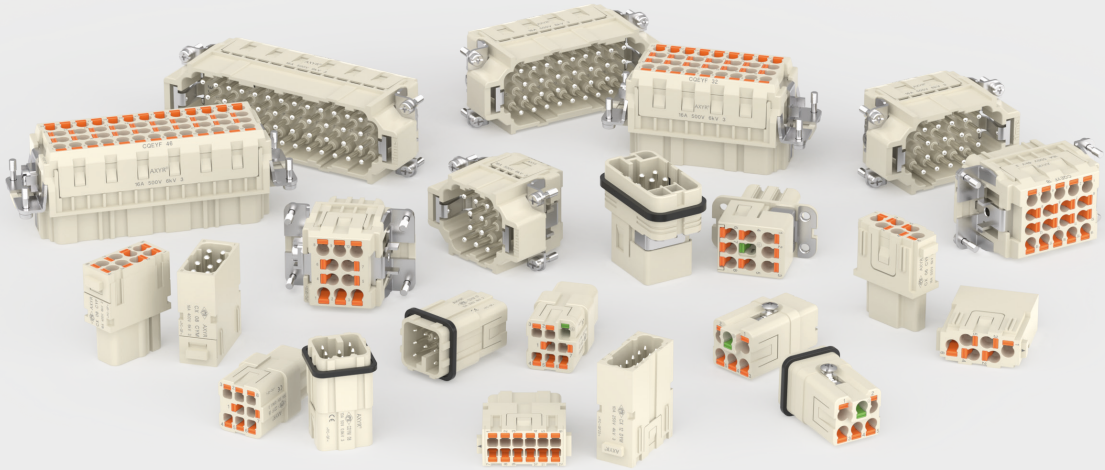
AXYR®

HIGH-DENSITY, FAST & TOOL-LESS CONNECTIONS

The research of new termination technologies aims to develop a reliable and qualitatively stable connection between conductor and contact, meeting any possible application requirement in terms of current carrying-capacity and available number of poles, as much as possible independently from the skill of the operator.

Crimped connection, with its typical irreversible process, achieves the best performance and the highest possible connection density, but requires specific wiring procedures and special tools, while being also non-rewirable.



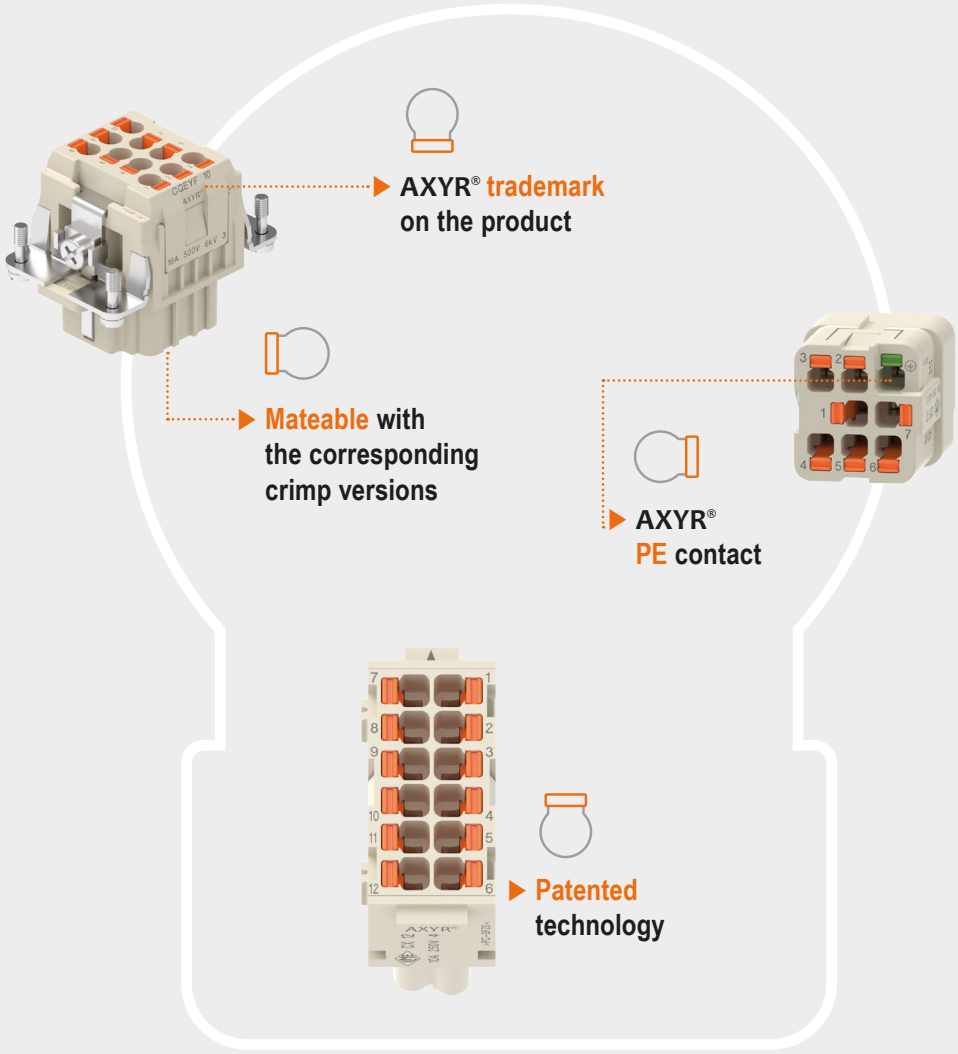
- **ILME AXYR® technology** offers an extremely compact **spring push-in** termination, which equals the crimp connectors in **high density,** but requires **no special crimping tool,** yet granting an optimal electrical performance. **An easy, tool-less and operator-skill-independent connection,** resistant to mechanical stress and vibrations, suitable for any installation requirement.
- **AXYR®** features a harmonic steel spring and a tiny, yet stiff, properly designed actuator button working together to allow a **simple push-in action** guaranteeing a safe wiring.
- Thanks to a **boxed terminal,** the wire contact pressure does not rely upon surronding insulating parts, likely to possibly relax under heating when the connector is under current load.
- Solid and ferruled flexible wires, when sufficiently stiff, can be **directly inserted** into the connection terminal*; unprepared stranded wires require instead the initial opening of the spring by means of a simple flat-blade screwdriver, thanks to the actuator button.
- **AXYR®** technology makes the **user free to choose** the connector that best suits his needs, naturally reusable and **independent of the required wire cross-section,** compatible with the crimp connectors of the ILME product portfolio: **one size fits the whole range of cross-sectional areas** (compared to competing solution with radial spring that require two sizes).

* Cross-sectional area ≥ 0,75 mm² / 18 AWG

AXYR® TECHNOLOGY

ZOOM-IN AND BENEFITS

- AXYR® connection equals the density of the crimp connection, without need for any crimping tool
- Wire release with a simple flat-blade screwdriver
- Machined brass contacts
- One size fits the whole range of cross-sectional areas
- Suitable for rigid or ferrule-prepared stranded wires as well as for unprepared stranded wires

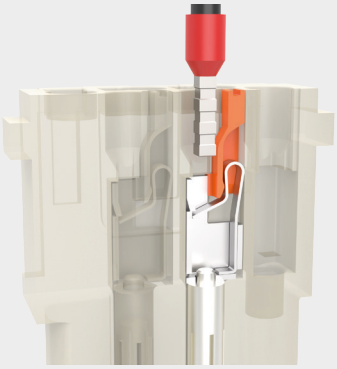


AXYR® FROM INSIDE

THE WIRING

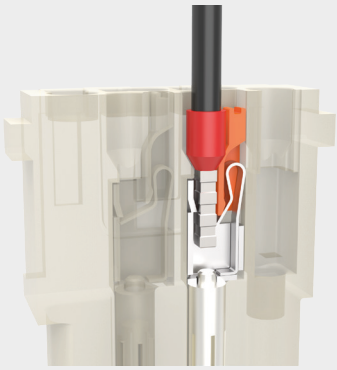
Watch our Technical Clip

SOLID OR FERRULED WIRE
(CSA* ≥ 0,75 mm² / 18 AWG)



1

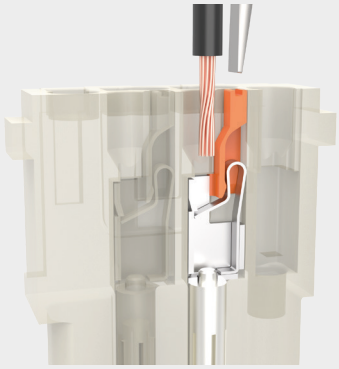
Deeply insert the solid or ferruled wire into the contact hole



2

The wire is safely secured by the spring clamp

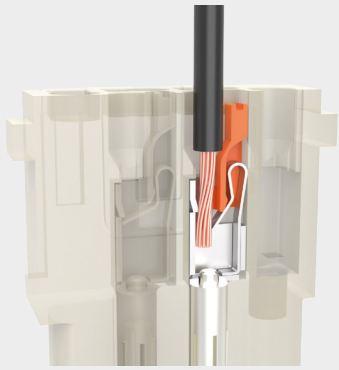
STRANDED WIRE
(all CSA*)
SOLID OR FERRULED WIRE
(CSA* < 0,75 mm² / 18 AWG)



1

Push down the actuator button by a flat-blade screwdriver
- 0,5 × 3 mm max. for 10 A
- 0,5 × 3,5 mm max. for 16 A

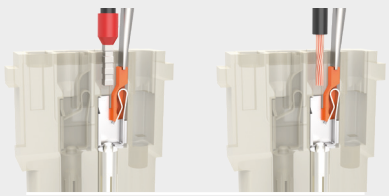
insert the stranded wire into the contact hole



2

The wire is safely secured by the spring clamp

Re-opening



R

Push down the actuator button by a flat-blade screwdriver to remove the wire:
- 0,5 × 3 mm max. for 10 A
- 0,5 × 3,5 mm max. for 16 A

*CSA = Cross-Sectional Area

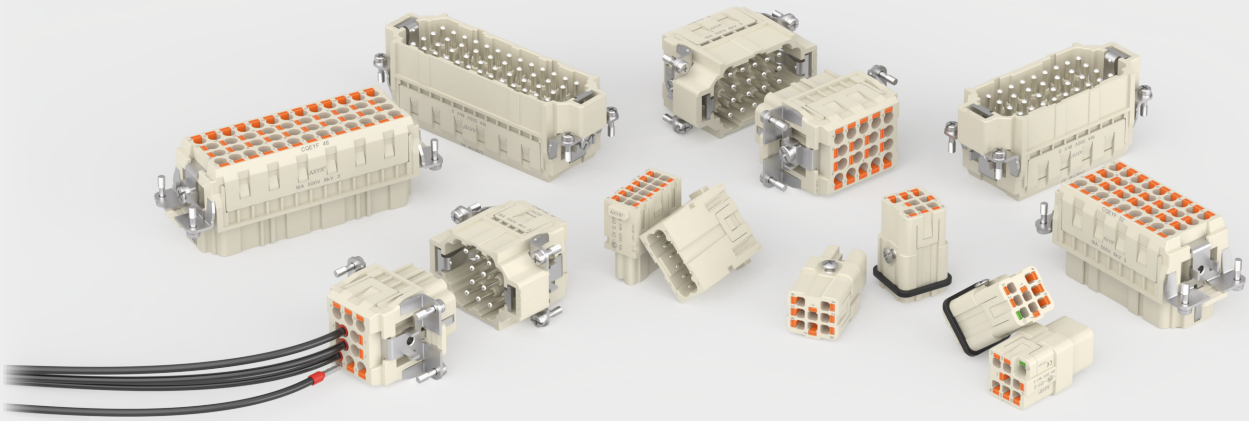
AXYR®

PRODUCT RANGE

Watch our Technical Clip

AXYR® 16 A and 10 A novelties are marked with the symbol ✚

Inserts		EN 61984 Rating	Poles	Series	Size
CX 06 CYF	CX 06 CYM	16 A 500 V 6 kV 3	6	MIXO	1 module
CX 08 CYF	CX 08 CYM	16 A 400 V 6 kV 3	8	MIXO	1 module
✚ CX 12 DYF	CX 12 DYM	10 A 250 V 4 kV 3	12	MIXO	1 module
CQYF 05	CQYM 05	16 A 230/400 V 4 kV 3	5 + ⏚	CQY	“21.21”
✚ CDYF 07	CDYM 07	10 A 250 V 4 kV 3	7 + ⏚	CDY	“21.21”
✚ CDYF 08	CDYM 08	10 A 50 V_{AC}/120 V_{DC} 0,8 kV 3	8	CDY	“21.21”
CQYF 08E	CQYM 08E	16 A 500 V 6 kV 3	8 + ⏚	CQY	“32.13”
✚ CQEYF 10	CQEYM 10	16 A 500 V 6 kV 3	10 + ⏚	CQEY	“44.27”
✚ CQEYF 18	CQEYM 18	16 A 500 V 6 kV 3	18 + ⏚	CQEY	“57.27”
✚ CQEYF 32 /N	CQEYM 32 /N	16 A 500 V 6 kV 3	32 + ⏚ / 64 + ⏚	CQEY	“77.27” / “77.62”
✚ CQEYF 46 /N	CQEYM 46 /N	16 A 500 V 6 kV 3	46 + ⏚ / 92 + ⏚	CQEY	“104.27” / “104.62”

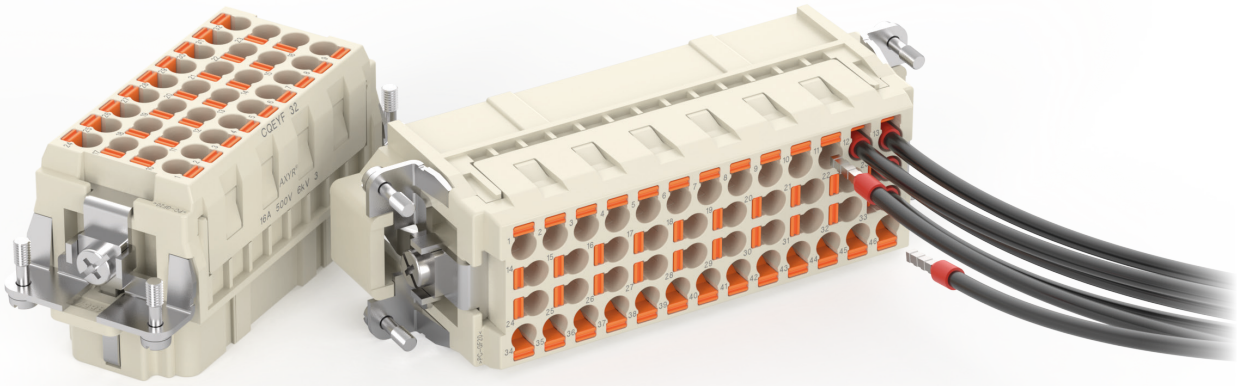


AXYR® 16 A and 10 A novelties

AXYR®
Variant of CQE crimp series

CQEYF /M 10 - 18 - 32 - 46 - 64 (2× 32) - 92 (2× 46)

New 16 A inserts
with AXYR® connection technology



Available in the standard sizes
and double-inserts sizes

CQEY

16 A 500 V 6 kV 3 (830 V 8 kV 2)

Find out more
www.ilme.com

TECHNICAL FEATURES

The 16 A range of connector inserts using the **AXYR® technology** (spring push-in with actuator button) which can equal the crimp connectors versions in terms of high density without requiring any crimping tool, is furtherly widened by the **new series CQEY,** intermateable with the corresponding available models of series **CQE** (crimp)(#).

The crimp series CQE, born as the high-density version of the historic crimp series **CCE,** is now made available in a tool-less version.

The **AXYR®** 16 A toolless spring push-in contacts cover a wiring range:

- **0,25 mm² to 2,5 mm² (AWG 24-14)** for ferruled (prepared) flexible copper wires;
- **0,25 mm² to 4 mm² (AWG 24-12)** for unferruled (unprepared) solid or flexible copper wires.

NOTE – Crimp contacts series CC for the intermateable series CQE are provided either silver plated or gold plated in sizes ranging from 0.3 through 4.0, covering cross-sectional areas from 0,14 mm² / 26 AWG to 4 mm² /12 AWG.

Like for series CQE, the inserts of **AXYR®** series CQEY are available in the *standard sizes* and *double-inserts sizes.*

As improvement over series **CQE,** series **CQEY** connector inserts allow **additional coding of the mating face** by means of **CR Q08E** coding pins, that must be fitted in the dedicated dovetail-shaped seats on the contour of the mating face in specular pattern:

- **CQEY 10** and **CQEY 18** are provided with **3 seats** for the optional coding pins **CR Q08E** on each part of the connector. On these sizes is possible to achieve up to 6 different codings: 3 coding pins are required for each connector coupling (two fitted on one connector part, one fitted specularly on the other connector part); it is necessary to install two coding pins on each connector part.
- **CQEY 18** and **CQEY 46** are provided with **4 seats** for the optional coding pins **CR Q08E** on each part of the connector. On these sizes is possible to achieve up to 6 different codings: 4 coding pins are required for each connector coupling (two fitted on one connector part, two on the opposite connector part in specular way). It is necessary to install two coding pins on each connector part.

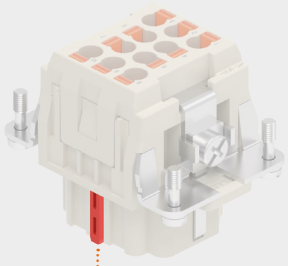
NOTE – Coded connector parts (male or female) of series CQEY cannot be coupled to corresponding connector parts (female or male) of series CQE, only uncoded connector parts of series CQEY can be coupled to corresponding connector parts of series CQE. Performance of a mixed CQEY/CQE coupling is equivalent to that of an equivalent unmixed (CQE/CQE or CQEY/CQEY) coupling where both sides are wired with the lowest of the wire sizes used by the mixed cou-pling, considering the slightly narrower range covered by **AXYR®** series CQEY when using ferruled (prepared) stranded copper wires (0,25 mm² to 2,5mm², AWG 24-14) vs crimp series CQE (0,14 mm² to 4 mm², AWG 26-12).

- Current-temperature derating diagrams (current-carrying capacity curves): like those of the equivalent CQE crimp versions of the same-sized wiring.
- Conductors stripping length: 9..11 mm.
- Silver plated contacts, stainless steel spring and tin plated brass stamped cage terminals (gold plated contact versions are not foreseen).
- Actuator button of line contacts: orange colour, to be operated by means of a flat-blade screwdriver sized 0,5 × 3 mm.
- PE terminal: screw-type, on the PE side bracket closer to line contact #1. Suitable for up to two wires (one on each side of the terminal under the pressure plate) sized up to 2,5 mm² / 14 AWG.
- Max diameter of wire sheathing or ferrule funnel: ø 5 mm (unprepared wire size 4 mm² / AWG 12 or ferruled wire size 2,5 mm² / AWG 14)

CERTIFICATIONS

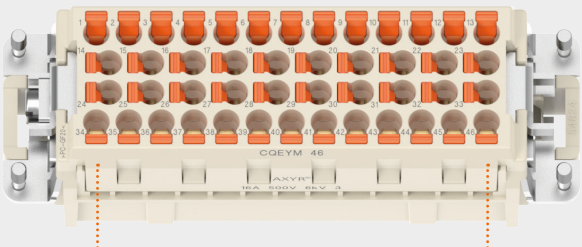
- cURus, CQC, DNV, BV, EAC pending.
- CE and UKCA markings.
- **RoHS:** compliant with exemption **6(c)**.

(#) Intermateability with series CQE (crimp) is ensured within the features of the new **AXYR®** CQEY series, considering the slightly different wiring range between the two series when using stranded ferruled (prepared) copper wires and the added coding feature of the new **AXYR®** CQEY series that series CQE does not yet provide.



Required pins to correctly code a coupling:
- **3 pins for 10 and 18 poles connectors**
- **4 pins for 32, 46, 64 and 92 poles connectors**

CR Q08E optional plastic coding pins for up to 6 configurations



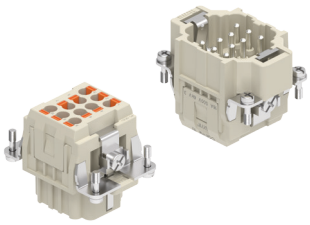
High contacts density

CQEY 10 poles + ⏚ 16 A – 500 V

enclosures:
size “44.27” **page:**

refer to CN.19 pages

AXYR® inserts,
push-in spring clamp with actuator button



SILVER PLATED CONTACTS
FROM SEPTEMBER 2023

coding pins

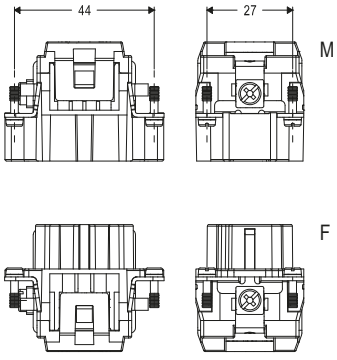
description	part No.	part No.
spring/**AXYR®** push-in connection		
female insert with female contacts	CQEYF 10	
male insert with male contacts	CQEYM 10	
plastic coding pin		CR Q08E

- characteristics according to EN 61984:
  16 A 500 V 6 kV 3
  16 A 830 V 8 kV 2

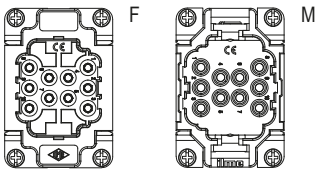
- cURus (ECBT2/8 and PVVA2/8) pending
- CQC, DNV, BV, EAC pending

- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- max diameter of wire sheathing or ferrule funnel: ø 5 mm (unprepared wire size 4 mm² / AWG 12 or ferruled wire size 2,5 mm² / AWG 14)

- for max. current load see the connector inserts derating diagram below; for more information **see page 28** of CN.19 catalogue.

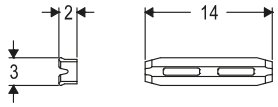


contacts side (front view)



inserts for conductors with the following cross-sectional areas:

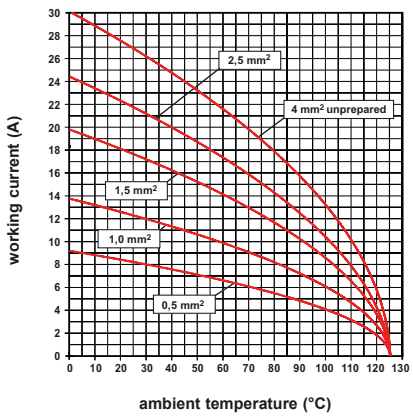
- unprepared conductor
  0,25 mm² - 4 mm² (AWG 24-12)
- prepared conductor with crimped end-sleeve
  0,25 mm² - 2,5 mm² (AWG 24-14)
- conductors stripping length: 9..11 mm



Coding pins to be ordered separately.

It is possible to achieve up to **6 different codings** thanks to the use of the optional CR Q08E coding pin: 3 coding pins are required for each connector coupling.

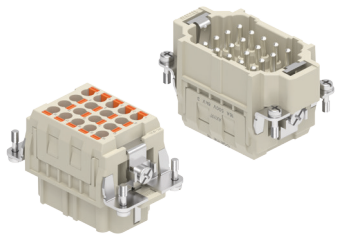
CQEY 10 poles connector inserts
Maximum current load derating diagram



enclosures:
size "57.27" **page:**

refer to CN.19 pages

AXYR® inserts,
push-in spring clamp with actuator button



SILVER PLATED CONTACTS
FROM SEPTEMBER 2023

coding pins

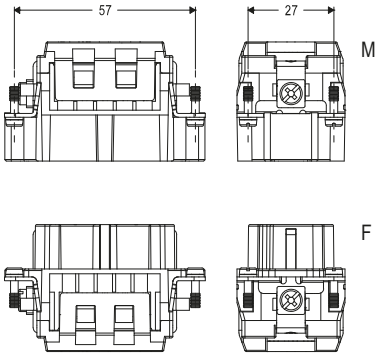
description	part No.	part No.
spring/**AXYR®** push-in connection		
female insert with female contacts	CQEYF 18	
male insert with male contacts	CQEYM 18	
plastic coding pin		CR Q08E

- characteristics according to EN 61984:
  16 A 500 V 6 kV 3
  16 A 830 V 8 kV 2

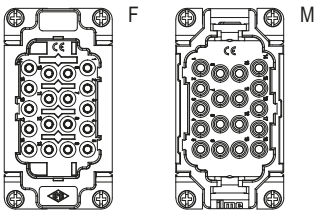
- cURus (ECBT2/8 and PVVA2/8) pending
- CQC, DNV, BV, EAC pending

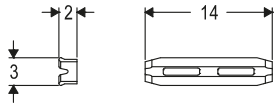
- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- max diameter of wire sheathing or ferrule funnel: ø 5 mm (unprepared wire size 4 mm² / AWG 12 or ferruled wire size 2,5 mm² / AWG 14)

- for max. current load see the connector inserts derating diagram below; for more information **see page 28** of CN.19 catalogue.



contacts side (front view)

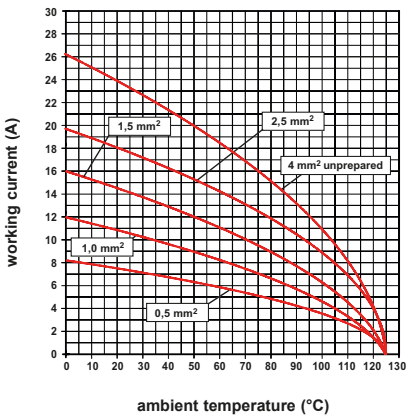




Coding pins to be ordered separately.

It is possible to achieve up to **6 different codings** thanks to the use of the optional CR Q08E coding pin: 3 coding pins are required for each connector coupling.

CQEY 18 poles connector inserts
Maximum current load derating diagram



inserts for conductors with the following cross-sectional areas:

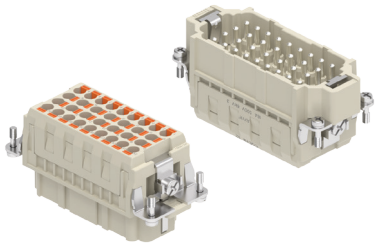
- unprepared conductor
  0,25 mm² - 4 mm² (AWG 24-12)
- prepared conductor with crimped end-sleeve
  0,25 mm² - 2,5 mm² (AWG 24-14)
- conductors stripping length: 9..11 mm

CQEY 32 poles + ⏚ 16 A – 500 V

enclosures:
size "77.27" **page:**

refer to CN.19 pages

AXYR® inserts,
push-in spring clamp with actuator button



SILVER PLATED CONTACTS
FROM SEPTEMBER 2023

coding pins

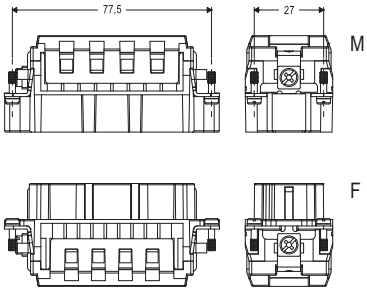
description	part No.	part No.
spring/**AXYR®** push-in connection		
female insert with female contacts	CQEYF 32	
male insert with male contacts	CQEYM 32	
plastic coding pin		CR Q08E

- characteristics according to EN 61984:
  16 A 500 V 6 kV 3
  16 A 830 V 8 kV 2

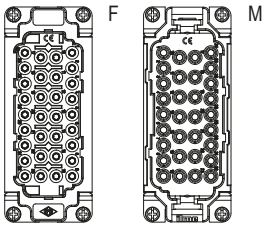
- cURus (ECBT2/8 and PVVA2/8) pending
- CQC, DNV, BV, EAC pending

- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- max diameter of wire sheathing or ferrule funnel: ø 5 mm (unprepared wire size 4 mm² / AWG 12 or ferruled wire size 2,5 mm² / AWG 14)

- for max. current load see the connector inserts derating diagram below; for more information **see page 28** of CN.19 catalogue.

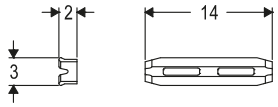


contacts side (front view)



inserts for conductors with the following cross-sectional areas:

- unprepared conductor
  0,25 mm² - 4 mm² (AWG 24-12)
- prepared conductor with crimped end-sleeve
  0,25 mm² - 2,5 mm² (AWG 24-14)
- conductors stripping length: 9..11 mm

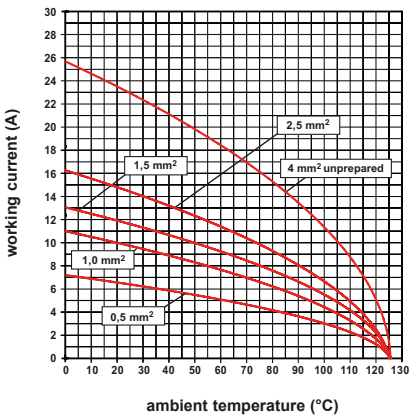


Coding pins to be ordered separately.

It is possible to achieve up to **6 different codings** thanks to the use of the optional CR Q08E coding pin: 4 coding pins are required for each connector coupling.

It is necessary to install **two** coding pins on each connector part.

CQEY 32 poles connector inserts
Maximum current load derating diagram

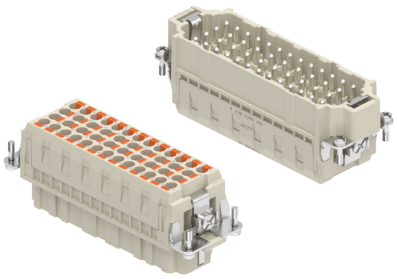


CQEY 46 poles + ⏚ 16 A – 500 V

enclosures:
size "104.27" — **page:**

refer to CN.19 pages

AXYR® inserts,
push-in spring clamp with actuator button



SILVER PLATED CONTACTS
FROM SEPTEMBER 2023

coding pins

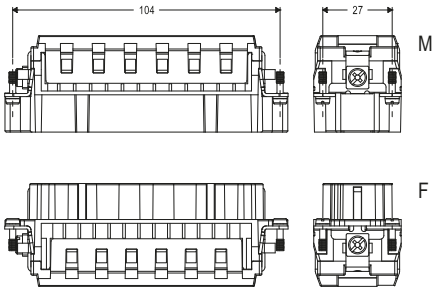
description	part No.	part No.
spring/**AXYR®** push-in connection		
female insert with female contacts	CQEYF 46	
male insert with male contacts	CQEYM 46	
plastic coding pin		CR Q08E

- characteristics according to EN 61984:
  16 A 500 V 6 kV 3
  16 A 830 V 8 kV 2

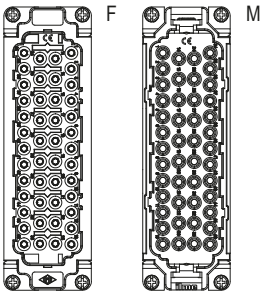
- cURus (ECBT2/8 and PVVA2/8) pending
- CQC, DNV, BV, EAC pending

- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- max diameter of wire sheathing or ferrule funnel: ø 5 mm (unprepared wire size 4 mm² / AWG 12 or ferruled wire size 2,5 mm² / AWG 14)

- for max. current load see the connector inserts derating diagram below; for more information **see page 28** of CN.19 catalogue.

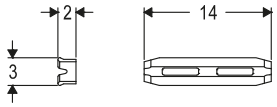


contacts side (front view)



inserts for conductors with the following cross-sectional areas:

- unprepared conductor
  0,25 mm² - 4 mm² (AWG 24-12)
- prepared conductor with crimped end-sleeve
  0,25 mm² - 2,5 mm² (AWG 24-14)
- conductors stripping length: 9..11 mm

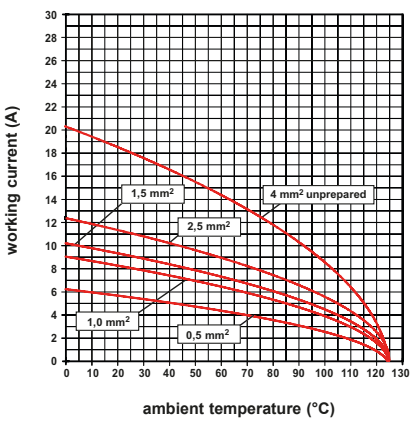


Coding pins to be ordered separately.

It is possible to achieve up to **6 different codings** thanks to the use of the optional CR Q08E coding pin: 4 coding pins are required for each connector coupling.

It is necessary to install **two** coding pins on each connector part.

CQEY 46 poles connector inserts
Maximum current load derating diagram



CQEY 64 poles + ⏚ 16 A – 500 V

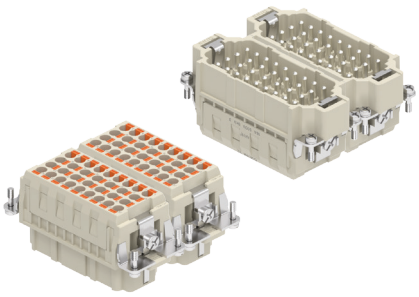
enclosures:
size "77.62"

page:

C-TYPE IP65 or IP66/IP69 424 - 429
W-TYPE for aggressive environments 525
E-Xtreme® corrosion proof 546

refer to CN.19 pages

AXYR® inserts,
push-in spring clamp with actuator button



coding pins

SILVER PLATED CONTACTS

FROM SEPTEMBER 2023

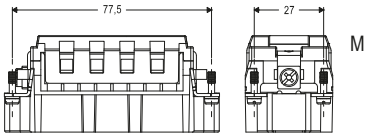
description	part No.	part No.	part No.
spring/**AXYR®** push-in connection female insert with female contacts, No. (1-32) and (33-64) male insert with male contacts, No. (1-32) and (33-64)	CQEYF 32 CQEYM 32	CQEYF 32 N CQEYM 32 N	
plastic coding pin			CR Q08E

- characteristics according to EN 61984:
  16 A 500 V 6 kV 3
  16 A 830 V 8 kV 2

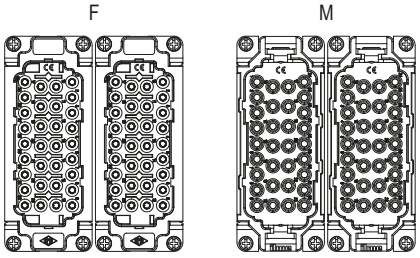
- cURus (ECBT2/8 and PVVA2/8) pending
- CQC, DNV, BV, EAC pending

- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- max diameter of wire sheathing or ferrule funnel: ø 5 mm (unprepared wire size 4 mm² / AWG 12 or ferruled wire size 2,5 mm² / AWG 14)

- for max. current load see the connector inserts derating diagram below; for more information **see page 28** of CN.19 catalogue.

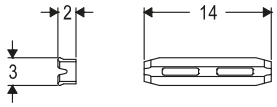


contacts side (front view)



inserts for conductors with the following cross-sectional areas:

- unprepared conductor
  0,25 mm² - 4 mm² (AWG 24-12)
- prepared conductor with crimped end-sleeve
  0,25 mm² - 2,5 mm² (AWG 24-14)
- conductors stripping length: 9..11 mm

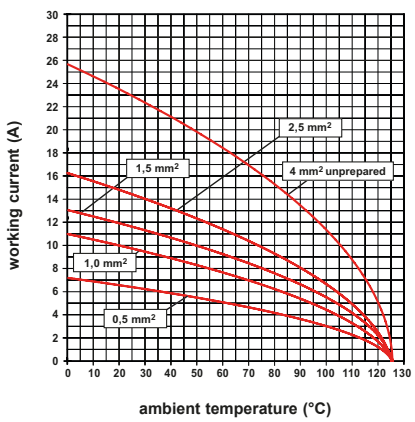


Coding pins to be ordered separately.

It is possible to achieve up to **6 different codings** thanks to the use of the optional CR Q08E coding pin: 4 coding pins are required for each connector coupling.

It is necessary to install **two** coding pins on each connector part.

CQEY 64 poles connector inserts
Maximum current load derating diagram

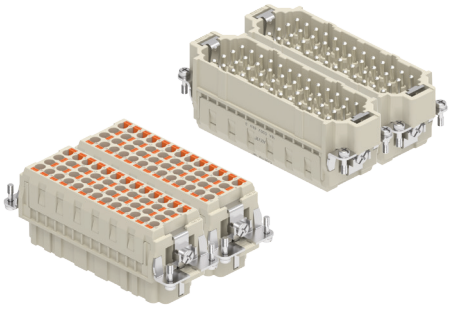


CQEY 92 poles + ⏚ 16 A – 500 V

enclosures:
size "104.62"

refer to CN.19 pages

AXYR® inserts,
push-in spring clamp with actuator button



SILVER PLATED CONTACTS
FROM SEPTEMBER 2023

coding pins

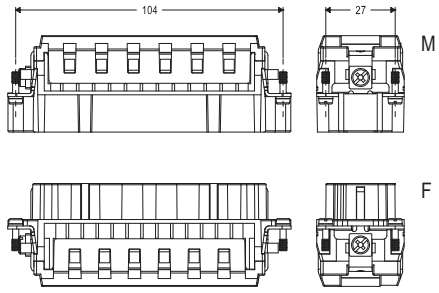
description	part No.	part No.	part No.
spring/**AXYR®** push-in connection female insert with female contacts, No. (1-46) and (47-92) male insert with male contacts, No. (1-46) and (47-92)	**CQEYF 46** **CQEYM 46**	**CQEYF 46 N** **CQEYM 46 N**	
plastic coding pin			**CR Q08E**

- characteristics according to EN 61984:
  16 A 500 V 6 kV 3
  16 A 830 V 8 kV 2

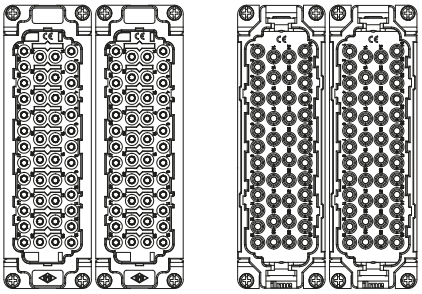
- cURus (ECBT2/8 and PVVA2/8) pending
- CQC, DNV, BV, EAC pending

- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- max diameter of wire sheathing or ferrule funnel: ø 5 mm (unprepared wire size 4 mm² / AWG 12 or ferruled wire size 2,5 mm² / AWG 14)

- for max. current load see the connector inserts derating diagram below; for more information **see page 28** of CN.19 catalogue.

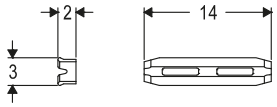


contacts side (front view)



inserts for conductors with the following cross-sectional areas:

- unprepared conductor
  0,25 mm² - 4 mm² (AWG 24-12)
- prepared conductor with crimped end-sleeve
  0,25 mm² - 2,5 mm² (AWG 24-14)
- conductors stripping length: 9..11 mm



Coding pins to be ordered separately.

It is possible to achieve up to **6 different codings** thanks to the use of the optional CR Q08E coding pin: 4 coding pins are required for each connector coupling.

It is necessary to install **two** coding pins on each connector part.

CQEY 92 poles connector inserts
Maximum current load derating diagram