rail mounting

Types

Semiconductor contactors with integrated heatsink.
AC operating frequency range 45-65 Hz.
Rated insulation voltage ≥ 4000 Vrms.

	RJCS	RJ1P MB	RJ1P	RJ2A MINI
Dimensions (mm) H x W x D	81 x 45 x 103	81 x 45 x 122	81.7 x 45 x 103	80 x 22.5 x 125
Features	Integrated under-current monitoring, integrated over-temperature protection	SSR with fieldbus communication interface	Multifunction Phase-angle, Distributed full cycle and Burst control (1s, 3s and 10s)	2 pole switching 1 control input
Control Specifications				
Control input range	4-32 VDC	2-wire Modbus RTU	4-20 mA [RJ1P...I...] 0-10 VDC [RJ1P...V...] 50 mA [RJ1P...I...] 0-1mA [RJ1P...V...] 24 VAC/DC [RJ1P...V...] 23 mA [RJ1P...V...]	4-32 VDC
Max. input current	2mA	-		24 mA
Control supply	24 VDC	-		
Max. input current	25 mA	-		
Output Specifications				
Rated operational current AC51 @ Ta= 25°C	30 / 50 Arms	50 AACrms	30 / 50 Arms	2 x 12 Arms [RJ2..12] 2 x 18 Arms [RJ2..18] 2 x 5 Arms [RJ2..12] 2 x 15 Arms [RJ2..18]
AC53a @ Ta= 25°C	30 Arms			150 Arms [RJ2..12] 350 Arms [RJ2..18]
Min. TEACH/operational current	0.3 / 0.5 Arms	500 mAACrms	150 mArms/ 500mArms	325 Ap [RJ2..12] 600 Ap [RJ2..18]
Non-repet. surge current (t=10 ms)	600 / 1900 Ap	1900 Ap	325 / 1900 Ap	325 Ap [RJ2..12] 600 Ap [RJ2..18]
Off-state leakage current i _l for fusing (t=10 ms)	<3 mArms 18000 A ² s / 18000 A ² s	<3 mArms 18000 A ² s	<3 mArms 18000 A ² s / 18000 A ² s	<3 mArms 525 A ² s [RJ2..12] 1800 A ² s [RJ2..18]
On state voltage drop	1.6 Vrms	1.6 Vrms	1.6 Vrms	1.6 Vrms
Critical dV/dt off-state	1000 V/μs	1000 V/μs	1000 V/μs	500 V/μs
General Specifications				
Operational voltage range	24-265 Vrms [RJCS23..] 42-660 Vrms [RJCS60..]	90-265 Vrms	90-265 Vrms [RJ1P23..] 200-550 Vrms [RJ1P48..] 410-660Vrms[RJ1P60..]	24-280 Vrms[RJ2A22..] 42-530 Vrms[RJ2A48..]
Non-repet. peak voltage	650 V _p [RJCS23..] 1200 V _p [RJCS60..]	-	650 V _p [RJ1P23..] 1200 V _p [RJ1P48..] 1200 V _p [RJ1P60..]	650 V _p [RJ2A22..] 1200 V _p [RJ2A48..]
Power factor	≥ 0.5	≥ 0.9 @ 230 VACrms	≥ 0.9	≥ 0.5
Operating temperature	-20° to +60°C	-30° to +70°C	-20° to +60°C	-30° to +70°C
Terminals	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp, Screw plugin connector
Approvals/Marks	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL	CE - UL - cUL
References				
1-phase, zero switching 220 V	30 / 50 A RJCSR1A23D50EPNO RJCSR1A23D50EPP0	50 A	30 / 50 A RJ1P23V50E RJ1P23I50E RJ1P23V30E RJ1P23I30E	12 A/ 18 A RJ2A22D12E RJ2A22D18E
230 V	RJCSR1A23D30EPNO RJCSR1A23D30EPP0	RJ1P23MBT50EBC RJ1P23MBT50ECS RJ1P23MBT50ECV	RJ1P48V50E RJ1P48I50E RJ1P48V30E RJ1P48I30E RJ1P60V50E RJ1P60I50E RJ1P60V30E RJ1P60I30E	RJ2A48D12E RJ2A48D18E
480 V				
600 V	RJCSR1A60D50EPNO RJCSR1A60D50EPP0 RJCSR1A60D30EPP0 RJCSR1A60D30EPP0			



Dimensions (mm) H x W x D
Features

Control Specifications

Control input range

Max. input current

Control supply

Max. input current

Output Specifications

Rated operational current AC51 @ Ta= 25°C

AC53a @ Ta= 25°C

Min. TEACH/operational current

Non-repet. surge current (t=10 ms)

Off-state leakage current i_l for fusing (t=10 ms)

On state voltage drop

Critical dV/dt off-state

General Specifications

Operational voltage range

Non-repet. peak voltage

Power factor

Operating temperature

Terminals

Approvals/Marks

References

1-phase, zero switching
220 V

230 V

480 V

600 V



Switch



Ready for use design - DIN rail mounting

Types

Semiconductor contactors with integrated heatsink. AC operating frequency range 45-65 Hz. Rated insulation voltage ≥ 4000 Vrms.

RJ2A MIDI
2 + 1 poles



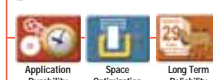
RJ2A POWER
2 + 1 poles



RJD2A MIDI
2 pole



RJD2A POWER
2 pole



	RJ2A MIDI 2 + 1 poles	RJ2A POWER 2 + 1 poles	RJD2A MIDI 2 pole	RJD2A POWER 2 pole
Dimensions (mm) HxWxD	81.7 x 45 x 103	81.7 x 90 x 103	81.7 x 45 x 103	81.7 x 90 x 103
Features	2 Pole switching 1 Pole direct 1 Control input	2 Pole switching 1 Pole direct 1 Control input	2 independent poles 2 Control inputs	2 independent poles 2 Control inputs
Control Specifications				
Control input range	5-32 VDC [RJ2A..D..] 24-275VAC/ [RJ2A..A..] 24-190VDC	5-32 VDC [RJ2A..D..] 24-275VAC/ [RJ2A..A..] 24-190VDC	4-32 VDC	4-32 VDC
Max. input current	24 mA	24 mA	15 mA	15 mA
Output Specifications				
Rated operational current AC51 @ Ta= 25°C AC53a @ Ta= 25°C	3 x 25 A 3 x 15 A	3 x 32 A 3 x 15 A	2 x 30 Arms 2 x 30 Arms	2 x 45 Arms 2 x 30 Arms
Min. operational current	150 mArms	150 mArms	150 mArms	150 mArms
Non-rep. surge current (t=10 ms)	600 A _p	600 A _p	1900 A _p	1900 A _p
Off-state leakage current	<3 mArms	<3 mArms	<3 mArms	<3 mArms
I ² t for fusing (t=10 ms)	1800 A ² s	1800 A ² s	18000 A ² s	18000 A ² s
Critical dV/dt off-state	500 V/μs	500 V/μs	500 V/μs	500 V/μs
General Specifications				
Operational voltage range	24 -280Vrms [RJ2A22..] 40 -660Vrms [RJ2A60..]	24-280Vrms [RJ2A22..] 40-660Vrms [RJ2A60..]	24 -280Vrms [RJD2A23..] 42 -660Vrms [RJD2A60..]	24 -280Vrms [RJD2A23..] 42 -660Vrms [RJD2A60..]
Non-rep. peak voltage	650 V _p [RJ2A22..] 1200 V _p [RJ2A60..]	650 V _p [RJ2A22..] 1200 V _p [RJ2A60..]	650 V _p [RJD2A23..] 1200 V _p [RJD2A60..]	650 V _p [RJD2A23..] 1200 V _p [RJD2A60..]
Power factor	≥ 0.5	≥ 0.5	≥ 0.5	≥ 0.5
Operating temperature	-30° to +70°C	-30° to +70°C	-30° to +70°C	-30° to +70°C
Storage temperature	-40° to +80°C	-40° to +80°C	-40° to +100°C	-40° to +100°C
Terminals	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp
Approvals / Marks	UL - CSA - CE	UL - CSA - CE	UL - cUL - CE	UL - cUL - CE
References				
AC control / 220 Vrms	3 x 25 A RJ2A22A25E	3 x 32 A RJ2A22A32E	2 x 30 A	2 x 45 A
DC control / 220 Vrms	RJ2A22D25	RJ2A22D32		
DC control / 230 Vrms			RJD2A23D30E	RJD2A23D45E
AC control / 600 Vrms	RJ2A60A25E	RJ2A60A32E		
DC control / 600 Vrms	RJ2A60D25	RJ2A60D32	RJD2A60D30E	RJD2A60D45E

* Other options available on request: over temperature protection (add suffix "P"). DC control version with integrated overtemperature protection available with type "E" terminals only

Switch



3-Phase Solid State Relays type Solitron RJ

Ready for use design - DIN rail mounting

Types

3-Phase semiconductor contactors with integrated heatsink. AC operating frequency range 45-65 Hz. Rated insulation voltage ≥ 4000 Vrms.

	RJ3A MIDI* 3 poles	RJ3A POWER* 3 poles	RJT3A MIDI 3 poles	RJT3A POWER 3 poles
Dimensions (mm) HxWxD	81.7 x 45 x 103 122 x 45 x 103 [with fan]	81.7 x 90 x 103	81.7 x 45 x 103 122 x 45 x 103 [with fan]	81.7 x 90 x 103
Features	3 Pole switching 1 Control input	3 Pole switching 1 Control input	3 independent poles 3 Control inputs	3 independent poles 3 Control inputs
Control Specifications				
Control input range	5-32 VDC [RJ3A.D..] 24-275VAC/[RJ3A.A..] 24-190VDC	5-32VDC [RJ3A.D..] 24-275VAC/[RJ3A.A..] 24-190VDC	4-32 VDC	4-32VDC
Max. input current	24 mA	24 mA	12 mA	12 mA
Output Specifications				
Rated operational current AC51 @ Ta= 25°C	3 x 20 A 3 x 32 A [with fan]	3 x 25 A	3 x 20 A	3 x 25 A
AC53a @ Ta= 25°C	3 x 15 A	3 x 15 A	3 x 15 A	3 x 15 A
Min. operational current	150 mArms	150 mArms	150 mArms	150 mArms
Non-rep. surge current (t=10 ms)	600 A _p	600 A _p	600 A _p	600 A _p
Off-state leakage current	<3 mArms	<3 mArms	<3 mArms	<3 mArms
I ² t for fusing (t=10 ms)	1800 A ² s	1800 A ² s	1800 A ² s	1800 A ² s
Critical dV/dt off-state	500 V/μs	500 V/μs	500 V/μs	500 V/μs
General Specifications				
Operational voltage range	24-280Vrms [RJ3A22..] 40-660Vrms[RJ3A60..]	24-280Vrms[RJ3A22..] 40-660Vrms[RJ3A60..]	24-280Vrms [RJT3A23..] 40-660Vrms[RJT3A60..]	24-280Vrms[RJT3A22..] 40-660Vrms[RJT3A60..]
Non-rep. peak voltage	650 V _p [RJ3A22..] 1200 V _p [RJ3A60..]	650 V _p [RJ3A22..] 1200 V _p [RJ3A60..]	650 V _p [RJT3A23..] 1200 V _p [RJT3A60..]	650 V _p [RJT3A22..] 1200 V _p [RJT3A60..]
Power factor	≥ 0.5	≥ 0.5	≥ 0.5	≥ 0.5
Operating temperature	-30° to +70°C	-30° to +70°C	-30° to +70°C	-30° to +70°C
Storage temperature	-40° to +80°C	-40° to +80°C	-40° to +80°C	-40° to +80°C
Terminals	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp
Approvals / Marks	UL - CSA - CE	UL - CSA - CE	UL - CSA - CE	UL - CSA - CE
References				
3 Phase, zero switching	3 x 20 A	3 x 25 A	3 x 20 A	3 x 25 A
AC control / 220 Vrms	RJ3A22A20E	RJ3A22A25E		
DC control / 220 Vrms	RJ3A22D20	RJ3A22D25		
DC control/ 230 Vrms			RJT3A23D20	RJT3A23D25
AC control / 600 Vrms	RJ3A60A20E	RJ3A60A25E	RJT3A60D20	RJT3A60D25
DC control / 600 Vrms	RJ3A60D20	RJ3A60D25		
3 x 32A [with fan]				
AC control / 220 Vrms	RJ3A22A32EP**			
DC control / 220 Vrms	RJ3A22D32EP**			
AC control / 600 Vrms	RJ3A60A32EP**			
DC control / 600 Vrms	RJ3A60D32EP**			

* with integrated fan and over-temperature protection

** Other options available on request: over temperature protection (add suffix "P"). DC control version with integrated overtemperature protection available with type "E" terminals only





Ready to use design - DIN rail mounting - Zero switching

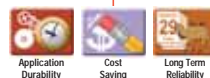
Types

Semiconductor contactors with integrated heatsink. AC operating frequency range 45-65 Hz. Rated insulation voltage ≥ 4000 Vrms.

Solitron RN
1 pole 30/50/63 A



Solitron RN Full Cycle
1 pole 30/50 A



Solitron RN Sense *
1 pole 30/50 A



Dimensions
(mm) H x W x D
Features

120 x 45 x 110 (30A)
120 x 90 x 110 (50/63 A)
Built-in varistor

120 x 45 x 110 (30 A)
120 x 90 x 110 (50 A)
High precision temperature control

120 x 45 x 110 (30 A)
120 x 90 x 110 (50 A)
Detects supply and load failure

Control Specifications

Control input range

5-32 VDC [RN..D]
24-265 Vrms [RN..A]

4-20 mA [RN.F.I.]
0-10 VDC [RN.F.V.]
50 mA [RN.F.I.]
0.1 mA [RN.F.V.]

7-32 VDC

Max. input current

9 mA [RN..D]
12 mA [RN..A]

12-32VDC/24VAC [RN.V.]

4 mA

Control supply

Alarm output PNP
NPN

VCC - 2VDC (≤ 100 mA)
2VDC@(≤ 100 mA)

Output Specifications

Rated operational current
AC 51 @ Ta=30°C

30 Arms [RN..30]
50 Arms [RN..50]
63 Arms [RN..63]
6 Arms [RN..30]
12 Arms [RN..50]
24 Arms [RN..63]

30 Arms [RN.F..30]
50 Arms [RN.F..50]

30 Arms [RN1S...30..]
50 Arms [RN1S...50..]

AC 53a @ Ta=40°C

200 mArms

500 mArms

200 mArms

Non rep. surge current
(t=10 ms)

325 A_p [RN..30]
600 A_p [RN..50]
1150 A_p [RN..63]

325 A_p [RN..30]
600 A_p [RN..50]

325 A_p [RN1S...30..]
600 A_p [RN1S...50..]

Off-state leakage current

<1 mArms

<6 mArms

<6 mArms

I²t for fusing
(t=10 ms)

525 A²s [RN..30]
1800 A²s [RN..50]
6600 A²s [RN..63]

525 A²s [RN.F..30]
1800 A²s [RN.F..50]

525 A²s [RN1S...30..]
1800 A²s [RN1S...50..]

General Specifications

Operational voltage range

24-265 Arms [RN..23..]
42-530 Arms [RN..48..]

85-140 Arms [RN..F12..]
85-265 Arms [RN..F23..]
190-530 Arms [RN..F48..]

120-265 Arms [RN1S23..]
150-440 Arms [RN1S40..]
180-530 Arms [RN1S48..]

Non rep. peak voltage

800 V_p [RN..23..]
1200 V_p [RN..48..]

800 V_p [RN..F12..]
800 V_p [RN..F23..]
1000 V_p [RN..F48..]

800 V_p [RN1S23..]
1000 V_p [RN1S40..]
1200 V_p [RN1S48..]

Power factor

≥ 0.5

≥ 0.9

≥ 0.5

Operating temperature

-20°C to +70°C

-20°C to +70°C

-20°C to +70°C

Terminals

Screw captive wire clamp

Screw captive wire clamp

Screw captive wire clamp

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

References

1-phase, zero switching

30 A **RN1A23A30**
RN1A23D30
RN1A48A30
RN1A48D30
50 A **RN1A23A50**
RN1A23D50
RN1A48A50
RN1A48D50
63 A **RN1A23A63**
RN1A23D63
RN1A48A63
RN1A48D63

30 A **RN1F12I30**
RN1F12V30
RN1F23I30
RN1F23V30
RN1F48I30
RN1F48V30
50 A **RN1F12I50**
RN1F12V50
RN1F23I50
RN1F23V50
RN1F48I50
RN1F48V50

30 A **RN1S23H30NO**
RN1S23H30PO
RN1S40H30NO
RN1S40H30PO
RN1S48H30NO
RN1S48H30PO
50 A **RN1S23H50NO**
RN1S23H50PO
RN1S40H50NO
RN1S40H50PO
RN1S48H50NO
RN1S48H50PO

* Other options available on request: Active low control input and normally closed alarm output.



Solid State Relays, type SOLITRON

Ready to use design - DIN rail mounting

Types

Solitron RN
2 poles 30/50 A

Solitron RN Full Cycle
2 poles 30/50 A

Solitron RN 3-phase
2 + 1 poles 15/30 A

Semiconductor contactors with integrated heatsink.
AC operating frequency range 45-65 Hz.
Rated insulation voltage ≥ 4000 Vrms.



Dimensions (mm) H x W x D	120 x 45 x 110 (30A) 120 x 90 x 110 (50A)	120 x 45 x 110 (30A) 120 x 90 x 110 (50A)	120 x 45 x 110 (15A) 120 x 90 x 110 (30A)
Features	Current rating is sum of both poles, 2 independently switched poles	High precision economy switching	2 poles switched 1 pole direct
Control Specifications			
Control input range	2x5-32 VDC [RN...D.] 2X24-265 Vrms [RN...A.]	4-20 mA [RN.F.I.] 0-10 VDC [RN.F.V.]	5-32 VDC
Max. input current	9 mA/pole [RN...D] 12 mA/pole [RN...A]	50 mA [RN.F.I.] 0.1 mA [RN.F.V.]	10 mA @ 24 VDC
Control supply		7-10 VDC [RN.F.I.] 12-32 VDC/24 VAC [RN.V]	
Output Specifications			
Rated operational current AC51 @ Ta= 30°C	30 A total sum [RN..30] 50 A total sum [RN..50]	30 A total sum [RN.F..30] 50 A total sum [RN.F..50]	3 x 15 A [RN3A..D15] 3 x 30 A [RN3A..D30] 3 x 6 A [RN3A..D15] 3 x 12 A [RN3A..D30]
AC53a @ Ta= 30°C	6 A [RN..30] 12 A [RN..50]		
Min. operational current	200 mArms	500 mArms	200 mArms
Non-rep. surge current (t=10 ms)	325 A _p [RN..30.] 600 A _p [RN..50.]	325 A _p [RN.F..30.] 600 A _p [RN.F..50.]	325 A _p [RN3A..D15] 600 A _p [RN3A..D30.]
Off-state leakage current	<1 mArms	<6 mArms	<6 mArms
I ² t for fusing (t=10 ms)	525 A ² s [RN..30.] 1800 A ² s [RN..50.]	525 A ² s [RN.F..30.] 1800 A ² s [RN.F..50.]	525 A ² s [RN3A..30.] 1800 A ² s [RN3A..50.]
Critical dV/dt off-state	500 V/μs	500 V/μs	500 V/μs
General Specifications			
Operational voltage range	24-265 Vrms [RN..23..] 42-530 Vrms [RN..48..]	85-140 Vrms [RN..F12..] 85-265 Vrms [RN..F23..] 190-530 Vrms [RN..F48..]	24-265 Vrms [RN3A22..] 42-440 Vrms [RN3A40..] 42-530 Vrms [RN3A48..]
Non-repet. peak voltage	800 V _p [RN..23..] 1200 V _p [RN..48..]	800 V _p [RN..F12..] 800 V _p [RN..F23..] 1000 V _p [RN..F48..]	650 V _p [RN3A22..] 800 V _p [RN3A40..] 1200 V _p [RN3A48..]
Power factor	≥0.5	≥0.9	≥0.5
Operating temperature	-20° to +70°C	-20° to +70°C	-20° to +70°C
Terminals	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
References			
2/3-phases, zero switching	2 x 15A/ 30 A total sum RN2A23A30 RN2A23D30 RN2A48A30 RN2A48D30 2x25A/ 50 A total sum RN2A23A50 RN2A23D50 RN2A48A50 RN2A48D50	2 x 15A/ 30 A total sum RN2F12I30 RN2F12V30 RN2F23I30 RN2F23V30 RN2F48I30 RN2F48V30 2 x 25A/ 50 A total sum RN2F12I50 RN2F12V50 RN2F23I50 RN2F23V50 RN2F48I50 RN2F48V50	3 x 15 A RN3A22D15 RN3A40D15 RN3A48D15 3 x 30 A RN3A22D30 RN3A40D30 RN3A48D30

* Other options available on request: Instant-on switching (RN2B..).





Motor Control - Soft Start and Stop

Types

Soft starting and stopping of 3-phase motors. Starting / stopping time and initial torque can be independently adjusted.

RSHR



RSHP Flexy



RSHR 3-Phase



Dimensions (mm) H x W x D	90 x 90 x 108.5	90 x 90 x 108.5	90 x 90 x 158.5
Features	Rotary knobs to adjust start/stop parameters Up to 22kW at 400VAC	Push Button to adjust start/stop parameters Up to 22kW at 400VAC	Rotary knobs to adjust start/stop parameters Up to 45kW at 600VAC
Control Specifications			
Control input range	24-550VAC/DC 24-660VAC/DC [RSHR60..]	24-550VAC/DC 24-660 VAC/DC[RSHR60..]	24-550VAC/DC 24-660 VAC/DC
Max. input current	1 mA	1 mA	3 mA
Output Specifications			
Rated operational current	AC-53b: 25/38/45A	AC-53b: 25/38/45A	AC-53b: 25/38A
Operational voltage	127/220 Vrms [RSHR22..] 230/400 Vrms [RSHR40..] 227/480 Vrms [RSHR48..] 346/600 Vrms [RSHR60..]	127/220 Vrms [RSHP22..] 230/400 Vrms [RSHP40..] 227/480 Vrms [RSHP48..] 346/600 Vrms [RSHP60..]	127/220 VACrms 230/400 VACrms 227/480 VACrms 346/600 VACrms 220-480 VACrms* 400-480 VACrms*
General Specifications			
Frequency range	50/60 Hz ±10%	50/60 Hz ±10%	50/60 Hz ±10%
Ramp up / Ramp down	1-10s / 1-30s	1-20s / 1-20s	1-10s / 1-30s
Initial torque	0-70%	0-70%	0-70%
Kick-start	No	0-200 ms	No
Ramp profiles	General purpose	Programmable	General purpose
Over-temp. protection	Yes	Yes	Yes
Relay output	Optional: suffix V21	Yes	Screw with captive wire clamp
Connections	Screw with captive wire clamp	Screw with captive wire clamp	Screw with captive wire clamp
Capacity max. power	25 mm ²	25 mm ²	25 mm ²
Capacity max. control	2.5 mm ²	2.5 mm ²	2.5 mm ²
Operating temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
Storage temperature	-50°C to +85°C	-50°C to +85°C	-50°C to +85°C
Degree of protection	IP 20	IP 20	IP 20
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - cUL (pending)
References			
	25 A RSHR2225CV20 (5.5 kW) RSHR4025CV20 (11 kW) RSHR4825CV20 (15 kW) RSHR6025DV20 (18.5 kW)	25 A RSHP2225CV21 (5.5 kW) RSHP4025CV21 (11 kW) RSHP4825CV21 (15 kW) RSHP6025DV21 (18.5 kW)	25 A RSHR2225CV32** RSHR2225CV33** RSHR4025CV32** RSHR4025CV38** RSHR4025CV33** RSHR4825CV32** RSHR4825CV33** RSHR6025DV32** RSHR6025DV33** RSHRM25CV34** RSHRM25CV35**
	38 A RSHR2238CV20 (11 kW) RSHR4038CV20 (18.5 kW) RSHR4838CV20 (22 kW) RSHR6038DV20 (22 kW)	38 A RSHP2238CV21 (11 kW) RSHP4038CV21 (18.5 kW) RSHP4838CV21 (22 kW) RSHP6038DV21 (22 kW)	
	45 A RSHR2245CV20 (11 kW) RSHR4045CV20 (22 kW) RSHR4845CV20 (30 kW) RSHR6045DV20 (30 kW)	45 A RSHP2245CV21 (11 kW) RSHP4045CV21 (22 kW) RSHP4845CV21 (30 kW) RSHP6045DV21 (30 kW)	

* Refer to datasheet for the overload current profile of RSHSR60.... versions

** Available also in 32A

Switch



Motor Control - Soft Start and Stop

Types

Soft starting and stopping of 3-phase motors. Starting / stopping time and initial torque can be independently adjusted.

Soft starting and stopping of 3-phase motors (RSMR).

RSHL includes also overload protection and current limit

Dimensions (mm) H x W x D
Features

Control Specifications

Control input range

Max. input current

Output Specifications

Rated operational current

Overload current profile at Ta = 40°C

Operational voltage

General Specifications

Frequency range

Ramp up / Ramp down

Over-temp. protection

Connections

Capacity max. power

Capacity max. control

Operating temperature





Storage temperature

Approvals/Marks

References

2 A	RSHL2202CV21 (0.5 kW)
	RSHL4802CV21 (1.1 kW)
	RSHL6002CV21 (1.1 kW)
5 A	RSHL2205CV21 (1.1 kW)
	RSHL4805CV21 (2.2 kW)
	RSHL6005CV21 (3 kW)
12 A	RSHL2212CV21 (3 kW)
	RSHL4812CV21 (5.5 kW)
	RSHL6012CV21 (7.5 kW)
18 A	RSHL2218CV21 (4 kW)
	RSHL4818CV21 (7.5 kW)
	RSHL6018CV21 (11 kW)

* Applicable for RSHL60..CV21 only

	RSHL	RSHR MIDI	RSE..-B	RSMR			
Types							
Dimensions (mm) H x W x D	114 x 45 x 126	114 x 45 x 126	80 x 45 x 103	240 x 100 x 188			
Features	Preset profiles selectable via rotary switch	Rotary knobs to adjust start/stop parameters Up to 7.5kW at 400VAC	Rotary knobs to adjust start/stop parameters	Rotary knob to select start/stop parameters			
Control Specifications							
Control input range	A1-A2: 24-550VAC/DC	A1-A2: 24-110 VAC/DC A1-A3: 110-480 VAC	A1-A2: 24-110 VAC/DC A1-A3: 110-480 VAC	S0, S1. close contacts to start open contacts to stop			
Max. input current	A1-A2: 3 mA	A1-A2: 5 mA A1-A3: 5 mA	A1-A2: 12 mA A1-A3: 5 mA				
Output Specifications							
Rated operational current	2A [RSHL..02...] 5A [RSHL..05...] 12A [RSHL..12...] 18A [RSHL..18...]	6A [RSHR..06...] 12A [RSHR..12...] 18A [RSHR..18...]	3 A [RSE..03..] 12 A [RSE..12..]	AC 53a: 72A [RSMR4072] 90A [RSMR4090]			
Overload current profile at Ta = 40°C	2A: AC-53b: 4-5 : 0 5A: AC-53b: 4-5: 2.4 12A: AC-53b: 4-5: 21 12A: AC-53b: 4-5: 26* 18A: AC-53b:4-5: 62	6A:AC-53b:4-5:4 12A: AC-53b: 4-5: 50 18 A:AC-53b:4-5:50	3 A:AC-53b:3-5:30 12 A:AC-53b:3-5:180	72A: AC-53a:5-4:99-10 90A: AC-53a:5-4:99-10			
Operational voltage	220VAC [RSHL22...] 400/480VAC [RSHL48...] 600VAC [RSHL60...]	127/220VAC -15%/ +10% [RSHR22..] 230/400VAC -15%/ +10% [RSHR40..] 277/480VAC -15%/ +10% [RSHR48..] 346/600VAC -15%/ +10% [RSHR60..] 190-530VAC [RSHRVL]	127/220 Vrms [RSE22..] 230/400 Vrms [RSE40..] 227/480 Vrms [RSE48..] 346/600 Vrms [RSE60..]	340-506Vrms			
General Specifications							
Frequency range	50/60 Hz ± 10%	50-60 Hz	50-60 Hz	50/60Hz ± 2Hz			
Ramp up / Ramp down	0.25 - 20s / 0 - 20s	1-10s / 0.5 - 20s	0.5-7.5s / 0.5-10s	1-15s / 0-15s			
Over-temp. protection	yes	yes [RSHR..BV21]	No	No			
Connections	Screw terminals	Screw terminals	Screw terminals	Screw terminals			
Capacity max. power	See datasheet	1 x 10mm ² , 2 x 4mm ²	-	-			
Capacity max. control	See datasheet	1.5mm ²	-	-			
Operating temperature	-20°C to +60°C	-20°C to +60°C	-20 to +50°C	-0 to +40°C			
Storage temperature	-50°C to +85°C	-50°C to +85°C	-50 to +85°C	-25 to +60°C			
Approvals/Marks	CE - UL - cUL	CE - UL - cUL	CE - UL - CSA	CE			
References							
2 A	RSHL2202CV21 (0.5 kW)	6 A	RSHR2206BV20 (1.1 kW)	3 A	RSE2203-B (0.55 kW)	72 A	RSMR4072 (37 kW)
	RSHL4802CV21 (1.1 kW)		RSHR4006BV20 (2.2 kW)		RSE4003-B (1.1 kW)		RSMR4072 (40 kW)
	RSHL6002CV21 (1.1 kW)		RSHR4806BV20 (2.2 kW)		RSE4803-B (1.5 kW)		
5 A	RSHL2205CV21 (1.1 kW)		RSHR6006BV20 (3 kW)		RSE6003-B (2.2 kW)		
	RSHL4805CV21 (2.2 kW)		12 A		12 A		90A
	RSHL6005CV21 (3 kW)		RSHR2212BV20 (3.0 kW)		RSE2212-B (3.0 kW)		RSMR4090 (45 kW)
	RSHL2212CV21 (3 kW)		RSHR4012BV20 (5.5 kW)		RSE4012-B (5.5 kW)		RSMR4090 (45 kW)
	RSHL4812CV21 (5.5 kW)		RSHR4812BV20 (5.5 kW)		RSE4812-B (5.5 kW)		
	RSHL6012CV21 (7.5 kW)		RSHR6012BV20 (7.5 kW)		RSE6012-B (7.5 kW)		
			18 A				
			RSHR2218BV20 (4 kW)				
			RSHR4018BV20 (7.5 kW)				
			RSHR4818BV20 (7.5 kW)				
			RSHR6018BV20 (11 kW)				





Types

Soft starting and stopping of 3-phase motors (RSC... + RSO...). Phase angle control of 3-phase heaters (RSC.AA..+RSO). Reversing (RR..).

Motor control - Soft start and stop

Reversing

RSC..HD+RSO..

RSC..AA..+RSO...

RR2A



Dimensions (mm) HxWxD
Features

74 x 103 x 65

Output for external bypass contactor

74 x 103 x 65

User controlled analogue input

74 x 103 x 41

Reversing with interlock, optoisolation

Control Specifications

Control input range

10-32 VDC

0-20 mA (A-input)
4-20 mA (B-input)

10-40VDC

Max. input current

1 mA

-

20 mA

Control supply

10 - 32 VDC

10 - 32 VDC

Max. supply current

180 mA

180 mA

Output Specifications

Rated operational current

AC-53a:
5 Arms [RSO..25]
15 Arms [RSO..50]
30 Arms [RSO..90]
40 Arms [RSO..110]

AC-53a:
5 Arms [RSO..25]
15 Arms [RSO..50]
30 Arms [RSO..90]
40 Arms [RSO..110]

AC-53a: 5/11 Arms

Overload current profile

5A: AC-53a : 6-6 : 100-60
11A: AC-53a : 8-3 : 100-40 **
400Vrms [RR2A40D...]
480Vrms [RR2A48D...]

Operational voltage

150-250Vrms [RSO22..]
220-420Vrms [RSO40..]
400-510Vrms [RSO48..]
400-625Vrms [RSO60..]

150-250Vrms [RSO22..]
220-420Vrms [RSO40..]
400-510Vrms [RSO48..]
400-625Vrms [RSO60..]

General Specifications

Ramp up / Ramp down

0.5-30 s / 0.5-30 s

User controlled

2-pole change-over, built-in transient overvolt. protect, interlocking reversing, LED status indication

Initial torque

10-75%

User controlled

-

Bypass contactor supply

Vcc-8VDC@150mA max.

-

Connections

Screw type with clamp

Screw type with clamp

Screw type with clamp

Operating temperature

-20°C to +70°C

-20°C to +70°C

-20°C to +80°C

Storage temperature

-40°C to +100°C

-40°C to +100°C

-40°C to +100°C

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - cUL

References

Control module
RSC-HD0M60
Output module: 400VAC
25A: **RSO4025** (4kW*)
50A: **RSO4050** (11kW*)
90A: **RSO4090** (15kW*)
110A: **RSO40110** (22kW*)

Control module
RSC-AAM60
Output module: 400VAC
25A: **RSO4025** (4kW*)
50A: **RSO4050** (11kW*)
90A: **RSO4090** (15kW*)
110A: **RSO40110**(22kW*)

5A:
RR2A40D150 (1.5kW)
RR2A40D400 (4.0kW)
11A:
RR2A48D220 (2.2kW)
RR2A48D550 (5.5kW)

* Output module can be 200, 400, 480, 600 VAC

* Correct heatsink assembly required. For further details please consult datasheet.

** Applicable when device is mounted to heatsink type RHS301



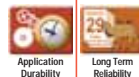
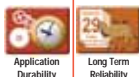
Reversing

Types

RSBS

RSBS Compact

Soft starting of 1-Phase compressors (RSBS) and scroll compressors (RSBS Compact)



Dimensions (mm) HxWxD
Features

135 x 100 x 35
Soft starting of 1-Phase Scroll Compressors

135 x 81.4 x 60.4
Soft starting of 1-Phase Scroll Compressors

Control Specifications

Control voltage
Input current
Pick up voltage
Drop out voltage
Rated AC frequency
Rated insulation voltage
Response time
input to output

230 VAC
< 1 mA
90 VAC
25 VAC
50 Hz ± 5 Hz
250 V rms
≤ 200 ms

230 VAC
< 1 mA
90 VAC
25 VAC
50 Hz ± 5 Hz
250 V rms
≤ 200 ms

Output Specifications

Rated operational current
Pt for fusing (t=10 ms)
Overload current profile
Rated operational voltage

AC-53b : 25A
1200 A²S
25A: AC-53b: 1.6 - 1: 0
23: 230 VCrms, 50 Hz

AC-53b : 25A
1200 A²S
25A: AC-53b: 1.6 - 1: 0
23: 230 VCrms, 50 Hz

General Specifications

Ramp up
No. of starts/ hr
Connections
Pollution degree
Degree of protection
Relative humidity
Operating temperature
Storage temperature

< 0.6 sec.
12 (evenly distributed)
-
2
IP00
< 95% non-condensing
-20°C to +65°C
-30°C to +70°C

< 0.6 sec.
12 (evenly distributed)
Panel or DIN rail mounting
2
IP20
< 95% non-condensing @ 40°C
-20°C to +65°C
-40°C to +70°C

References

RSBS2325A2V10C00
RSBS2325A2V10C10
RSBS2325A2V10C17
RSBS2325A2V10C24

RSBS2325A2V11C00
RSBS2325A2V11C10
RSBS2325A2V11C17
RSBS2325A2V11C24





Heatsink assemblies for 1-phase Solid State Relays

Types

RHS 100

RHS 45CX

RHS 45B



Dimensions (mm) H x W x D
Description

82 x 45 x 49
Heatsink assembly*
with DIN-rail adapter.

103 x 45 x 55
Heatsink assembly*
with DIN-rail adapter.

103 x 45 x 81
Heatsink assembly*
with DIN-rail adapter.
A fan may be mounted,
(RHSF40.24)

Thermal resistance

Without fan

3.0 K/W

2.7 K/W

2.0 K/W

With fan

Not available

1.25 K/W

1.2 K/W

References

RHS 100

RHS 45 CX

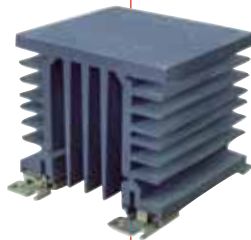
RHS 45 B

Types

RHS 90A

RHS 23A *

RHS 23B *



Dimensions (mm) H x W x D
Description

103 x 90 x 80
Heatsink assembly*
with DIN-rail adapter.
A fan may be mounted,
(RHSF60.24)

103 x 22.5 x 37
Heatsink assembly**
with DIN-rail adapter and
thermal pad

103 x 22.5 x 83
Heatsink assembly**
with DIN-rail adapter and
thermal pad

Thermal resistance

Without fan

1.35 K/W

With fan

0.45 K/W

References

RHS 90A

RHS 23A

RHS 23B

* Heatsink assembly includes mounting screws and thermal paste for semiconductor device.

** Heatsink assembly includes mounting screws and thermal pad attached to heatsink.



Heatsink assemblies for 3-phase Solid State Relays

Types

RHS 300

RHS 112A

RHS 301



Dimensions (mm) H x W x D
Description

82 x 105 x 60
Heatsink assembly*
with DIN-rail adapter.

103 x 112 x 80
Heatsink assembly*
with DIN-rail adapter.
A fan may be
mounted, (RHSF60-24)

83 x 118 x 96
Heatsink assembly*
with DIN-rail adapter.

Thermal resistance

Without fan
With fan

5.0 K/W
Not available

1.1 K/W
0.4 K/W

0.8 K/W

References

RHS 300

RHS 112

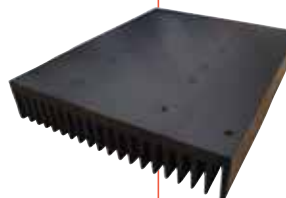
RHS 301

Types

RHS 301F

RHS 320

RHS 330



Dimensions (mm) H x W x D
Description

154 x 122 x 135
Heatsink assembly*
with DIN-rail adapter
and integrated fan
(230 VAC)

100 x 240 x 93
Heatsink assembly for panel
mounting

200 x 300 x 40
Heatsink for panel mounting

Thermal resistance

Without fan
With fan

0.25 K/W

0.4 K/W
Not available

0.3 K/W
Not available

References

RHS 301 F 230C

RHS 320

RHS 330

SELECTION GUIDE FOR
HEATSINK ASSEMBLIES

Thermal Resistance	Heatsink assembly	Thermal Resistance	Heatsink assembly
>5.00 K/W	Heatsink not needed	1.20 K/W	RHS45B+RHSF40-24
5.00 K/W	RHS300	1.10 K/W	RHS112A
3.00 K/W	RHS100	0.80 K/W	RHS301
2.70 K/W	RHS45C	0.45 K/W	RHS90A+RHSF60-24
2.00 K/W	RHS45B	0.40 K/W	RHS112A+RHSF60-24 / RHS320
1.35K/W	RHS90A	0.25K/W	RHS301 F 230C
1.25 K/W	RHS45A+RHSF40-24	<0.25K/W	Consult your distributor

*Heatsink assembly includes mounting screws and thermal paste for semiconductor device.





General accessories

Types

Thermal paste

Thermal pad

Varistors



Dimensions (mm)

Description

Thermal resistance

References

Paste for relay mounting on heatsink	
HTS02S	

17 x 38	
RX Thermal pad	
25K/W	
RXHT	

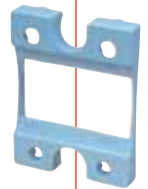
Solid State Relay protection against voltage transient (voltage surge).	
275 V: RV02	
420 V: RV04	
510 V: RV05	
625 V: RV06	
680 V: RV07	

Types

RPM1

RPM1P

RM1P20



Dimensions (mm) H x W x D

Description

References

48 x 85 x 12.5	
Din-rail adaptor for PCB relays. (Relay excluded)	
RPM1	

48 x 85 x 12.5	
Din-rail adaptor with sockets for plug-in PCB relays	
RPM1P (no LED)	
RPM1PD (with LED)	

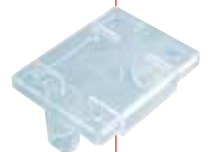
58 x 45 x 9	
Clip-on IP20 protection Cover for RAM, RM, RS.	
RM1P20	

Types

RPM2

DIN-rail adaptor

BBR



Dimensions (mm) H x W x D

Description

References




40 x 85 x 25	
Din-rail adaptor for PCB relays with an operational voltage \geq 230V. (relay excluded)	
RPM2	


DIN-rail adaptor for heatsinks. Integrated in kits. RHS100, RHS300, RHS301.	
RHS00	

59 x 45 x 25.5	
Protection cover for RA and RD serie.	
BBR	



Solid State Relays, Accessories

General accessories			
Types	Fastons	RM terminal	RM terminal IP20
			
Dimensions (mm) H x W x D	4.8/6.3	25.4 x 35.4 x 16.3	28.8 x 47.3 x 16.3
Description	Screw Faston terminals for RAM, RM, RS serie.	RM terminal adaptor for 35mm ² cable	RM terminal adaptor for 35mm ² cable, IP20
References	RM48F0 (flat) RM48F4 (45° angle) RM63F0 (flat) RM63F4 (45° angle)	RM635FK	RM635FKP

Types	Fan 24VDC
	
Dimensions (mm) H x W x D (mounted relay)	40 x 40 x 109 (RHSF40) 60 x 60 x 109 (RHSF60)
Description	RHSF 40-24 to be mounted with RHS45A, RHS45B RHSF 60-24 to be mounted with RHS90, RHS112
References	RHSF 40-24 RHSF 60-24



Switch



VariFlex2 Drives - RVEF Series

Size A

Size B

Types

Drives, Inverters



Dimensions (mm) H x W x D
Features

132 x 77 x 130.5
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional RS485 serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad.

132 x 118 x 148
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional RS485 serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad.

Technical Specifications

AC supply voltage

1-ph, 100-120VAC;
1-ph, 200-240VAC;
3-ph, 200-240VAC;

3-ph, 200-240VAC;
3-ph, 380-480VAC;

AC supply frequency

50/60Hz

50/60Hz

Output voltage

3-ph, 0-240V

3-ph, 0-240V
3-ph, 0-480V

Output frequency

0-200Hz

0-200Hz

100% RMS output current

1.7A [RVEFA...020]
3.1A [RVEFA...040]
4.2A [RVEFA...075]

7.5A [RVEFB.20150]
10.5A [RVEFB.20220]
2.3A [RVEFB340075]
3.8A [RVEFB340150]
5.2A [RVEFB340220]

Input displacement factor
(cos φ)

>0.97

>0.97

General Specifications

Operating temperature

-10°C +50°C

-10°C +50°C

Storage temperature

-20°C +60°C

-20°C +60°C

Degree of Protection

IP20 (IP65 optional)

IP20 (IP65 optional)

Power connections

screw terminals

screw terminals

Control connections

screw terminals

screw terminals

Mounting

DIN-rail or panel mounting

DIN-rail or panel mounting

Integrated cooling fan

yes

yes

Switching frequency

4, 8, 12, 16kHz

4, 8, 12, 16kHz

Approvals

CE, cULus

CE, cULus

References

110VAC, 1-phase

RVEFA110020 (0.20kW - 0.25HP)
RVEFA110040 (0.40kW - 0.50HP)
RVEFA110075 (0.75kW - 1.00HP)

RVEFB120150(F) (1.50kW - 2.00HP)
RVEFB120220(F) (2.20kW - 3.00HP)

230VAC, 1-phase

RVEFA120020(F) (0.20kW - 0.25HP)
RVEFA120040(F) (0.40kW - 0.50HP)
RVEFA120075(F) (0.75kW - 1.00HP)

RVEFB320150 (1.50kW - 2.00HP)
RVEFB320220 (2.20kW - 3.00HP)

230VAC, 3-phase

RVEFA320020 (0.20kW - 0.25HP)
RVEFA320040 (0.40kW - 0.50HP)
RVEFA320075 (0.75kW - 1.00HP)

RVEFB340075(F) (0.75kW - 1.00HP)
RVEFB340150(F) (1.50kW - 2.00HP)
RVEFB340220(F) (2.20kW - 3.00HP)

480VAC, 3-phase

(F): equipped with embedded filter



VariFlex2 Drives - RVCF Series

Types

Drives, Inverters

Size A



Size B



Size C



Dimensions (mm) H x W x D Features

163 x 90 x 147
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional FieldBus and serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad. Built-in PLC function and PID control.

187.1 x 128 x 148
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional FieldBus and serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad. Built-in PLC function and PID control.

260 x 186 x 195
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional FieldBus and serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad. Built-in PLC function and PID control.

Technical Specifications

AC supply voltage

1-ph, 200-240VAC;
3-ph, 200-240VAC;
3-ph, 380-480VAC;

1-ph, 200-240VAC;
3-ph, 200-240VAC;
3-ph, 380-480VAC;

3-ph, 200-240VAC;
3-ph, 380-480VAC;

AC supply frequency

50/60Hz

50/60Hz

50/60Hz

Output voltage

3-ph, 0-240V;
3-ph, 0-480V;

3-ph, 0-240V;
3-ph, 0-480V;

3-ph, 0-240V;
3-ph, 0-480V;

Output frequency

0-650Hz

0-650Hz

0-650Hz

100% RMS output current

3.1A [RVCFA1200040-RVCFA3200040]
4.5A [RVCFA1200075-RVCFA3200075]
7.5A [RVCFA3200150]
2.3A [RVCFA3400075]
3.8A [RVCFA3400150]

7.5A [RVCFB1200150]
10.5A [RVCFB1200220-
RVCFB3200220]
17.5A [RVCFB3200370]
5.2A [RVCFB3400220]
8.8A [RVCFB3400370]

26A [RVCFC3200550]
35A [RVCFC3200750]
13A [RVCFC3400550]
17.5A [RVCFC3400750]
25A [RVCFC3401100]

Input displacement factor (cos φ)

>0.97

>0.97

>0.97

General Specifications

Operating temperature

-10°C +50°C

-10°C +50°C

-10°C +50°C

Storage temperature

-20°C +60°C

-20°C +60°C

-20°C +60°C

Degree of Protection

IP20 or NEMA1

IP20 or NEMA1

IP20 or NEMA1

Power connections

Screw terminals

Screw terminals

Screw terminals

Control connections

Screw terminals

Screw terminals

Screw terminals

Mounting

DIN-rail or panel mounting

DIN-rail or panel mounting

Panel mounting

Integrated cooling fan

yes

yes

yes

Switching frequency

2~16kHz

2~16kHz

2~16kHz

Approvals

CE, cULus

CE, cULus

CE, cULus

References

220-240VAC, 1-phase

RVCFA1200040(F) (0.40kW - 0.50HP)
RVCFA1200075(F) (0.75kW - 1.00HP)

RVCFB1200150(F) (1.50kW - 2.00HP)
RVCFB1200220(F) (2.20kW - 3.00HP)

220-240VAC, 3-phase

RVCFA3200040 (0.40kW - 0.50HP)
RVCFA3200075 (0.75kW - 1.00HP)
RVCFA3200150 (1.50kW - 2.00HP)

RVCFB3200220 (2.20kW - 3.00HP)
RVCFB3200370 (3.70kW - 5.00HP)

RVCFC3200550 (5.50kW - 7.50HP)
RVCFC3200750 (7.50kW - 10.0HP)

380-480VAC, 3-phase

RVCFA3400075(F) (0.75kW - 1.00HP)
RVCFA3400150(F) (1.50kW - 2.00HP)

RVCFB3400220(F) (2.20kW - 3.00HP)
RVCFB3400370(F) (3.70kW - 5.00HP)

RVCFC3400550(F) (5.50kW - 7.50HP)
RVCFC3400750(F) (7.50kW - 10.0HP)
RVCFC3401100(F) (11.0kW - 15.0HP)

(F): equipped with embedded filter





VariFlex2 Drives - RVCF Series

Types

Drives, Inverters

Size D



Size E



Size F



Dimensions (mm) H x W x D
Features

360 x 265 x 147.5
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional FieldBus and serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad. Built-in PLC function and PID control.

553 x 269 x 303.6
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional FieldBus and serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad. Built-in PLC function and PID control.

653 x 308 x 308.6
Maximum overload of 150% of rated current for 60s, conforms to EN 61800-3 for the 2nd environment, parameters accessible via keypad, knob and PC, optional FieldBus and serial communications, optional copy card for drive-to-drive parameter transfer and storage and optional remote keypad. Built-in PLC function and PID control.

Technical Specifications
AC supply voltage

3-ph, 200-240VAC;
3-ph, 380-480VAC;
50/60Hz

3-ph, 200-240VAC;
3-ph, 380-480VAC;
50/60Hz

3-ph, 380-480VAC;
50/60Hz

AC supply frequency
Output voltage

3-ph, 0-240V;
3-ph, 0-480V;
0-650Hz

3-ph, 0-240V;
3-ph, 0-480V;
0-650Hz

3-ph, 0-480V;
0-650Hz

Output frequency
100% RMS output current

48A [RVCFD3201100]
64A [RVCFD3201500]
80A [RVCFD3201850]
32A [RVCFD3401500]
40A [RVCFD3401850]
48A [RVCFD3402200]

96A [RVCFE3202200]
130A [RVCFE3203000]
64A [RVCFE3403000]
80A [RVCFE3403700]

96A [RVCFE3404500]
128A [RVCFE3405500]

Input displacement factor (cos φ)

>0.97

>0.97

>0.97

General Specifications

Operating temperature
Storage temperature
Degree of Protection
Power connections
Control connections
Mounting
Integrated cooling fan
Switching frequency
Approvals

-10°C +50°C
-20°C +60°C
IP20 or NEMA1
screw terminals
screw terminals
Panel mounting
yes
2~16kHz
CE, cULus

-10°C +50°C
-20°C +60°C
IP20 or NEMA1
screw terminals
screw terminals
Panel mounting
yes
2~16kHz
CE, cULus

-10°C +50°C
-20°C +60°C
IP20 or NEMA1
screw terminals
screw terminals
Panel mounting
yes
2~16kHz
CE, cULus

References

220-240VAC, 1-phase

220-240VAC, 3-phase

380-480VAC, 3-phase

RVCFD3201100 (11.0kW - 15.0HP)
RVCFD3201500 (15.0kW - 20.0HP)
RVCFD3201850 (18.5kW - 25.0HP)
RVCFD3401500 (15.0kW - 20.0HP)
RVCFD3401850 (18.5kW - 25.0HP)
RVCFD3402200 (22.0kW - 30.0HP)



RVCFE3202200 (22.0kW - 30.0HP)
RVCFE3203000 (30.0kW - 40.0HP)
RVCFE3403000 (30.0kW - 40.0HP)
RVCFE3403700 (37.0kW - 50.0HP)

RVCFE3404500 (45.0kW - 60.0HP)
RVCFE3405500 (55.0kW - 75.0HP)

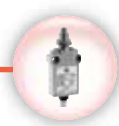


Types

Drives, Inverters

	ISMG Series		
	ISMG 1 45	ISMG 1 50	ISMG 1 60
			
			
Dimensions (mm) H x W x D	580 x 422 x 182	580 x 422 x 182	580 x 422 x 182
Features	High PV input voltage range; Efficient and independent MPP Tracking controlled by an exclusive Smart MPPT Technology. Transformerless (equipped with electrical RCMU device for galvanic insulation). RS232/RS485 serial communication for local/remote control. Active anti-islanding protection for grid monitoring able to ensure high safety level for qualified installers and end users. Integrated interface protection device for monitoring the grid according to the national standards.	High PV input voltage range; Efficient and independent MPP Tracking controlled by an exclusive Smart MPPT Technology. Transformerless (equipped with electrical RCMU device for galvanic insulation). RS232/RS485 serial communication for local/remote control. Active anti-islanding protection for grid monitoring able to ensure high safety level for qualified installers and end users. Integrated interface protection device for monitoring the grid according to the national standards.	High PV input voltage range; Efficient and independent MPP Tracking controlled by an exclusive Smart MPPT Technology. Transformerless (equipped with electrical RCMU device for galvanic insulation). RS232/RS485 serial communication for local/remote control. Active anti-islanding protection for grid monitoring able to ensure high safety level for qualified installers and end users. Integrated interface protection device for monitoring the grid according to the national standards.
DC Input Data			
Nominal DC power	3.48kW	4.0kW	4.85kW
Max DC power	4.0kW	4.64kW	5.38kW
Nominal DC voltage	450V	450V	450V
Max DC voltage	500V	500V	500V
Min DC voltage	150V	150V	150V
MPP voltage range	100-450V	100-450V	100-450V
Max current (each string)	10A	10A	10A
Nr. of MPP trackers	1 or 2	1 or 2	1 or 3
AC Output Data			
Grid connection	Single phase; true sine-wave	Single phase; true sine-wave	Single phase; true sine-wave
Nominal AC power	3.3kW	3.8kW	4.6kW
Max AC power	3.8kW	4.4kW	5.1kW
Power factor	>0.99	>0.99	>0.99
Distortion factor (THD)	<3%	<3%	<3%
AC voltage range	Spain: 196...253V (VAC _{nom.} : 230V) Italy: 184...276V (VAC _{nom.} : 230V) Germany: 184...264V (VAC _{nom.} : 230V)	Spain: 196...253V (VAC _{nom.} : 230V) Italy: 184...276V (VAC _{nom.} : 230V) Germany: 184...264V (VAC _{nom.} : 230V)	Spain: 196...253V (VAC _{nom.} : 230V) Italy: 184...276V (VAC _{nom.} : 230V) Germany: 184...264V (VAC _{nom.} : 230V)
AC nominal current	14.34A	16.52A	20A
AC current range	0...16.52A	0...19.13A	0...22A
Frequency range	Spain: 49...51Hz (f _{nom.} : 50Hz) Italy: 49.7...50.3Hz (f _{nom.} : 50Hz) Germany: 47.5...50.2Hz (f _{nom.} : 50Hz)	Spain: 49...51Hz (f _{nom.} : 50Hz) Italy: 49.7...50.3Hz (f _{nom.} : 50Hz) Germany: 47.5...50.2Hz (f _{nom.} : 50Hz)	Spain: 49...51Hz (f _{nom.} : 50Hz) Italy: 49.7...50.3Hz (f _{nom.} : 50Hz) Germany: 47.5...50.2Hz (f _{nom.} : 50Hz)
General Specifications			
Operation temperature	0...+60°C without derating	0...+55°C without derating	0...+55°C without derating
Humidity	0...95%	0...95%	0...95%
Degree of Protection	IP65	IP65	IP65
Cooling	Forced ventilation	Forced ventilation	Forced ventilation
Max efficiency	96.2% @ 350VDC	96.3% @ 350VDC	96.3% @ 350VDC
EU efficiency	95.4% @ 350VDC	95.1% @ 350VDC	95.4% @ 350VDC
Approvals	Spain: RD 1663/2000; RD 661/2007 Italy: DK5940 Ed. 2.2 April 2007 Germany: VDE0126-1-1	Spain: RD 1663/2000; RD 661/2007 Italy: DK5940 Ed. 2.2 April 2007 Germany: VDE0126-1-1	Spain: RD 1663/2000; RD 661/2007 Italy: DK5940 Ed. 2.2 April 2007 Germany: VDE0126-1-1
References			
Italy	ISMG145IT	ISMG150IT	ISMG160IT
Spain	ISMG145ES	ISMG150ES	ISMG160ES
Germany	ISMG145DE	ISMG150DE	ISMG160DE





Head Type

- PO- Plain plunger
- PY- Nylon roller plunger
- P8- Cross nylon roller plunger
- RT- Ø14 Nylon roller lever

PS31M (Metal*)
References
Contact Block

Snap 1NO+1NC	☺
Slow 1NO+1NC	☺
Dimensions (mm) WxHxD	

PS31M-CS11PO-M00	PS31M-CS11PY-M00	PS31M-CS11P8-M00	PS31M-CS11RT-M00
PS31M-CT11PO-M00	PS31M-CT11PY-M00	PS31M-CT11P8-M00	PS31M-CT11RT-M00
35 x 60 x 16	35 x 70 x 16	35 x 70 x 16	35 x 92 x 29.5
1m PVC cable	1m PVC cable	1m PVC cable	1m PVC cable

PS21M (Metal*)
References
Contact Block

Snap 1NO+1NC	☺
Slow 1NO+1NC	☺
Dimensions (mm) WxHxD	

PS21M-CS11PO-M00	PS21M-CS11PY-M00	PS21M-CS11P8-M00	PS21M-CS11RT-M00
PS21M-CT11PO-M00	PS21M-CT11PY-M00	PS21M-CT11P8-M00	PS21M-CT11RT-M00
31.5 x 60 x 16	31.5 x 70 x 16	31.5 x 70 x 16	31.5 x 92 x 29.5
1m PVC cable	1m PVC cable	1m PVC cable	1m PVC cable

Head Type

- Plain plunger with fixing nuts
- Roller plunger with fixing nuts
- Cross roller plunger with fixing nuts
- R1 Adjustable lever with Ø18 nylon roller

PS31M (Metal*)
References
Contact Block

Snap 1NO+1NC	☺
Slow 1NO+1NC	☺
Dimensions (mm) WxHxD	

PS31M-CS11PO-M0L	PS31M-CS11PY-M0L	PS31M-CS11P8-M0L	PS31M-CS11R1-M00
PS31M-CT11PO-M0L	PS31M-CT11PY-M0L	PS31M-CT11P8-M0L	PS31M-CT11R1-M00
35 x 74 x 16	35 x 84.8 x 16	35 x 84.8 x 16	35 x 86..158 x 38.9
1m PVC cable	1m PVC cable	1m PVC cable	1m PVC cable

PS21M (Metal*)
References
Contact Block

Snap 1NO+1NC	☺
Slow 1NO+1NC	☺
Dimensions (mm) WxHxD	

PS21M-CS11PO-M0L	PS21M-CS11PY-M0L	PS21M-CS11P8-M0L	PS21M-CS11RT-M00
PS21M-CT11PO-M0L	PS21M-CT11PY-M0L	PS21M-CT11P8-M0L	PS21M-CT11RT-M00
31.5 x 74 x 16	31.5 x 84.8 x 16	31.5 x 84.8 x 16	31.5 x 86..158 x 38.9
1m PVC cable	1m PVC cable	1m PVC cable	1m PVC cable

General Characteristics (for all types)

Mechanical life	>10 000 000 cycles	Rated thermal current (Ith)	10A (IEC947-5-1)
Operating frequency	3600 cycles/h	Rated insulation voltage (Ui)	400VAC (IEC947-5-1)
Operating Speed	1...1500 mm/s	Insulation resistance (500VDC)	2MΩ
Rated operating current (Ie)	1.5A/230V (Cat. AC15)	Protection degree	IP67
	1.1A/24V (Cat. DC13)	Approvals	CE, UL (upon request)

* Also available in thermoplastic (T type)

Switch



Limit Switches - Limit Type

Head Type

P0-Plain plunger

PR-Roller plunger

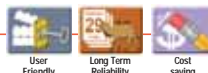
RH-Plastic roller lever

RT-Nylon roller lever



Family:	L
References	
Contact Block	
Snap 1NO+1NC	☞
Slow 1NO+1NC	☞
Slow Ov.**1NO+1NC	☞
Slow 2NO	
Slow 2NC	☞
Snap 2NC	☞
Dimensions (mm) WxHxD	

PS21	PS21	PS21	PS21
Thermoplastic*	Thermoplastic*	Thermoplastic*	Thermoplastic*
PS21L-PS11P0-T00	PS21L-PS11PR-T00	PS21L-PS11RH-T00	PS21L-PS11RT-T00
PS21L-PT11P0-T00	PS21L-PT11PR-T00	PS21L-PT11RH-T00	PS21L-PT11RT-T00
PS21L-PO11P0-T00	PS21L-PO11PR-T00	PS21L-PO11RH-T00	PS21L-PO11RT-T00
PS21L-PT20P0-T00	PS21L-PT20PR-T00	PS21L-PT20RH-T00	PS21L-PT20RT-T00
PS21L-PT02P0-T00	PS21L-PT02PR-T00	PS21L-PT02RH-T00	PS21L-PT02RT-T00
PS21L-PS02P0-T00	PS21L-PS02PR-T00	PS21L-PS02RH-T00	PS21L-PS02RT-T00
30.3 x 73 x 30	30.3 x 84 x 30	30.3 x 92 x 30	30.3 x 106 x 45



Family:	L
References	
Contact Block	
Snap 1NO+1NC	☞
Slow 1NO+1NC	☞
Slow Ov.**1NO+1NC	☞
Slow 2NO	
Slow 2NC	☞
Snap 2NC	☞
Dimensions (mm) WxHxD	

PS42	PS42	PS42	PS42
Thermoplastic*	Thermoplastic*	Thermoplastic*	Thermoplastic*
PS42L-PS11P0-T00	PS42L-PS11PR-T00	PS42L-PS11RH-T00	PS42L-PS11RT-H00
PS42L-PT11P0-T00	PS42L-PT11PR-T00	PS42L-PT11RH-T00	PS42L-PT11RT-H00
PS42L-PO11P0-T00	PS42L-PO11PR-T00	PS42L-PO11RH-T00	PS42L-PO11RT-H00
PS42L-PT20P0-T00	PS42L-PT20PR-T00	PS42L-PT20RH-T00	PS42L-PT20RT-H00
PS42L-PT02P0-T00	PS42L-PT02PR-T00	PS42L-PT02RH-T00	PS42L-PT02RT-H00
PS42L-PS02P0-T00	PS42L-PS02PR-T00	PS42L-PS02RH-T00	PS42L-PS02RT-H00
57 x 66 x 33	57 x 77 x 33	57 x 85 x 33	57 x 99 x 45

* also available in metal (M type)

** Ov. : overlapping travel paths





Head Type

W1-Adjustable lever with Ø50 rubber roller

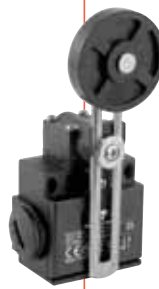
R1-Adjustable lever with Ø18 nylon roller

BE-Ø18 nylon roller lever

LW-Stainless steel spring cat whisker



Family:	L	PS21	PS21	PS21	PS21
References		Thermoplastic*	Thermoplastic*	Thermoplastic*	Thermoplastic*
Contact Block					
Snap 1NO+1NC	☺	PS21L-PS11W1-T00	PS21L-PS11R1-T00	PS21L-PS11BE-T00	PS21L-PS11LW-T00
Slow 1NO+1NC	☺	PS21L-PT11W1-T00	PS21L-PT11R1-T00	PS21L-PT11BE-T00	PS21L-PT11LW-T00
Slow Ov.**1NO+1NC	☺	PS21L-PO11W1-T00	PS21L-PO11R1-T00	PS21L-PO11BE-T00	PS21L-PO11LW-T00
Slow 2NO		PS21L-PT20W1-T00	PS21L-PT20R1-T00	PS21L-PT20BE-T00	PS21L-PT20LW-T00
Slow 2NC	☺	PS21L-PT02W1-T00	PS21L-PT02R1-T00	PS21L-PT02BE-T00	PS21L-PT02LW-T00
Snap 2NC	☺	PS21L-PS02W1-T00	PS21L-PS02R1-T00	PS21L-PS02BE-T00	PS21L-PS02LW-T00
Dimensions (mm) WxHxD		50 x (126.5-186.5) x 52	30.3 x (98.5-170.5) x 45.5	30.5 x 114 x 33	30.3 x 188 x 30



Family:	L	PS42	PS42	PS42	PS42
References		Thermoplastic*	Thermoplastic*	Thermoplastic*	Thermoplastic*
Contact Block					
Snap 1NO+1NC	☺	PS42L-PS11W1-T00	PS42L-PS11R1-T00	PS42L-PS11BE-T00	PS42L-PS11LW-T00
Slow 1NO+1NC	☺	PS42L-PT11W1-T00	PS42L-PT11R1-T00	PS42L-PT11BE-T00	PS42L-PT11LW-T00
Slow Ov.**1NO+1NC	☺	PS42L-PO11W1-T00	PS42L-PO11R1-T00	PS42L-PO11BE-T00	PS42L-PO11LW-T00
Slow 2NO		PS42L-PT20W1-T00	PS42L-PT20R1-T00	PS42L-PT20BE-T00	PS42L-PT20LW-T00
Slow 2NC	☺	PS42L-PT02W1-T00	PS42L-PT02R1-T00	PS42L-PT02BE-T00	PS42L-PT02LW-T00
Snap 2NC	☺	PS42L-PS02W1-T00	PS42L-PS02R1-T00	PS42L-PS02BE-T00	PS42L-PS02LW-T00
Dimensions (mm) WxHxD		57 x (118.5-177) x 33	57 x (91.5-163.5) x 33	57 x 107 x 33	57 x 181 x 33

General Characteristics (for all types)

Air temperature near the device		Conventional enclosed thermal voltage (U _{imp})	KV 6
- during operation	-25... +70°C	Rated operational current	
- for storage	-30... +80°C	I _e /AC-15 230Vac	3.1A
Degree of protection for plastic body	IP65	I _e /DC-13 24Vdc	2.8V
Degree of protection for metal body	IP66	Electrical durability (according to IEC 60947-5-1 annex C)	
Rated insulation voltage plastic body (U _i)		- max. switching frequency Cycles/h	3600
according to IEC 60947-1 and EN 60947-1	500V	- load factor	0.5
according to UL 508, CSA C22-2 n°14	A 600, Q 600	Approvals	CE, UL, CSA
Rated insulation voltage metal body (U _i)			
according to IEC 60947-1 and EN 60947-1	400V (PS21, PS42), 500V (PS31, PS43)		
according to UL 508, CSA C22-2 n°14	A 300, Q 300 (PS21, PS42) A 600, Q 600 (PS31, PS43)		

* Also available in metal (M type)

** Ov. : overlapping travel paths



Limit Switches - Limit Type

Head Type

P0-Plain plunger

PR-Roller plunger

RH-Plastic roller lever

RT-Nylon roller lever



Family: L

PS43
Metal

PS43
Metal

PS43
Metal

PS43
Metal

References
Contact Block

Snap 1NO+1NC	⊖
Slow 1NO+1NC	⊖
Slow Ov.**1NO+1NC	⊖
Slow 2NO	
Slow 2NC	⊖
Snap 2NC	⊖
Slow 1NO+2NC	⊖
Slow 2NO+1NC	⊖
Slow 3NC	⊖
Slow 3NO	
Dimensions (mm) WxHxD	

PS43L-PS11P0-M00
PS43L-PT11P0-M00
PS43L-PO11P0-M00
PS43L-PT20P0-M00
PS43L-PT02P0-M00
PS43L-PS02P0-M00
PS43L-PT12P0-M00
PS43L-PT21P0-M00
PS43L-PT03P0-M00
PS43L-PT30P0-M00
66 x 102.5 x 43

PS43L-PS11PR-M00
PS43L-PT11PR-M00
PS43L-PO11PR-M00
PS43L-PT20PR-M00
PS43L-PT02PR-M00
PS43L-PS02PR-M00
PS43L-PT12PR-M00
PS43L-PT21PR-M00
PS43L-PT03PR-M00
PS43L-PT30PR-M00
66 x 115.5 x 43

PS43L-PS11RH-M00
PS43L-PT11RH-M00
PS43L-PO11RH-M00
PS43L-PT20RH-M00
PS43L-PT02RH-M00
PS43L-PS02RH-M00
PS43L-PT12RH-M00
PS43L-PT21RH-M00
PS43L-PT03RH-M00
PS43L-PT30RH-M00
67 x 129.5 x 43

PS43L-PS11RT-M00
PS43L-PT11RT-M00
PS43L-PO11RT-M00
PS43L-PT20RT-M00
PS43L-PT02RT-M00
PS43L-PS02RT-M00
PS43L-PT12RT-M00
PS43L-PT21RT-M00
PS43L-PT03RT-M00
PS43L-PT30RT-M00
66 x 128.5 x 61.5



Family: L

PS31
Thermoplastic*

PS31
Thermoplastic*

PS31
Thermoplastic*

PS31
Thermoplastic*

References
Contact Block

Snap 1NO+1NC	⊖
Slow 1NO+1NC	⊖
Slow Ov.**1NO+1NC	⊖
Slow 2NO	
Slow 2NC	⊖
Snap 2NC	⊖
Slow 1NO+2NC	⊖
Slow 2NO+1NC	⊖
Slow 3NC	⊖
Slow 3NO	⊖
Dimensions (mm) WxHxD	

PS31L-PS11P0-T00
PS31L-PT11P0-T00
PS31L-PO11P0-T00
PS31L-PT20P0-T00
PS31L-PT02P0-T00
PS31L-PS02P0-T00
PS31L-PT12P0-T00
PS31L-PT21P0-T00
PS31L-PT03P0-T00
PS31L-PT30P0-T00
41 x 104 x 40.5

PS31L-PS11PR-T00
PS31L-PT11PR-T00
PS31L-PO11PR-T00
PS31L-PT20PR-T00
PS31L-PT02PR-T00
PS31L-PS02PR-T00
PS31L-PT12PR-T00
PS31L-PT21PR-T00
PS31L-PT03PR-T00
PS31L-PT30PR-T00
41 x 117 x 40.5

PS31L-PS11RH-T00
PS31L-PT11RH-T00
PS31L-PO11RH-T00
PS31L-PT20RH-T00
PS31L-PT02RH-T00
PS31L-PS02RH-T00
PS31L-PT12RH-T00
PS31L-PT21RH-T00
PS31L-PT03RH-T00
PS31L-PT30RH-T00
41 x 121 x 40.5

PS31L-PS11RT-T00
PS31L-PT11RT-T00
PS31L-PO11RT-T00
PS31L-PT20RT-T00
PS31L-PT02RT-T00
PS31L-PS02RT-T00
PS31L-PT12RT-T00
PS31L-PT21RT-T00
PS31L-PT03RT-T00
PS31L-PT30RT-T00
41 x 130 x 59

* also available in metal (M type)

** Ov. : overlapping travel paths





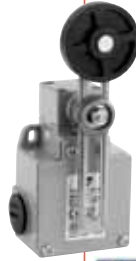
Head Type

W1-Adjustable lever with Ø50 rubber roller

R1-Adjustable lever with Ø18 nylon roller

W0-Ø50 rubber roller lever

LW-Stainless steel spring cat whisker



Family: L

PS43
Metal

PS43
Metal

PS43
Metal

PS43
Metal

References
Contact Block

Snap 1NO+1NC	⊖
Slow 1NO+1NC	⊖
Slow Ov.**1NO+1NC	⊖
Slow 2NO	
Slow 2NC	⊖
Snap 2NC	⊖
Slow 1NO+2NC	⊖
Slow 2NO+1NC	⊖
Slow 3NC	⊖
Slow 3NO	
Dimensions (mm) WxHxD	

PS43L-PS11W1-M00
PS43L-PT11W1-M00
PS43L-PO11W1-M00
PS43L-PT20W1-M00
PS43L-PT02W1-M00
PS43L-PS02W1-M00
PS43L-PT12W1-M00
PS43L-PT21W1-M00
PS43L-PT03W1-M00
PS43L-PT30W1-M00
62 x (147.5-203.5) x 62.5

PS43L-PS11R1-M00
PS43L-PT11R1-M00
PS43L-PO11R1-M00
PS43L-PT20R1-M00
PS43L-PT02R1-M00
PS43L-PS02R1-M00
PS43L-PT12R1-M00
PS43L-PT21R1-M00
PS43L-PT03R1-M00
PS43L-PT30R1-M00
62 x (133.5-189.5) x 60

PS43L-PS11W0-M00
PS43L-PT11W0-M00
PS43L-PO11W0-M00
PS43L-PT20W0-M00
PS43L-PT02W0-M00
PS43L-PS02W0-M00
PS43L-PT12W0-M00
PS43L-PT21W0-M00
PS43L-PT03W0-M00
PS43L-PT30W0-M00
62 x 142.5 x 66

PS43L-PS11LW-M00
PS43L-PT11LW-M00
PS43L-PO11LW-M00
PS43L-PT20LW-M00
PS43L-PT02LW-M00
PS43L-PS02LW-M00
PS43L-PT12LW-M00
PS43L-PT21LW-M00
PS43L-PT03LW-M00
PS43L-PT30LW-M00
62 x 195,5 x 43



Family: L

PS31
Thermoplastic*

PS31
Thermoplastic*

PS31
Thermoplastic*

PS31
Thermoplastic*

References
Contact Block

Snap 1NO+1NC	⊖
Slow 1NO+1NC	⊖
Slow Ov.**1NO+1NC	⊖
Slow 2NO	
Slow 2NC	⊖
Snap 2NC	⊖
Slow 1NO+2NC	⊖
Slow 2NO+1NC	⊖
Slow 3NC	⊖
Slow 3NO	⊖
Dimensions (mm) WxHxD	

PS31L-PS11W1-T00
PS31L-PT11W1-T00
PS31L-PO11W1-T00
PS31L-PT20W1-T00
PS31L-PT02W1-T00
PS31L-PS02W1-T00
PS31L-PT12W1-T00
PS31L-PT21W1-T00
PS31L-PT03W1-T00
PS31L-PT30W1-T00
50 x (149-205) x 65

PS31L-PS11R1-T00
PS31L-PT11R1-T00
PS31L-PO11R1-T00
PS31L-PT20R1-T00
PS31L-PT02R1-T00
PS31L-PS02R1-T00
PS31L-PT12R1-T00
PS31L-PT21R1-T00
PS31L-PT03R1-T00
PS31L-PT30R1-T00
41 x (135-191) x 60

PS31L-PS11W0-T00
PS31L-PT11W0-T00
PS31L-PO11W0-T00
PS31L-PT20W0-T00
PS31L-PT02W0-T00
PS31L-PS02W0-T00
PS31L-PT12W0-T00
PS31L-PT21W0-T00
PS31L-PT03W0-T00
PS31L-PT30W0-T00
50 x 144 x 64.5

PS31L-PS11LW-T00
PS31L-PT11LW-T00
PS31L-PO11LW-T00
PS31L-PT20LW-T00
PS31L-PT02LW-T00
PS31L-PS02LW-T00
PS31L-PT12LW-T00
PS31L-PT21LW-T00
PS31L-PT03LW-T00
PS31L-PT30LW-T00
41 x 195 x 40.5

General Characteristics (for all types)

Air temperature near the device		Conventional enclosed thermal voltage (U _{imp})	6 kV
- during operation	-25... +70°C	Rated operational current	
- for storage	-30... +80°C	I _e /AC-15 230Vac	3.1A
Degree of protection plastic body	IP65	I _e /DC-13 24Vdc	2.8V
Degree of protection metal body	IP66	Electrical durability (according to IEC 60947-5-1 annex C)	
Rated insulation voltage plastic body (U _i)		- max. switching frequency Cycles/h	3600
according to IEC 60947-1 and EN 60947-1	500V	- load factor	0.5
according to UL 508, CSA C22-2 n°14	A 600, Q 600	Approvals	CE, UL, CSA
Rated insulation voltage metal body (U _i)			
according to IEC 60947-1 and EN 60947-1	400V (PS21, PS42), 500V (PS31, PS43)		
according to UL 508, CSA C22-2 n°14	A 300, Q 300 (PS21, PS42) A 600, Q 600 (PS31, PS43)		

* Also available in metal (M type)

** Ov. : overlapping travel paths

Switch



Limit Switches - Safety Type

Head Type

Key Actuator 90° adj. head (key must be ordered separately)



Family:	S	PS21 Thermoplastic*	PS42 Thermoplastic*	PS31 Thermoplastic*	PS43 Metal
References					
Contact Block					
Snap 1NO+1NC	☞	PS21S-PS1105-T00	PS42S-PS1105-T00	PS31S-PS1105-T00	PS43S-PS1105-Y00
Snap 2NC	☞	PS21S-PS0205-T00	PS42S-PS0205-T00	PS31S-PS0205-T00	PS43S-PS0205-Y00
Slow 1NO+1NC	☞	PS21S-PT1105-T00	PS42S-PT1105-T00	PS31S-PT1105-T00	PS43S-PT1105-Y00
Slow Ov.**1NO+1NC	☞	PS21S-PO1105-T00	PS42S-PO1105-T00	PS31S-PO1105-T00	PS43S-PO1105-Y00
Slow 2NC	☞	PS21S-PT0205-T00	PS42S-PT0205-T00	PS31S-PT0205-T00	PS43S-PT0205-Y00
Slow 2NO+1NC	☞			PS31S-PT2105-T00	PS43S-PT2105-Y00
Slow 1NO+2NC	☞			PS31S-PT1205-T00	PS43S-PT1205-Y00
Slow 3NC	☞			PS31S-PT0305-T00	PS43S-PT0305-Y00
Dimensions (mm) WxHxD		30.3 x 90 x 30	57 x 83 x 33	41.3 x 109.5 x 41	43 x 104.5 x 66

Head Type

Key actuator fully turnable head (key must be ordered separately)



Hinge Switch Operated lever*



Family:	S/H	PS21 Thermoplastic*	PS42 Thermoplastic*	PS21 Thermoplastic*	PS42 Thermoplastic*
References					
Contact Block					
Snap 1NO+1NC	☞	PS21S-PS1109-T00	PS42S-PS1109-T00	PS21H-PS11HC-T00	PS42H-PS11HC-T00
Snap 2NC	☞	PS21S-PS0209-T00	PS42S-PS0209-T00	PS21H-PS02HC-T00	PS42H-PS02HC-T00
Slow 1NO+1NC	☞	PS21S-PT1109-T00	PS42S-PT1109-T00	PS21H-PT11HC-T00	PS42H-PT11HC-T00
Slow Ov.**1NO+1NC	☞	PS21S-PO1109-T00	PS42S-PO1109-T00	PS21H-PO11HC-T00	PS42H-PO11HC-T00
Slow 2NC	☞	PS21S-PT0209-T00	PS42S-PT0209-T00	PS21H-PT02HC-T00	PS42H-PT02HC-T00
Dimensions (mm) WxHxD		30.3 x 98.6 x 30	57 x 91.5 x 33	30.3 x 157 x 42	57 x 150 x 42

Head Type

Hinge shaft Zinc plated steel



Hinge Shaft Stainless steel



Family:	H	PS21 Thermoplastic*	PS42 Thermoplastic*	PS21 Thermoplastic*	PS42 Thermoplastic*
References					
Contact Block					
Snap 1NO+1NC	☞	PS21H-PS11HZ-T00	PS42H-PS11HZ-T00	PS21H-PS11HS-T00	PS42H-PS11HS-T00
Snap 2NC	☞	PS21H-PS02HZ-T00	PS42H-PS02HZ-T00	PS21H-PS02HS-T00	PS42H-PS02HS-T00
Slow 1NO+1NC	☞	PS21H-PT11HZ-T00	PS42H-PT11HZ-T00	PS21H-PT11HS-T00	PS42H-PT11HS-T00
Slow Ov.**1NO+1NC	☞	PS21H-PO11HZ-T00	PS42H-PO11HZ-T00	PS21H-PO11HS-T00	PS42H-PO11HS-T00
Slow 2NC	☞	PS21H-PT02HZ-T00	PS42H-PT02HZ-T00	PS21H-PT02HS-T00	PS42H-PT02HS-T00
Dimensions (mm) WxHxD		30.3 x 79.5 x 51.2	57 x 72.5 x 52.5	30.3 x 79.5 x 51.2	30.3 x 72.5 x 52.5

* also available in metal (Y type)

** Ov. : overlapping travel paths





Head Type

Pull wire activated head
6m cable max



Pull wire activated head
16m cable max



Family: R

PS21

Thermoplastic*

PS42

Thermoplastic*

PS31

Metal

PS43

Metal

References
Contact Block

Snap 1NO+1NC	☺
Snap 2NC	☺
Slow 1NO+1NC	☺
Slow Ov.**1NO+1NC	☺
Slow 2NC	☺
Slow 2NO+1NC	☺
Slow 1NO+2NC	☺
Slow 3NC	☺
Dimensions (mm) WxHxD	

PS21R-PS11N6-T00
PS21R-PS02N6-T00
PS21R-PT11N6-T00
PS21R-PO11N6-T00
PS21R-PT02N6-T00
30.3 x 143.75 x 30

PS42R-PS11N6-T00
PS42R-PS02N6-T00
PS42R-PT11N6-T00
PS42R-PO11N6-T00
PS42R-PT02N6-T00
57 x 136.75 x 33

PS31R-PS11N7-Y00
PS31R-PS02N7-Y00
PS31R-PT11N7-Y00
PS31R-PO11N7-Y00
PS31R-PT02N7-Y00
PS31R-PT21N7-Y00
PS31R-PT12N7-Y00
PS31R-PT03N7-Y00
40 x 162.75 x 43

PS43R-PS11N7-Y00
PS43R-PS02N7-Y00
PS43R-PT11N7-Y00
PS43R-PO11N7-Y00
PS43R-PT02N7-Y00
PS43R-PT21N7-Y00
PS43R-PT12N7-Y00
PS43R-PT03N7-Y00
63 x 158.25 x 43.3

Head Type

Pull wire activated head
with pull button reset - 6m cable max



Pull wire activated head
with pull button reset - 16m cable max



Family: H

PS21

Thermoplastic*

PS42

Thermoplastic*

PS31

Metal

PS43

Metal

References
Contact Block

Snap 1NO+1NC	☺
Snap 2NC	☺
Slow 1NO+1NC	☺
Slow Ov.**1NO+1NC	☺
Slow 2NC	☺
Slow 2NO+1NC	☺
Slow 1NO+2NC	☺
Slow 3NC	☺
Dimensions (mm) HxWxD	

PS21R-PS11N7-TK0
PS21R-PS02N7-TK0
PS21R-PT11N7-TK0
PS21R-PO11N7-TK0
PS21R-PT02N7-TK0
30.3 x 143.75 x 40.2

PS42R-PS11N7-TK0
PS42R-PS02N7-TK0
PS42R-PT11N7-TK0
PS42R-PO11N7-TK0
PS42R-PT02N7-TK0
57 x 136.75 x 40.5

PS31R-PS11N7-YK0
PS31R-PS02N7-YK0
PS31R-PT11N7-YK0
PS31R-PO11N7-YK0
PS31R-PT02N7-YK0
PS31R-PT21N7-YK0
PS31R-PT12N7-YK0
PS31R-PT03N7-YK0
40 x 162.75 x 44

PS43R-PS11N7-YK0
PS43R-PS02N7-YK0
PS43R-PT11N7-YK0
PS43R-PO11N7-YK0
PS43R-PT02N7-YK0
PS43R-PT21N7-YK0
PS43R-PT12N7-YK0
PS43R-PT03N7-YK0
63 x 158.25 x 44

General Characteristics (for all types)

Air temperature near the device		Conventional enclosed thermal voltage (U _{imp}) kV	6
- during operation	-25... +70°C	Rated operational current	
- for storage	-30... +80°C	I _e /AC-15 230Vac	3.1A
Degree of protection plastic body	IP65	I _e /DC-13 24Vdc	2.8V
Degree of protection metal body	IP66	Electrical durability (according to IEC 60947-5-1 annex C)	
Rated insulation voltage plastic body (U _i)		- max. switching frequency Cycles/h	3600
according to IEC 60947-1 and EN 60947-1	500V	- load factor	0.5
according to UL 508, CSA C22-2 n°14	A 600, Q 600	Approvals	CE, UL, CSA
Rated insulation voltage metal body (U _i)			
according to IEC 60947-1 and EN 60947-1	400V (PS21, PS42), 500V (PS31, PS43)		
according to UL 508, CSA C22-2 n°14	A 300, Q 300 (PS21, PS42)		
	A 600, Q 600 (PS31, PS43)		

* also available in metal (Y type)

** Ov. : overlapping travel paths



Limit Switches - Safety Type with Pull Button Reset

Head Type

PO-Steel plunger

PR-Steel plunger with nylon roller

R3-Plastic roller lever on metal plunger

RT-Lever with nylon roller



Family:	K	PS21	PS21	PS21	PS21
		Thermoplastic*	Thermoplastic*	Thermoplastic*	Thermoplastic*
References					
Contact Block					
Snap 1NO+1NC	☞	PS21K-PS11P0-T00	PS21K-PS11PR-T00	PS21K-PS11R3-T00	PS21K-PS11RT-T00
Snap 2NC	☞	PS21K-PS02P0-T00	PS21K-PS02PR-T00	PS21K-PS02R3-T00	PS21K-PS02RT-T00
Slow 1NO+1NC	☞	PS21K-PT11P0-T00	PS21K-PT11PR-T00	PS21K-PT11R3-T00	PS21K-PT11RT-T00
Slow 2NC	☞	PS21K-PT02P0-T00	PS21K-PT02PR-T00	PS21K-PT02R3-T00	PS21K-PT02RT-T00
Dimensions (mm) WxHxD		30.3 x 88 x 36.5	30.3 x 99 x 36.5	30.3 x 107 x 36.5	39 x 106 x 45



Family:	K	PS42	PS42	PS42	PS42
		Thermoplastic*	Thermoplastic*	Thermoplastic*	Thermoplastic*
References					
Contact Block					
Snap 1NO+1NC	☞	PS42K-PS11P0-T00	PS42K-PS11PR-T00	PS42K-PS11R3-T00	PS42K-PS11RT-T00
Snap 2NC	☞	PS42K-PS02P0-T00	PS42K-PS02PR-T00	PS42K-PS02R3-T00	PS42K-PS02RT-T00
Slow 1NO+1NC	☞	PS42K-PT11P0-T00	PS42K-PT11PR-T00	PS42K-PT11R3-T00	PS42K-PT11RT-T00
Slow 2NC	☞	PS42K-PT02P0-T00	PS42K-PT02PR-T00	PS42K-PT02R3-T00	PS42K-PT02RT-T00
Dimensions (mm) WxHxD		57 x 81 x 36.5	57 x 92 x 36.5	57 x 100 x 36.5	57 x 99 x 45

Head Type

R4 Roller Lever, external side actuation

LR Roller Lever Ø22, side actuation



Family:	K	PS21	PS42
		Thermoplastic*	Thermoplastic*
References			
Contact Block			
Snap 1NO+1NC	☞	PS21K-PS11R4-T00	PS42K-PS11LR-T00
Snap 2NC	☞	PS21K-PS02R4-T00	PS42K-PS02LR-T00
Slow 1NO+1NC	☞	PS21K-PT11R4-T00	PS42K-PT11LR-T00
Slow 2NC	☞	PS21K-PT02R4-T00	PS42K-PT02LR-T00
Dimensions (mm) WxHxD		44 x 107 x 36.5	57 x 112 x 36.5

General Characteristics (for all types)

Air temperature near the device	Conventional enclosed thermal voltage (U _{MT})	kV 6
- during operation	Rated operational current	
- for storage	I _e /AC-15 230Vac	3.1A
Degree of protection	I _e /DC-13 24Vdc	2.8V
Rated insulation voltage Pastic Body (U)	Electrical durability (according to IEC 60947-5-1 annex C)	
according to IEC 60947-1 and EN 60947-1	- max. switching frequency Cycles/h	3600
according to UL 508, CSA C22-2 n°14	- load factor	0.5
Rated insulation voltage Metal body (U)	Approvals	CE, UL, CSA
according to IEC 60947-1 and EN 60947-1		
according to UL 508, CSA C22-2 n°14		

* Also available in metal (Y type) other types available
CARLO GAVAZZI Automation Components

Specification are subject to change without notice.





Series

Type PL High Lens

Type PL Round Lens

Type PL Low Lens

Type PL Teeth Lens



Dimensions Ø x H mm
Colours
Light source
Ultrahigh brightness
Approvals

Ø22 x 52*/67
R, W, B, Y, G**
LED
≥100cd/m ²
CE, c(UL)us

Ø22 x 41*/54
R, W, B, Y, G**
LED
≥100cd/m ²
CE, c(UL)us

Ø22 x 52*/67
R, W, B, Y, G**
LED
≥100cd/m ²
CE, c(UL)us

Ø22 x 52*/67
R, W, B, Y, G**
LED
≥100cd/m ²
CE, c(UL)us

Types

Voltages
6VAC/DC
12VAC/DC
24VAC/DC
48VAC/DC
110VAC/DC
220VDC
220VAC
380VAC

PL22*HL** -06
PL22*HL** -12
PL22*HL** -24
PL22*HL** -48
PL22*HL** -110
PL22*HL** -220D
PL22*HL** -220A
PL22*HL** -380A

PL22*RL** -06
PL22*RL** -12
PL22*RL** -24
PL22*RL** -48
PL22*RL** -110
PL22*RL** -220D
PL22*RL** -220A
PL22*RL** -380A

PL22*LL** -06
PL22*LL** -12
PL22*LL** -24
PL22*LL** -48
PL22*LL** -110
PL22*LL** -220D
PL22*LL** -220A
PL22*LL** -380A

PL22*TL** -06
PL22*TL** -12
PL22*TL** -24
PL22*TL** -48
PL22*TL** -110
PL22*TL** -220D
PL22*TL** -220A
PL22*TL** -380A

Series

Type PL Flash Light

Type PL Two Colours

Type PL Flashing Buzzer

Type PL Buzzer



Dimensions Ø x H mm
Colours
Light source
Sound source
Ultrahigh brightness
Approvals

Ø22 x 67
R, W, B, Y, G**
LED
-
≥100cd/m ²
CE, c(UL)us

Ø22 x 67
RG**
LED
-
≥100cd/m ²
CE, c(UL)us

Ø22 x 67
R**
LED
Interrupted
≥100cd/m ²
CE, c(UL)us

Ø22 x 67
K**
-
Interrupted
≥100cd/m ²
CE, c(UL)us

Types

Voltages
6VAC/DC
12VAC/DC
24VAC/DC
48VAC/DC
110VAC/DC
220VDC
220VAC
380VAC

PL22SFL** -06
PL22SFL** -12
PL22SFL** -24
PL22SFL** -48
PL22SFL** -110
PL22SFL** -220D
PL22SFL** -220A
PL22SFL** -380A

PL22STCRG-06
PL22STCRG-12
PL22STCRG-24
PL22STCRG-48
PL22STCRG-110
PL22STCRG-220D
PL22STCRG-220A
PL22STCRG-380A

PL22SFBZR-06
PL22SFBZR-12
PL22SFBZR-24
PL22SFBZR-48
PL22SFBZR-110
PL22SFBZR-220D
PL22SFBZR-220A
PL22SFBZR-380A









PL22SBZK-06
PL22SBZK-12
PL22SBZK-24
PL22SBZK-48
PL22SBZK-110
PL22SBZK-220D
PL22SBZK-220A
PL22SBZK-380A

* C=Compact version; S=Standard version ** R=Red, W=Clear/White, K=Black, B=Blue, Y= Yellow, G=Green











Push Buttons

Series

	Type PB Flush Round Push Buttons	Type PB Extended Push Buttons	Type PB Red Emergency Stop Push Buttons	Type PB Mushroom Push Buttons
				
		 	 	
Drilling Diameter Ømm	Ø22 / Ø30	Ø22 / Ø30	Ø22 / Ø30	Ø22 / Ø30
Dimensions H x Ømm	37 x Ø29 / 39 x Ø35	42 x Ø29 / 44 x Ø35	50 x Ø40-Ø60	50 x Ø40-Ø60
General Specification				
Spring Returned	Yes	Yes	No	Yes
Maintained	Yes	Yes	Yes (turn to release)	Yes
Available colours	R, W, K, B, Y, G*	R, W, K, B, Y, G*	R*	R, Y, G, W, K (only without lamp)*
Lamp add-on possibility	Yes	Yes	No	Yes
Approvals	CE, cULus	CE, cULus	CE, cULus	CE, cULus
Types				
Standard style	PB22SF	PB22SE	PB22SEM	PB22SM
Bezel style	PB22BF	PB22BE	PB22BEM	PB22BM
Flush style Ø30mm	PB30FF	PB30FE	PB30FEM	PB30FM

Series

	Type PB Short-handle Rotary Switches	Type PB Long-handle Rotary Switches	Type PB Key Switches	Type PB I/O Push Button
				
		 	 	
Drilling Diameter Ømm	Ø22 / Ø30	Ø22 / Ø30	Ø22 / Ø30	Ø22
Dimensions H x Ømm	51 x Ø22 / 53 x Ø30	51 x Ø22 / 53 x Ø30	72 x Ø22 / 68 x Ø30	41 x 54 x 29
General Specification				
Spring Returned	Yes	Yes	No	Yes
Two position	Yes	Yes	Yes	No
Three position	Yes	Yes	Yes	No
Available colours	R, Y, G, B, W, K (only without lamp)*	R, K, Y, G*	Neutral (metal)	RG*
Lamp add-on possibility	Yes	No	No	Yes
Approvals	CE, cULus	CE, cULus	CE, cULus	CE, cULus
Types				
Standard style	PB22SSRS	PB22SLRS	PB22SKRS	PB22SIO
Bezel style	PB22BSRS	PB22BLRS		
Flush style Ø30mm	PB30FSRS	PB30FLRS	PB30FKRS	

* R=Red, W=Clear/White, K=Black, B=Blue, Y= Yellow, G=Green





Push Buttons Accessories

Types

Metal Holder



Plastic Holder



Nut Holder



Dimensions (W x H x D) (mm)
Material
References

27 x 43 x 20
Zn + PBT
PBMBM

30 x 31 x 20
PBT
PBMBP

Ø29 x 42 x 23
PC
PBMBN

Series

Type PA2
Contact Block



Type PALAMP
Lamp Element (with LED)



Dimensions (mm) HxWxD
Contact Rating
AC1
AC15
DC13
Approvals

32x29x24
10A - 250Vac
6A - 220Vac
6A - 24Vdc
CE, c(UL)us

35x29x32
CE, c(UL)us

Types

Voltages
6VAC/DC
12VAC/DC
24VAC/DC
48VAC/DC
110VAC/DC
220VAC
220VDC
380VAC
Contact Configuration
Snap 2NO
Snap 2NC
Snap 1NC
Snap 1NO
Snap 1NO+1NO
Slow 2NO
Slow 2NC
Slow 1NC
Slow 1NO
Slow 1NO+1NO

PA2200/1
PA2020/1
PA2010/1
PA2100/1
PA2110/1
PA2200/2
PA2020/2
PA2010/2
PA2100/2
PA2110/2

PALAMP06
PALAMP12
PALAMP24
PALAMP48
PALAMP110
PALAMP220A
PALAMP220D
PALAMP380A



Industrial Relays

Industrial Relays

Types

RCP 8 (2 Poles)

RCP 11 (3 Poles)



Dimensions (mm) H x W x D
No. of Contacts
Contact rating
Features standard with:

56 x 35.5 x 35.5
2 Change-over (octal)
10 A
Test button/Flag/LED

56 x 35.5 x 35.5
3 change-over (undecal)
10 A
Test button/Flag/LED

Output Specifications

Max. load AC1
Min. load
Electrical life
Switching power

12 A / 250 VAC
100 mA / 12 VDC
> 100.000 cycles
2500 VA (resistive)

12 A / 250 VAC
100 mA / 125 VDC
> 100.000 cycles
2500 VA (resistive)

General Specifications

Voltage ranges VDC
Voltage ranges VAC
Insulation according to
Consumption
Approvals/Conformity

6 - 12 - 24 - 48 - 60
100 - 110
6 - 12 - 24 - 48
115/120 - 230
EN 61810-5
1.5 W DC-2.5 VA AC
UL-CSA-TUV-IMQ

6 - 12 - 24 - 48 - 60
100 - 110
6 - 12 - 24 - 48
115/120 - 230
EN 61810-5
1.5 W DC-2.5 VA AC
UL-CSA-TUV-IMQ

References

5 VDC
6 VDC
6 VAC
12 VAC
12 VDC
24 VAC
24 VDC
48 VAC
48 VDC
60 VDC
100 VDC
110 VDC
115/120 VAC
230 VAC

RCP80026DC
RCP80026AC
RCP800212AC
RCP800212DC
RCP800224AC
RCP800224DC
RCP800248AC
RCP800248DC
RCP800260DC
RCP8002100DC
RCP8002110DC
RCP8002115/120AC
RCP8002230DC

RCP110036DC
RCP110036AC
RCP1100312AC
RCP1100312DC
RCP1100324AC
RCP1100324DC
RCP1100348AC
RCP1100348DC
RCP1100360DC
RCP11003100DC
RCP11003110DC
RCP11003115/120AC
RCP11003230DC

Types

ZPD 8 / ZPD 11

ZPD 8A / ZPD 11A



General Specifications

Dimensions (mm) H x W x D
Rated volt. / Rated curr.
Insulation voltage
Socket material
Mounting
Protection degree
Approvals

65 X 27 X 38
10 A @ 400 VAC
> 3 kV
Self-ext. PA6 + GF (V1)
DIN-rail
IP 20
CE, UL, CSA (10A 300VCA)

65 X 27 X 38
10 A @ 400 VAC
> 3 kV
Self-ext. PA66 + GF (V1)
DIN-rail
IP 20
CE, UL

References

For RCP 8 / RCP 11 Relay
For RMI2-10 / RMI4-5 Relay

ZPD 8 / ZPD 11

ZPD 8A / ZPD 11A



Switch



Midi Industrial Relays

Types

RMI 2-10 (2 Poles)

RMI 4-5 (4 Poles)



Dimensions (mm) H x W x D
No. of Contacts
Contact rating
Features standard with:

36 x 21.5 x 28
2 Change-over
10 A
Test button/Flag/LED

36 x 21.5 x 28
4 Change-over
5 A
Test button/Flag/LED

Output Specifications

Max. load AC1
Min. load
Electrical life
Switching power

12 A / 250 VAC
100 mA / 5 VDC
> 100.000 cycles
2500 VA (resistive)

6 A / 250 VAC
100 mA / 5 VDC
> 100.000 cycles
1250 VA (resistive)

General Specifications

Voltage ranges VDC

5 - 6 - 9 - 12 - 24 - 36 - 48
- 60 - 100 - 110 - 220 - 240

5 - 6 - 9 - 12 - 24 - 36 - 48
- 60 - 100 - 110 - 220 - 240

Voltage ranges VAC

6 - 12 - 24 - 36 - 48
115/120 - 220 - 240 - 380

6 - 12 - 24 - 36 - 48
115/120 - 220 - 240 - 380

Insulation according to

EN 61810-5

EN 61810-5

Consumption

1 W DC-1.5 VA AC

1 W DC-1.5 VA AC

Approvals/Conformity

UL-CSA-TUV-IMQ

UL-CSA-TUV-IMQ

References

5 VDC
6 VAC
6 VDC
12 VAC
12 VDC
24 VAC
24 VDC
48 VAC
48 VDC
60 VDC
100 VDC
110 VDC
115/120 VAC
230 VAC

RMIA/B2-105DC
RMIA/B2-106AC
RMIA/B2-106DC
RMIA/B2-1012AC
RMIA/B2-1012DC
RMIA/B2-1024AC
RMIA/B2-1024DC
RMIA/B2-1048AC
RMIA/B2-1048DC
RMIA/B2-1060DC
RMIA/B2-10100DC
RMIA/B2-10110DC
RMIA/B2-10115AC
RMIA/B2-10230AC

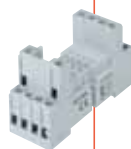
RMIA/B4-55DC
RMIA/B4-56AC
RMIA/B4-56DC
RMIA/B4-512AC
RMIA/B4-512DC
RMIA/B4-524AC
RMIA/B4-524DC
RMIA/B4-548AC
RMIA/B4-548DC
RMIA/B4-560DC
RMIA/B4-5100DC
RMIA/B4-5110DC
RMIA/B4-5115AC
RMIA/B4-5230AC

Types

ZMI 2N / ZMI 4N

ZMI 2NA/ZMI 4NA

ZMI 2 / 3 / 4SA



General Specifications

Dimensions (mm) H x W x D
Rated volt. / Rated curr.
Insulation voltage
Socket material
Mounting
Protection degree
Approvals

42.5 x 75 x 27
10/12 A @ 300 VAC
> 4 kV
Self-ext. PA6 + GF (V2)
DIN-rail
IP 20
CE,UL,CSA

42.5 x 75 x 27
10 A @ 300 VAC
> 4 kV
Self-ext. PA66 + GF (V2)
DIN-rail
IP 20
CE,UL,IMQ,RINA

42.5 x 75 x 27
10/12 A @ 300 VAC
> 4 kV
Self-ext. PA6 + GF (V2)
DIN-rail
IP 20
CE,UL,CSA

References

For RMI2-10 / RMI4-5 Relay

ZMI 2N / ZMI 4N

ZMI 2NA / ZMI 4NA

ZMI 2 / 3 / 4SA



Midi Industrial Relays

Types

RPY 1



RPY 2



RPY 3



RPY 4



Dimensions
(mm) H x W x D
Terminal types
No. of Contacts
Contact rating

36 x 21.5 x 28
Faston or PCB
1 Change-over
16 A

36 x 21.5 x 28
Faston or PCB
2 Change-over
10 A

36 x 31.5 x 28
Faston or PCB
3 Change-over
10 A

36 x 41.5 x 28
Faston or PCB
4 Change-over
10 A

Output Specifications

Max. load AC1
Electrical life
Switching power

16 A
 1×10^5
1HP at 240 VAC
1/2HP at 120 VAC

10 A
 1×10^5
3/4HP at 240VAC
1/3HP at 120VAC

10 A
 1×10^5
3/4HP at 240VAC
1/3HP at 120VAC

10 A
 1×10^5
3/4HP at 240VAC
1/3HP at 120VAC

General Specifications

Voltage ranges VDC

6 - 9 - 12 - 24 - 36 - 48
100 - 110 - 220 - 240

6 - 9 - 12 - 24 - 36 - 48
100 - 110 - 220 - 240

6 - 9 - 12 - 24 - 36 - 48
100 - 110 - 220

6 - 9 - 12 - 24 - 36 - 48
100 - 110 - 220

Voltage ranges VAC

6 - 12 - 24 - 36 - 48 - 110
120 - 120 - 220 - 240 - 380

6 - 12 - 24 - 36 - 48 - 110
120 - 120 - 220 - 240 - 380

6 - 12 - 24 - 36 - 48 - 110
120 - 120 - 220 - 240 - 380

6 - 12 - 24 - 36 - 48 - 110
120 - 120 - 220 - 240 - 380

Insulation Coil/Contact

2000/1200VAC

2000/1200VAC

2000/1200VAC

2000/1200VAC

Consumption

DC=0.9 W - AC=1.2 VA

DC=0.9 W - AC=1.2 VA

DC=1.4 W - AC=2 VA

DC=1.5 W - AC=2.5 VA

Approvals/Conformity

UL-CSA-TÜV

UL-CSA-TÜV

UL-CSA-TÜV

UL-CSA-TÜV

References

Consult your Carlo Gavazzi
Partner or Distributor

Several options available:
Led, diode, etc...

Several options available:
Led, diode, etc...

Several options available:
Led, diode, etc...

Several options available:
Led, diode, etc...

Types

ZPY08A



ZPY11A



ZPY14A



General Specifications

Dimensions
(mm) H x W x D
Rated volt. / Rated curr.
Insulation voltage
Socket material
Mounting
Protection degree
Approvals

27.8 x 30 x 69.8
10A @ 300VAC
> 4kW
PA6 - V2
DIN Rail
IP00
UL - cUL - CSA

27.8 x 40 x 69.8
10A @ 300VAC
> 4kW
PA6 - V2
DIN Rail
IP00
UL - cUL - CSA

27.8 x 50.5 x 69.8
10A @ 300VAC
> 4kW
PA6 - V2
DIN Rail
IP00
UL - cUL - CSA

References

For detailed informations
consult your Carlo Gavazzi
Partner or Distributor

For Relays:
RPYA 001 and
RPYA 002

For Relays:
RPYA 003

For Relays:
RPYA 004



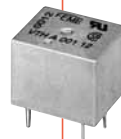


Types

CGQ (1 Pole)



VTH



CF (2 Poles)



CS (2 Poles)



Dimensions
(mm) H x W x D

20.1 x 32.2 x 27

14.8 x 19.2 x 15.4

26.42 x 68.58 x 34.54

26.42 x 52.32 x 34.54

Terminal types

PCB

PCB

Faston

PCB

No. of Contacts

1 Normally open
1 Change-over

1 Change-over

2 Normally open
2 Change-over

2 Normally open
2 Change-over

Contact rating

30 A

10 A

30 A

30 A

Output Specifications

Max. load AC1

30 A (1NO) - 20 A (1CO)

100 mA / 12 VDC

30 A (2NO) - 20A (2CO)

30 A (2NO) - 20 A (2CO)

Electrical life

1 x 10⁵

1 x 10⁵

1 x 10⁵

1 x 10⁵

Switching power

2 HP at 250 VAC

1750 VA (AgCdO cont.)
2500 VA (AgSnO₂ cont.)

8310 VA / 840 W

8310 VA / 840 W

General Specifications

Voltage ranges VDC

5 - 6 - 9 - 12 - 15
18 - 24 - 48 - 70 - 110

5 - 6 - 9 - 12 - 18 -
24 - 48

6 - 12 - 24 - 48

6 - 12 - 24 - 48

Voltage ranges VAC

12 - 24 - 120 - 208
240 - 277

24 - 120 - 208 - 240
277

24 - 120 - 208 - 240
277

Insulation Coil/Contact

2500/4000 VAC

1500 VAC

4000 VAC

4000 VAC

Consumption

DC=0.9 W - AC=2 VA

360 mW

DC=1.7 W - AC=4 VA

DC=1.7 W - AC=4 VA

Approvals/Conformity

UL-cUL

UL - cUL - VDE

UL-cUL

UL-cUL

References

Consult your Carlo Gavazzi
Partner or Distributor

Types

NA (1/2 Poles)



NB (1/2 Poles)



NF (1/2 Poles)



NP (1/2 Poles)



Dimensions
(mm) H x W x D

36 x 50.5 x 33.5

55 x 50.5 54.5

36 x 50.5 x 54.5

36 x 50.5 x 33.5

Terminal types

Faston

Bolt

Faston

PCB

No. of Contacts

1 Normally open
2 Normally open

1 Normally open
2 Normally open

1 Normally open
2 Normally open

1 Normally open
2 Normally open

Contact rating

30 A

30 A

30 A

30 A

Output Specifications

Max. load AC1

30 A (1NO) - 25 A (2NO)

30 A (1NO) - 25 A (2NO)

30 A (1NO) - 25 A (2NO)

30 A (1NO) - 25 A (2NO)

Electrical life

1 x 10⁵

1 x 10⁵

1 x 10⁵

1 x 10⁵

Switching power

7500 VA / 840 W

7500 VA / 840 W

7500 VA / 840 W

7500 VA / 840 W

General Specifications

Voltage ranges VDC

3 - 6 - 12 - 24 - 48
100 - 110 - 200

3 - 6 - 12 - 24 - 48
100 - 110 - 200

3 - 6 - 12 - 24 - 48
100 - 110 - 200

3 - 6 - 12 - 24 - 48
100 - 110 - 200

Voltage ranges VAC

6 - 12 - 24 - 48
120 - 220

6 - 12 - 24 - 48
120 - 220

6 - 12 - 24 - 48
120 - 220

6 - 12 - 24 - 48
120 - 220

Insulation Coil/Contact

4000 VAC

4000 VAC

4000 VAC

4000 VAC

Consumption

DC=1.9 W - AC=2.7 VA

DC=1.9 W - AC=2.7 VA

DC=1.9 W - AC=2.7 VA

DC=1.9 W - AC=2.7 VA

Approvals/Conformity

UL-cUL

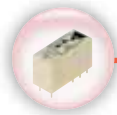
UL-cUL

UL-cUL

UL-cUL




References

Consult your Carlo Gavazzi
Partner or Distributor



Miniature Relays




Types

	MZ (1 or 2 Poles)	LCA (1 or 2 Poles)	VM
			
Dimensions (mm) H x W x D	25.2/26.5 x 29.4 x 12.5	29 x 20 x 12.7	20.5 x 20.5 x 10.5
Terminal types	PCB	PCB	PCB
No. of Contacts	1/2 Normally open 1/2 Normally open 1 Change-over	1/2 Normally open 1/2 Change-over	1 Change-over
Contact rating	5 A - 10 A - 16 A	5 A - 10 A - 16 A	5 A
Output Specifications			
Max. load AC1	6 A - 12 A - 20 A	6 A - 20 A	
Min. load	100 mA at 24 mVDC	100 mA at 5 V	100 mA / 5 VDC
Electrical life	3.5 x 10 ⁵ (5/10A) 1.5 x 10 ⁵ (16A)	1 x 10 ⁵	1 x 10 ⁵
Switching power	1250/2500/4000 VA	4000/5000 VA	150 W / 1250 VA (φ1) 625 W / 75 VA (φ0.4)
General Specifications			
Voltage ranges VDC	3 - 5 - 6 - 9 - 12 - 24 - 36 48 - 60 - 80 - 100 - 110	3 - 5 - 6 - 9 - 12 - 24 - 48 60 - 110	5 - 6 - 9 - 12 - 18 - 24 - 48
Voltage ranges VAC	6 - 12 - 24 - 48 - 60 - 110 - 230		
Insulation Coil/Contact	4000 VAC	5000 VAC	2000 VAC
Consumption	See PCB General Cat.	See PCB General Cat.	360 mW
Approvals/Conformity	UL, CSA, VDE, IMQ	UL, CSA, TÜV, IMQ, VDE (pending)	UL, cUL

References

Consult your Carlo Gavazzi Partner or Distributor

Types

	SVR	M15 - M15 R1/R2 (1 Pole)	M25 (1 or 2 Poles)
			
Dimensions (mm) H x W x D	15.5 x 28 x 10	15 x 29 x 10	15.7 x 29 x 12.7
Terminal types	PCB	PCB	PCB
No. of Contacts	1 Normally open 1 Change-over	1 Normally open 1 Change-over	1 Change-over (1 pole) 2 Change-over (2 poles)
Contact rating	4 A at 440 VAC - 8 A at 250VAC	8 A	12 A - 16 A (1 pole) 8 A (2 poles)
Output Specifications			
Max. load AC1	8A	10 A	9 A - 13 A - 18 A
Min. load		100 mA at 24 mVDC	100 mA at 24 mVDC
Electrical life	2 x 10 ⁵ cycles	100.000 cycles	1x10 ⁵ cycles
Switching power	2000 VA at 8A, 250V AC1	2000 VA	4000/3000/2000 VA
General Specifications			
Voltage ranges VDC	5 - 6 - 12 - 24 - 48	3-5-6-8-12-18-24-48-110 (M15) 3-5-6-8-12-18-24-48 (M15R)	5 - 6 - 12 - 24 - 48 - 60 - 110
Voltage ranges VAC			
Insulation Coil/Contact	5000 VAC	4000 VAC	5000 VAC
Consumption	400 mW	220 mW	400 mW
Approvals/Conformity	UL - VDE	UL - CSA - VDE - IMQ	cUL - VDE

References

Consult your Carlo Gavazzi Partner or Distributor





Types

EZH



ESH



EMH



Dimensions
(mm) H x W x D
Terminal types
No. of Contacts
Contact rating

10 x 12.5 x 7.5
PCB
1 Change-over
1 A

12 x 15.7 x 11
PCB
1 Change-over
2 A

15 x 21.5 x 16.5
PCB
1 Change-over
6 A

Output Specifications

Max. load AC1
Min. load
Electrical life
Switching power

1 mA / 10 mVDC
 1×10^5
30 W / 62.5 VA

1 mA / 80 mVDC
 1×10^5
30 W / 60 VA

10 mA / 5 mVDC
 1×10^5
144 W / 720 VA

General Specifications

Voltage ranges VDC
Insulation Coil/Contact
Consumption
Approvals/Conformity

1.5 - 3 - 5 - 6 - 9
12 - 24
1000 VAC
150 mW
UL - cUL

3 - 5 - 6 - 9 - 12 - 24
500 V
200 mW
UL - cUL

3 - 5 - 6 - 9 - 12 - 18
24 - 48
2000 VAC
450 mW
UL - cUL

References

Consult your Carlo Gavazzi
Partner or Distributor

Types

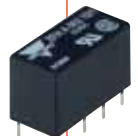
JF



TFL2



ZFH A



Dimensions
(mm) H x W x D
Terminal types
No. of Contacts
Contact rating

15.3 x 20.5 x 10.6
PCB
1 Normally open
1 Change-over
5 A

10.6 x 20.2 x 10
PCB
2 Change-over
2 A

12 x 20.2 x 9.9
PCB
2 Change-over
1.25 A

Output Specifications

Max. load AC1
Min. load
Electrical life
Switching power

10 mA / 5 VDC / 5 VAC
 1×10^5
150 W / 1250 VA

100 μ A / 10 mVDC
 5×10^5
60 W / 125 VA

10 μ A / 10 mVDC
 1×10^6
30 W / 50 VA

General Specifications

Voltage ranges VDC
Insulation Coil/Contact
Consumption
Approvals/Conformity

3 - 5 - 6 - 9 - 12 - 24
12 - 24
4000 VAC
200 mW
UL - cUL

5 - 6 - 9 - 12 - 15
24
1500 VAC
150 mW
UL - cUL

4.5 - 5 - 6 - 9 - 12 - 18 - 24
48
1000 VAC
150 mW
UL - cUL

References

Consult your Carlo Gavazzi
Partner or Distributor



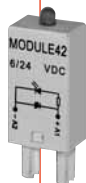
Sockets and Modules

Types

	ZD 35/2A	ZD 50/2A	ZD 35/3A	ZD 50/3A
General Specifications				
Rated volt. / Rated curr.	12A @ 300VAC	10A @ 300VAC	12A @ 300VAC	10A @ 300VAC
Insulation voltage	> 5kV	> 5kV	> 5kV	> 5 kV
Socket material	Self-ext. PA 6 + GF (V1)	Self-ext. PA 6 + GF (V1)	Self-ext. PA 6 + GF (V1)	Self-ext. PA 6 + GF (V1)
Mounting	DIN-rail	DIN-rail	DIN-rail	DIN-rail
Protection degree	IP 20	IP 20	IP 20	IP 20
Approvals	UL, CSA (12 A 300 VCA)	UL, CSA (12 A 300 VCA)	UL, CSA (12 A 300 VCA)	UL, CSA (12 A 300 VCA)
References				
For detailed informations consult your Carlo Gavazzi Partner or Distributor	For relay: MZ 1P 5/10 A M15 M 8A M25 1P 12 A LC 10A	For relay: MZ B 1P 5/10 A MZ 2P 5/10 A MZ 1P 16 A M15 M 8 A M25 1P 16 A M25 2P 8 A LC 5/16A	For relay: MZ 1P 5/10 A M15 M 8A M25 1P 12 A LC 10A	For relay: MZ B 1P 5/10 A MZ 2P 5/10 A MZ 1P 16 A M15 B 8 A M25 1P 16 A M25 2P 8 A LC 5/16 A
	Hold down spring to be ordered separately: • SZD15 for M15/M25 relays • SZD20 for LC relays • SZD25 for MZ relays	Hold down spring to be ordered separately: • SZD15 for M15/M25 relays • SZD20 for LC relays • SZD25 for MZ relays	Hold down spring to be ordered separately: • SZD15 for M15/M25 relays • SZD20 for LC relays • SZD25 for MZ relays	Hold down spring to be ordered separately: • SZD15 for M15/M25 relays • SZD20 for LC relays • SZD25 for MZ relays

Types

Additional Modules for ZMI and ZD sockets



Dimensions (mm) H x W x D	23 x 12.5 x 8.5
Terminal material	CuSn

General Specifications

Protection Degree	IP40
Operating temperature	-40°C to + 70°C
Ambient humidity	85RH non condensing
Approvals/Conformity	No approvals

References

Consult your Carlo Gavazzi Partner or Distributor

MODULE 12 6/230 V DC -A1 +A2	MODULE 22 6/230 V DC +A1 -A2	MODULE 32 6/24 V DC -A1 +A2	MODULE 32B 24/60 V DC -A1 +A2
MODULE 32C 110/230 V DC -A1 +A2	MODULE 42 6/24 V DC +A1 -A2	MODULE 42B 24/60 V DC +A1 -A2	MODULE 42C 110/230 V DC +A1 -A2
MODULE 52B 6/24 V AC A1 A2	MODULE 52D 24/60 V AC A1 A2	MODULE 52C 110/240 V AC A1 A2	MODULE 62 6/24 V AC ±A1 -A2
MODULE 62E 24/60 V AC/DC ±A1 ±A2	MODULE 92 110/230 V AC/DC ±A1 ±A2	MODULE 62C 6/24 V AC/DC ±A1 ±A2	MODULE 62D 24/60 V AC/DC ±A1 ±A2
MODULE 92C 110/230 V AC/DC ±A1 ±A2	MODULE 72 24 V AC A1 A2	MODULE 72A 115 V AC A1 A2	MODULE 82 230 V AC A1 A2
MODULE 102 110/230 V AC A1 A2			



Control



Control



Monitoring Relays

Types

Current relays

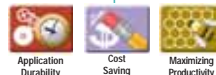
**DIA 01
PIA 01**



DIA 53



**DIB 01
PIB 01**



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Over current monitoring relay.
1-phase AC/DC.
Direct input or on CT 5A.
Setpoint adjustable.
Hysteresis adjustable.

81 x 17.5 x 67.2 [Mini-D]
Over current monitoring relay.
1-phase AC.
Setpoint adjustable.
2-wire connection.
Reaction time <50 ms for F versions.
12 mm hole for insulated current carrying wire.

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Over or under current monitoring relay.
1-phase AC/DC TRMS.
Direct input or on CT 10A.
Setpoint adjustable.
Hysteresis adjustable.
Delay time adjustable.
12 mm hole for insulated current carrying wire [100A].

Input Specifications

Measuring range

0.5-5 A AC/DC

2-20 AAC [20A]
5-50 AAC [50A]
10-100 AAC [100A]

0.1-5 mA AC/DC [5MA]
1-50 mA AC/DC [50MA]
10-500 mA AC/DC [500MA]
0.1-5 A AC/DC [5A]
1-10 A AC/DC [10A]
2-100 A AC [100A]

Output Specifications

Max. load AC1

Max. load DC12

Electrical life

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

Static output

100 mA

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

General Specifications

Power supply

24-48 V AC/DC [D48]
115/230 VAC [B23]

40 VDC max.
Powered by the measured current

CE - UL - CSA

24-48 V AC/DC [D48]
115/230 VAC [B23]
24 VDC / 24-240 VAC [M24]

CE - UL - CSA

Approvals/Marks

CE - UL - CSA

References

References:

... = insert code for Power Supply.

DIA01C D48 5A
PIA01C D48 5A
DIA01C B23 5A
PIA01C B23 5A

DIA53S 724 20A
DIA53S 724 50A
DIA53S 724 100A
DIA53S 724 20A F
DIA53S 724 50A F
DIA53S 724 100A F

DIB01C ... 5MA
DIB01C ... 50MA
DIB01C ... 500MA
DIB01C ... 5A
DIB01C ... 10A
DIB01C M24 100A
PIB01C ... 5MA
PIB01C ... 50MA
PIB01C ... 500MA
PIB01C ... 5A
PIB01C ... 10A





Types

Current relays

DIB 71

**DIB 02
PIB 02**

**DIC 01
PIC 01**



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function

81 x 35.5 x 67.2 [Mini-D]
Over or under current monitoring relay.
1-phase AC/DC TRMS.
Direct input or on CT 5A.
Setpoint adjustable.
Hysteresis adjustable.
Delay time adjustable.

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Over or under current monitoring relay.
1-phase AC/DC TRMS.
Input on shunt or CT MI/MP.
Setpoint adjustable.
Hysteresis adjustable.
Delay time adjustable.

80 x 45 x 99.5 [D]
80 x 36 x 94 [P]
Process signal monitoring relay.
1-phase AC/DC TRMS.
Direct input, CT A82 or CT MI/MP.
2 setpoints separately adjustable.
Hysteresis adjustable.
2 delay functions separately adjustable.

Input Specifications
Measuring range

0.1-5 mA AC/DC [5MA]
1-50 mA AC/DC [50MA]
10-500 mA AC/DC [500 MA]
0.1-5 A AC/DC [5A]

6-150 mV AC/DC
0.4 - 4Vp

0.5-20 mA AC/DC
0.1-10 V AC/DC
0.4 - 4Vp

Output Specifications

1 x SPDT relay
5 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay [P]
2 x SPDT relays [D]
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

General Specifications
Power supply
Approvals/Marks

24/48 VAC [B48]
115/230 VAC [B23]
CE - UL - CSA

24-48 V AC/DC [D48]
115/230 VAC [B23]
CE - UL - CSA

24-48 V AC/DC [D48]
115/230 VAC [B23]
CE - UL - CSA

References

- DIB71C B48 5MA
- DIB71C B48 50MA
- DIB71C B48 500MA
- DIB71C B48 5A
- DIB71C B23 5MA
- DIB71C B23 50MA
- DIB71C B23 500MA
- DIB71C B23 5A














- DIB02C D48 150MV
- PIB02C D48 150MV
- DIB02C B23 150MV
- PIB02C B23 150MV

- DIC01D D48 AV0
- PIC01C D48 AV0
- DIC01D B23 AV0
- PIC01C B23 AV0



Monitoring Relays

Types

	Voltage relays		
	DUA 01 PUA 01	DUA 52	DUA 55
			
	  	  	   
Dimensions (mm) H x W x D	80 x 22.5 x 99.5 [D] 80 x 36 x 94 [P]	81 x 17.5 x 67.2 [Mini-D]	81 x 17.5 x 67.2 [Mini-D]
DIN RAIL housing			
Plug-in housing			
Function	Over current and voltage monitoring relay. 1-phase AC/DC. Setpoint adjustable. Hysteresis adjustable.	Under voltage monitoring relay for DC battery. Setpoint adjustable. Hysteresis adjustable. Measures its own power supply.	Over and under voltage monitoring relay. 1-phase (measures its own power supply) AC TRMS.
Input Specifications			
Measuring range	2-500 V AC/DC 0.4 -4 Vp	8-28 VDC [724] 38-58 VDC [748]	208/220/230/240 VAC
Output Specifications			
1 x SPDT relay	1 x SPDT relay	1 x SPDT relay	1 x SPDT relay
Max. load AC1	8 A / 250 VAC	5 A / 250 VAC	5 A / 250 VAC
Max. load DC12	5 A / 24 VDC	5 A / 24 VDC	5 A / 24 VDC
Electrical life	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations
General Specifications			
Power supply	24-48 V AC/DC [D48] 115/230 VAC [B23]	8-28 VDC [724] 38-58 VDC [748]	208-480 VAC
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
References	DUA01C D48 500V PUA01C D48 500V DUA01C B23 500V PUA01C B23 500V	DUA52 C724 DUA52 C748	DUA55 CM44





Voltage relays

Types

DUB 01 PUB 01



DUB 71



DUB 02 PUB 02



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Over or under voltage monitoring relay.
1-phase AC/DC TRMS.
Setpoint adjustable.
Hysteresis adjustable.
Delay time adjustable.

81 x 35.5 x 67.2 [Mini-D]
Over or under voltage monitoring relay.
1-phase AC/DC TRMS.
Setpoint adjustable.
Hysteresis adjustable.
Delay time adjustable.

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Over and under voltage monitoring relay.
1-phase (measures its own power supply) AC TRMS.
Over and under voltage setpoints separately adjustable.
Hysteresis adjustable.
Delay time adjustable (ON/OFF).

Input Specifications

Measuring range

0.1-10 V AC/DC [10V]
2-500 V AC/DC [500V]

0.1-10 V AC/DC [10V]
2-500 V AC/DC [500V]

24/115/230 VAC

Output Specifications

Max. load AC1

Max. load DC12

Electrical life

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay
5 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

General Specifications

Power supply

Approvals/Marks

24-48 V AC/DC [D48]
115/230 VAC [B23]
CE - UL - CSA

24/48 VAC [B48]
115/230 VAC [B23]
CE - UL - CSA

24/115/230 VAC
CE - UL - CSA

References

DUB01C D48 10V
DUB01C D48 500V
PUB01C D48 10V
PUB01C D48 500V
DUB01C B23 10V
DUB01C B23 500V
PUB01C B23 10V
PUB01C B23 500V

DUB71C B48 10V
DUB71C B48 500V
DUB71C B23 10V
DUB71C B23 500V

DUB02C T23
PUB02C T23



Monitoring Relays

Types

	Voltage relays		3-phase voltage relays
	DUB 03 PUB 03	DUC 01 PUC 01	DPA 01 PPA 01
Dimensions (mm) H x W x D	80 x 22.5 x 99.5 [D] 80 x 36 x 94 [P]	80 x 45 x 99.5 [D] 80 x 36 x 94 [P]	80 x 22.5 x 99.5 [D] 80 x 36 x 94 [P]
DIN RAIL housing			
Plug-in housing			
Function	Over or under voltage monitoring relay. 1-phase (measures its own power supply) AC/DC TRMS. Setpoint adjustable. Hysteresis adjustable. Delay time adjustable.	Over and under voltage monitoring relay. 1-phase AC/DC TRMS. 2 setpoints separately adjustable. Hysteresis adjustable. 2 delay functions separately adjustable.	Phase sequence, total and partial phase loss monitoring relay. 3-phase AC (measures its own power supply). Regenerated voltage.
Input Specifications			
Measuring range	24/48/115/240 V AC/DC	2-500 V AC/DC [500V]	208-240 VAC [M23] 208-415 VAC [P] [M44] 208-480 VAC [D] [M44] 380-415 VAC [P] [M48] 380-480 VAC [D] [M48] 380-600 VAC [M60] 380-690 VAC [M69]
Output Specifications			
	1 x SPDT relay	1 x SPDT relay [P] 2 x SPDT relays [D]	1 x SPDT relay [C] 1 x DPDT relay [D]
Max. load AC1	8 A / 250 VAC	8 A / 250 VAC	8 A / 250 VAC
Max. load DC12	5 A / 24 VDC	5 A / 24 VDC	5 A / 24 VDC
Electrical life	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations
General Specifications			
Power supply	12-240 V AC/DC	24-48 V AC/DC [D48] 115/230 VAC [B23]	208-240 VAC [M23] 208-415 VAC [P] [M44] 208-480 VAC [D] [M44] 380-415 VAC [P] [M48] 380-480 VAC [D] [M48] 380-600 VAC [M60] 380-690 VAC [M69]
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
References	DUB03C W24 PUB03C W24	DUC01D D48 500V PUC01C D48 500V DUC01D B23 500V PUC01C B23 500V	DPA01D M23 PPA01D M23 DPA01C M44 PPA01C M44 DPA01D M48 PPA01D M48 DPA01C M60 DPA01C M69

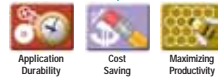




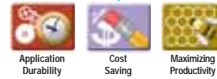
3-phase voltage relays

Types

**DPA 51
DPA 71**



**DPA 03
PPA 03**



DPA 53



Dimensions (mm) H x W x D
DIN RAIL housing

81 x 17.5 x 67.2 [Mini-D]
81 x 35.5 x 67.2 [Mini-D]

Plug-in housing
Function

Phase sequence, total and partial phase loss monitoring relay.
3-phase AC (measures its own power supply).
Regenerated voltage.

80 x 22.5 x 99.5 [D]

80 x 36 x 94 [P]
Under voltage, phase sequence, total and partial phase loss monitoring relay.
3-phase (measures its own power supply) AC TRMS.

81 x 17.5 x 67.2 [Mini-D]

Under voltage, phase sequence, total and partial phase loss monitoring relay.
3-phase (measures its own power supply) AC TRMS.

Input Specifications

Measuring range

208-240 VAC [M23]
208-480 VAC [M44]
380-480 VAC [M48]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]
600-690 VAC [M69]

208-240 VAC [M23]
380-480 VAC [M48]

Output Specifications

Max. load AC1

Max. load DC12

Electrical life

1 x SPDT relay [C]
1 x DPDT relay [D]

5 A / 250 VAC

5 A / 24 VDC

>1 x 10⁵ operations

1 x SPDT relay

8 A / 250 VAC

5 A / 24 VDC

>1 x 10⁵ operations

1 x SPDT relay

5 A / 250 VAC

5 A / 24 VDC

>1 x 10⁵ operations

General Specifications

Power supply

208-240 VAC [M23]
208-480 VAC [M44]
380-480 VAC [M48]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]
600-690 VAC [M69]

208-240 VAC [M23]
380-480 VAC [M48]

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

References

DPA51C M44
DPA71D M23
DPA71D M48














DPA03C M23
PPA03C M23
DPA03C M48
PPA03C M48
DPA03C M69

DPA53C M23
DPA53C M48



Monitoring Relays

Types

	3-phase voltage relays		
	DPA 55	DPB 01 PPB 01	DPB 51
			
	   	 	   
Dimensions (mm) H x W x D	81 x 17.5 x 67.2 [Mini-D]	80 x 22.5 x 99.5 [D] 80 x 36 x 94 [P]	90 x 17.5 x 67.2 [Mini-D]
DIN RAIL housing			
Plug-in housing			
Function	Over and under voltage, phase sequence, total and partial phase loss monitoring relay. 3-phase (measures its own power supply) AC TRMS. Two tolerance voltage windows.	Over and under voltage monitoring relay with phase loss and phase sequence. 3-phase +N (measures its own power supply) AC TRMS. N versions without phase sequence detection. W4 versions supplied between L and N. 2 setpoints separately adjustable. Delay time adjustable.	Over and under voltage monitoring relay with phase loss and phase sequence. 3-phase +N (measures its own power supply) AC TRMS. 2 setpoints separately adjustable. Delay time adjustable.
Input Specifications			
Measuring range	208-480 VAC	208-240 VAC [M23] 380-415 VAC [P] [M48] 380-480 VAC [D] [M48]	208-480 VAC
Output Specifications			
1 x SPDT relay	1 x SPDT relay	1 x SPDT relay	1 x SPDT relay
Max. load AC1	5 A / 250 VAC	8 A / 250 VAC	5 A / 250 VAC
Max. load DC12	5 A / 24 VDC	5 A / 24 VDC	5 A / 24 VDC
Electrical life	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations
General Specifications			
Power supply	208-480 VAC	208-240 VAC [M23] 380-415 VAC [P] [M48] 380-480 VAC [D] [M48] [W]	208-480 VAC
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
References	DPA55C M44	DPB01C M23 PPB01C M23 DPB01C M23 N PPB01C M23 N DPB01C M48 PPB01C M48 DPB01C M48 W4 PPB01C M48 W4 DPB01C M48 N PPB01C M48 N DPB01C M48 N W4 PPB01C M48 N W4	DPB51C M44





3-phase voltage relays

Types

DPB 71

DPB 02
PPB 02

DPC 01
PPC 01



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function

81 x 35.5 x 67.2 [Mini-D]

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]

80 x 45 x 99.5 [D]
80 x 36 x 94 [P]

Over and under voltage monitoring relay with phase loss and phase sequence. 3-phase +N (measures its own power supply) AC TRMS. 2 setpoints separately adjustable. Delay time adjustable.

Asymmetry monitoring relay with phase sequence/phase loss. 3-phase +N (measures its own power supply) AC TRMS. Adjustable asymmetry. Delay time adjustable.

Over and under voltage monitoring relay with phase loss/phase sequence, asymmetry and tolerance. 3-phase +N (measures its own power supply) AC TRMS. Setpoint separately adjustable by function.

Input Specifications
Measuring range

208-240 VAC [M23]
380-480 VAC [M48]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]
600-690 VAC [M69]
Frequency 50-60 Hz
100-115 VAC [M11 400Hz]
208-240 VAC [M23 400Hz]
380-415 VAC [M48 400Hz]
440-480 VAC [M49 400Hz]
600-690 VAC [M69 400Hz]
Frequency 50-400 Hz

Output Specifications

Max. load AC1
Max. load DC12
Electrical life

1 x SPDT relay
5 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

2 x SPDT relays
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

General Specifications
Power supply

208-240 VAC [M23]
380-480 VAC [M48]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]

100-115 VAC [M11]
208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]
440-480 VAC [M49]
600-690 VAC [M69]

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA - GL

References

DPB71C M23
DPB71C M48

DPB02C M23
PPB02C M23
DPB02C M48
PPB02C M48

DPC01D M23
PPC01D M23
DPC01D M48
PPC01D M48
DPC01D M69
DPC01D M11 400HZ
DPC01D M23 400HZ
DPC01D M48 400HZ
DPC01D M49 400HZ
DPC01D M69 400HZ

Control



Monitoring Relays

3-phase multifunction relays

Types

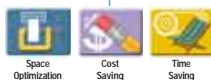
**DPC 71
PPC 71**



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function

81 x 35.5 x 67.2 [D]
81.2 x 35.5 x 75 [P]
Over and under voltage monitoring relay with phase loss/phase sequence, asymmetry and tolerance. 3-phase +N (measures its own power supply) AC TRMS. Setpoints separately adjustable by function.

DPC 02



80 x 45 x 99.5 [D]
Over and under voltage/over and under frequency with phase loss and phase sequence monitoring relay. 3-phase+N (measures its own power supply) AC TRMS. Setpoints separately adjustable delay times. Adjustable frequency range.

DPC 72



71.6 x 90 x 66.3 [D]
Digital over and under voltage/over and under frequency with phase loss and phase sequence monitoring relay. Frequency derivative absolute value monitoring, RS485 port, event counter, data-stamping and auto-test function. 3-phase (measures its own power supply) AC TRMS. Setpoints separately adjustable delay times.

Input Specifications

Measuring range

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]

Voltage:
208-240 VAC [M23]
380-415 VAC [M48]
440-480 VAC [M49]
600-690 VAC [M69]
Frequency: 50/60 Hz

Voltage:
380-415 VAC [M48]

Frequency: 50-60 Hz

Output Specifications

Max. load AC1
Max. load DC12
Electrical life

2 x SPDT relays
5 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

2 x SPDT relays
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x DPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

General Specifications

Power supply

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]

208-240 VAC [M23]
380-415 VAC [M48]
440-480 VAC [M49]
600-690 VAC [M69]
CE - UL - CSA - ENEL DK 5950 [B003]

308-415 VAC [M48]

CE - ENEL DK 5940 [B003]

Approvals/Marks

References

DPC71D M23
PPC71D M23
DPC71D M48
PPC71D M48

DPC02D M23
DPC02D M48
DPC02D M49
DPC02D M69
DPC02D M23 B003
DPC02D M48 B003

DPC72D M48 B003





Types

Frequency relays

Cosφ relays

DFB 01
PFB 01

DFC 01

DWA 01
PWA 01



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Frequency monitoring relay.
1-phase AC (measures its own power supply).
2 setpoints separately adjustable.
Delay time adjustable.

80 x 45 x 99.5 [D]
Frequency monitoring relay.
1-phase AC (measures its own power supply).
2 setpoints separately adjustable.
2 separately adjustable delay times.
2 separate relay outputs.

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Cos φ monitoring relay.
1- or 3-phase AC (measures its own power supply).
Direct input or through external CT.
Power ON delay adjustable.

Input Specifications

Measuring range

50 / 60 Hz

50 / 60 Hz

cos φ : 0.1-0.99

Output Specifications

Max. load AC1

1 x SPDT relay
8 A / 250 VAC

2 x SPDT relays
8 A / 250 VAC

1 x SPDT relay
8 A / 250 VAC

Max. load DC12

5 A / 24 VDC

5 A / 24 VDC

5 A / 24 VDC

Electrical life

>1 x 10⁵ operations

>1 x 10⁵ operations

>1 x 10⁵ operations

General Specifications

Power supply

24-240 VAC

24-48 VAC [B48]
115-230 VAC [B23]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

References

DFB01C M24
PFB01C M24

DFC01D B48
DFC01D B23

DWA01C M23 5A
PWA01C M23 5A
DWA01C M48 5A
PWA01C M48 5A



Monitoring Relays

Power and power factor relays

Types

**DWB 01
PWB 01**



**DWB 02
PWB 02**



**DWB 03
PWB 03**



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function

80 x 45 x 99.5 [D]
80 x 36 x 94 [P]
Power factor monitoring relay.
1- or 3-phase (measures its own power supply) AC TRMS.
Direct input or through external CT.
2 separately adjustable setpoints.
Delay time adjustable.
Power ON delay adjustable.

80 x 45 x 99.5 [D]
80 x 36 x 94 [P]
Active power monitoring relay.
1- or 3-phase (measures its own power supply) AC TRMS.
Direct input or through external CT.
2 separately adjustable setpoints.
Delay time adjustable.
Power ON delay adjustable.

80 x 45 x 99.5 [D]
80 x 36 x 94 [P]
Active power monitoring relay.
1- or 3-phase AC TRMS power direction (measures its own power supply).
Direct input or through external CT.
2 separately adjustable setpoints.
Delay time adjustable.
Power ON delay adjustable.

Input Specifications
Measuring range

$\cos \varphi : 0.1-0.99$

208-690 VAC
0.5-5 AAC
1-10 AAC
0.4 - 4 Vp

208-690 VAC
0.5-5 AAC
1-10 AAC
0.4 - 4 Vp

Output Specifications

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

General Specifications
Power supply

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]
600-690 VAC [M69]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]
600-690 VAC [M69]

208-240 VAC [M23]
380-415 VAC [P] [M48]
380-480 VAC [D] [M48]
600-690 VAC [M69]

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

References

DWB01C M23 10A
PWB01C M23 10A
DWB01C M48 10A
PWB01C M48 10A
DWB01C M69 10A

DWB02C M23 10A
PWB02C M23 10A
DWB02C M48 10A
PWB02C M48 10A
DWB02C M69 10A

DWB03C M23 10A
PWB03C M23 10A
DWB03C M48 10A
PWB03C M48 10A
DWB03C M69 10A





Types

Temperature relays

Pump alternating relays

Timers, Delay on operate

DTA 01 PTA 01
DTA 02 PTA 02

DLA 71
DLA 73

DAA 01
PAA 01



Dimensions (mm) H x W x D

DIN RAIL housing
Plug-in housing

Function

Function code

Input Specifications

Time range

Output Specifications

Max. load AC1

Max. load DC12

Electrical life

General Specifications

Power supply

Approvals/Marks

References

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]

Motor temperature monitoring relays.
PTC insulated input.
Automatic set-point.
Short circuit detection.
Latch, test and reset function (DTA02, PTA02).

81 x 35.5 x 67.2 [Mini-D]

Pump alternating relay.
For 2 or 3 pumps.
Differential or sequential mode.
Automatic rotation of the pumps.
Output relay managed by one independent input contact (DLA73).

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]

Delay on operate (automatic start).

0

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s
0.1 h - 1 h
1 h - 10 h
10 h - 100 h

1 x SPDT relay
1 x SPST relay [DTA01]

8 A / 250 VAC

5 A / 24 VDC

>1 x 10⁵ operations

24-48 VAC/DC [D48]

115 VAC [115]

230 VAC [230]

CE - UL - CSA

DTA01C D48

PTA01C D48

DTA01C 115

PTA01C 115

DTA01C 230

PTA01C 230

DTA02C D48

PTA02C D48

DTA02C 115

PTA02C 115

DTA02C 230

PTA02C 230

2 x SPST relay [DLA71] [2P]
3 x SPST relay [DLA71] [3P]
3 x SPST relay [DLA73]

5 A / 250 VAC

5 A / 24 VDC

>1 x 10⁵ operations

24/48 VAC [B48]

115/230 VAC [B23]

CE - UL - CSA

DLA71D B48 2P

DLA71T B48 3P

DLA71D B23 2P

DLA71T B23 3P

DLA73T B23 2P

DLA73T B48 2P

1 x SPDT relay [C]
2 x SPDT relays [D]

8 A / 250 VAC

5 A / 24 VDC

>1 x 10⁵ operations

24 VDC / 24-240 VAC [C]

24-240 VAC/DC [D]

CE - UL - CSA - RINA

DAA01C M24

PAA01C M24

DAA01D M24

PAA01D M24



Types

	Delay on operate		
	DAA 51 DAA 71	FAA 01 FAA 08	HAA 08 HAA 14
Dimensions (mm) H x W x D	81 x 17.5 x 67.2 [Mini-D] 81 x 35.5 x 67.2 [Mini-D]	48 x 48 x 83.4	28 x 21.5 x 64
DIN RAIL housing			
Plug-in housing			
Function	Delay on operate (automatic start).	Delay on operate. Symmetrical recycler. Interval. One shot.	Delay on operate. Symmetrical recycler with ON or OFF first. Interval.
Function code	0	0 - R - In - Sh	0 - R - Rb - In
Input Specifications			
Time range	0.1 s - 1 s 1 s - 10 s 6 s - 60 s 60 s - 600 s 0.1 h - 1 h 1 h - 10 h 10 h - 100 h	Full scale 12 0.02 - 1.2 s 0.2 - 12 s 2 - 120 s 0.2 - 12 m 2 - 120 m 0.2 - 12 h 2 - 120 h	Full scale 30 0.05 - 3 s 0.5 - 30 s 5 - 300 s 0.5 - 30 m 5 - 300 m 0.5 - 30 h 5 - 300 h
Output Specifications			
	1 x SPDT relay [C] 1 x DPDT relay [D]	1 x DPDT relay 11-pin [01] 8-pin [08]	1 x 4PDT relay [Q] 1 x DPDT relay [D] 14-pin [14] 8-pin [08]
Max. load AC1	5 A / 250 VAC	5 A / 250 VAC	5 A / 250 VAC
Max. load DC12	5 A / 24 VDC	5 A / 24 VDC	5 A / 24 VDC
Electrical life	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations
General Specifications			
Power supply	24 VDC / 24-240 VAC [CM24] 24-240 VAC/DC [DM24] 12-240 VAC/DC [DW24]	12-240 VAC/DC	24-240 VAC/DC
Approvals/Marks	CE - UL - CSA - RINA	CE - UL - CSA	CE - UL - CSA
References			
	DAA51C M24 DAA71D M24 DAA71D W24	FAA01D W24 FAA08D W24	HAA14Q M24 HAA08D M24





Types

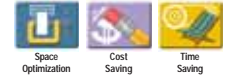
Delay on release

True delay on release

DBA 02
PBA 02

DBA 52

D/PBB 01
D/PBB 02



Dimensions (mm) H x W x D
DIN RAIL housing
Plug-in housing
Function
Function code

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
Delay on release.
Dr

81 x 17.5 x 67.2 [mini-D]

Delay on release.
Dr

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]
True delay on release.
Tr

Input Specifications

Time range

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s
0.1 h - 1 h
1 h - 10 h
10 h - 100 h

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s
0.1 h - 1 h
1 h - 10 h
10 h - 100 h

D/PBB01: 0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s
D/PBB02: 60 s - 600 s
0.1 h - 1 h
1 h - 10 h

Output Specifications

1 x SPDT relay

1 x SPDT relay

1 x SPDT relay [C]
1 x DPDT relay [D]

Max. load AC1

8 A / 250 VAC

5 A / 250 VAC

8 A / 250 VAC

Max. load DC12

5 A / 24 VDC

5 A / 24 VDC

5 A / 24 VDC

Electrical life

>1 x 10⁵ operations

>1 x 10⁵ operations

>1 x 10⁵ operations

General Specifications

Power supply

24 VDC / 24-240 VAC

24 VDC / 24-240 VAC

24-240 VAC/DC [M24]
12-24 VDC [724]

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

CE - UL - CSA

References

DBA02C M24
PBA02C M24

DBA52C M24

DBB01C M24
PBB01C M24
DBB01D M24
PBB01D M24
DBB01C 724
PBB01C 724
DBB01D 724
PBB01D 724
DBB02C M24
PBB02C M24
DBB02D M24
PBB02D M24



Types

	True delay on release	Recycler	
	DBB 51	DCB 01 PCB 01	DCB 51
Dimensions (mm) H x W x D	81 x 17.5 x 67.2 [mini-D]	80 x 22.5 x 99.5 [D] 80 x 36 x 94 [P]	81 x 17.5 x 67.2 [Mini-D]
DIN RAIL housing			
Plug-in housing			
Function	True delay on release.	Asymmetrical recycler with ON and OFF time first. One shot. Two state delay on operate.	Asymmetrical recycler with ON or OFF first.
Function code	Tr	Aa - Ab - Sh - Dt	Aa - Ab
Input Specifications			
Time range	1 s - 10 s [10S] 6 s - 60 s [1M] 60 s - 600 s [10M]	0.1 - 1 s 1 - 10 s 6 - 60 s 60 s - 600 s 0.1 h - 1 h 1 h - 10 h 10 h - 100 h	0.1 s - 1 s 1 s - 10 s 6 s - 60 s 60 s - 600 s 0.1 h - 1 h 1 h - 10 h 10 h - 100 h
Output Specifications			
	1 x SPDT relay	1 x SPDT relay [C] 2 x SPDT relays [D]	1 x SPDT relay
Max. load AC1	5 A / 250 VAC	8 A / 250 VAC	5 A / 250 VAC
Max. load DC12	5 A / 24 VDC	5 A / 24 VDC	5 A / 24 VDC
Electrical life	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations	>1 x 10 ⁵ operations
General Specifications			
Power supply	24 VDC / 24-240 VAC	24 VDC / 24-240 VAC [C] 24-240 VAC/DC [D]	24 VDC / 24-240 VAC
Approvals/Marks	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
References	DBB51C M24 10S DBB51C M24 1M DBB51C M24 10M	DCB01C M24 PCB01C M24 DCB01D M24 PCB01D M24	DCB51C M24





Multifunction

Types

**DMB 01
PMB 01**

**DMB 51
DMB 71**

FMB 01



Dimensions (mm) H x W x D
DIN RAIL housing

80 x 22.5 x 99.5 [D]

81 x 17.5 x 67.2 [Mini-D] [C]
81 x 35.5 x 67.2 [Mini-D] [D]

48 x 48 x 83.4

Plug-in housing
Function

80 x 36 x 94 [P]
Multifunction.

Multifunction.

Multifunction.
Trigger, Gate and Reset inputs.

Function code

Op - Dr - In - R - Rb - Id - lo

Op - Dr - In - R - Rb - Id - lo

Op - Dr - In - R - Rb - Id - lo

Input Specifications

Time range

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s
0.1 h - 1 h
1 h - 10 h
10 h - 100 h

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s
0.1 h - 1 h
1 h - 10 h
10 h - 100 h

Full scale 12	Full scale 30
0.02 - 1.2 s	0.05 - 3 s
0.2 - 12 s	0.5 - 30 s
2 - 120 s	5 - 300 s
0.2 - 12 m	0.5 - 30 m
2 - 120 m	5 - 300 m
0.2 - 12 h	0.5 - 30 h
2 - 120 h	5 - 300 h

Output Specifications

Max. load AC1
Max. load DC12
Electrical life

1 x SPDT relay [C]
1 x DPDT relay [D]
8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x SPDT relay [C]
1 x DPDT relay [D]
5 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

1 x DPDT relay
5 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

General Specifications

Power supply
Approvals/Marks

24 VDC / 24-240 VAC [C]
24-240 VAC/DC [D]
CE - UL - CSA - RINA

24 VDC / 24-240 VAC [M24]
12-240 VAC/DC [W24]
CE - UL - CSA - RINA

12-240 VAC/DC
CE - UL - CSA

References

DMB01C M24
PMB01C M24
DMB01D M24
PMB01D M24

DMB51C M24
DMB51C W24
DMB71D M24
DMB71D W24

FMB01D W24



Types

Dimensions (mm) H x W x D
DIN RAIL housing

Plug-in housing
Flush mounting
Function

Function code

Input Specifications

Time range

Output Specifications

Max. load AC1
Max. load DC12
Electrical life

General Specifications

Power supply

Approvals/Marks

References

References:
xxx= 724, B23, B48
yyy= 724, 024, 115, 230

... = insert code for
Time Range.

Multifunction

**DMC 01
PMC 01**



80 x 22.5 x 99.5 [D]
80 x 45 x 99.5 [D]
80 x 36 x 94 [P]

Multifunction.

Op - Oa - In - Ia - Nr - Na - Dr

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s
0.1 h - 1 h
1 h - 10 h
10 h - 100 h

1 x SPDT relay [C]
2 x SPDT relays [D]

8 A / 250 VAC
5 A / 24 VDC
>1 x 10⁵ operations

24 VDC [724]
24/48 VAC [B48]
115/230 VAC [B23]
24 VAC [024]
115 VAC [115]
230 VAC [230]

CE - UL - CSA

DMC01C xxx
PMC01C yyy
DMC01D xxx
PMC01D yyy

FMC 01



48 x 48 x 83
Multifunction.

0.02 s - 999.99 s
0.2 s - 9999.9 s
1 s - 99999 s
0.01 m - 999.99 m
0.1 m - 9999.9 m
1 m - 99999 m
0.01 h - 999.99 h
0.1 h - 9999.9 h
1 h - 99999 h

1 x SPDT relay

8 A / 250 VAC
5 A / 30 VDC
>1 x 10⁵ operations

12-240 VAC/DC

CE - UL

FMC01C W24

Mini-E Timers

**EAS EBS
ECS**



56 x 22.5 x 49 [Mini-E]
56 x 22.5 x 44 [Mini-E] [F]

EAS - Delay on operate (automatic start).
EBS - Interval (automatic start).
ECS - Symmetrical recycler (ON/OFF automatic start) thyristor output.
Screw or fast-ON connection.
DIN-rail or chassis mounting.

[10S] : 0.5 s - 10 s
[1M] : 0.1 m - 1 m
[10M] : 1 m - 10 m

Static output
500 mA, 700 mA [F]

24-230 VAC/DC [EAS]
24-230 VAC [EBS], [ECS]

CE - UL - CSA

EAS S M23 ...
EAS S M23 ... F
EBS S M23 ...
EBS S M23 ... F
ECS S M23 A ...
ECS S M23 B ...
ECS S M23 A ... F
ECS S M23 B ... F





Types

Fully programmable

Star delta

DHA 51
DHA 52

DAC 01
PAC 01

DAC 51



Dimensions (mm) H x W x D
DIN housing
Plug-in housing
Function
Function code

81 x 17.5 x 67.2 [Mini-D]

80 x 22.5 x 99.5 [D]
80 x 36 x 94 [P]

81 x 17.5 x 67.2 [Mini-D]

Fully programmable.
Whatever needed and
much more.

Star delta.
SD

Star delta.
SD

Input Specifications

Time range

0.1 s - 99 h each time step.
One time step can be set by
the front knob (DHA52).

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s

0.1 s - 1 s
1 s - 10 s
6 s - 60 s
60 s - 600 s

Star to delta relay
(neutral centre position)

50 - 130 ms between
star to delta position

50 - 130 ms between
star to delta position

Output Specifications

1 x SPDT relay

1 x SPDT relay (with neutral
centre position)

1 x SPDT relay (with neutral
centre position)

Max. load AC1

5 A / 250 VAC

8 A / 250 VAC

5 A / 250 VAC

Max. load DC12

5 A / 24 VDC

5 A / 24 VDC

5 A / 24 VDC

Electrical life

>1 x 10⁵ operations

>1 x 10⁵ operations

>1 x 10⁵ operations

General Specifications

Power supply

24 VDC / 24-240 VAC

24-240 VAC/DC [M24]
380-415 VAC [M40]

24-240 VAC/DC

Approvals/Marks

CE - UL - CSA

CE - UL - CSA

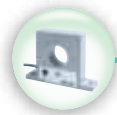
CE - UL - CSA

References

DHA51C M24 S8
DHA51C M24 S16
DHA51C M24 S32
DHA52C M24 S16

DAC01C M24
PAC01C M24
DAC01C M40
PAC01C M40

DAC51C M24



Current Transformers

Current transformers for monitoring relays

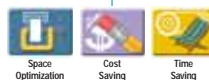
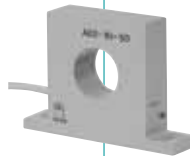
Types

MI

MP

A 82

E 83



Dimensions (mm) H x W x D

45 x 52 x 16 [5/20]
67.5 x 95 x 20
[100/500]

45 x 120 x 16 [5/20]
114 x 150 x 23
[100/500]

67.5 x 95 x 20

56 x 22.5 x 49

Function

1-phase AC.
Output voltage.
Cable hole.

3-phase AC.
Output voltage.
Cable hole.

1-phase AC.
Output 0/4-20 mA DC,
0-10 VDC (A82-30).
Cable hole.
Led indication.

1-phase AC.
Output 4-20 mA DC.
Cable hole.
DIN-rail mounting.

Input Specifications

Input current

0.5 - 5 AAC [5]
2 - 20 AAC [20]
10 - 100 AAC [100]
50 - 500 AAC [500]

0.5 - 5 AAC [5]
2 - 20 AAC [20]
10 - 100 AAC [100]
50 - 500 AAC [500]

0 - 25 AAC [25]
0 - 50 AAC [50]
0 - 100 AAC [100]
0 - 250 AAC [250]
0 - 500 AAC [500]

0 - 5 AAC,
0 - 10 AAC,
0 - 15 AAC,
0 - 20 AAC,
0 - 25 AAC
0 - 30 AAC,
0 - 50 AAC

Max. current continuously

20 AAC [5]
50 AAC [20]
250 AAC [100]
750 AAC [500]

20 AAC [5]
50 AAC [20]
250 AAC [100]
750 AAC [500]

600 AAC

100 AAC

Dielectric voltage

6 kV ACrms

6 kV ACrms

6 kV ACrms

Output Specifications

Output value

0.4 - 4 Vp
The output voltage is
proportional to the
input current.

0.4 - 4 Vp
The output voltage is
proportional to the
highest current value in
the 3 conductors which
are drawn through the
holes of the current
metering transformer.

A82 - 10: 0-20 mA DC
A82 - 20: 4-20 mA DC
A82 - 30: 0-10 VDC
The output current
(A82-10, A82-20) and
voltage (A82-30) are
proportional to the
input current.

4 - 20 mA DC
The output current is
proportional to the
input current.

Output tolerance

+ / -5% @ I_n

+ / -5% @ I_n

+ / -2% @50Hz

+ / -2% @50Hz

Rated insulation voltage
(cable)

250 VACrms

250 VACrms

250 VACrms

General Specifications

Cable hole diameter

10.5 mm [5/20]
27 mm [100/500]

3 x 12 mm [5/20]
3 x 27 mm [100/500]

27 mm

12 mm

Connection cable

2 m PVC 2 x 0.5 mm²

2 m PVC 2 x 0.5 mm²

A82-10, A82-30:
2m, 3x0.25 m²
A82-20: 2m, 2x0.25 m²

Screw terminal
2 x 1.5 mm²

Operating temperature

-20°C to +60°C

-20°C to +60°C

-20°C to +50°C

-20°C to +50°C

References

References:

XX = 10: 0-20 mA DC
= 20: 4-20 mA DC
= 30: 0-10 VDC

MI 5
MI 20
MI 100
MI 500

MP 3005
MP 3020
MP 3100
MP 3500

A 82-XX 25
A 82-XX 50
A 82-XX 100
A 82-XX 250
A 82-XX 500

E 83-20 50





Current Transformers

Types

TADK

TADK2

CTD 1



Dimensions
(mm) H x W x D

115.5 x 75 x 44

115.5 x 75 x 44

86 x 56 x 42

Input Specifications

Current transformer
1-phase AC

Current transformer
1-phase AC

Current transformer
1-phase AC

Operating frequency

48 to 62 Hz

48 to 62 Hz

48 to 62 Hz

Max. system voltage

0.72 kV

0.72 kV

0.72 kV

Rated insulation level

3 kV/1 min @ 50 Hz

3 kV/1 min @ 50 Hz

3 kV/1 min @ 50 Hz

Security factor

≤5

≤5

≤5

Output Specifications

Secondary current

5 A standard
(1 A on request)

5 A standard
(1 A on request)

5 A
1 A

General Specifications

Class

0.5

0.5

0.5 / 1 / 3

Bus-bar size (mm)

no (wounded primary)

25 x 5 (fixed bar)

20 x 5

Standards

IEC 60185

IEC 60185

EN 60044-1

Primary Current

Accuracy class depending
on the burden output
I2 nominal 1 A / 5 A

Burden (VA)	Class		
	0.5	1	3
1 A	10		
5 A	10		
10 A	10		
15 A	10		
25 A	10		
40 A	10		

Burden (VA)	Class		
	0.5	1	3
1 A	10		
5 A	10		
10 A	10		
15 A	10		
25 A	10		
40 A	10		
50 A	10		
60 A	10		
80 A	10		
100 A	10		
150 A	10		
200 A	10		
250 A	10		

Burden (VA)	Class		
	0.5	1	3
50 A		1	1.25
60 A		1	1.25
70 A		1.5	1.75
75 A	1	1.25	1.75
80 A	1.25	1.5	2
100 A	1.5	1.75	2.25
120 A	1.75	2	2.5
125 A	2	2.25	2.75
150 A	2.25	2.5	3
160 A	2.5	2.75	3.25
200 A	3	3.25	3.75
250 A	4.5	4.75	5.25
300 A	5	5.5	6

Ordering References

See page 215

See page 215

See page 215



Current Transformers

Types

Current Transformers

CTD 2



CTD 3



CTD 4



Dimensions (mm) H x W x D

86 x 56 x 42	109 x 77 x 42	113 x 90 x 42
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Input Specifications

Current transformer 1-phase AC 48 to 62 Hz	Current transformer 1-phase AC 48 to 62 Hz	Current transformer 1-phase AC 48 to 62 Hz
Max. system voltage 0.72 kV	0.72 kV	0.72 kV
Rated insulation level 3 kV/1 min @ 50 Hz	3 kV/1 min @ 50 Hz	3 kV/1 min @ 50 Hz
Security factor ≤5	≤5	≤5

Output Specifications

Secondary current 5 A 1 A	5 A 1 A	5 A 1 A
---------------------------------	------------	------------

General Specifications

Class 0.5 / 1 / 3	0.5 / 1 / 3	0.5 / 1 / 3 / 5P5
Bus-bar size (mm) 32 x 5 x 30 x 10	51 x 15	64 x 20
Standards EN 60044-1	EN 60044-1	EN 60044-1

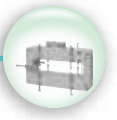
Primary Current

Accuracy class depending on the burden output I2 nominal 1 A / 5 A	Burden (VA)			Burden (VA)			Burden (VA)					
	Class	0.5	1	3	Class	0.5	1	3	Class	0.5	1	5P5
40 A			1.25		50 A			1.75	150 A		2.5	CI3 5
50 A			1.5		60 A			2	200 A		3.25	CI3 6
60 A			2		70 A			2.5	250 A	2.5	4.5	2
70 A			2.5		75 A			3	300 A	3	4	3
75 A		1.75	2.5		80 A			3	400 A	6	9	3
80 A		2	2.75		100 A		2	3.5	500 A	10	12.5	4
100 A		2.5	3		120 A		2.25	4	600 A	11	13.5	4
120 A		2.75	3.75		125 A		2.5	4.5	700 A	12.5	15	5
125 A	2	2.75	3.75		150 A	2.25	3	6	750 A	13	15.5	5
150 A	3	4	5		160 A	2.5	3.5	6.5	800 A	14	16.5	5
160 A	3	4	5		200 A	3	4.5	8.5	1000 A	17.5	20	6
200 A	4	5	6.5		250 A	3.5	6.5	10.5	1200 A	20	22.5	6
250 A	5.5	7	8		300 A	7	10	13	1250 A	20	22.5	6
300 A	7	8.5	9.5		400 A	9	14	17	1500 A	27.5	30	8
400 A	12	13.5	14.5		500 A	14	18	21	1600 A	27.5	30	8
500 A	14	15.5	16.5		600 A	17	21	24				
600 A	17.5	19	20		700 A	22	26	29				
					750 A	24	28	31				
					800 A	25	29	32				
					1000 A	35	39	42				
					1200 A	40	44	47				

Ordering References

See page 215	See page 215	See page 215
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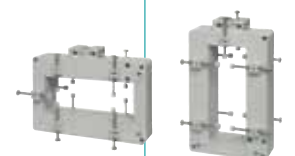
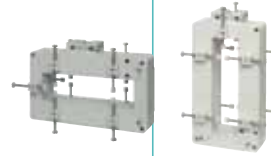
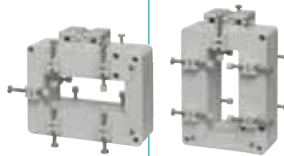
Current Transformers

Types

CTD 8V CTD 8H

CTD 9V CTD 9H

CTD 10V CTD 10H



Dimensions
(mm) H x W x D

132.9 x 87 x 60

177.9 x 91.7 x 60

177.9 x 106.7 x 60

Input Specifications

Current transformer
1-phase AC

Current transformer
1-phase AC

Current transformer
1-phase AC

Operating frequency

48 to 62 Hz

48 to 62 Hz

48 to 62 Hz

Max. system voltage

0.72 kV

0.72 kV

0.72 kV

Rated insulation level

3 kV/1 min @ 50 Hz

3 kV/1 min @ 50 Hz

3 kV/1 min @ 50 Hz

Security factor

≤5

≤5

≤5

Output Specifications

Secondary current

5 A
1 A

5 A
1 A

5 A
1 A

General Specifications

Class

0.5 / 1 / 3

0.5 / 1 / 3

0.5 / 1 / 3

Bus-bar size (mm)

81 x 31

125 x 36

126 x 51

Standards

EN 60044-1

EN 60044-1

EN 60044-1

Primary Current

Accuracy class depending
on the burden output
I2 nominal 1 A / 5 A

Burden (VA)	Class		
	0.5	1	3
150 A			2
200 A			4
250 A			5
300 A		2	6
400 A	3	5	8
500 A	5	7	10
600 A	6	10	12
700 A	6	10	12
750 A	8	12	15
800 A	8	12	15
1000 A	10	15	20
1200 A	12	15	20
1250 A	12	15	20
1500 A	15	20	25
1600 A	15	20	25
2000 A	20	25	30
2500 A	25	30	40

Burden (VA)	Class		
	0.5	1	3
400 A		3	6
500 A	2	4	8
600 A	4	6	10
700 A	4	8	10
750 A	4	8	10
800 A	4	8	10
1000 A	6	10	13
1200 A	8	12	15
1250 A	8	12	15
1500 A	10	15	18
1600 A	10	15	18
2000 A	15	20	24
2500 A	20	25	30
3000 A	25	30	35
3200 A	25	30	35
4000 A	25	30	35

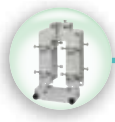
Burden (VA)	Class		
	0.5	1	3
400 A	1	7	10
500 A	3	10	14
600 A	5	12	17
700 A	8	15	20
750 A	10	15	20
800 A	10	15	20
1000 A	12	20	25
1200 A	15	25	30
1250 A	15	25	30
1500 A	20	30	40
1600 A	20	30	40
2000 A	25	40	50
2500 A	30	50	60
3000 A	30	50	60
3200 A	30	50	60
4000 A	30	50	60

Ordering References

See page 215

See page 215

See page 215



Split Core Current Transformers

Split Core Current Transformers

Types

CTD 5S

CTD 6S

CTD 8S



Dimensions (mm) H x W x D	93.9 x 83 x 60	113.9 x 107 x 60	132.9 x 87 x 60
Input Specifications	Split core current transformer 1-phase AC		
Operating frequency	58 to 62 Hz	58 to 62 Hz	58 to 62 Hz
Max. system voltage	0.72 kV	0.72 kV	0.72 kV
Rated insulation level	3 kV _{RMS} , 50Hz, 1min	3 kV _{RMS} , 50Hz, 1min	3 kV _{RMS} , 50Hz, 1min
Security factor	≤5	≤5	≤5
Output Specifications	Secondary current		
	5 A 1 A	5 A 1 A	5 A 1 A
General Specifications	Class		
	1	1	1
Bus-bar size (mm)	27 x 32mm	52 x 51mm	81 x 31mm
Standards	EN60044-1	EN60044-1	EN60044-1
Primary Current	Burden (VA)		
	Class 1 3	Class 1 3	Class 1 3
	100A 1.5 1.5	150A 1.5 1.5	150A 1.5 1.5
	125A 1.5 1.5	200A 1.5 2	200A 1.5 1.5
	150A 1.5 2.5	250A 1.5 3.75	250A 2 2
	200A 1.5 5	300A 1.5 5	300A 2 2
	250A 1.5 5	400A 2.5 5	400A 3 5
	300A 2.5 7.5	500A 5 10	500A 5 7
	400A 5 10	600A 7.5 15	600A 6 10
		700A 7.5 15	700A 6 10
		750A 7.5 15	750A 8 12
		800A 10 15	800A 8 12
		1000A 10 15	1000A 10 15
			1200A 12 15
			1250A 12 15
			1500A 15 20
			1600A 15 20
			2000A 20 25
			2500A 25 30

Ordering References

See page 215

See page 215

See page 215





Split Core Current Transformers

Types

CTD 9S



CTD 10S



SCT 166/205



Dimensions
(mm) H x W x D

177.9 x 91.7 x 60

177.9 x 106.7 x 60

328 x 50 x 166

Input Specifications

Split core current transformer
1-phase AC

Split core current transformer
1-phase AC

Split core current transformer
1-phase AC

Operating frequency
58 to 62 Hz

58 to 62 Hz

50 to 60 Hz

Max. system voltage
0.72 kV

0.72 kV

0.72 kV

Rated insulation level
3 kV_{RMS}, 50Hz, 1min

3 kV_{RMS}, 50Hz, 1min

4 kV_{RMS}, 50Hz, 1min

Security factor
≤5

≤5

5, 10

Output Specifications

Secondary current

5 A
1 A

5 A
1 A

5 A standard
(1 A on request)

General Specifications

Class

1

1

1/ 3/ 0.5 (on request)

Bus-bar size (mm)

126 x 36mm

126 x 51mm

62 x 205mm

Standards

EN60044-1

EN60044-1

BS3938, EN60044-1, DIN42600

Primary Current

Burden (VA)

Class	1	3
400A		3
500 A	2	4
600 A	4	6
700A	4	8
750A	4	8
800 A	4	8
1000A	6	10
1200A	8	12
1250A	8	12
1500A	10	15
1600A	10	15
2000A	15	20
2500A	20	25
3000A	25	30
3200A	25	30
4000A	25	30

Burden (VA)

Class	1	3
400A	1	7
500 A	3	10
600 A	5	12
700A	8	15
750A	10	15
800 A	10	15
1000A	12	20
1200A	15	25
1250A	15	25
1500A	20	30
1600A	20	30
2000A	25	40
2500A	30	50
3000A	30	50
3200A	30	50
4000A	30	50

Burden (VA)

Class	0.5	1	3
1000A	-	5	7.5
1200A	1.5	5/7.5	10
1250A	1.5	1.5/2.5/10	5/ 15
1500A	2.5	5/10	15
2000A	5	5/10/15	20
2500A	5	5/10/15	20
3000A	5/10/15	5/10/15/20	30
4000A	5/10/15	5/10/15/20	30
5000A	5/10/15/	5/10/15/	-
	30	30	
6000A	5/10/15/	5/10/15/	-
	30	30	

E.g.: 5/10 5= standard
 10= on request

Ordering References

See page 215

See page 215

See page 215



Current Sensor and Shunt

Types

Active Current Sensor

Shunt

ROG 400

DER



Dimensions
(mm) H x W x D

54 x 29 x 17

Input Specifications

Split core AC current sensor
1-phase AC

Shunt for DC current

Operating frequency

45 to 65 Hz

Continuous current

Max. system voltage

Rated insulation level

6kV VRMS (1 minute)

Security factor

Output Specifications

Secondary current

4 to 20 mA DC

General Specifications

Class

0.5

Bus-bar size (mm)

40

Standards

DIN 43703

Primary Current

400 AAC

Measuring range for
current 1 to 10000 A

Accuracy class depending
on the burden output
I2 nominal 1 A / 5 A

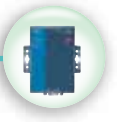
Secondary: 60 mV
(150 mV or other
on request)















Ordering References

ROG 400

See page 216





	Serial converter	Serial converter	Ethernet gateway	Ethernet serial device
Types	SIU-PC2	SIU-PC3	SIU-TCP	VCP-DIN
				
	  	  	 	 
Dimensions (mm) H x W x D	Front: 100x67mm	Front: 60x37.5mm	Front: 100x67mm	Front: 100x67mm
Function	RS422/RS485 to RS232 converter	RS422/RS485 to USB converter	Ethernet to RS232/485 Modbus Gateway	Ethernet serial device server, virtual COM port for serial signals
Port 1 Port Connections	RS232 9-pole, female	USB type A	Ethernet, 10/100Mbps RJ45	Ethernet, 10/100Mbps RJ45
Baud rate	Max 230400 Baud	Max 961.6 kBaud	Max 230400 Baud	Max 230400 Baud
Port 2 Port Connections	RS422, RS485 2-wire and 4-wire communication	RS232, RS485 2-wire comm.	RS232, RS485 2-wire comm.	RS232, RS422, RS485 2-wire comm. (with automatic data directionl control)
General Specifications Power supply	12 to 30 VDC Suggested adapter: SPD12-101 (120 to 240VAC/DC)	Self supplied by USB port	9 to 30 VDC VAC adapter included 100 to 240 VAC (US, Euro plugs included)	9 to 30 VDC VAC adapter included 230VAC (115VAC US version)
Approvals/Marks	CE, FCC	CE, FCC	CE, cULus, TÜV	CE, UL, FCC
References	SIU PC2 SIU PC2I (2kV insulated)	SIU PC3	SIU TCP	VCP DIN (UE version) VCP DIN UK (UK version) VCP DIN US (US version)



Ammeters, voltmeters and frequency meters

Types

DI3 DIN



DI3 72



LDI 3



Dimensions (mm) H x W x D	89 x 52.5 x 58.5	72 x 72 x 75.5	48 x 96 x 83
Function	3-digit meter. 1-phase AC, DC. Voltmeter, ammeter frequency meter.	Microprocessor based indicator. AC/DC Ammeter, Voltmeter. Freq. meter 3-digit display red LED. Height: 14.2 mm.	Microprocessor based indicator. AC/DC Ammeter, Voltmeter. Freq. meter 3-digit display.
Input Specifications			
Range code	1 A/100 VAC [AV1] 5 A/500 VAC [AV5] 1 A/60 mV/100 V /500 VDC [AV6] 1 Hz to 1000 Hz [F1K]	[AV1]: 1 AAC / 100 VAC [AV5]: 5 AAC / 500 VAC [AV6]: 1 ADC / 60 mV / 100 V / 500 VDC	[AV1]: 1 AAC/100 VAC [AV5]: 5 AAC/500 VAC [AV6]: 1 ADC/60 mV /100 V/500 VDC [F1K]: 1 to 1000Hz
Accuracy	0.5% FS (0.1% FS frequency meter)	±0.5% FS	±0.5% FS (±0.3% FS frequency meter)
Indication	Max. 999 [AV1/AV5] 000 [AV1/AV5], -99 [AV6] Min.	999 [AV1/AV5] 000 [AV1/AV5], -99 [AV6]	999, [AV1/AV5]: 000, [AV6]: -99,
Resistance			
Range selection/decimal point pos.	Selectable by DIP-switch	Selectable by DIP-switch	Selectable by DIP-switch
Display refresh time	1 time/s	1 time/s	1 time/s
General Specifications			
Power supply	24 VAC [A] 48 VAC [B] 115 VAC [C] 230 VAC [D]	24 VAC [A], 48 VAC [B], 115 VAC [C], 230 VAC [D]	230 VAC [D], 24 [A], 48 [B], 115 [C] VAC
Option			IP65[IX], tropicalization [XT]
Safety Standards	EN 61010-1, IEC 61010-1, VDE0411	EN 61010-1, IEC 61010-1, VDE0411	EN 61010-1, IEC 61010-1, VDE0411
Approvals/Marks	CE	CE - c CSA us	CE - c CSA us
Ordering References	See page 217	See page 217	See page 216





Types

Ammeters and Voltmeters

Thermometer and Ohmmeter

LDI 35 AV0

LDI 35 AV2

LDI 35 CF



Dimensions (mm) H x W x D	48 x 96 x 83	48 x 96 x 83	48 x 96 x 83
Function	Microprocessor based indicator/controller, AC/DC ammeter, voltmeter, 3 1/2-digit or 3-digit + dummy zero display	Microprocessor based indicator/controller, AC/DC ammeter, voltmeter 3 1/2-digit or 3-digit + dummy zero display	Microprocessor based indicator/controller, Temperature resistance Measur. in C° or F° 3 1/2-digit or 3-digit + dummy zero display
Input Specifications			
Range code	Current: 2 mA DC, 20 mA DC Voltage: 200 mV DC, 20 VDC, 200 VDC [AV0]	Current: 2 A AC/DC, 5 A AC/DC, Voltage: 200 V AC/DC, 500 V AC/DC [AV2]	Pt100, Ni100 [CFX]; Pt1000[CFP]; TC-J-L-K-S-T [CFX/CFP]; 200.0Ω [CFX]; 2000Ω [CFP]
Accuracy	±0.3% FS	DC: ±0.3% FS, AC: ±0.5% FS	TC, PT100/1000, resistance ± 0,3% FS Ni 100 ± 0,5% FS
Indication	Max. 3 1/2-dgt: 1999, 3+0-dgt: 9990, Min. 3 1/2-dgt: -1999, 3+0-dgt: -1990,	3 1/2- dgt: 1999, 3+0-dgt: 9990, 3 1/2-dgt: -1999 (DC), 0 (AC), 3+0-dgt: -1990 (DC), 0 (AC)	Depending on range and type of the temperature probe
Resistance			0 to 200Ω (2000Ω)
Range selection/decimal point pos.	Programmable	Programmable	Programmable
Display refresh time	4 times/s	4 times/s	2 times/s
Functions	Password protection. Scaling factor. Diagnostics. Digital filter programm. Max. data hold.	Password protection. Scaling factor. Diagnostics. Digital filter programm. Max. data hold.	Password protection. Scaling factor. Diagnostics. Digital filter programm. Max. data hold.
Output Specifications			
Setpoints	1 optional alarm [1] 5 A/250 V AC/DC.Excit. output 40mA/15VDC[AX]	1 optional alarm [1] 5 A/250 V AC/DC.Excit. output 40mA/15VDC[AX]	1 optional alarm [1] 5 A/250 V AC/DC. Excit. output 40mA/15VDC[AX]
General Specifications			
Power supply	120 [E], 230 [D], 240[F], 24 [A], 48 [B], 115 [C] VAC, 9-32 [3] VDC, 40-150 [6] VDC,	120 [E], 230 [D], 240[F], 24 [A], 48 [B], 115 [C] VAC, 9-32 [3] VDC, 40-150 [6] VDC,	120 [E], 230 [D], 240[F], 24 [A], 48 [B], 115 [C] VAC, 9-32 [3] VDC, 40-150 [6] VDC,
Option	IP65[IX], excit. out [AX], tropicalization [XT]	IP65[IX], excit. out [AX], tropicalization [XT]	IP65[IX], excit. out [AX], tropicalization [XT]
Safety Standards	EN 61010-1, IEC 61010-1, VDE0411	EN 61010-1, IEC 61010-1, VDE0411	EN 61010-1, IEC 61010-1, VDE0411
Approvals/Marks	CE - c CSA us	CE - c CSA us	CE - c CSA us

Ordering References

See page 216

See page 216

See page 216



Ammeters and Voltmeters

Types

LDM 30

LDM 35 H

LDM 40



Dimensions
(mm) H x W x D

48 x 96 x 83 mm

48 x 96 x 83 mm

48 x 96 x 83

Description

3-digit + dummy 0 μ P-based indicator, red LED display.

3 1/2-digit μ P-based indicator and controller, 3 1/2-DGT or 3-DGT + dummy 0 red LED display.

4-digit μ P-based indicator and controller

Input Specifications

Range code

1A/100VAC [AV1];
5A/500VAC [AV5]

(0.2-2-20mA, 0.2-2-20V) [LSE];
(0.2- 2-5A, 20-200-500V) [HSX];
DC and AC TRMS

(0.2-2-20mA, 0.2-2-20V) [LSE];
(0.2- 2-5A, 20-200-500V) [HSX];
DC and AC TRMS

Accuracy

$\pm 0.5\%FS$, $\pm 1DGT$

DC: $\pm(0.3\%RDG + 3DGT)$
AC: $\pm(0.5\%RDG + 3DGT)$

DC: $\pm(0.1\%RDG + 2DGT)$
AC: $\pm(0.3\%RDG + 2DGT)$

Indication Max.
Min.

9990
000

Range selection/decimal
Display refresh time

Selectable by dipswitch
2 times/s

Programmable
5 times/s

Programmable
5 times/s

Functions

Signal/display scaling. Digital filter. Peak and valley.

Signal/display scaling. Digital filter. Peak and valley.

Output Specifications

Up to 2 Alarm relay, [1-2]

Up to 2 Alarm relay, [1-2],
Analogue 0 to 20mA,
0 to 10V [AV],
RS485

General Specifications

Power supply

24/48V AC [B],
115/230V AC [D]

90 to 260V AC/DC [H],
18 to 60V AC/DC [L]

90 to 260V AC/DC [H],
18 to 60V AC/DC [L]

Safety Standards

EN61010-1
IEC61010-1

Approvals/Marks

CE, c UR us, c CSA us

CE, c UR us, c CSA us

CE, c UR us, c CSA us pending

Option

Tropicalization [XT],
IP65 [IX]

Tropicalization [TX]

Tropicalization [TX]

Ordering References

See page 216

See page 216

See page 216





Modular Meter and Conditioner

Types

UDM 35

UDM40/USC

UDM 60



Dimensions
(mm) H x W x D
Description

48 x 96 x 105
MODULAR
Microprocessor-based indicator/controller AC/DC
Ammeter/Voltmeter/resistance/temperature measurement

44 x 113 x 107 (USC)
48 x 96 x 105 (UDM40)
MODULAR
Microprocessor-based indicator/controller AC/DC
Ammeter/Voltmeter/resistance/temperature measurement

48 x 96 x 105
MODULAR
6-DGT μ P-based controller

Input Specifications
Range code

0.2-2-20mA DC/AC
0.2-2-20V DC/AC [LSX]
+ AUX 13VDC [LSE] or 25VDC [LSF]; 0.2-2-5A DC/AC; 20-200-500V DC/AC [HSX]; TC: J-K-S-T-E, Pt100-250-500-1000 [TRX]; 0.02-0.2-2-20k Ω [TRX]

0.2-2-20mA DC/AC
0.2-2-20V DC/AC [LSX]
+ AUX 13VDC [LSE] or 25VDC [LSF]; 0.2-2-5A DC/AC; 20-200-500V DC/AC [HSX]; TC: J-K-S-T-E, Pt100-250-500-1000 [TRX]; 0.02-0.2-2-20k Ω [TRX]

Speed, frequency, rate, period, totalizer
0.001Hz to 50Hz for DC signal [TF1]
0.001Hz to 50Hz for AC signal [TF2]

Accuracy
Indication Max.
Min.

0.1% RDG
1999,
0 (AC) -1999 (DC)
3 1/2-digit LED red

0.1% RDG
9999,
0 (AC) -9999 (DC)
4-digit LED. Colours: red, green, orange

$\pm(0.001\%RDG + 3DGT)$
9 999 999
0
6-DGT, LCD backlighted display

Range selection/decimal
Display refresh time

Programmable
5 times/s

Programmable
5 times/s

Programmable
,

Functions

Password protection.
Scaling factor.
Min Max data storage.
Programmable digital filter.
Range selection.
Programmable via PC.

Password protection.
Scaling factor.
Min Max data storage.
16 linearization points.
Programmable digital filter.
Range selection.
Programmable via PC.

Signal/display scaling.
Analogue output scaling.
Digital filter. Peak and valley.
Linearization. Combination of the inputs according to predefined functions. Pulse metering and totalizing.

Output Specifications

Analogue 0 to 20mA, 0 to 10V [AV],
Serial RS485 [SX],
Serial RS232 [SY],
Single relay output [R1],
Dual relay output [R2],
Dual relay + dual open coll. output [R4],
Four relay output [RS]

Analogue 0 to 20mA, 0 to 10V [AV],
Serial RS485 [SX],
Serial RS232 [SY],
Single relay output [R1],
Dual relay output [R2],
Dual relay + dual open coll. output [R4],
Four relay output [RS]

Analogue 0 to 20mA, 0 to 10V [AV]
Serial RS485 [SX],
Serial RS232 [SY],
Single relay output [R1],
Dual relay output [R2],
Dual relay + dual open coll. output [R4],
Four relay output [RS]

General Specifications

Power supply

90 to 260V AC/DC [H],
18 to 60V AC/DC [L]

90 to 260V AC/DC [H],
18 to 60V AC/DC [L]

90 to 260 AC/DC [H],
18 to 60V AC/DC [L]

Safety Standards

EN 61010-1,
IEC 61010-1

EN 61010-1,
IEC 61010-1

EN 61010-1,
IEC 61010-1

Approvals/Marks

CE, c UR us, c CSA us

CE, c UR us, c CSA us

CE, c UR us, c CSA us pending

Option

Tropicalization [TX]

Tropicalization [TX]

Tropicalization [TX]

Ordering References

See page 216

See page 216

See page 216



Types

	Energy Meter	Energy Analyzer	Energy Meter
	EM10 DIN	EM11 DIN	EM21 72D
			
	  	 	   
Dimensions (mm) H x W x D	90 x 18 x 67	90 x 18 x 67	72 x 72 x 65
Description	1-DIN module	1-DIN module	
Function	1-phase energy meter kWh	1-phase energy analyzer V_{LN} , A, Hz, W, W_{dmd} , var, PF, kWh, kvarh. TRMS method	3-phase energy analyzer with double mountin capability, panel and DIN rayl W, var, PF, Phase-sequence, V_{LL} , V_{LN} , A TRMS method
Input Specifications			
Range code	120VAC [AV7] 230VAC [AV8] Ib: 5A, Imax: 32AAC; 1-phase	120VAC [AV7] 230VAC [AV8] Ib: 5A, Imax: 32AAC; 1-phase	120/230VAC, 400VAC In: 5A; Imax: 6A 3-phase
Accuracy		$\pm 0.5\%$ RDG (V, A)	
Active energy	Class 1 (EN62053-21) + class B (EN50470-3)	Class 1 (EN62053-21) + class B (EN50470-3) Class 2 (EN62053-23)	Class 1 (EN62053-21) + class B (EN50470-3) Class 2 (EN62053-23)
Reactive energy			
Display	5+1 DGT (energy), LCD	4 DGT (inst. variables) 5+1 DGT (energies), LCD	3 DGT (inst. variables) 6+1 DGT (energies), LCD
Output Specifications			
Out 1 (Pulse)	1-open collector	1-open collector	1 static opto-mosfet
Out 1 (Alarm)		1-relay	None
Out 2 (Serial communication)			None
Inputs			RS485 (2-wire, Modbus) M-BUS by means of VMU-B
General Specifications			
Power supply	Self power supply [X]	Self power supply [X]	Self power supply
Approvals/Marks	CE, MID certification	CE, MID certification	CE
Ordering References	See page 217	See page 217	See page 218





Types

Multifunction Meter

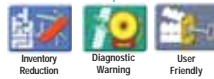
Energy Meter

Energy Analyzer

WM10 DIN

EM23 DIN

EM24 DIN



Dimensions (mm) H x W x D
Description
Function

71 x 90 x 64.5
3-phase multifunction meter
W, var, PF, Hz, A, V_{LN}, V_{LL}
TRMS method

71 x 90 x 64.5
3-phase energy analyzer
W, var, A, kWh, kvarh
TRMS method

90 x 71 x 65
4 DIN modules
3-phase energy analyzer
Sys: V_{LL}, V_{LN}, var, VA,
W_{dmd}, W, VA_{dmd}, Hz, kWh, kvarh,
hour counter, gas and water
Max: A_{dmd}, W_{dmd}, VA_{dmd}.
Single-phase: V_{LL}, V_{LN}, A, W, var, VA,
PF, A_{dmd}, kWh, kvarh.
TRMS method

Input Specifications
Range code

400VLLAC
Ib: 10A; I_{max} 65A
3-phase

400VLLAC
Ib: 10A; I_{max} 65A
3-phase

120/208V_{L-L} [AV6]; 400V_{L-L} [AV5]
In: 1/5A, I_{max}: 10AAC;
120/208V_{L-L} [AV0]; 230V_{L-L} [AV2]
400V_{L-L} [AV9] Ib: 10A,
I_{max}: 64AAC; 3-phase

Accuracy
Active energy
Reactive energy

Class 1 (EN62053-21) +
Class B (EN50470-3)
Class 2 (EN62053-23)

Class 1 (EN62053-21) +
Class B (EN50470-3)
Class 2 (EN62053-23)

±0.5% RDG (V, A)
Class 1 (EN62053-21) +
Class B (EN50470-3)
Class 2 (EN62053-23)

Display

3 x 3 DGT (inst. variables)

3 x 3 DGT (inst. variables)
6+1 DGT (energies) LCD

3x4 DGT (inst. variables)
8 DGT (energies), LCD

Output Specifications

Out 1 (Pulse)

None

1-open collector

2-open collector/relay

Out 1 (Alarm)

None

None

2-relay/open collector

Out 2
(Serial communication)

None

None

RS485 (2-wire)

Inputs

None

None

M-BUS by means of VMU-B
3 digital input

General Specifications

Power supply

Self power supply

Self power supply

Self power supply [X].
Auxiliary power supply:
18 to 60VAC/DC [L],
115/230VAC [D], according to
the model

Approvals/Marks

CE

CE, MID certification

CE, MID certification

Ordering References

See page 217

See page 217

See page 217



Energy Meters

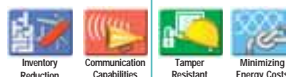
Power Analyzer

Types

EM3-DIN

EM4-DIN

WM22 DIN



Dimensions (mm) H x W x D
Description
Function

90 x 162.5 x 63
MODULAR
2-phase, 3-phase unbalanced
3 or 4 wires energy meter.
Direct connection up to 100 A.
6+1 digits electro-
mechanical display.

90 x 162.5 x 63
MODULAR
3-phase energy meter.
Direct connection up to 100 A.
Back-lighted LCD display.
3 1/2 digits instantaneous
variables read out, 8+ 7 1/2 dgt
energy read out.
Measurement of system and
phase variables, energy by
timeperiods, m³ H₂O and m³ GAS.

90 x 162.5 x 63
MODULAR
3-phase power analyzer.
Direct connection up to 100 A.
Back-lighted LCD display.
4 x 3 1/2 digits instantaneous
variables read out, 8+ 7 1/2 dgt
energy read out.
Measurement of system
and phase variables.
Measurement of THD.

Input Specifications

Range code

208V_{L-L}[AV8], 220V_{L-L}[AV2],
400V_{L-L}[AV9],
660V_{L-L}[AV3]/20(00)AAC.
3-phase unbalanced
load [3]

100V_{L-L}[AV6], 208V_{L-L}[AV4],
400V_{L-L}[AV5], 660V_{L-L}[AV7]
5(10) AAC; 208V_{L-L}[AV0] [AV8
self p.s.], 220V_{L-L}[AV2],
400V_{L-L}[AV1] [AV9 self p.s.],
660V_{L-L}[AV3] 20(100) AAC;

100V_{L-L}[AV6], 208V_{L-L}[AV4],
400V_{L-L}[AV5], 660V_{L-L}[AV7]
5(10) AAC; 208V_{L-L}[AV0],
400V_{L-L}[AV1], 220V_{L-L}[AV2]
660V_{L-L}[AV3] 20(100) AAC

Accuracy

Active energy

Reactive energy

Display

Class 2: (EN61036)
Class 3: (EN61268)
6+1 digits (electro-
mechanical)

Class 1: (EN61036)
Class 2: (EN61268)
3 1/2-digit backlighted
LCD (8-digit for energy)

±0.5% RDG (A,V)
Class 1: (EN61036)
Class 2: (EN61268)
1000 samples /s @ 50Hz

Output Specifications

Out 1 (Pulse)

Out 1 (Alarm)

Out 2
(Serial communication)

Inputs

Dual pulse outputs
(NPN transistor) [O]

Dual pulse output
module (NPN trans.) [O]
1 alarm output module [O] (NPN
trans.) 30 VDC/100 mA Max.

Dual pulse output
module (NPN trans.) [O]
1 alarm + 1 pulse output
module [O]
(NPN tr) 30 VDC//100 mA Max.

RS422/485 serial port [SO]

1 analogue output :
0 to 20 mADC [A1],
or 0 to 10 VDC [V1]

2 digital inputs module [D]

RS422/485 serial port [SO]

General Specifications

Power supply

Self power supply [X]:
400VAC, 208VAC V_{L-L},
Auxiliary power supply:
230VAC[D], 115VAC[C]

Self power supply: [X]
400VAC, 208VAC, 220VAC V_{L-L},
Auxiliary power supply:
230[D], 115[C], 48[B],
24 [A]VAC, 18 to 60 VDC [4],
77 to 143 VDC [5]

Self power supply: [X]
400VAC 208VAC V_{L-L},
Auxiliary power supply:
230[D], 115[C], 48[B],
24 [A]VAC, 18 to 60 [4],
77 to 143 VDC [5]

Approvals/Marks

CE

CE

CE

Ordering References

See page 217

See page 217

See page 218





Types

Multifunction Meter

Power Analyzers

WM12-DIN

WM14 DIN

WM14 Advanced



Dimensions
(mm) H x W x D
Description

90 x 107.8 x 64,5
3-phase multifunction power indicator. System: V_{LL} , V_{LN} , An, VA, V_{Admd} , W_{dmd} , W, var, PF, Hz. Max: A, W_{dmd} . Single phase: V_{LL} , V_{LN} , A, VA, W, var, PF

90 x 107.8 x 64,5
3-phase power analyzer. System: V_{LL} , An, PF, W, var, VA, W_{dmd} , V_{Admd} , Hz, kWh, kvarh, hour meter; Max: A, A_{dmd} , W_{dmd} ; Single phase: V_{LL} , V_{LN} , A, A_{dmd} , PF, W, var, VA.

90 x 107.8 x 64,5
3-phase power analyzer. System: V_{LL} , V_{LN} , An, PF, W, var, VA, W_{dmd} , V_{Admd} , Hz, kWh, kvarh, hour meter; Max: W_{dmd} , V_{Admd} . Single phase: V_{LL} , V_{LN} , A, A_{dmd} , PF, W, var, VA, THD (A,V); Max: V_{LN} , A, A_{dmd} , W. Min: V_{LN} , A, PF.

Input Specifications

Range Code

400/660 V_{L-L} /5(6)AAC [AV5]
100/208 V_{L-L} /5(6)AAC [AV6]

400/660 V_{L-L} /5(6)AAC [AV5]
100/208 V_{L-L} /5(6)AAC [AV6]

400/660 V_{L-L} /5(6)AAC [AV5],
100/208 V_{L-L} /5(6)AAC [AV6]

Accuracy

$\pm 0.5\%$ FS (V, A)

0.5 FS (V, A), 1 (kWh), 2 (kvarh)

0.5 FS (V, A), 1 (kWh), 2 (kvarh)

Display

3x3-digit
LED

3x3-digit, LED
8+1-digit (energies)

3x3-digit, LED
8+digit (energies)

Display refresh time

1.5 times/s

1.5 times/s

5 times/s (2 times/s FFT on)

Output Specifications

Serial communication output

RS 485 port (on request) [S]

RS 485 port (on request) [S]

RS422/485 (on request) [S1]

Alarm output

2 (relays) with PLC-type control function on 16 variables (AND/OR) [R]

Pulse output

2 (open collector) [O]

General Specifications

Power supply

24 VAC [A],
48 VAC [B],
115 VAC [C],
230 VAC [D],
18 to 60 VDC [3]

24 VAC [A]
48 VAC [B]
115 VAC [C]
230 VAC [D]
18 to 60 VDC [3]

18 to 60VAC/DC [L],
90 to 260VAC/DC [H]

Approvals/Marks
Note

CE, c UR us

CE, c UR us, c CSA us

CE, c UR us
Advanced version [AX]

Ordering References

See page 218

See page 218

See page 218



Types

Multifunction Meter

WM12 96



Dimensions
(mm) H x W x D
Description

96 x 96 x 46
3-phase multifunction indicator.
System: V_{LL} , V_{LN} , A, An, VA, VA_{dmd} , W, W_{dmd} , var, PF, Hz.
Max: A, W_{dmd}
Single phase: V_{LL} , V_{LN} , A, VA, W, var, PF

Input Specifications

Range Code

400/660 $V_{L-L}/5(6)$ AAC [AV5],
100/208 $V_{L-L}/5(6)$ AAC [AV6]

Accuracy

0.5 FS (V, A)

Display

3x3-digit, LED

Display refresh time

1.5 times/s

Output Specifications

Serial communication output

RS 485 port (on request) [S]

Alarm output

Pulse output

General Specifications

Power supply

24 VAC [A],
48 VAC [B],
115 VAC [C],
230 VAC [D],
18 to 60 VDC [3]

Approvals/Marks

CE, c UR us, c CSA us

Note

Ordering References

See page 218

Power Analyzers

WM14 96 Basic/Profibus



96 x 96 x 46
3-phase power analyzer.
System: V_{LL} , An, PF, W, var, VA, W_{dmd} , VA_{dmd} , Hz, kWh, kvarh, hour meter;
Max: A, A_{dmd} , W_{dmd} ;
Single phase: V_{LL} , V_{LN} , A, A_{dmd} , PF, W, var, VA.

400/660 $V_{L-L}/5(6)$ AAC [AV5],
100/208 $V_{L-L}/5(6)$ AAC [AV6]

0.5 FS (V, A)
1 (kWh)
2 (kvarh)

3x3-digit, LED
8+1-digit (energies)

1.5 times/s

RS 485 port (on request) [S]
Profibus DP port [DG]
(on request)

24 VAC [A],
48 VAC [B],
115 VAC [C],
230 VAC [D],
18 to 60 VDC [3],
90 to 260 AC/DC [H]
DG version only

CE, c UR us (no DG version)

See page 218

WM14 96 Advanced



96 x 96 x 46
3-phase power analyzer.
System: V_{LL} , V_{LN} , An, PF, W, var, VA, W_{dmd} , VA_{dmd} , Hz, kWh, kvarh, hour meter;
Max: W_{dmd} , VA_{dmd} . Single phase: V_{LL} , V_{LN} , A, A_{dmd} , PF, W, var, VA, THD (A,V); Max: V_{LN} , A, A_{dmd} , W. Min: V_{LN} , A, PF.

400/660 $V_{L-L}/5(6)$ AAC [AV5],
100/208 $V_{L-L}/5(6)$ AAC [AV6]

0.5 FS (V, A),
1 (kWh),
2 (kvarh)

3x3-digit, LED
8+1-digit (energies)

5 times/s (2 times/ FFT on)

RS422/485 (on request) [S1]

2 (relays) with PLC-type control function on 16 variables (AND/OR) [R]
2 (open collector) [O]

18 to 60VAC/DC [L],
90 to 260VAC/DC [H]

CE, c UR us
Advanced version [AX]

See page 218





Types

Energy Analyzer

EM26 96



Modular Power Quality Analyzers

WM3 96



WM4 96



Dimensions
(mm) H x W x D
Description

96 x 96 x 61.5
3-phase energy analyzer
Sys: V_{LL} , V_{LN} , An, var, VA, W
 W_{dmd} , VA_{dmd} , VA, Hz, %THD-V,
%THD-A, kWh, kvarh,
hour counter, gas and water
Max: A_{dmd} , W_{dmd} , VA_{dmd} .
Single-phase: V_{LL} , V_{LN} , A, W, var,
VA, PF, A_{dmd} . kWh, kvarh;
TRMS method

96 x 96 x 124
MODULAR
3-phase power quality
analyzer
System: V_{LN} , V_{LL} , An,
VA, VA_{dmd} , W, W_{dmd} ,
var, PF, Hz, THD
total/partial kWh,
kvarh (4 tariff)
Single phase: V_{LN} , V_{LL} ,
A, W, var, PF, THD

96 x 96 x 124
MODULAR
Universal utility meter
and power analyzer.
32 bit μP based.
Load profile indication.
Alarm outputs,
SMS messages.
Measurement of all
instantaneous variables.
Energy, water and gas
metering.

Input Specifications
Range Code

120/208 V_{L-L} [AV6],
400/660 V_{L-L} [AV5]
In: 1/5A, I_{max}: 10AAC
3-phase unbal. load

433 VAC-1/5 AAC [AV5],
690 VAC-1/5 AAC [AV7]

433 VAC-1/5 AAC [AV5],
690 VAC-1/5 AAC [AV7]

Accuracy

$\pm 0.5\%$ RDG (V, A)
1 (kWh),
2 (kvarh)

$\pm 0.5\%$ RDG (V, A)
1 (kWh),
2 (kvarh)

$\pm 0.5\%$ RDG (V, A)
1 (kWh),
2 (kvarh)

Display

3x4-digit (inst. variables)
8-digit (energies) LCD

4x4-digit backligh. LCD
4x9-digit (energies).

4x4-digit backlighted LCD
4x9-digit (energies).

Display refresh time

1.5 times/s

10 times /s

10 times/s

Output Specifications

Serial communication
port
Internet/Ethernet port

RS485 (2-wire) [S1]

RS 422/485 port
RS232 port + RTC

RS 422/485 port, RS232 port+
RTC + 2MB data or RS232
Internet/Ethernet comm. with
WEB server capability [E1]

Alarm output

2-relay [R2]/ open collector [O3]

Up to 2 single/dual
open collector or relay
modules

Up to 2 single/dual
open collector or relay
modules

Pulse output

3-open collector [O3]/relay [B2]

Up to 2 single/dual
open collector or relay
modules

Up to 2 single/dual
open collector or relay
modules

Digital input

3 digital inputs [I3]

Up to 3 digital inputs

Up to 6 digital inputs

Analogue output

Up to 2 single/dual
analog output modules

General Specifications

Power supply

18 to 60VAC/DC [L]
90 to 260VAC/DC [H]

18 to 60 VAC/DC [L]
90 to 260 VAC/DC [H]

18 to 60 VAC/DC [L]
90 to 260 VAC/DC [H]

Approvals/Marks

CE, c UL us (only H),

CE, c UR us, CSA

CE, c UR us, CSA

Ordering References

See page 218

See page 219

See page 219



Types

Power Quality Analyzer

WM5 96



Dimensions
(mm) H x W x D
Description

96 x 96 x 124
MODULAR
Smart power quality analyzer.
Sys: V_{LN} , V_{LL} , An, W, var, VA, PF, Hz, kWh, kvarh,
Single-phase: V_{LN} , V_{LL} , A, W, var, VA, PF, THD-V, THD-A.
THD and single H up to the 63rd H (V, A)

Input Specifications

Range code

120/208V_{L-L} [AV6],
400/690V_{L-L} [AV5]
In: 1/5A, I_{max}: 10AAC

Accuracy

Active energy

Reactive energy

Display

$\pm 0.2\%$ RDG (V, A)
Class 0.5 (EN62053-22)
Class 2 (EN62053-23)
4x4-digit backlighted LCD
4x9-digit (energy)

Sampling Rate

10 times/s

Output Specifications

Serial communication port

Internet/Ethernet port

Alarm output

Pulse output

Digital input

Analogue output

RS422/485, RS232+RTC modules. Optical port (ANSI C12.18/ Modbus)

Internet/Ethernet comm. with WEB server capability [E2]

Up to 16, by: single, dual or quadruple open collector or relay modules

Up to 16, by: single dual or quadruple open collector or relay modules

Up to 12 (W_{dmd} , VA_{dmd} sync.; tariff; contact status reading)

Up to 8, made by single/dual (mA/V) output modules

General Specifications

Power supply

Approvals/Marks

18 to 60VAC/DC [L],
90 to 260VAC/DC [H]

CE, cURus, CSA

Ordering References

See page 219

Modular Power Quality Transducers

PQT H



90 x 90 x 140
MODULAR
Smart power quality transducer.
Sys: V_{LN} , V_{LL} , An, W, var, VA, PF, Hz, kWh, kvarh,
Single-phase: V_{LN} , V_{LL} , A, W, var, VA, PF, THD-V, THD-A.
THD and single H up to the 63rd H (V, A).

120/208V_{L-L} [AV6],
400/690V_{L-L} [AV5]
In: 1/5A, I_{max}: 10AAC

$\pm 0.2\%$ RDG (V, A)
Class 0.5 (EN62053-22)
Class 2 (EN62053-23)

10 times/s

RS422/485, RS232+RTC modules. Optical port (ANSI C12.18/Modbus)

Internet/Ethernet comm. with WEB server capability [E2]

Up to 16, by: single/dual or quadruple open collector or relay modules

Up to 16, by: single dual or quadruple open collector or relay modules

Up to 12 (W_{dmd} , VA_{dmd} sync.; tariff; contact status reading)

Up to 8, by single/dual (mA/V) output modules

18 to 60VAC/DC [L],
90 to 260VAC/DC [H]

CE, cURus, CSA

See page 219

PQT 90



90 x 90 x 140
MODULAR
3-phase power quality transducer.
32 bit μ P based. Alarm outputs, SMS messages. Measurement of all instantaneous variables. Energy, water and gas metering. 2MB memory+ Real time clock (on request).

240/415 VAC-1/5 AAC [AV5],
400/690 VAC-1/5 AAC [AV7]

Class 0.5 (A,V)
Class 1 (EN61036)
Class 2 (EN61260)

10 times/s

RS 422/485 port, RS232 port + RTC+2MB data module

Internet/Ethernet comm. with WEB server capability [E1]

Up to 2 single/dual open collector or relay modules

Up to 2 single/dual open collector or relay modules

Up to 6 digital inputs

Up to 2 single/dual analogue output modules

18 to 60 VAC/DC [L],
90 to 260 VAC/DC [H]

CE, cURus, CSA

See page 218





Types

Compact Power Transducers

Transducer

CPT DIN

CPT DIN Advanced

CVT DIN



Dimensions (mm) H x W x D	45 x 83.5 x 98.5	45 x 83.5 x 98.5	89 x 71.5 x 58.5
Description	3-phase compact power transducer.	3-phase compact power transducer.	Single phase transducer 1-phase AC, DC.
Function	4-digit data format instantaneous variable, 8+1-digit format energy variables, 5+2-digit data format hours. TRMS method. Sys: V_{LL} , An, PF, W, var, VA, W_{dmd} , VA_{dmd} , Hz, kWh, kvarh, hour meter; Max: W_{dmd} ; Single-ph: V_{LL} , V_{LN} , A, A_{dmd} , PF, W, var, VA.	4-digit data format instantaneous variable, 8+1-digit format energies, 5+2-digit format hours. TRMS method. Sys: V_{LL} , V_{LN} , An, PF, W, var, VA, W_{dmd} , VA_{dmd} , Hz, kWh, kvarh, hour; Max: W_{dmd} , VA_{dmd} . Sing. ph: V_{LL} , V_{LN} , A, A_{dmd} , PF, W, var, VA, THD (A,V); Max: V_{LN} , A, A_{dmd} , W. Min: V_{LN} , A, PF.	Measurements V, A, Hz.
Input Specifications			
Range code	120/208VAC [AV6], 400/690VAC [AV5], 1AAC and 5AAC	120/208VAC [AV6], 400/690VAC [AV5], 1AAC and 5AAC	1 A/100 VAC [AV1], 60 mVDC/ 10 VDC [AV2], 5 A/100 VAC [AV4], 5 A/500 VAC [AV5], 200VDC/ 1ADC [AV6], 45 to 55Hz [F1], 55 to 65Hz [F2], 350 to 450Hz [F3]
Accuracy	±0.5% RDG (A,V)	±0.5% RDG (A,V)	0.5% FS
Active energy	kWh: class 1	kWh: class 1 (EN62053-21)	
Reactive energy	kvarh: class 2	kvarh: class 2 (EN62053-23)	
Sampling Rate	1.5 times/s	1.5 times/s	
Output Specifications			
Pulse		2 (open collector) [O2]	
Alarm		2 (relays) with PLC-type control function on 16 variables (AND/OR) [R2]	
Analogue		Up to 3: 20mA [A1-3], 10VDC [V1-3]	0 to 20 mA [1], 4 to 20 mA [2], 0 to 10 V [3], 0 to ±1 V [4]
Serial communication	RS422/485 [S1], RS232 [S2]	RS422/485 [S1], RS232 [S2]	
General Specifications			
Power supply	18 to 60VAC/DC [L], 90 to 260VAC/DC [H]	18 to 60VAC/DC [L], 90 to 260VAC/DC [H]	24 VAC [A], 48 VAC [B], 115 VAC [C], 230 VAC [D]
Approvals/Marks	CE, c UR us, CSA	CE, c UR us, CSA	CE
Note	Basic version [BX]	Advanced version [AX]	
Ordering References	See page 218	See page 218	See page 216



EOS-Array Solar Control Solution

Types

VMU-M



VMU-S



VMU-P



VMU-O



	VMU-M	VMU-S	VMU-P	VMU-O
Dimensions (mm) H x W x D	1-DIN module	1-DIN module	1-DIN module	1-DIN module
Description	Master unit 6-DGT readout	String unit, with built-in protection fuseholder	Environment variable measurement unit	Inputs/outputs unit
Function	VMU-M performs the local bus management of VMU-S, VMU-P both measuring units and VMU-O I/O unit.	Variables measuring unit, DC current, voltage, power and energy metering. String control and efficiency measurement.	PV module temperature, air temperature, sun irradiation and wind speed metering.	VMU-O allows to add, for every single unit, available in the local bus two digital inputs and two relay outputs.
Input Specifications				
Range code	2 Pt100 or Pt1000, 3-wire (-50.0 to +200.0°C) or one digital input and one pulse input. [T2]	Direct connections 16A/800VDC [AV10]. Measurements: V, A, W, Wh.	2 Pt100 or Pt1000, 3-wire (PV and air temperature). 1 irradiation input (up to 120mV). 1 wind speed input (0 to 1000Hz max.) [2TIW].	2 digital inputs for "Protection trip detection or others" [I2].
Accuracy	±(0.5%RDG +5DGT)	±(0.5%RDG +2DGT)	±(0.2 RDG + 1DGT)	
Output Specifications				
Alarm	Real and virtual alarm management of all variables coming from VMU-M, VMU-S, and VMU-P with event logging			2 digital outputs for alarm notification as string alarm or as a digital input status changing. SPST relay type. [R2]
Serial communication	Local bus: up to 15 mixed VMU-S, VMU-P and VMU-O units RS485 communication port (Modbus) [S1]	Local bus: up to 15 VMU-S units in the same bus [S]	Local bus: one VMU-P unit per bus [S]	Local bus: up to 7 VMU-O units
Others	Data logger (V, A, W, PV cell and air temperature, irradiation, wind speed) DC/AC efficiency.	Diagnostics functions: antitheft control, fuse blow detection, wrong PV panel connection. Front multicolor LED to show the status of the unit.	Front multicolor LED to show the status of the unit.	Front multicolor LED to show the status of the unit.
General Specifications				
Power supply	12 to 28 VDC power supply [A].	Self-power supply from VMU-M unit [X].	Self-power supply from VMU-M unit [X].	Self-power supply from VMU-M unit [X].
Approvals/Marks	cULus approved.	cULus approved.	cULus approved.	cULus approved.
Ordering References	see page 219	see page 219	see page 219	see page 219





Electromechanical Counters

Types

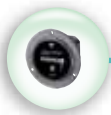
	EMCT46 / EMCT47	E2CT4	E1CT4	ECH4
Version	Micro	Mini	Standard	Combination time and energy meter
Dimensions (mm) H x W x D	13.8x25x35.2 20x30x36.2	24x48x53.8	24x48x49	48x48x38
Technical Data				
Number of digit	6/7	5	6	7/8
Reset	no	yes	no	no
Digit height, visible (mm)	4 x 1.7 / 4 x 1.2	4 x 1.7	4 x 1.7	4 x 1.7
Panel cut-out (mm)	e.g. 27x 14	45 x 22 / 31 x 20	45 x 22 / 31 x 20	46 x 46 X Ø50.5
Mounting type	Panel / PCB	Panel / base mount / PCB	Panel / base mount / PCB	Panel / DIN-rail
Max. protection	up to IP65	IP41	IP41	IP52 front side
Pulse voltage min./max.	1.5...24VDC	24...230VAC 12...24VDC	24...230VAC 12...24VDC	0...260VAC 0...260VDC
Max. count frequency (Hz)	10	10	10	10
Min. power consumption (mW)	70	130	50	1W / 3VA
Ordering References	EMCT46xxxxxx EMCT47xxxxxx	E2CT4xxxxxx	E1CT4xxxxxx	ECH4

Electronic Counters

Types

	FKA	DCT86	DMF861	DMF862
Version	LCD-Panel mount	LED-Panel mount	LED-Panel mount	LED-Panel mount
Dimensions (mm) H x W x D	DIN 48 X 24	DIN 48 X 24	DIN 48 X 24	DIN 48 X 24
Function				
Totaliser	yes	-	-	2 pulse counters,
Pulse counter	-	yes	yes	Pulse counter and timer,
Position display for encoders	-	-	yes	Pulse and frequency meter
Frequency meter/Tachometer	-	-	yes	or 2 timers
Timer	-	-	yes	
Technical Data				
Number of digit	8	6	6	6
Reset	manual/electric	manual/electric	manual/electric	manual/electric
Digit height, visible (mm)	8	8	8	8
Panel cut-out (mm)	45 x 22	45 x 22	45 x 22	45 x 22
Max. protection	IP65 front side	IP65 front side	IP65 front side	IP65 front side
Max. count frequency (Hz)	12000	60000	60000	60000
Power supply	Lithium battery	10...30VDC	10...30VDC	10...30VDC
Count inputs	NPN/PNP 10...260VAC/DC	NPN/PNP	NPN/PNP	NPN/PNP
Ordering References	FKAxxxxxx	NI-DCT86xxxxxx	NI-DMF861xxxxxx	NI-DMF862xxxxxx

Control



Digital Multifunction

Digital preset counter

Types

DMF1461

DMF1462

DCT2L



Version
Dimensions (mm) H x W x D

LED-Panel mount
DIN 96 x 48

LED-Panel mount
DIN 96 x 48

LCD-Panel mount /1 preset
DIN 48 x 48

Function

Pulse counter
Position display for encoders
Frequency meter/Tachometer
Timer

yes
yes
yes
yes

2 pulse counters,
Pulse counter and timer,
Pulse and frequency meter
or 2 timers

-
-
-
-

Technical Data

Number of digit
Reset
Preset
Digit height, visible (mm)
Panel cut-out (mm)
Max. protection
Max. count frequency (Hz)
Supply voltage
Count inputs

6
manual/electric
-
14
92 x 45
IP65 front side
60000
90...260VAC/10...30VDC
Schmitt-Trigger

6
manual/electric
-
14
92 x 45
IP65 front side
60000
90...260VAC/10...30VDC
Schmitt-Trigger

6
-
1
-
45 x45
IP65 front side
25
battery (8years)
count, reset and program inputs
12...250VAC/DC

Ordering References

DMF1461xxx0

DMF1462xx0

DCT2Lxxxxxx

Hour meter electromechanical

Types

E1HM4

E2HM4

E2HM35

E1HM35



Version
Dimensions (mm) H x W x D

Panel mount
DIN 48 x 24 - DIN 28 x 53

Panel mount
DIN 48 x 48

Panel mount
Ø71.1x37.3

DIN-Rail
90x36x66

Technical Data

Number of digit
Time range
Digit height, visible (mm)
Panel cut-out (mm)
Type of mounting
Max. protection
Min. power consumption (WVA)
Voltage range

7/8
0.01 ~ 99999.99h
4
45 x 22 / 50 x 25
Panel mount
IP65 front side
0.5 / 1.2
20...264VAC
10...130VDC/24VDC

7/8
0.01 ~ 99999.99h
4
□46 / Ø50.5
Panel mount
IP65 front side
0.5 / 1.2
20...264VAC - 100...130VAC
10...30VDC

6
0.01 ~ 99999.99h
3.5
Ø56.7
Panel mount
IP65 front side
0.08 / 0.4
115...230VAC
10...80VDC

7
0.01 ~ 99999.99h
3.5
-
DIN-Rail
IP65 front side
1 / 2.5
230VAC
10...27VDC

Ordering References

E1HM4xxxxxx

E2HM4xxxxxx

E2HM35xxxxxx

E1HM35xxxxxx





Types

Hour meter electronic LCD

Electronic time preset counters

FSA01

FSA02

FKC01

DMF61 / DMF62



Version
Dimensions (mm) H x W x D

LCD panel mount
DIN 24 x 48

LCD panel mount
DIN 24 x 48

LCD panel mount
DIN 48 x 48

LCD panel mount
DIN 48 x 48

Technical Data

Number of digit
Time range
Max. Count frequency (Hz)
Preset
Reset
Digit height, visible (mm)
Panel cut-out (mm)
Mounting type
Max. protection
Power supply
Output
Input

7
0.01h; h.min
-
-
manual
8
45 x 22
Panel mount
IP65 front side
Lithium battery (>8years)
-

8
0.01h; h.min
-
-
manual
8
45 x 22
Panel mount
IP65 front side
Lithium battery (>8years)
-

6 x 2 lines
-
10.000
1
electronic
-
45 x 45
Panel mount
IP65 front side
90...260VAC/11...30VDC
Relay or Optocoupler
2 count inputs, gate,
reset and key lock input

2 x 6
-
s. min. h or hh.mm.ss
61: 1 / 62: 2
electronic
-
45 x 45
Panel mount
IP65 front side
90...260VAC/11...30VDC
Relay or Optocoupler
2 count inputs, gate,
reset, lock, MPI, 4
optional inputs

Ordering References

FSA01xxxxxx

FSA02xxxxxx

FKC0101xxxx

DMF6101xxxx0
DMF6201xxxx0



PID Controller – PDI series

Types

PDI 110

PDI 380

PDI 390



Dimensions (mm) W x H x D
Function

75 x 33 x 64
Single display digital controller. 1 configurable input for thermistors. Generic cooling and heating process and ON/OFF control mode applications. Additional configurable digital input. 2 configurable outputs (relays, SSR) 1 for temperature control and 1 for alarm function. Different alarm configuration available. Multi-level parameters programming, password protected. Programming KEY.

75 x 33 x 64
Single display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 2 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. Multi-level parameters programming, password protected. Programming KEY.

75 x 33 x 64
Dual display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 2 configurable outputs (relay, SSR). Soft Start and LbA functions. Multi-level parameters programming, password protected. Programming KEY.

Input characteristics

Overall accuracy
Input signal

±0.5% f.s.
PTC KTY81-121, NTC 103AT-2

±0.5% f.s., ±1% TC-S
TC (J, K, S, I R), Pt100, mV [C]
TC (J, K, S, I R), PTC, NTC, mV [E]
0/4-20 mA [I]
0/1-5 0/2-10 VDC [V]

±0.5% f.s., ±1% TC-S
TC (J, K, S, I R), Pt100, mV [C]
TC (J, K, S, I R), PTC, NTC, mV [E]
0/4-20 mA [I]
0/1-5 0/2-10 VDC [V]

Sampling rate
Display

8 per second
4 digit 7-segment LED, h 12mm

8 per second
4 digit 7-segment LED, h 12mm

8 per second
4+4 digit 7-segment LED, h 7mm

Output characteristics

Output 1
Output 2

Relay SPDT 16A-AC1 [S],
Relay SPST-NO 16A-AC1 [R]
No [X]
Relay SPDT 5A-AC1 [R],

Relay [R], 8mA/8VDC for SSR [O]
No [X]
Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 8mA/8VDC for SSR [O]
No [X]
Relay [R], 8mA/8VDC for SSR [O]

Others

Power supply
Internal Buzzer
Approvals

12VAC / DC [F]
24VAC / DC [L]
100-240VAC [H]

12VAC / DC [F]
24VAC / DC [L]
100-240VAC [H]

12VAC / DC [F]
24VAC / DC [L]
100-240VAC [H]

No Buzzer [X]
Buzzer [B]
CE, cURus

CE, cURus

CE, cURus

Ordering References

See page 222

See page 222

See page 222





PID Controller – PDI series

Types

PDI 408

PDI 409

PDI 410



Dimensions (mm) W x H x D
Function

48 x 48 x 98
Single display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 3 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. Multi-level parameters programming, password protected. Programming KEY.

48 x 48 x 98
Dual display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 3 configurable outputs (relay, SSR). Soft Start and LbA functions. Multi-level parameters programming, password protected. Programming KEY.

48 x 48 x 98
Single display digital controller. Up to 4 configurable set points. Universal input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 4 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. RS485 communication. CT input for HB alarm. Multi-level parameters programming, password protected. Programming KEY.

Input characteristics

Overall accuracy
Input signal

±0.5% f.s., ±1% TC-S
TC (J, K, S, IR), PTC, NTC, mV [E]
TC (J, K, S, IR), PT100, mV [C]
0/4-20 mA [I]
0-1V, 0/1-5V, 0/2-10V [V]

±0.5% f.s., ±1% TC-S
TC (J, K, S, I R), PTC, NTC, mV [E]
TC (J, K, S, I R), PT100, mV [C]
0/4-20 mA [I]
0-1V, 0/1-5V, 0/2-10V [V]

±0.15% f.s.
Pt100, TC (J, K, S, IR),
PTC, NTC, mv, V, mA

Sampling rate
Display

8 per second
4 digit 7-segment LED, h 12mm

8 per second
4+4 digit 7-segment LED, h 7mm

8 per second
4 digit 7-segment LED, h 12mm

Output characteristics

Output 1

Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 8mA/8VDC for SSR [O]

Relay [R], 7mA/14VDC for SSR [O]

Output 2

No [X]
Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

Output 3

No [X]
Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

Output 4

No [X]
Relay [R], 7mA/14VDC for SSR [O]

Options

Serial Communication

No [X]
RS485 [S]

Heater Break Alarm

No [X]
CT input [H]

Others

Power supply

24VAC / DC [L]
100-240VAC [H]

24VAC / DC [L]
100-240VAC [H]

24VAC / DC [L]
100-240VAC [H]

Approvals

CE, cURus

CE, cURus

CE, cURus

Ordering References

See page 222

See page 222

See page 222



PID Controller – PDI series

Types

PDI 420



48 x 48 x 98

Dual display digital controller. Up to 4 configurable set points. Universal input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 4 configurable outputs (relay, SSR). Soft Start and LbA functions. RS485 communication. CT input for HB alarm. Multi-level parameters programming, password protected. Programming KEY.

PDI 430



48 x 48 x 98

Dual display digital controller. Up to 4 configurable set points. Universal input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 4 configurable outputs (relay, SSR or 2 normalized analogue signal outputs). Input signal retransmission. Motorized actuators control. Soft Start and LbA functions. RS485 communication. CT input for HB alarm. Additional dig. in. Multi-level parameters programming, password protected. Programming KEY.

PDI 720



72 x 72 x 97

Single display digital controller. Up to 4 configurable set points. Configurable multi input. ON/OFF, single/double action PID or Neutral Zone control. Fast Autotuning and Selftuning. Up to 3 configurable outputs (relay, SSR). Soft Start and LbA functions. Led shift index. RS485 communication. Additional digital input. Multi-level parameters programming, password protected. Programming KEY.

Dimensions (mm) W x H x D
Function

Input characteristics

Overall accuracy
Input signal

±0.15% f.s.
Pt100, TC (J, K, S, IR),
PTC, NTC, mv, V, mA

±0.15% f.s.
Pt100, TC (J, K, S, B, C, E, L, N, R, T, IR),
PTC, NTC, mv, V, mA
(1 Programmable digital input)

±0.5% f.s., ±1% TC-S
Pt100, TC (J, K, S, IR), mV [C]
PTC, NTC, mV, TC (J, K, S, IR) [E]
0/4-20 mA [I], 0/1-5V, 0/2-10V [V]

Sampling rate
Display

8 x per second
4+4 digit 7-segment LED, h 7mm

8 x per second
4+4 digit 7-segment LED, h 7mm

8 x per second
4 digit 7-segment LED, h 14mm

Output characteristics

Output 1

Relay [R], 7mA/14VDC for SSR [O]

Relay [R], 7mA/14VDC for SSR [O]
0/4-20mA [C], 0/2-10V [V]

Relay [R], 8mA/8VDC for SSR [O]

Output 2

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]
0/4-20mA [C], 0/2-10V [V]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

Output 3

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 8mA/8VDC for SSR [O]

Output 4

No [X]
Relay [R], 7mA/14VDC for SSR [O]

No [X]
Relay [R], 7mA/14VDC for SSR [O]

Options

Serial Communication

No [X]
RS485 [S]

No [X]
RS485 [S]

Serial Communication
and/or digital input

No [X]
RS485 [S]
RS485 + DI [I]

No [X]
DI [I]

Heater Break Alarm

No [X]
CT input [H]

No [X]
CT input [H]

Others

Power supply

24 VAC / DC [L]
100-240 VAC [H]

24 VAC / DC [L]
100-240 VAC [H]

24 VAC / DC [L]
100-240 VAC [H]

Approvals

CE, cURus

CE, cURus

CE, cURus

Ordering References

See page 222

See page 222

See page 223





Single phase switching power supplies

Types

5 / 10 / 18W

30 / 60W

90W



Dimensions
(mm) H x W x D

90 x 22.5 x 115

90 x 40.5 x 115

125 x 63.5 x 126

Output Specifications

Voltage	5VDC	15VDC	12VDC	24VDC
Current SPD 5W	1A	340mA	420mA	210mA
Current SPD 10W	2A	670mA	840mA	420mA
Current SPD 18W	3A	1.2A	1.5A	750mA
Line regulation	±1%			
Load regulation	±2%			
Efficiency	75%	77%	77%	77%

Voltage	12VDC	24VDC	48VDC
Current SPD 30W	2.5A	1.25A	625mA
Current SPD 60W	5A	2.5A	1.25A
Line regulation	±2%		
Load regulation	±2%		
Efficiency	86%	89%	89%

Voltage	24VDC
Current SPD 90W	3.8A
Line regulation	±0.5%
Load regulation	±1%
Efficiency	85%

Input Specifications

Voltage range	Multi voltage: 90 ÷ 265VAC to 120 ÷ 370VDC
Frequency range	47 ÷ 63Hz
PFC	

Voltage range	Multi voltage : 90 ÷ 265VAC or 120 ÷ 370VDC
Frequency range	47 ÷ 63Hz
PFC	

Voltage range	Multi voltage : 90 ÷ 265VAC or 120 ÷ 370VDC
Frequency range	47 ÷ 63Hz
PFC	0.7

General Characteristics

Ambient temperature	-25°C to +71°C
Storage	-25°C to +85°C
Derating (>60°C)	3 % /°C
Approvals/Marks	UL, cUL, TÜV, CE
Installation	DIN Rail
Connection	Screw terminals/Spring terminals (B)

Ambient temperature	-25°C to +71°C
Storage	-25°C to +85°C
Derating (>60°C)	2.5 % /°C
Approvals/Marks	UL, cUL, TÜV, CE
Installation	DIN Rail
Connection	Screw terminals/Spring terminals (B)

Ambient temperature	-25°C to +71°C
Storage	-25°C to +85°C
Derating (>60°C)	2.5 % /°C
Approvals/Marks	UL, cUL, TÜV, CE
Installation	DIN Rail
Connection	Screw terminals/Removable conn.

Specific Characteristics

Adjustable output voltage Internal noise filter Short circuit protection Overload protection (110-135 %)

Adjustable output voltage Internal noise filter Short circuit protection Overload protection (110-135 %) Output "Power ready" signal VDC (only model 24 VDC)

Adjustable output voltage Internal noise filter Short circuit protection Overload protection (102-108%), PFC. Overvoltage protection (102-106%). Output "Power ready" signal VDC.

LED indicator for "power on"
LED indicator for DC "too low"

Yes
Yes

Yes
No - SPD24 with transistor output

Yes
Yes with relay output

References

5 VDC
Screw terminals

SPD05051 SPD05101
SPD05181
SPD05051B SPD05101B
SPD05181B

Spring terminals

12 VDC

Screw terminals

SPD12051 SPD12101
SPD12181
SPD12051B SPD12101B
SPD12181B

Spring terminals

24 VDC

Screw terminals

SPD24051 SPD24101
SPD24181
SPD24051B SPD24101B
SPD24181B

Spring terminals

48 VDC

Screw terminals

SPD48301 SPD48601
SPD48301B SPD48601B

Spring terminals

SPD12301 SPD12601

SPD12301B SPD12601B

SPD24301 SPD24601

SPD24301B SPD24601B

SPD48301 SPD48601
SPD48301B SPD48601B

SPD24901
SPD24901B



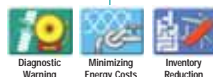
Single phase switching power supplies

Types

120W - 120W(N)

240W

480 W



Dimensions

(mm) H x W x D

125 x 63.5 x 126

125 x 83 x 126

125 x 175 x 123

Output Specifications

Voltage

12VDC 24VDC 48VDC

Current

10A 5A 2.5A

Line regulation

±1 %

Load regulation

±1 %

Efficiency

84% 86% 87%

24VDC 48VDC

10A 5A

±1 %

±1 %

89%

90%

24VDC 48VDC

20A 10A

±0.5 %

±0.5 %

89%

90%

Input Specifications

Voltage range

By switch: 93 ÷ 132VAC
(autoselect on "N" model),
186 ÷ 264VAC
210 ÷ 370VDC

Autoselect: 93 ÷ 132VAC,
186 ÷ 264VAC,
210 ÷ 370VDC

Autoselect: 93 ÷ 132VAC,
186 ÷ 264VAC,
210 ÷ 370VDC

Frequency range

47 ÷ 63Hz

47 ÷ 63Hz

47 ÷ 63Hz

PFC

0.7

0.7

0.99

General

Characteristics

Ambient temperature

-25°C to +71°C

-25°C to +71°C

-25°C to +71°C

Storage

-25°C to +85°C

-25°C to +85°C

-25°C to +85°C

Derating (>60°C)

2.5% /°C

2.5% /°C

2.5% /°C > 56°C

Approvals/Marks

UL, cUL, TÜV, CE

UL, cUL, TÜV, CE

UL, cUL, TÜV, CE

Installation

DIN Rail

DIN Rail

DIN Rail

Connection

Screw terminals/Spring terminals (B)

Screw terminals/Spring terminals (B)

Screw terminals/Spring terminals (B)

Specific

Characteristics

Adjustable output voltage.
Internal noise filter. Short circuit
protection. Overload protection
(110-145%). Parallel connection
up to 3 supplies and PFC function
on (N) model only.

Yes

Yes - with relay output (SPD24 only)

Adjustable output voltage.
Internal noise filter. Short circuit
protection. Overload protection
(110-145%) Parallel connection
up to 3 supplies standard. PFC
function integrated.

Yes

Yes - with relay output (SPD24 only)

Adjustable output voltage.
Internal noise filter. Short circuit
protection. Overload protection
(120-140%) Parallel connection
up to 3 supplies standard. PFC
function integrated.

Yes

Yes - with relay output (SPD24 only)

LED indicator for "power on"

LED indicator for DC "too low"

References

12 VDC

Screw terminals

SPD121201
SPD121201N
SPD121201B
SPD121201BN

Detach. screw terminals

24 VDC

Screw terminals

SPD241201
SPD241201N
SPD241201B
SPD241201BN

Detach. screw terminals

48 VDC

Screw terminals

SPD481201
SPD481201N
SPD481201B
SPD481201BN

Detach. screw terminals

SPD242401

SPD242401B

SPD482401

SPD482401B

SPD244801

SPD244801B

SPD484801

SPD484801B





Three phase switching power supplies

Types

SPD 120W 3ph

SPD 240W 3ph

SPD 480W 3ph

SPD 960W 3ph



Dimensions
(mm) H x W x D

123.6 x 74.3 x 112

123.6 x 89.0 x 110.7

125 x 175 x 125

125.9 x 275.8 x 118.2

Output Specifications

Voltage	12VDC	24VDC
Current	10A	5A
Line regulation	±1%	
Load regulation	±1%	
Efficiency	87%	89%

Voltage	24VDC	48VDC
Current	10A	5A
Line regulation	±1%	
Load regulation	±1%	
Efficiency	90%	91%

Voltage	24VDC	48VDC
Current	20A	10A
Line regulation	±0.5%	
Load regulation	±0.5%	
Efficiency	90%	91%

Voltage	24VDC	48VDC
Current	40A	20A
Line regulation	±1%	
Load regulation	±1%	
Efficiency	92%	93%

Input Specifications

Voltage range	340 ÷ 575VAC 480 ÷ 820VDC
Frequency range	47 ÷ 63Hz
PFC	0.6

Voltage range	340 ÷ 575VAC 480 ÷ 820VDC
Frequency range	47 ÷ 63Hz
PFC	0.6

Voltage range	340 ÷ 575VAC 480 ÷ 820VDC
Frequency range	47 ÷ 63Hz
PFC	0.7

Voltage range	340 ÷ 575VAC 480 ÷ 820VDC
Frequency range	47 ÷ 63Hz
PFC	0.7

General Characteristics

Ambient temperature	-25°C to +71°C
Storage	-25° C to +85°C
Derating (>60°C)	2.5% /°C
Approvals/Marks	UL, cUL, TÜV, CE
Installation	DIN Rail
Connection	Screw terminals

Ambient temperature	-25°C to +71°C
Storage	-25° C to +85°C
Derating (>60°C)	2.5% /°C
Approvals/Marks	UL, cUL, TÜV, CE
Installation	DIN Rail
Connection	Screw terminals

Ambient temperature	-25°C to +71°C
Storage	-25° C to +85°C
Derating (>60°C)	2.5% /°C (>56%)
Approvals/Marks	UL, cUL, TÜV, CE
Installation	DIN Rail
Connection	Screw terminals / Detach conn.

Ambient temperature	-25°C to +71°C
Storage	-25° C to +85°C
Derating (>60°C)	3.5% /°C
Approvals/Marks	UL, cUL, TÜV, CE
Installation	DIN Rail
Connection	Screw terminals

Specific Characteristics

Can be used as Bi or Three phase, Parallel function and PFC.

Can be used as Bi or Three phase, Parallel function and PFC.

Can be used as Bi or Three phase, Parallel function and PFC.

Can be used as Bi or Three phase. Active parallel function and PFC.

LED indicator for "power on"
LED indicator for DC "too low"

Yes, 24V with output ready
Yes

Yes, 24V with output ready
Yes

Yes, 24V with output ready
Yes

Yes, 24V with output ready
Yes

References

12 VDC
Screw terminals

SPD121203

24 VDC
Screw terminals

SPD241203

SPD242403

SPD244803
SPD244803B

SPD249603
SPD249603L (without parallel function and output ready)

48 VDC
Screw terminals

SPD482403

SPD484803
SPD484803B

SPD489603



Switching Power Supplies

Low Profile DIN Rail Mounting

Types

SPM 1

SPM 3

SPM 4

SPM 5



Dimensions (mm) H x W x D

91 x 18 x 55.5

91 x 52 x 55.5

91 x 71 x 55.5

91 x 90 x 55.5

Output Specifications

Voltage

5VDC, 12VDC, 15VDC, 24VDC

5VDC, 12VDC, 15VDC, 24VDC

5VDC, 12VDC, 15VDC, 24VDC

5VDC, 12VDC, 15VDC, 24VDC, 24VDC (S ver.)

Current

1.5A - 0.83A - 0.67A
0.42A

3.0A - 2.1A - 2.0A
- 1.3A

7.0A - 4.5A - 4.0A -
2.5A

12A - 6A - 5A - 4.2A
3.8A

Line regulation

±1%

±1%

±1%

±1%

Load regulation

±1%

±1%

±1%

±1%

Input Specifications

Voltage range

Autoselec.: 90 ÷ 264VAC,
120 ÷ 370VDC

Autoselec.: 10 ÷ 264VAC,
120 ÷ 370VDC

Autoselec.: 90 ÷ 264VAC,
120 ÷ 370VDC

Autoselec.: 90 ÷ 264VAC,
120 ÷ 370VDC

Frequency range

47 ÷ 63Hz

47 ÷ 63Hz

47 ÷ 63Hz

47 ÷ 63Hz

General Characteristics

Ambient temperature

-25°C to +71°C

-25°C to +71°C

-25°C to +71°C

-25°C to +71°C

Storage

-25°C to +85°C

-25°C to +85°C

-25°C to +85°C

-25°C to +85°C

Derating (>60°C)

2.5% /°C

2.5% /°C

2.5% /°C

2.5% /°C

Approvals/Marks

UL, cUL, TÜV, CE

UL, cUL, TÜV, CE

UL, cUL, TÜV, CE

UL, cUL, TÜV, CE

Installation

DIN rail

DIN rail

DIN rail

DIN rail

Connection

Screw terminals

Screw terminals

Screw terminals

Screw terminals

Specific Characteristics

Adjustable output voltage

Adjustable output voltage

Adjustable output voltage

LED indicator for "power on"

Yes

Yes

Yes

Yes

LED indicator for DC "too low"

Yes

Yes

Yes

Yes

References

5 VDC

SPM1-051

SPM3-051

SPM4-051

SPM5-051

12 VDC

SPM1-121

SPM3-121

SPM4-121

SPM5-121

15 VDC

SPM1-151

SPM3-151

SPM4-151

SPM5-151

24 VDC

SPM1-241

SPM3-241

SPM4-241

SPM5-241

24 VDC (class 2 UL)

SPM5-241S

Safety





Types

Emergency Stop

NES02D NES13D



NDS12B



NA13CT



Dimensions (mm) H x W x D	99 x 22.5 x 114	99 x 22.5 x 114	99 x 22.5 x 114
Safety category	Up to category 4 (EN 954-1)	Up to category 2 (EN 13849-1: 2007)	3 (EN 954-1)
Function	Category 0 emergency stop module	Category 1 emergency stop module	Category 1 emergency stop module
Input Specifications			
Type	2 x NO, voltage free	2 x NO, voltage free	
Output Specifications			
	2 x NO safety relay [NES02] 3 x NO safety relay + 1 NC relay [NES13]	1 x NO safety relay instant. 1 x NO safety relay delayed 1 x NO auxiliary relay instant.	3 x NO safety relay + 1 NC relay
Max. load AC1	6 A @ 230 VAC	5 A @ 230 VAC	6 A @ 230 VAC
Max. load DC12	6 A @ 24 VDC	5 A @ 24 VDC	
Electrical life	> 10 ⁵ operations	> 10 ⁵ operations	> 10 ⁵ operations
General Specifications			
Power supply	24 VAC/DC -15% +10%	24 VAC/DC ±10%	18 VAC ±10% 24 VDC ±10%
Screw Terminals	Fixed [SA, SC] Detachable [DA, DC]	Fixed [SA] Detachable [DA]	Fixed
Start	Automatic / Manual [SA, DA] Monitored manual [SC, DC]	Automatic / Manual	Automatic / Manual
Approvals/Marks	CE - UL - TÜV	CE	CE - UL
References			
	NES 02 D B24 SA	NDS 12 B B24 SA	NA13CT
	NES 02 D B24 SC	NDS 12 B B24 DA	
	NES 02 D B24 DA		
	NES 02 D B24 DC		
	NES 13 D B24 SA		
	NES 13 D B24 SC		
	NES 13 D B24 DA		
	NES 13 D B24 DC		





Types

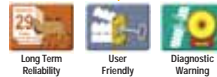
Safety Gates

Two Hand Device

NS002
NS013

NSC02
NSC13

ND12D



Dimensions (mm) H x W x D
Safety category
Function

99 x 22.5 x 114
Up to category 4 (EN 954-1)
Safety gates module

99 x 22.5 x 114
Up to category 4 (EN 954-1)
Safety gates module

99 x 22.5 x 114
4 (EN 954-1)
Two hand device

Input Specifications

Type

2 x NO, SMS or mechanical

1 x NO, 1 x NC, SMS or mechanical

2 x NO, 2 x NC, voltage free

Output Specifications

2 x NO safety relay [NS002]
3 x NO safety relay
+ 1 NC relay [NS013]

2 x NO safety relay [NSC02]
3 x NO safety relay
+ 1 NC relay [NSC13]

2 x NO safety relay

Max. load AC1

6 A @ 230 VAC

6 A @ 230 VAC

8 A @ 230 VAC

Max. load DC12

6 A @ 24 VDC

6 A @ 24 VDC

Electrical life

> 10⁵ operations

> 10⁵ operations

> 10⁵ operations

General Specifications

Power supply

24 VAC/DC -15% +10%

24 VAC/DC -15% +10%

24 VAC/DC -15% +10%
110 VAC -15% +10% [110CG]
230 VAC -15% +10% [230CG]

Screw Terminals

Fixed [SA, SC]
Detachable [DA, DC]

Fixed [SA, SC]
Detachable [DA, DC]

Fixed

Start

Automatic / Manual [SA, DA]
Monitored manual [SC, DC]

Automatic / Manual [SA, DA]
Monitored manual [SC, DC]

Automatic

Approvals/Marks

CE - TÜV - UL

CE - TÜV - UL

CE - TÜV - UL

References

NSO 02 D B24 SA
NSO 02 D B24 SC
NSO 02 D B24 DA
NSO 02 D B24 DC
NSO 13 D B24 SA
NSO 13 D B24 SC
NSO 13 D B24 DA
NSO 13 D B24 DC

NSC 02 D B24 SA
NSC 02 D B24 SC
NSC 02 D B24 DA
NSC 02 D B24 DC
NSC 13 D B24 SA
NSC 13 D B24 SC
NSC 13 D B24 DA
NSC 13 D B24 DC

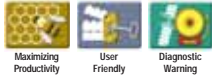
ND12D
ND12D 110CG
ND12D 230CG



Types

Safety Light Curtains

**NLG02D
NLG13D**



Dimensions (mm) H x W x D
Safety category
Function

99 x 22.5 x 114
Up to category 4 (EN 954-1)
Light curtains safety modules

Input Specifications

Type

2 x NO
min 10 mA / 17 V
max 60 mA / 38 V [NLG02]
max 30 mA / 38 V [NLG13]

Output Specifications

2 x NO safety relay [NLG02]
3 x NO safety relay + 1 NC relay [NLG13]

Max. load AC1
Max. load DC12
Electrical life

6 A @ 230 VAC
6 A @ 24 VDC
> 10⁵ operations

General Specifications

Power supply
Screw Terminals

24 VDC - 15% +10%
Fixed [SA, SC]
Detachable [DA, DC]

Start

Automatic / Manual [SA, DA]
Monitored manual [SC, DC]

Approvals/Marks

CE - UL - TÜV

References

NLG 02 D 724 SA
NLG 02 D 724 SC
NLG 02 D 724 DA
NLG 02 D 724 DC
NLG 13 D 724 SA
NLG 13 D 724 SC
NLG 13 D 724 DA
NLG 13 D 724 DC

Safety Mat & Edge

NSE02C



80 x 22.5 x 99.5
3 (EN 13849-1: 2007)
Safety mat & edge module

NST02C



80 x 22.5 x 99.5
3 (EN 13849-1: 2007)
Safety mat module

2-wire mats or safety edges

2 x NO safety relay

5 A @ 230 VAC
5 A @ 24 VDC
> 10⁵ operations

24 VAC/DC ±15%
Fixed

Automatic / Manual [SA]
Monitored manual [SC]
CE - TÜV

NSE 02 C B24 SA
NSE 02 C B24 SC

4-wire mats (SM...)

2 x NO safety relay

5 A @ 230 VAC
5 A @ 24 VDC
> 10⁵ operations

24 VAC/DC ±15%
Fixed











Automatic / Manual [SA]
Monitored manual [SC]
CE - TÜV

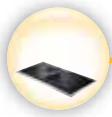
NST 02 C B24 SA
NST 02 C B24 SC





Types

	Lift Levelling	Standstill Monitor	Exstensions
	NA12DLIFT	MF1C	NE14D
			
	  	 	 
Dimensions (mm) H x W x D	99 x 22.5 x 114	80 x 45 x 99.5	99 x 22.5 x 114
Safety category		3 (EN 954-1)	Up to category 4 (EN 954-1)
Function	Lift levelling module (EN 81-1, 81-2, EN 12015, EN 12016)	Standstill monitor safety module 1-phase or 3-phase	Exstension safety module
Input Specifications			
Type	2 x NO	Up to 500 VAC	2 x NO, voltage free
Output Specifications			
	2 x NO safety relay	2 x NO safety relay	4 x NO safety relay + 1NC (feedback)
Max. load AC1	6 A @ 230 VAC	8 A @ 230 VAC	8 A @ 230 VAC
Max. load DC12			
Electrical life	> 10 ⁵ operations	> 10 ⁵ operations	> 10 ⁵ operations
General Specifications			
Power supply	24 VAC/DC +15% +10%	24 VAC/DC ±15%	24 VAC/DC -15% +10% 110 VAC -15% +10% [110CG] 230 VAC -15% +10% [230CG]
Screw Terminals	Fixed	Fixed	Fixed
Start	Automatic / Manual		
Approvals/Marks	CE - TÜV	CE - TÜV - UL	CE - TÜV - UL
References	NA12D LIFT	MF1C	NE14D NE14D 110CG NE14D 230CG



Safety Mat and Safety Magnetic Sensors

Types

Safety Mat System SM...*



Electrical Specification

Internal resistance	1-5 Ω (@ mat operated)	15 K Ω (@ mat not operated)
Mat integrity monitoring	Partial with load resistance	
Response time	≤ 75 ms	

Mechanical Specification

Material	PVC + Thermoplastic rubber
Thickness	~ 15 mm
Resolution	15 mm
Min. operating pressure	300 g/cm ²
Maximum load	100 Kg/cm ²
Mechanical life	>10 ⁶ cycles

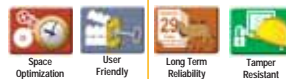
General Specifications

Single Unit	1.5 x 2.5 m
Max Dimensions	All dimensions upon request
Covering	Antislip
Covering stiffness	~ 70 SH
Chemical resistance	Excellent: Oils - Greases - Water Good: Acids - Detergents - Alcohol - Abrasive powder Poor: Solvents - Gasoline
Border	Aluminium
Floor fixing	With screws
Weight	9.3 Kg/m ²
Protection degree	IP 65 or IP 67
Operating temperature	+5° to +40°C
Approvals/Marks	CE -TUV Nord

* Item number depending on dimensions and layout.

Types

Safety Magnetic Sensors CLS...



General Specifications

	SHAPE	REFERENCES
External dimensions (mm)	88 x 25 x 13 Rectangular	CLS
	$\varnothing 25.1 \times 9.3$ mm Cylindrical	CLS-A2; CLS-A2M
	$\varnothing 30 \times 16$ mm Cylindrical	CLS-A3
Protection degree	IP 67	
Operating temperature	-25° to +70°C	
Case	Plastic; Stainless Steel (CLS-A2M)	
Approvals/Marks	CE - c(UL)US LISTED	





Types

Safety Magnetic Sensors SMS...



Features

Housing type/ Material	Safety Outputs	Aux. Outputs	REFERENCES	
Rectangular/Plastic	1NO	-	SMS-10	
Rectangular/Plastic	1NO	1NC	SMS-10/NC	
Rectangular/Plastic	1NO+1NC	-	SMS-01	
Rectangular/Plastic	1NO+1NC	-	SMS-02	
LED on NC contact	Rectangular/Plastic	1NO+1NC	-	SMS-02/LD
Resistor on NO contact	Rectangular/Plastic	1NO+1NC	-	SMS-02/S1
	Rectangular/Plastic	2NO	-	SMS-03
0.3 m cable with M12 conn.	Rectangular/Plastic	2NO	-	SMS-03+CM
	Rectangular/Plastic	2NO	1NC	SMS-03/NC
0.3 m cables with M12 conn.	Rectangular/Plastic	2NO	1NC	SMS-03/NC/S1
	Cylindrical/Plastic	1NO+1NC	-	SMS-A2P-02
	Cylindrical/Plastic	1NO	-	SMS-A2P-10
	Cylindrical/Plastic	2NO	-	SMS-A2P-30
	Cylindrical/Plastic	1NO+1NC	-	SMS-A3P-02
	Cylindrical/Plastic	2NO	-	SMS-A3P-03
	Cylindrical/Plastic	2NO	-	SMS-A3P-30
	Cylindrical/Metal	1NO+1NC	-	SMS-A2M-02
	Cylindrical/Metal	1NO	-	SMS-A2M-10

Electrical Specification

Max. switch. voltage	100 VAC
Max. switch. power	5 VA
Max. switch. current	0.25 A

General Specifications

External dimensions (mm)	88 x 25 x 13; M18x1 SMS-A2*; M30x1.5 SMS-A3P-*
Suitable magnetic unit	CLS; CLS-A2 (SMS-A2P*); CLS-A2M (SMS-A2M-*); CLS-A3 (SMS-A3P*)
Output connection	Cable (PVC, AWG 26, L=2 m.); pig tail with M12 connector, L=0.3 m
Protection degree	IP 67
Operating temperature	-25° to +70°C
Case	Plastic; PBT + 30 % glass (SMS-A2P and SMSA3P); Stainless Steel (SMS-A2M)
Approvals/Marks	CE - cULUS LISTED



Safety Light Curtains

Types

Safety Light Curtains, Safety Category 2 SBx2 series



Resolution	Scann. dist.	Height of the controlled area mm	No. of beams	Resp. time ms	REFERENCES Automatic Reset	REFERENCES Manual Reset
Hand mm 30	0.2-15 m	187	8	14	SBA2-30/187-D15	SBM2-30/187-D15
		334	16	15	SBA2-30/334-D15	SBM2-30/334-D15
		481	24	16	SBA2-30/481-D15	SBM2-30/481-D15
		628	32	17	SBA2-30/628-D15	SBM2-30/628-D15
		775	40	18	SBA2-30/775-D15	SBM2-30/775-D15
		922	48	19	SBA2-30/922-D15	SBM2-30/922-D15
		1069	56	20	SBA2-30/1069-D15	SBM2-30/1069-D15
		1216	64	22	SBA2-30/1216-D15	SBM2-30/1216-D15
		1363	72	23	SBA2-30/1363-D15	SBM2-30/1363-D15
		1510	80	24	SBA2-30/1510-D15	SBM2-30/1510-D15
Body mm 90	0.2-15 m	334	5	15	SBA2-90/334-D15	SBM2-90/334-D15
		481	7	16	SBA2-90/481-D15	SBM2-90/481-D15
		628	9	17	SBA2-90/628-D15	SBM2-90/628-D15
		775	11	18	SBA2-90/775-D15	SBM2-90/775-D15
		922	13	19	SBA2-90/922-D15	SBM2-90/922-D15
		1069	15	20	SBA2-90/1069-D15	SBM2-90/1069-D15
		1216	17	22	SBA2-90/1216-D15	SBM2-90/1216-D15
		1363	19	23	SBA2-90/1363-D15	SBM2-90/1363-D15
		1510	21	24	SBA2-90/1510-D15	SBM2-90/1510-D15

General Specifications

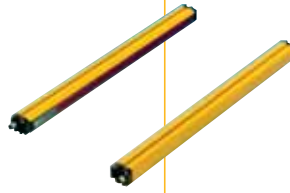
Power supply	24 VDC ±20%
Output functions	2 PNP Output
Output connections	M12 4-pole connector for TX M12 5-pole connector for RX
Material	Painted aluminium
Environment light rejection	IEC-61496-2
Mechanical protection	IP 65
Operating Temperature	-10° to +55°C
Approvals/Marks	CE - TUV Nord - c(UL)US LISTED



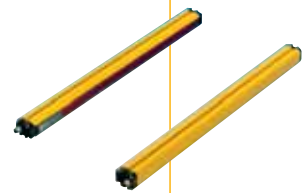


Types

Safety Light Curtains, Safety Category 2 SB2...



Safety Light Curtains, Safety Category 4 SB4...



Resolution	Scann. dist.
Body mm 315-515	0.5-50 m
Body mm 315-515	4-50 m
Body mm 315 - 515	0.5-25 m

Height of the controlled area mm	No. of beams	Resp. time ms	REFERENCES
515	2	14	SB2-515/515-D50
815	3	14	SB2-415/815-D50
915	4	14	SB2-315/915-D50
1215	4	14	SB2-415/1215-D50

Height of the controlled area mm	No. of beams	Resp. time ms	REFERENCES
515	2	14	SB4-515/515-D50
815	3	14	SB4-415/815-D50
915	4	14	SB4-315/915-D50
1215	4	14	SB4-415/1215-D50
515	2	14	SB4-515/515-D25
815	3	14	SB4-415/815-D25
915	4	14	SB4-315/915-D25
1215	4	14	SB4-415/1215-D25

General Specifications

Power supply	24 VDC ±20%
Output functions	2 PNP Output
Output connections	M12 4-pole connector for TX M12 8-pole connector for RX
Auxiliary functions	Total/Partial muting-Override-Auto/manual Reset
Material	Painted aluminium
Environment light rejection	IEC-61496-2
Mechanical protection	IP 65
Operating temperature	-10° to +55°C
Approvals/Marks	CE - TUV Nord - c(UL)US LISTED

Power supply	24 VDC ±20%
Output functions	2 PNP Output
Output connections	M12 4-pole connector for TX M12 8-pole connector for RX
Auxiliary functions	Total/Partial muting-Override-Auto/manual Reset
Material	Painted aluminium
Environment light rejection	IEC-61496-2
Mechanical protection	IP 65
Operating temperature	-10° to +55°C
Approvals/Marks	CE - TUV Nord - c(UL)US LISTED



Safety Light Curtains

Types

Safety Light Curtains, Safety Category 4 SB4E, SB4B series

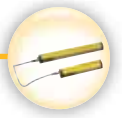


Resolution	Scann. dist.	Height of the controlled area mm	No. of beams	Resp. time ms	REFERENCES SB4E	Resp. time ms	REFERENCES SB4B		
Finger mm 14	0.2-6 m	161	21	21	SB4E-14/161-D6	14	SB4B-14/161-D6		
		308	42	28	SB4E-14/308-D6	18	SB4B-14/308-D6		
		455	63	35	SB4E-14/455-D6	22	SB4B-14/455-D6		
		602	84	41	SB4E-14/602-D6	26	SB4B-14/602-D6		
		749	105	48	SB4E-14/749-D6	30	SB4B-14/749-D6		
		896	126	55	SB4E-14/896-D6	34	SB4B-14/896-D6		
		1043	147	62	SB4E-14/1043-D6	38	SB4B-14/1043-D6		
		1190	168	68	SB4E-14/1190-D6	41	SB4B-14/1190-D6		
		Hand mm 30	0.2-15 m	180	8	16	SB4E-30/180-D15	12	SB4B-30/180-D15
				327	16	20	SB4E-30/327-D15	13	SB4B-30/327-D15
474	24			23	SB4E-30/474-D15	15	SB4B-30/474-D15		
621	32			25	SB4E-30/621-D15	16	SB4B-30/621-D15		
768	40			27	SB4E-30/768-D15	18	SB4B-30/768-D15		
915	48			30	SB4E-30/915-D15	19	SB4B-30/915-D15		
1062	56			32	SB4E-30/1062-D15	21	SB4B-30/1062-D15		
1209	64			35	SB4E-30/1209-D15	22	SB4B-30/1209-D15		
1356	72			38	SB4E-30/1356-D15	24	SB4B-30/1356-D15		
1503	80			40	SB4E-30/1503-D15	25	SB4B-30/1503-D15		
1650	88			43	SB4E-30/1650-D15	25	SB4B-30/1650-D15		

General Specifications

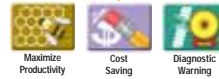
	SB4E	SB4B
Power supply	24 VDC ±20%	24 VDC ±20%
Output functions	2 PNP	2 PNP
Other function	EDM	EDM, Fixed/Floating Blanking
Output connections	M12 4-pole connector for TX M12 8-pole connector for RX	M12 4-pole connector for TX M12 8-pole connector for RX
Start/Reset	Auto/Manual selectable	Auto/Manual selectable
Material	Painted aluminium	Painted aluminium
Environment light rejection	IEC-61496-2	IEC-61496-2
Mechanical protection	IP 65	IP 65
Operating temperature	-10° to +55°C	0° to +55°C
Approvals/Marks	CE - TUV Nord - c(UL)US LISTED	CE - TUV Nord -





Types

Safety Light Curtains, Safety Category 4
SB4M & SB4N series



Resolution	Scann. dist.	Height of the controlled area mm	No. of beams	Resp. time ms	REFERENCES Master	REFERENCES Slave		
Finger mm 14	0.2-6 m	161	21	21	SB4M-14/161-D6	SB4N-14/161-D6		
		308	42	28	SB4M-14/308-D6	SB4N-14/308-D6		
		455	63	35	SB4M-14/455-D6	SB4N-14/455-D6		
		602	84	41	SB4M-14/602-D6	SB4N-14/602-D6		
		749	105	48	SB4M-14/749-D6	SB4N-14/749-D6		
		896	126	55	SB4M-14/896-D6	SB4N-14/896-D6		
		1043	147	62	SB4M-14/1043-D6	SB4N-14/1043-D6		
		1190	168	68	SB4M-14/1190-D6	SB4N-14/1190-D6		
		Hand mm 30	0.2-15 m	180	8	16	SB4M-30/180-D15	SB4N-30/180-D15
				327	16	20	SB4M-30/327-D15	SB4N-30/327-D15
474	24			23	SB4M-30/474-D15	SB4N-30/474-D15		
621	32			25	SB4M-30/621-D15	SB4N-30/621-D15		
768	40			27	SB4M-30/768-D15	SB4N-30/768-D15		
915	48			30	SB4M-30/915-D15	SB4N-30/915-D15		
1062	56			32	SB4M-30/1062-D15	SB4N-30/1062-D15		
1209	64			35	SB4M-30/1209-D15	SB4N-30/1209-D15		
1356	72			38	SB4M-30/1356-D15	SB4N-30/1356-D15		
1503	80			40	SB4M-30/1503-D15	SB4N-30/1503-D15		
1650	88			43	SB4M-30/1650-D15	SB4N-30/1650-D15		

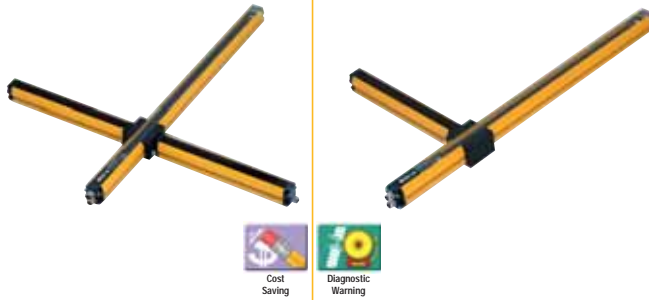
General Specifications

Power supply	24 VDC ±20%
Output functions	2 PNP Output
Other function	EDM, Fixed/Floating Blanking, Cascade
Output connections	M12 4-pole connector for TX M12 8-pole connector for RX
Master/slave connection	M12 5-pole connector
Start/Reset	Auto/Manual selectable
Material	Painted aluminium
Environment light reiection	IEC-61496-2
Mechanical protection	IP 65
Operating temperature	-10° to +55°C
Approvals/Marks	CE - TUV Nord - cULUS LISTED



Types

Safety Light Curtains, Safety Category 4 SB4T/L/S series



Resp.time	Scann. dist.	Height of the controlled area mm	No. of beams	Resolution mm	Muting sensors	REFERENCES
14 ms	0.5-3 m	515	2	515	Integr. bidirectional	SB4T-515/515-D3
		815	3	415	Integr. bidirectional	SB4T-415/815-D3
		515	2	515	Integr. unidirectional	SB4L-515/515-D3
		815	3	415	Integr. unidirectional	SB4L-415/815-D3
14 ms	0.5-25 m	515	2	515	external	SB4S-515/515-D25
		815	3	415	external	SB4S-415/815-D25

General Specifications

Power supply	24 VDC ±20%
Output functions	2 PNP
Other function	Muting, EDM
Output connections	M12 4-pole connector for TX M12 8-pole connector for RX
Start/Reset	Auto/Manual selectable
Material	Painted aluminium
Environment light rejection	IEC-61496-2
Mechanical protection	IP 65
Operating temperature	-10° to +55°C
Approvals/Marks	CE - TUV Nord - c(U) US LISTED





Types

Explosion proof sensors Cylindrical series FSQ, FSJ, FSW



Exter. Dimensions (mm)
 Ø16 x 110
 Ø16 x 100
 M12 x 56
 23.5x14x6.1

EX Identification

REFERENCES	REFERENCES
Category 2G	Category 1G
FSQA2B01EX	FSQA0B01EX
FSJA2B03EX	FSJA0B03EX
FSWA9EX	FSWA0EX
II2GExmIIT6	II1GExialICT6

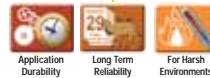
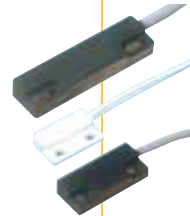
General Characteristics

Max switching voltage
 Max switching current
 Max switching power
 Effective int. inductance Li
 Effective int. capacitance Ci
 Output function
 Temperature Class
 Body material
 Approvals/mark

230 Vac	10.9 V
3A	15 mA
100 VA (FSW 60 VA)	41mW
<2µH (FSW <4µH)	<2µH (FSW <4µH)
<40 pF (FSW <350 pF)	<40 pF (FSW <350 pF)
NO	NO
T6	T6
Stainless steel AISI 303	Stainless steel AISI 303
CE - TUV Nord	

Types

Explosion proof sensors Rectangular series MJ, MQ, MW



Exter. Dimensions (mm)
 23.5x14x6.1

37x16x8.3

79x21.2x11.5

EX Identification

Output Function	REFERENCES	REFERENCES
NO	Category 2G	Category 1G
NO	MWA6EX	MWA0EX
NO	MQA1EX	MQA0EX
NC	MQC1EX	MQC0EX
Ch.over	MQS1EX	MQS0EX
NO	MJA7EX	MJA0EX
II2GExmIIT5		II1GExialICT6

General Characteristics

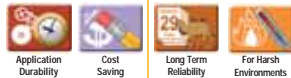
Max switching voltage
 Max switching current
 Max switching power
 Effective int. inductance Li
 Effective int. capacitance Ci
 Output function
 Temperature Class
 Body material
 Approvals/mark

230 Vac	10.9 V
(MQS1EX 150 Vac)	(MQS1EX 150 Vac)
0,5 ÷ 3 A	15 mA
5 ÷ 100 VA	41mW
<3÷<25µH	<3÷<25µH
<20÷<300pF	<20÷<300pF
See selection table	See selection table
T5	T6
Self-exting. PP + 30% glass fiber	PBT (MW series)
CE - TUV Nord	



Types

Explosion Proof Sensors Level Series ILM



Float Dimensions (mm)

Spherical \varnothing 50

Cylindrical \varnothing 45x55

EX Identification

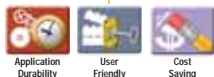
Output function	REFERENCES Category 2G	REFERENCES Category 1G
NO	ILMA2SEX	ILMA0SEX
Change Over	ILMS2SEX	ILMS0SEX
NO	ILMA2CEX	ILMA0CEX
Change Over	ILMS2CEX	ILMS0CEX
	II2GExmIIT5	II1GExialICT6

General Characteristics

Max switching voltage	230 Vac	10.9 V
Max switching current	3 A (ILMS2*EX 1A)	15 mA
Max switching power	100 VA (ILMS2*EX 60 VA)	41 mW
Effective int. inductance Li	<2 μ H (ILMS*EX <4 μ H)	<2 μ H (ILMS*EX <4 μ H)
Effective int. capacitance Ci	<40 pF (ILMS*EX <350 pF)	<40 pF (ILMS*EX <350 pF)
Output function	See selection table	See selection table
Temperature Class	T5	T6
Body material	Stainless steel AISI 316	Stainless steel AISI 316
Approvals/Mark	CE - TUV Nord	

Types

Electrical protections for Power lines



Nominal working Voltage

230 / 380 VAC

230 VAC

230 / 380 VAC

Max. working Power	Connect.	Radio freq. filter	Din slide	REFERENCES
-	Terminals	NO	Omega type 2.5 mod.	DRP
400 VA	Terminals	YES	Omega type 2.5 mod.	DRP-A2
4000 VA	Terminals	YES	Omega type 2.5 mod.	DRP-A20
-	Termin.boards	NO	NO	POEM-01
-	Wir.3x2.4mm ²	NO	NO	POEM-02

General Characteristics

	COMMON MODE PROTECTION	DIFFERENTIAL MODE PROTECTION
Static breakdown voltage	620 V with slew rate 100 V/s	560 V with slew rate 100 V/s
Dynamic breakdown voltage	<1200 V with slew rate 1 kV/ms	<850 V with slew rate 1 kV/ms
Nominal discharge current	6.5 kA with pulse 8/20 μ s	6.5 kA with pulse 8/20 ms
Response time	<500 ns <25 ns	

Fieldbus





Channel Generators/Interfaces

Types

G3490

G3496

G3800



Dimensions (mm)

Functions

Housing type

Electrical Characteristics

Number of channels

Features/Signal types

Power Supply

General Characteristics

Degree of protection

Operating temperature

Storage temperature

Remarks

References

Channel Generator

Optolink

LG

GE-Fanuc

Mitsubishi

Omron

Modbus

Allen-Bradley

Schneider

Koyo

Matsushita

Siemens

Toshiba

IDEC

-GSM Modem, -RS485

+GSM Modem, -RS485

-GSM Modem, +RS485

+GSM Modem, +RS485

-GSM Modem, +RS485,

+Logging

+GSM Modem, +RS485,

+Logging

77 x 72 x 70

Standard channel generator.

DIN-Rail, H4.

Selectable

024 = 24 VAC
115 = 115 VAC
230 = 230 VAC
824 = 15-30 VDC

IP 20

-20°C to +50°C

-50°C to +85°C

G3490 0000

77 x 72 x 70

Plug & Play RS232 /RS485 Interface with built-in protocols for specific PLC brands and Modbus.

DIN-Rail, H4.

Selectable

Possibility for 3-wire operation with DC-power on the 3rd wire.

700 = 20-30 VDC

IP 20

0°C to +50°C

-50°C to +85°C

Built-in protocol for specific PLC brands for easy interfacing.

G3496 0000

G3496 0001

G3496 0002

G3496 0003

G3496 0004

G3496 0005

G3496 0006

G3496 0007

G3496 0008

G3496 0009

G3496 0010

G3496 0011

G3496 0012

77 x 144 x 70

Controller and Modbus Interface with built-in GSM Modem (option) or external Radio Modem. Logger (option).
DIN-Rail, H8.

Selectable

4 x Contact/PNP input+
4 x PNP 10-30 VDC output
2 x RS232+1 x RS485
Possibility for alarms, monitoring and control via SMS messages.

800 = 10-30 VDC
230 = 115-230 VAC

IP 20

0°C to +50°C

-20°C to +85°C

Up to 32 controllers can be networked together via RS485 or Ethernet via converter module.

G3800 0015

G3800 1015

G3800 0016

G3800 1016





G3800 0036

G3800 1036



Fieldbus



	Channel Generators/Interfaces		Digital Input Modules	
Types	G3891	GTI50	G3410 5501	G3420
				
Dimensions (mm)	77 x 144 x 70	55 x 70 x 15 mm	77 x 72 x 70	77 x 72 x 70
Functions	Gateways to Fieldbus systems (Profibus-DP, DeviceNet etc.)	Dupline® Modbus RTU Interface module for Text Displays and Touchscreens.	Dupline® powered transmitter with 8 monostable volt-free contacts.	Input module for external supply with optoisolated inputs.
Housing type	DIN-Rail, H8.	Closed plastic housing with 25p male sub-D.	DIN-Rail, H4.	DIN-Rail, H4.
Electrical Characteristics				
Number of channels	Selectable.		8	8
Features/Signal types		Supports Modbus RTU function code 3 and code 16.	Volt-free input contacts.	Contact/NPN Voltage (6-265 VAC/DC).
Power Supply	230 = 115/230 VAC	Powered by RS485 port.	Powered by Dupline®.	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC 800 = 10-30 VDC
General Characteristics				
Degree of protection	IP 20	IP 20	IP 20	IP 20
Operating temperature	0°C to +50°C	-20°C to +60°C	-20°C to +50°C	-20°C to +50°C
Storage temperature	-20°C to +85°C	-50°C to +85°C	-50°C to +85°C	-50°C to +85°C
Remarks			Low power consumption.	
References		GTI50		
Profibus-DP with C. G.	G3891 0020			
Profibus-DP analog output multiplex	G3891 0021			
Devicenet	G3891 0050			
Lonworks	G3891 0051			
Modbus / TCP	G3891 0052			
Profibus-DP passive 8 channel	G3891 0120			
Contact/NPN			G3410 5501	G3420 5501
Voltage				G3420 5502

Fieldbus



Digital Input Modules

Types

G4420 7401



G5010



G6391 0240



Dimensions (mm)

Functions

Housing type

Electrical Characteristics

Number of channels

Features/Signal types

Power Supply

General Characteristics

Degree of protection

Operating temperature

Storage temperature

Remarks

References

4 channel Counter

1 channel

2 channels





2 channel plug-in module

Dimensions (mm)	36 x 85 x 58	49 x 22.5 x 56	34.2 x 37.5 x 36.8
Functions	Input module for counting of pulses from energy meters, item detectors etc.	Dupline powered single input Module.	Plug-in module to EM4 or WM22 with 2 S0 input contacts for measuring water, gas etc.
Housing type	DIN-Rail, H2.	DIN-Rail, Mini-E.	Plug-in.
Number of channels	4	1	2
Features/Signal types	S0 contact input (DIN 43 864). Max. count frequency: 14 Hz.	Contact input.	Reads actual internal value of total energy and/or reactive energy from EM4/WM22 and transmits to Dupline®. 2 x S0 contact input.
Power Supply	230 = 230 VAC 724 = 15-30 VDC	Powered through the Dupline® network.	Powered through the Dupline® network and EM4/WM22.
Degree of protection	IP 40	IP 20	IP 20
Operating temperature	-20°C to +60°C	-20°C to +50°C	0°C to +50°C
Storage temperature	-20°C to +85°C	-50°C to +85°C	-20°C to +50°C
Remarks	Decentral counting. Counter values stored in non-volatile memory.		
References	G4420 7401	G5010 1106 G5010 2206	G6391 0240







Fieldbus







	Digital I/O Modules		Digital Output Modules	
Types	G3440 4443	G3440 5543	G3430 / G3830	G34305545
				
Dimensions (mm)	77 x 72 x 70	77 x 72 x 70	77 x 72 x 70 (H4) 77 x 144 x 70 (H8)	77 x 72 x 70
Functions	Combined I/O module for external supply with optoisolated inputs and relay outputs.	I/O module for digital signals.	Output modules for external supply with isolated outputs.	Central relay module with 8 x SPST relays for resistive loads.
Housing type	DIN-Rail, H4.	DIN-Rail, H4.	DIN-Rail, H4. DIN-Rail, H8 (G3830 5543).	DIN-rail, H4.
Electrical Characteristics				
Number of channels	4	6	1, 2, 4, 8	8
Features/Signal types	2 x 6-265 VAC/DC inputs + 2 x SPST relay outputs.	4 opto isolated inputs and 2 SPST relay outputs.	5 A SPDT relay. 5 A SPST relay. 0.7 A NPN transistor. 0.7 A PNP transistor.	8 x 16A/250 VAC relays Inrush current: <130A.
Power Supply	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC 824 = 15-30 VDC	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC 800 = 10-30 VDC 824 = 15-30 VDC	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC
General Characteristics				
Degree of protection	IP 20	IP 20	IP 20	IP 20
Operating temperature	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C	-5°C to +50°C
Storage temperature	-50°C to +85°C	-50°C to +85°C	-50°C to +85°C	-50°C to +85°C
Remarks				Total module load maximum 32 A.
References				
2 input + 2 output SPST	G3440 4443			
4 input + 2 output SPST		G3440 5543		
1 x 5 A SPDT			G3430 1149	
2 x 5 A SPDT			G3430 2249	
4 x 5 A SPST			G3430 4443	
8 x 5 A SPST			G3830 5543	
8 x 0.7 A NPN			G3430 5511	
8 x 0.7 A PNP			G3430 5521	
8 x 16 A SPST (Max. 32 A)				G3430 5545






	Digital Output Mod.	Analog Input Modules		
Types	G8830 1143	G3429 6470	G3210 1161	G3210 1111
				
Dimensions (mm)	26 x 39 x 17	77 x 72 x 70	77 x 36 x 70	77 x 36 x 70
Functions	Decentral relay module with 1 x SPST relay for control of lights.	Universal analog input module for external supply.	Analog input module powered from Dupline® and input signal.	Dupline®-powered Analog input module for Pt100 temperature sensor.
Housing type	Compact regular, with solid cables. For decentral installation.	DIN-Rail, H4.	DIN-Rail, H2.	DIN-Rail, H2.
Electrical Characteristics				
Number of channels	1	Selectable	1	1
Features/Signal types	1 x 13A/250 VAC relay Inrush current: < 130A.	4 x isolated analog input. Input type individually configurable (0-20 mA, 4-20 mA, 0-10 VDC).	1 x 4-20 mA input.	1 x Pt100 3-wire input Ranges: (-50°C to +40°C) (+30°C to +120°C) (-10°C to +100°C)
Power Supply	Powered through the Dupline® network.	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC 800 = 10-30 VDC	Powered through the Dupline® network and 4-20 mA input signal.	Powered through the Dupline® network.
General Characteristics				
Degree of protection	IP 20	IP 20	IP 20	IP 20
Operating temperature	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
Storage temperature	-50°C to +85°C	-20°C to +85°C	-50°C to +85°C	-50°C to +85°C
Remarks	Recommended minimum load 100 mA / 12 V.	Protocol freely selectable (Analink, Multiplexed BCD or 8-bit).	Uses Analink 8-bit protocol.	Uses Analink 8-bit protocol. Built-in cable compensation.
References		G3429 6470	G3210 1161	G3210 1111 G3210 1112 G3210 1113
Univesel Analog input				
Dupline powered analog input				
-50°C to +40°C				
+30°C to +120°C				
-10°C to +100°C				
1 x 13 A SPST	G8830 1143			









	Analog Output Mod.	Digital Sensors		Temp. Sensor
Types	G3439 6470	G6110 1145	G8910 1101	G8911 1010
				
Dimensions (mm)	77 x 72 x 70	M18 x 55	Ø11 x 68	67 x 35 x 15
Functions	Universal analog output module for external supply.	Dupline® powered inductive proximity switch.	Dupline® powered magnet proximity switch.	Temperature sensor for outdoor use.
Housing type	DIN-Rail, H4.	M18.	Cylindrical.	Flat pack sensor housing.
Electrical Characteristics				
Number of channels	Selectable	1	1	1
Features/Signal types	4 x analog outputs. Output type configurable for 0-20 mA, 4-20 mA or 0-10 VDC.	Detects proximity of metal objects.	Detects proximity of magnet.	1 x Analink Range: -30°C to +60°C.
Power Supply	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC 800 = 10-30 VDC	Powered through the Dupline® network.	Powered through the Dupline® network.	Powered through the Dupline® network.
General Characteristics				
Degree of protection	IP 20	IP 67	IP 67	IP 67
Operating temperature	0°C to +50°C	-25°C to +70°C	-20°C to +50°C	-25°C to +70°C
Storage temperature	-20°C to +85°C	-30°C to +80°C	-20°C to +70°C	-55°C to +85°C
Remarks	Protocol freely selectable (Analink, Multiplexed BCD or 8-bit).	Available with cable or M12 connector. Flush mounting.	Available in Ø 11 plastic housing or with M14 metal thread.	8-bit resolution.
References				
Universal analog output	G3439 6470			
Cable		G6110 1145		
M12 plug		G6110 1145-1		
Ø11			G8910 1101	
M14			G8910 1101-G	G8911 1010






	Repeater	Optolink Interface	
Types	D3892 0000	G3491 0000	G3491 0090
			
Dimensions (mm)	77 x 144 x 70	77 x 72 x 70	77 x 72 x 70
Functions	Dupline [®] signal Repeater for extension of transmission distance.	RS232 to fibre optic interface.	RS232 to fibre opto-link interface.
Housing type	DIN-Rail, H8.	DIN-Rail, H4.	DIN-Rail, H4.
Electrical Characteristics			
Number of channels	Adjusts automatically.	Adjusts automatically.	Adjusts automatically.
Features/Signal types	All Dupline [®] signal types. Regenerates the Dupline [®] signal carrier through channel-generator output.	Reads/controls up to 63 Dupline [®] systems which are networked through optolinks (G3491 0000).	Used as interface between computer or PLC with RS232 and a fibre optic Lan-ring.
Power Supply	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC
General Characteristics			
Degree of protection	IP 20	IP 20	IP 20
Operating temperature	0°C to +50°C	0°C to +50°C	0°C to +50°C
Storage temperature	-50°C to +85°C	-20°C to +85°C	-20°C to +85°C
Remarks		Operates with G3491 0090.	Operates with G3491 0000.
References			
Repeater (Booster)	D3892 0000		
RS232 fibre interface		G3491 0000	
RS232 to optolink interface			G3491 0090





	Converters		Display modules	Power Supply
Types	G3491 0040	G3492 / G3493	G5460 6606	G3485 0000
				
Dimensions (mm)	77 x 72 x 70	77 x 72 x 70	96 x 96 x 78	77 x 72 x 70
Functions	Private line Modem for long distance transmission of Dupline® signals.	Optical repeater for converting Dupline® from electrical to optical transmission media.	LED status indicator for 16 Dupline® channels.	3-wire power supply, used when multiple Dupline® modules are supplied through a DC-bus.
Housing type	DIN-Rail, H4.	DIN-Rail, H4.	Panel mounting.	DIN-Rail, H4.
Electrical Characteristics				
Number of channels	Adjusts automatically	Adjusts automatically	16	Selectable
Features/Signal types	Digital, 8-bit analog, non-multiplexed 3 1/2 digit BCD analog.	All Dupline® signal types.	Each of the 16 LED's indicates the status of the digital channels assigned to it.	Supply current ≤ 4 A (up to 25°C) or ≥ 3 A (up to 50°C)
Power Supply	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC	230 = 115/230 VAC	024 = 24 VAC 115 = 115 VAC 230 = 230 VAC	15-30 VDC
General Characteristics				
Degree of protection	IP 20	IP 20	IP 40	IP 20
Operating temperature	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
Storage temperature	-20°C to +85°C	-20°C to +85°C	-20°C to +60°C	-20°C to +85°C
Remarks	Operates pair-wise.	Operates pair-wise. Runs on 50/125, 62.5/125 or 100/140 micro m with STN connectors.		Multiple units can be connected in parallel to increase length and size of a Dupline® system.
References				
Long distance modem	G3491 0040			
Optical/electrical converter		G3492 0000		
Electrical/optical converter		G3493 0000		
LED indicator for Dupline			G5460 6606	
3-wire power supply				G3485 0000 700



	Software		
Types	DUPDATAACC	DUP-SERV-ADD	DUP-SERV-SW
			
Dimensions (mm) Functions	Software package with DDE-driver and ActiveX driver for G3800. Controller and interface unit.	A data logging, visualization and alarm handling software package to be installed in a windows based PC.	A data logging, visualization and alarm handling software package to be installed in a windows based PC.
Electrical Characteristics Features/Signal types	All Dupline® signal types. Copy and paste of dynamic Dupline links into EXCEL spreadsheets.	Works only with G3800 xx36. Log and control energy consumption, analog values and digital events and alarms.	Works only with G3800 xx36. Log and control energy consumption, analog values and digital events and alarms.
References	DUPDATAACC	DUP-SERV-ADD	DUP-SERV-SW DUP-SERV-SW2





Accessories

Types

GAP1605

GTD50

GTU8

G3282 2002 230



Dimensions (mm)

Functions

Housing type

Electrical Characteristics

Number of channels

Features/Signal types

Power Supply

General Characteristics

Degree of protection

Operating temperature

Storage temperature

Remarks

References

120 x 65 x 22

Dupline® coding device for assigning addresses to Dupline® I/O modules and sensors.

Handheld.

NA

9 V battery.

IP 40

0°C to +50°C

-20°C to +60°C

GAP1605

77 x 116 x 41

LCD Text Display with 2 rows x 20 characters.

Panel mounting.

Selectable.

Digital and Analink. User defined text messages linked to Dupline® channels. Read-out of Analink values. Dupline® control via front keys. 18-32 VDC

IP 65 (front)

0°C to +50°C

-20°C to +60°C

GTD50

145 x 90 x 28

Dupline® test unit for monitoring and control of Dupline channels.

Handheld.

Adjusts automatically.

Digital, multiplexed BCD, 8-bit analog signals and split I/O. Also prepared to calibrate sensors in Carpark system.

Powered through the Dupline® network.

IP 40

0°C to +50°C

-20°C to +85°C

Options for latching digital signals and for reading multiplexed BCD values.

GTU8

77 x 36 x 70

Dupline® bus separator

H2 Housing

2

Disconnect the secondary side of the Dupline® bus when a short-circuit is detected.

230 V

IP 20

0°C to +50°C

-20°C to +85°C

G3282 2002 230

Fieldbus







	Accessories			
Types	ADAPT 1605	ANT1	ANT2	D3212 4000
Dimensions (mm)	25 x 50 x 100		15 x 35 x 120	36 x 70 x 77
Functions	Codings adaptor between GAP1605 and Dupline® modules without standard connection plug.	GSM antenna 900 MHz.	Active antenna used for radio controlled clock.	Synchronizer module for analog modules.
Housing type	Handheld box.		Glued plastic casing.	H2 housing.
Electrical Characteristics				
Features/Signal types	4 clip-on terminals for Dupline® modules. Includes a M12 plug for modules like G8911 1010.		Input signal is 77.5 kHz.	Max. 112 analog signals with up to 12 bit resolution.
Power Supply		Powered by G3800 XXXX.	Powered by G3800 XXXX.	Powered by Dupline®.
General Characteristics				
Degree of protection	IP 20	IP 67	IP 40	IP 40
Operating temperature	0°C to +50°C	-25°C to +60°C	0°C to +50°C	-20°C to +50°C
Storage temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-50°C to +85°C
Remarks				Transmits always on A1-A4
References	ADAPT 1605	ANT1	ANT2	D3212 4000








Accessories

Types

	DT01	DT02	ETHCONV 2	ETHCONV 3
				
Dimensions (mm)	17.5 x 70 x 77	17.5 x 70 x 77	22 x 75.2 x 80	22 x 90 x 100.4
Functions	Cable termination unit standard Dupline®.	Cable termination unit Hi-line.	Ethernet to RS232 converter.	Ethernet to RS232 converter.
Housing type	H1 housing.	H1 housing.	Metal housing.	Metal housing.
Electrical Characteristics				
Number of channels			1	2
Features/Signal types	Removes distortion caused by reflection.	Removes distortion caused by reflection.	1 port RJ45 10/100 Mbit TCP/IP based ethernet	2 port RJ45 10/100 Mbit TCP/IP based ethernet
Power Supply	No power needed.	No power needed.	12-48 VDC/130 mA.	12-30 VDC/305 mA.
General Characteristics				
Degree of protection	IP 20	IP 20	IP 20	IP 20
Operating temperature	-20°C to +50°C	-20°C to +50°C	0°C to +55°C	0°C to +55°C
Storage temperature	-50°C to +85°C	-50°C to +85°C	-40°C to +75°C	-40°C to +75°C
Remarks			Automatic dedicated installation tool available.	Automatic dedicated installation tool available.
References	DT01	DT02	ETHCONV 2	ETHCONV 3
1 channel				
2 channels				

Fieldbus



	Output Module	Gateway / Interface	
Types	GS3830 0143	GS3891 0125	GSTI 50
			
Dimensions (mm)	144 x 77 x 70	144 x 77 x 70	55 x 70 x 15 mm
Functions	DuplineSafe relay output module. Monitors up to 63 DuplineSafe inputs.	Profibus-DP Gateway passive with Safety mapping.	Dupline® Modbus interface module with Safety mapping.
Housing type	DIN-rail mounting H8.	DIN-rail mounting, H8.	Compact plastic housing.
Electrical Characteristics			
Number of channels	2		
Features/Signal types	2 x NO Relays Force Guided contact.	Reads/controls up to 128 inputs/outputs through Profibus-DP, Communication speed up to 12 MBaud.	
Power Supply	230 VAC +/- 15%	115 = 115 VAC 230 = 230 VAC	Powered by the RS485 com port.
General Characteristics			
Degree of protection	IP 20	IP 20	IP 20
Pollution degree	3(IEC 60664)		
Operating temperature	-25°C to +50°C	0°C to +50°C	-20°C to +60°C
Storage temperature	-30°C to +70°C	-20°C to +85°C	-30°C to +85°C
Humidity (non condensing)	20 to 80%	20 to 80%	
Remarks	Approved according to IEC/EN 61508 and EN 954 Cat 4 by TÜV.	Certified by PNO.	Supports Modbus RTU function code 3 and code 16.
References	GS3830 0143	GS3891 0125	GSTI 50









	Input Module	Repeater	Configuration tool	
Types	GS7510 2101	GS3892 0000	GS7380 0080	GS7380 0081
Dimensions (mm)	57,5 x 36,0 x 16,4	77 x 144 x 70	28 x 90 x 145	25 x 50 x 100
Functions	Bus-powered safety input module.	DuplineSafe signal repeater for extension of transmission distance.	Configuration and test unit for DuplineSafe.	USB Configuration unit for DuplineSafe.
Housing type	-	DIN-Rail H8.	Handheld.	Handheld.
Electrical Character.				
Number of channels	2	Adjusts automatically.		
Features/Signal types	1 x NC contact.	Regenerates the Dupline® signal carrier through channel generator output.		Windows based programming tool for safety output relay module and safety input modules.
Power Supply	Powered through the Dupline® network.	024 = 024 VAC 115 = 115 VAC 230 = 230 VAC	9 V battery 6LR61.	Supplied by the USB port
General Character.				
Degree of protection	IP 67	IP 40	IP 40	IP 40
Pollution degree	3(IEC 60664)			3(IEC 60664)
Operating temperature	-20°C to +50°C	0°C to +50°C	-10°C to +45°C	0°C to +50°C
Storage temperature	-30°C to +70°C	-50°C to +85°C	-20°C to +70°C	-20°C to +60°C
Humidity (non condensing)	20 to 80%			
Remarks	Approved according to IEC/EN 61508 and EN 954 Cat 4 by TÜV.		Adapt 7380 is included.	
References		GS3892 0000	GS7380 0080	GS7380 0081
Cable	GS7510 2101			
Plug connector	GS7510 2101-1			



Fieldbus







	Sensors	Direction indicator	Display interface	Passive indicators
Types	GP6520../GP6540..	GP6565 0201	GP659 0291	GP6589..
				
Dimensions (mm)	85 x 85 x 50	110 x 110 x 66	110 x 110 x 66	85 x 85 x 50
Functions	Ultrasonic sensors for detection of cars with or without LED indication.	Quick indication of free parking spaces.	Configurable device for monitoring of free parking bays in an area	Passive indicator for sensor.
Housing type	Direct mounting on ceiling.	Direct mounting on ceiling or wall.	Direct mounting on ceiling or wall.	Direct mounting on ceiling.
Electrical Characteristics				
Number of channels	4	4	4	-
Features/Signal types	1 x signal for occupancy. 1 x signal for booking parking spaces. 1 x signal for booking parking spaces for disabled people. 1 x signal for common calibration.	2 x signals for start marker. 2 x signals for end marker.	2 x signals for start marker. 2 x signals for end marker.	No programming. Only wire connected.
Power Supply	3-wire system with Dupline® and sensor supply.	3-wire system with Dupline® and direction indicator supply.	Dupline® 3-wire system with power.	
General Characteristics				
Degree of protection	IP 61	IP 66	IP 66	IP 61
Operating temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
Storage temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
References				
Red/Green LED	GP6520 2201	GP6565 0201		GP6589 0101
Red/Blue LED	GP6520 2202			GP6589 0102
Without LED	GP6540 3421		GP6591 0291	





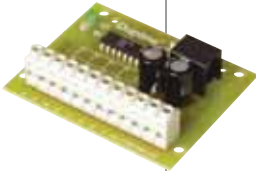
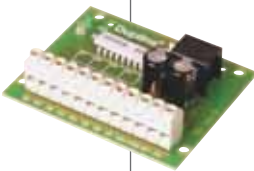

	4-digit display	3-digit display with arrow
Types	GP6763 0104	GP6763 0105
		
Dimensions (mm)	280 x 140 x 70	600 x 240 x 100
Functions	4- digit display.	3-digit display with built in direction indicator.
Housing type	Aluminium box with clear plexiglass front and black fibre plate as cover.	Aluminium box with frosted plexiglass front.
Electrical Character.		
Power Supply	24 VDC min.; 30 VDC max./ 0.10 A (Overvoltage category III (IEC60664)).	85 - 264 VAC 230 VAC / 0.35 A 47 - 63 Hz
Features	- Shows number of free parking places with bright green LED. - RS 485 communication.	- Shows number of free parking places and guides driver the right way. - RS 485 communication.
General Character.		
Degree of protection	IP 50	IP 65
Operating temperature	-25°C to +70°C	-10°C to +50°C
Pollution degree	3(IEC 60664)	3(IEC 60664)
Humidity	20 to 90% non condensing.	20 to 90% non condensing.
References	GP6763 0104	GP6763 0105



	Digital I/O Modules		Converter	Tools
Types	GH3440 4412	GH6440 4412	GH3485 0000	GHTU8
				
Dimensions (mm)	77 x 72 x 70	80 x 77 x 50	77 x 72 x 70	145 x 90 x 28
Functions	I/O module for irrigation valve control.	I/O module for irrigation valve control.	Dupline® to Hi-Line converter.	Dupline test unit for monitoring and control of Dupline® channels. Used for Hi-line modules.
Housing type	DIN-Rail, H4.	Fully molded housing for underground installation.	DIN-Rail, H4.	Handheld.
Electrical Characteristics				
Number of channels	4	4	Adjusts automatically	Adjusts automatically
Features/Signal types	2 outputs for control of 3-wire 12 VDC latching valve, and 2 contact inputs.	2 outputs for control of 3-wire 12 VDC latching valve, and 2 contact inputs.	Converts the Dupline® signal to Hi-Line 28 VDC level for control of irrigation valves (see GH3440 4412 and GH6440 4412). 724 = 20-30 VDC.	Digital, multiplexed BCD and 8-bit analog signals.
Power Supply	Powered through Hi-Line signal (see GH34850000).	Powered through Hi-Line signal (see GH34850000).		Powered through the Dupline® network.
General Characteristics				
Degree of protection	IP 20	IP 67	IP 20	IP 40
Operating temperature	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
Storage temperature	-50°C to +85°C	-50°C to +85°C	-50°C to +85°C	-20°C to +85°C
Remarks				Options for latching digital signals and for reading multiplexed BCD values.
References	GH3440 4412	GH6440 4412	GH3485 0000	GHTU8





	Input Module	Output Modules	Input/Output Module
Types	G2120	G2130	G2140 4421
			
Dimensions (mm)	Open PCB 72.3 x 59 mm	Open PCB 74 x 59 mm	Open PCB 54 x 40 mm
Functions	8 contact inputs for push-buttons or transistors. LED indications for supply and carrier.	8 outputs for control of floor indicators and lamps. LED indications for supply and carrier.	2 push-button inputs. 2 PNP-transistor outputs. LED indications for supply and carrier.
Housing type	Snap locks or DIN-rail (vertical or horizontal).	Snap locks or DIN-rail (vertical or horizontal).	Snap locks or DIN-rail (vertical or horizontal).
Electrical Characteristics			
Number of channels	8	8	4
Features/Signal types	3-wire operation with DC-power on wire 3.	3-wire operation with DC-power on wire 3.	3-wire operation with DC-power on wire 3.
Power Supply	700 = 10 - 30 VDC	700 = 10 - 30 VDC	700 = 10 - 30 VDC
General Characteristics			
Degree of protection			
Operating temperature	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
Storage temperature			
References			
NPN	G2120 5501 700	G2130 5511 700	
PNP	G2120 5502 700	G2130 5521 700	G2140 4421 700

Fieldbus



Types

Input/Output Module

Master Modules

G2140 55.0

G2196

G3496



Dimensions (mm)	Open PCB 74 x 59 mm	Open PCB 86 x 54 mm	77 x 72 x 70
Functions	4 push-button inputs 4 transistor outputs LED indications for supply and carrier.	128 signals RS 485/RS 232 interface to control system LED indications for supply, carrier and RS485Tx.	Plug & Play RS232 /RS485 Interface with built-in protocols for specific PLC brands and Modbus.
Housing type	Snap locks or DIN-rail (vertical or horizontal).	Snap locks or DIN-rail (vertical or horizontal).	DIN-Rail, H4.
Electrical Characteristics			
Number of channels	8	128 inputs and 128 outputs.	Selectable.
Features/Signal types	3-wire operation with DC-power on wire 3.	3-wire operation with DC-power on wire 3.	Possibility for 3-wire operation with DC-power on the 3'rd wire.
Power Supply	700 = 10 - 30 VDC	700 = 20 - 30 VDC	700 = 20-30 VDC
General Characteristics			
Degree of protection			IP 20
Operating temperature	-20°C to +50°C	-20°C to +60°C	0°C to +50°C
Storage temperature			-50°C to +85°C
Remarks			Built-in protocol for specific PLC brands for easy interfacing.
References			
NPN outputs	G2140 5510 700		
PNP outputs	G2140 5520 700		
Standard protocol			
Lucky Goldstar K-series		G2196 0000 700	G3496 0000
GE-Fanuc 90-30 series		G2196 0001 700	G3496 0001
Mitsubishi FX & A-series		G2196 0002 700	G3496 0002
Omron		G2196 0003 700	G3496 0003
Modbus RTU Slave		G2196 0004 700	G3496 0004
Allen-Bradley		G2196 0005 700	G3496 0005
Schneider			G3496 0006
Koyo			G3496 0007
Matsushita			G3496 0008
Siemens			G3496 0009
Toshiba			G3496 0010
IDEA			G3496 0011
			G3496 0012



Fieldbus

TADxx 40A 5A

Type _____
 Primary current _____
 Secondary current _____

CTD-1X 100 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-2X 200 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-3X 1000 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-4X 1200 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-5S 400 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-6S 1000 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-8S 2500 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-8X 2500 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-9S 4000 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-9X 4000 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-10S 4000 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

CTD-10X 4000 5A XXX

Model _____
 Primary current _____
 Secondary current _____
 Option _____

SCTxxxx 200 5A C1

Model _____
 Primary current _____
 Secondary current _____
 Accuracy class _____

Ordering Key

LDI3 AV5 D 0 XX XX

Type _____
 Range code _____
 Power supply _____
 Options _____

LDI35 AV0 D 0 XX XX

Type _____
 Range code _____
 Power supply _____
 Setpoints _____
 Options _____

LDM30 AV5 D 0 XX XX

Type _____
 Range code _____
 Power Supply _____
 Alarm number _____
 Engineering Unit _____
 Option _____

LDM35H XXX XX XX X XX

Type _____
 Range code _____
 Out 1 _____
 Out 2 _____
 Power Supply _____
 Option _____

LDM40 LSE H 0 XX XX X

Type _____
 Measuring inputs _____
 Power supply _____
 Alarms _____
 Retransmission _____
 Communication _____
 Options _____

UDM35 XXX XX XX X XX

Type _____
 Range code _____
 Out 1 _____
 Out 2 _____
 Power Supply _____
 Option _____

UDM40 XXX XX XX X XX

Type _____
 Range code _____
 Out 1 _____
 Out 2 _____
 Power Supply _____
 Option _____

UDM60 XXX XX XX X XX

Type _____
 Slot A _____
 Slot B _____
 Slot C _____
 Slot D _____
 Options _____

DER 1A 60mV

Type _____
 Primary current _____
 Secondary current _____

CVT-DIN AV1 A D 0 1 X

Type _____
 Range code _____
 Power supply _____
 Rated output _____
 Calibration _____

DI3-DIN AV5 A D 0 XX

Type _____
 Range code _____
 Power supply _____

DI3-72 AV6 D D 0 XX

Type _____
 Range code _____
 Power supply _____
 Options _____

USC XXX XX XX XX X XX

Type _____
 Range code _____
 Out 1 _____
 Out 2 _____
 Out 3 _____
 Power Supply _____
 Option _____

EM10 DIN AV8 1 X 01 X

Type _____
 Range code _____
 System _____
 Power supply _____
 Output _____
 Option _____

EM11 DIN AV8 1 X 01 X

Type _____
 Range code _____
 System _____
 Power supply _____
 Output _____
 Option _____

EM24 DIN AV5 3 X 02 X

Type _____
 Range code _____
 System _____
 Power supply _____
 Output _____
 Option _____

EM3-DIN AV9 3 X X

Type _____
 Range code _____
 Power supply _____
 Out 1 _____

EM4-DIN AV9 3 X X XX

Type _____
 Range code _____
 Power supply _____
 Out 1 _____
 Out 2 _____

WM10 DIN AV9 3 X XX X

Type _____
 Range code _____
 System _____
 Power supply _____
 Output _____
 Option _____

EM23 DIN AV9 3 X 01 X

Type _____
 Range code _____
 System _____
 Power supply _____
 Output _____
 Option _____

Ordering Key

WM12-DIN AV5 3 D X

Type _____
 Range code _____
 Power supply _____
 RS485 (on request) _____

WM14-DIN AV5 3 D XX

Type _____
 Range code _____
 System _____
 Power supply _____
 Option _____

WM14-DIN AV5 3 H R2 S1 AX

Type _____
 Range code _____
 System _____
 Power supply _____
 Output 1 _____
 Output 2 _____
 Option _____

WM22-DIN AV5 3 X X XX

Type _____
 Range code _____
 Power supply _____
 Out 1 _____
 Out 2 _____

EM21 72D AV5 3 X O X X

Type _____
 Range code _____
 System _____
 Power supply _____
 Output 1 _____
 Output 2 _____
 Option _____

CPT-DIN AV5 3 H XX AX

Type _____
 Range code _____
 System _____
 Power supply _____
 Outputs _____
 Option _____

EM26 96 AV5 3 H O3 S1 XX

Type _____
 Range code _____
 System _____
 Power supply _____
 Input/Output _____
 Communication _____
 Option _____

PQT-90 AV5 3 H XX XX XX XX X

Type _____
 Range code _____
 Power supply _____
 Out 1 (analogue) _____
 Out 2 (analogue or RS485) _____
 Out 3 (alarm and/or pulse, digital inputs) _____
 Out 4 (alarm and/or pulse) _____
 Options(RS232 + clock + 2MB memory) _____

WM12-96 AV5 3 D XX

Type _____
 Range code _____
 Power supply _____
 Options _____

WM14-96 AV5 3 D XX

Type _____
 Range code _____
 System _____
 Power supply _____
 Option _____

WM3-96 AV5 3 H XX XX XX XX X

Type _____
 Range code _____
 Power supply _____
 Out 1 (analogue) _____
 Out 2 (analogue or RS485) _____
 Out 3 (alarm and/or pulse, digital inputs) _____
 Out 4 (alarm and/or pulse) _____
 Options (RS232 + clock) _____

WM4-96 AV5 3 H XX XX XX XX X

Type _____
 Range code _____
 Power supply _____
 In 1 (digital inputs + AUX) _____
 Out 2 (RS485) _____
 Out 3 (alarm and/or pulse, digital inputs) _____
 Out 4 (alarm and/or pulse) _____
 Options (RS232 + clock + 2MB memory) _____

WM5-96 AV5 3 H XX XX XX XX X

Type _____
 Range code _____
 Power supply _____
 Out 1 (analogue) _____
 Out 2 (analogue or RS485) _____
 Out 3 (alarm and/or pulse, digital inputs) _____
 Out 4 (alarm and/or pulse) _____
 Options (RS232 + clock) _____

PQT-H- AV5 3 H XX XX XX XX X

Type _____
 Range code _____
 Power supply _____
 Out 1 (analogue) _____
 Out 2 (analogue or RS485) _____
 Out 3 (alarm and/or pulse, digital inputs) _____
 Out 4 (alarm and/or pulse) _____
 Options (RS232 + clock) _____

VMU-M 4 A S1 T2 X

Model _____
 Function _____
 Power supply _____
 Communication _____
 Inputs _____
 Option _____

VMU-S AV10 X S FX

Model _____
 Range _____
 Power supply _____
 Communication _____
 Option _____

VMU-P 2TIW X S X

Model _____
 Range _____
 Power supply _____
 Communication _____
 Option _____

VMU-O X I2 R2 X

Model _____
 Power supply _____
 Inputs _____
 Outputs _____
 Option _____

List of modules: Modular Panel Mounting

Type	Ch.	WM3 96	WM4 96	PQT 90	WM5 96	PQT H	Ordering code
WM3-96 base		•					AD1016H
WM4-96 base			•				AD1040
PQT-90 base				•			AD1047
WM5-96 base with optical port					•		AD2001
WM5-96 base without optical port					•		AD2000
PQT H base						•	AD2020
240/415V-1/5AAC input for WM3/4, PQT-90		•	•	•			AQ1018
400/690V-1/5AAC input for WM3/4, PQT-90		•	•	•			AQ1019
240/415V-1/5AAC (10A) input for WM5, PQT H					•	•	AQ2030
120/208V-1/5AAC (10A) input for WM5, PQT H					•	•	AQ2031
18-60VAC/DC power supply		•	•	•	•	•	AP1021
90-260VAC/DC power supply		•	•	•	•	•	AP1020
20mADC analogue output	1	•		•			AO1050
10VDC analogue output	1	•		•			AO1051
±5mADC analogue output	1	•		•			AO1052
±10mADC analogue output	1	•		•			AO1053
±20mADC analogue output	1	•		•			AO1054
±1VDC analogue output	1	•		•			AO1055
±5VDC analogue output	1	•		•			AO1056
±10VDC analogue output	1	•		•			AO1057
20mADC analogue output	2	•		•			AO1026
10VDC analogue output	2	•		•			AO1027
±5mADC analogue output	2	•		•			AO1028
±10mADC analogue output	2	•		•			AO1029
±20mADC analogue output	2	•		•			AO1030
±1VDC analogue output	2	•		•			AO1031
±5VDC analogue output	2	•		•			AO1032
±10VDC analogue output	2	•		•			AO1033
20mADC analogue output	2				•	•	AO2050
10VDC analogue output	2				•	•	AO2051
±5mADC analogue output	2				•	•	AO2052
RS485 port	1	•	•	•	•	•	AR1034
RS485 port 115200bps	1	•	•	•	•	•	AR2040
Relay output (pulse/alarm)	1	•	•	•	•	•	AO1058
Relay output (pulse/alarm)	2	•	•	•	•	•	AO1035
Open collector output (pulse/alarm)	1	•	•	•	•	•	AO1059
Open collector output (pulse/alarm)	2	•	•	•	•	•	AO1036
Open collector output (pulse/alarm)	4	•	•	•	•	•	AO1037
Digital inputs	3	•	•	•	•	•	AQ1038
Digital inputs + Aux	3		•	•	•	•	AQ1042
RS232 port + RTC	1	•			•	•	AR1039
RS232 port without RTC	1						AR1093
RS232 port + RTC + 2MB data memory	1		•	•			AR1041
WEB server	1		•	•			AR1060
Internet/Ethernet port	1				•	•	AR1061

List of modules: DIN-rail Mounting

Type	Power Supply	Ch.	EM3 DIN	EM4 DIN	WM22 DIN	Ordering code
EM3-DIN 400VL-L / 20(100)AAC	Self power supply		•			AE2000
EM3-DIN 208VL-L / 20(100)AAC	Self power supply		•			AE2001
EM3-DIN 660VL-L / 20(100)AAC	115VAC -15+10%		•			AE2002
EM3-DIN 660VL-L / 20(100)AAC	230VAC -15+10%		•			AE2003
EM4-DIN 400VL-L / 20(100)AAC	Self power supply			•		AG2200
EM4-DIN 208VL-L / 20(100)AAC	Self power supply			•		AG2201
EM4-DIN 400VL-L / 20(100)AAC	230VAC, 50-60Hz			•		AG2202
EM4-DIN 208VL-L / 20(100)AAC	230VAC, 50-60Hz			•		AG2203
EM4-DIN 660VL-L / 20(100)AAC	230VAC, 50-60Hz			•		AG2204
EM4-DIN 400VL-L / 20(100)AAC	115VAC, 50-60Hz			•		AG2205
EM4-DIN 208VL-L / 20(100)AAC	115VAC, 50-60Hz			•		AG2206
EM4-DIN 660VL-L / 20(100)AAC	115VAC, 50-60Hz			•		AG2207
EM4-DIN 400VL-L / 5(10)AAC	230VAC, 50-60Hz			•		AG2214
EM4-DIN 208VL-L / 5(10)AAC	230VAC, 50-60Hz			•		AG2215
EM4-DIN 660VL-L / 5(10)AAC	230VAC, 50-60Hz			•		AG2216
EM4-DIN 400VL-L / 5(10)AAC	115VAC, 50-60Hz			•		AG2217
EM4-DIN 208VL-L / 5(10)AAC	115VAC, 50-60Hz			•		AG2218
EM4-DIN 660VL-L / 5(10)AAC	115VAC, 50-60Hz			•		AG2219
EM4-DIN 100VL-L / 5(10)AAC	230VAC, 50-60Hz			•		AG2226
EM4-DIN 100VL-L / 5(10)AAC	115VAC, 50-60Hz			•		AG2227
EM4-DIN 400VL-L / 20(100)AAC	18-60VDC			•		AG2230
EM4-DIN 400VL-L / 5(10)AAC	18-60VDC			•		AG2233
EM4-DIN 100VL-L / 5(10)AAC	18-60VDC			•		AG2236
WM22-DIN 400VL-L / 20(100)AAC	Self power supply				•	AF2100
WM22-DIN 208VL-L / 20(100)AAC	Self power supply				•	AF2101
WM22-DIN 400VL-L / 20(100)AAC	230VAC, 50-60Hz				•	AF2102
WM22-DIN 208VL-L / 20(100)AAC	230VAC, 50-60Hz				•	AF2103
WM22-DIN 660VL-L / 20(100)AAC	230VAC, 50-60Hz				•	AF2104
WM22-DIN 400VL-L / 20(100)AAC	115VAC, 50-60Hz				•	AF2105
WM22-DIN 208VL-L / 20(100)AAC	115VAC, 50-60Hz				•	AF2106
WM22-DIN 660VL-L / 20(100)AAC	115VAC, 50-60Hz				•	AF2107
WM22-DIN 400VL-L / 5(10)AAC	230VAC, 50-60Hz				•	AF2114
WM22-DIN 208VL-L / 5(10)AAC	230VAC, 50-60Hz				•	AF2115
WM22-DIN 660VL-L / 5(10)AAC	230VAC, 50-60Hz				•	AF2116
WM22-DIN 400VL-L / 5(10)AAC	115VAC, 50-60Hz				•	AF2117
WM22-DIN 208VL-L / 5(10)AAC	115VAC, 50-60Hz				•	AF2118
WM22-DIN 660VL-L / 5(10)AAC	115VAC, 50-60Hz				•	AF2119
WM22-DIN 100VL-L / 5(10)AAC	230VAC, 50-60Hz				•	AF2126
WM22-DIN 100VL-L / 5(10)AAC	115VDC, 50-60Hz				•	AF2127
WM22-DIN 400VL-L / 20(100)AAC	18-60VDC				•	AF2130
WM22-DIN 400VL-L / 5(10)AAC	18-60VDC				•	AF2133
WM22-DIN 100VL-L / 5(10)AAC	18-60VDC				•	AF2136
0-20mADC analogue output		1			•	AO2920
0-10VDC analogue output		1			•	AO2921
Open collector output (pulse/ alarm)		2	•	•	•	AO2900
One relay+one o. collector (pulse/al.)		2	•	•	•	AO2910
Digital inputs + AUX		2		•		AQ2940
RS485 port		1		•	•	AR2950

Modular flush mounting UDM35/40/60 USC

Type	Ch.	UDM35	UDM40	UDM60	USC	Ord. code
UDM35 base		•				BD 35
UDM40 base			•			BD 40
UDM60 base				•		BD 60
USC base					•	BD XX
AC/DC inputs: 200µA, 2mA, 20mA, 200mV, 2V, 20V	1	•	•		•	BQ LSX
AC/DC inputs: 200µA, 2mA, 20mA, 200mV, 2V, 20V + excitation output	1	•	•		•	BQLSE/LSF
AC/DC inputs: 200mA, 2A, 5A, 20V, 200V, 500V	1	•	•		•	BQ HSX
Inputs: 20Ω, 200Ω, 2kΩ, 20kΩ; TC: J-K-S-T-E, Pt100-250-500-1000, Ni100	1	•	•		•	BQ TRX
Tachometer input: PNP, NPN, NAMUR, TTL, contact	2	•	•	•	•	BQ TF1
Tachometer input: pick-up, voltages up to 500VAC	2	•	•	•	•	BQ TF2
Analogue output: 0 to 20mA, 0 to 10V DC	1	•	•	•	•	BO AV
Relay output	1	•	•	•	•	BO R1
Relay output	2	•	•	•	•	BO R2
Outputs: 2-relay + 2-open collector	4	•	•	•	•	BO R4
Relay output	4	•	•	•	•	BO R5
RS485 communication port	1	•	•	•	•	BR SX
RS232 communication port	1	•	•	•	•	BR SY
18 to 60V AC/DC power supply		•	•	•	•	BP L
90 to 260V AC/DC power supply		•	•	•	•	BP H
18 to 28V DC power supply		•	•	•	•	BP 3

Ordering Key

PDI110 H S R B

Type _____
 Power Supply _____
 Control output type _____
 Alarm output type _____
 Internal buzzer _____

PDI380 X X X X

Type _____
 Power Supply _____
 Input Signal _____
 Output 1 _____
 Output 2 _____

PDI390 X X X X

Type _____
 Power Supply _____
 Input Signal _____
 Output 1 _____
 Output 2 _____

PDI408 X X X X X

Type _____
 Power Supply _____
 Input Signal _____
 Output 1 _____
 Output 2 _____
 Output 3 _____

PDI409 X X X X X

Type _____
 Power Supply _____
 Input Signal _____
 Output 1 _____
 Output 2 _____
 Output 3 _____

PDI410 X X X X X X X

Type _____
 Power Supply _____
 Output 1 _____
 Output 2 _____
 Output 3 _____
 Output 4 _____
 Serial Communication _____
 HB Alarm _____

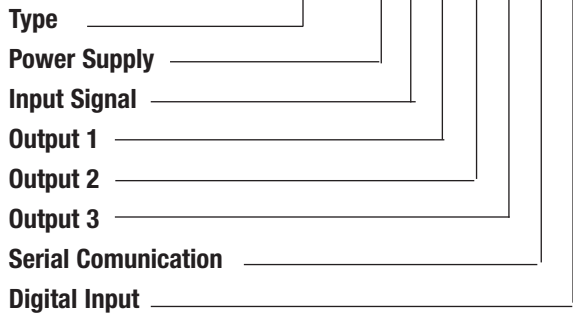
PDI420 X X X X X X X

Type _____
 Power Supply _____
 Output 1 _____
 Output 2 _____
 Output 3 _____
 Output 4 _____
 Serial Communication _____
 HB Alarm _____

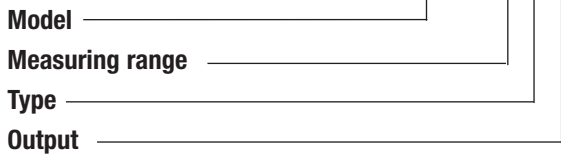
PDI430 X X X X X X X

Type _____
 Power Supply _____
 Output 1 _____
 Output 2 _____
 Output 3 _____
 Output 4 _____
 Serial Com. / Dig. In _____
 HB Alarm _____

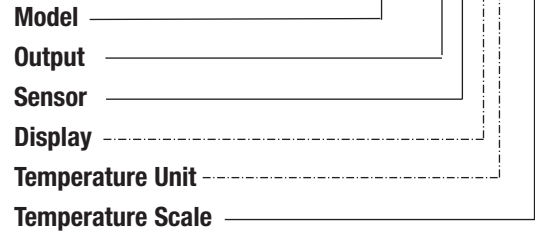
PDI720 X X X X X X X



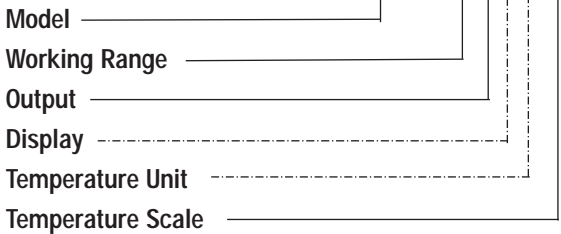
CGESHTD V 2 L



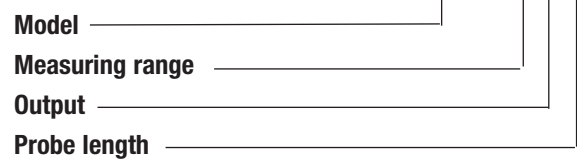
CGESHTW V 2 T04



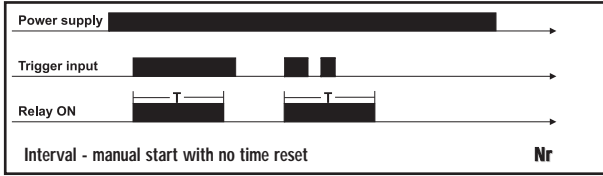
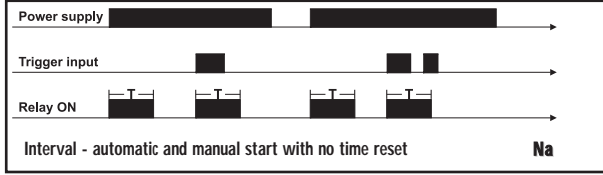
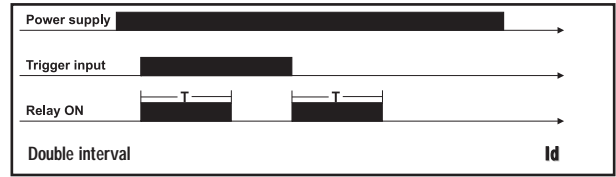
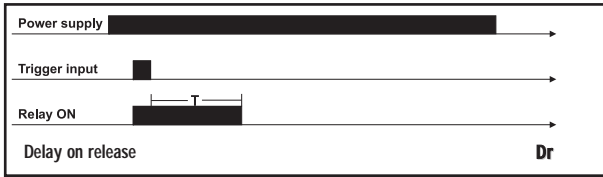
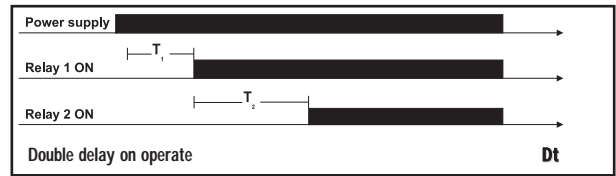
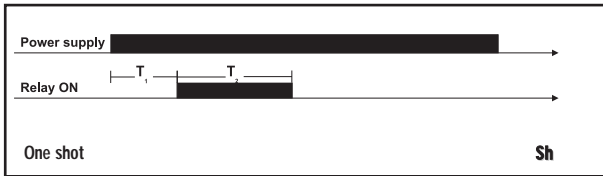
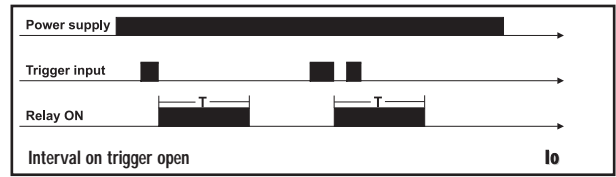
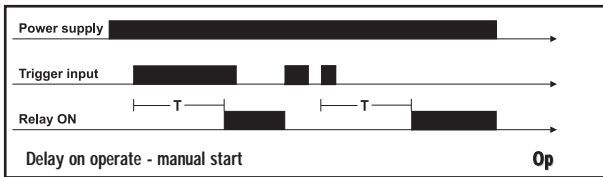
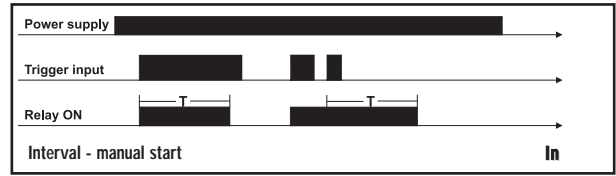
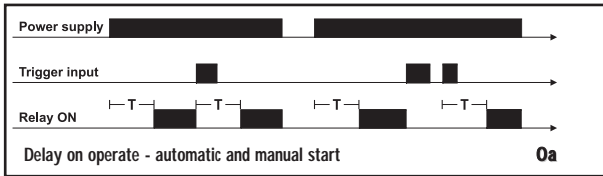
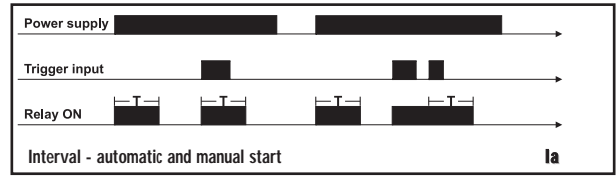
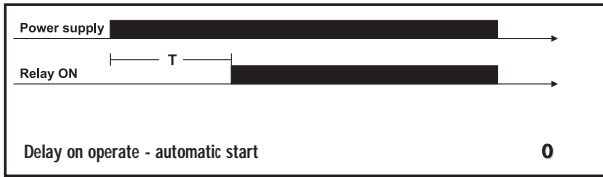
CGESC02TVA 2 V T04



CGESC02D 2 V L



Timer function code legenda



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