Multipole connectors

# 2022

Newsbook

Extract 2/5


# CQA/MQA 08 size "32.13" NEW METAL CONCEPT

datasheet

# TECHNICAL FEATURES

The new **metallic enclosures CQA/MQA size "32.13"** have been developed with utmost ease of assembly and simplicity in mind.

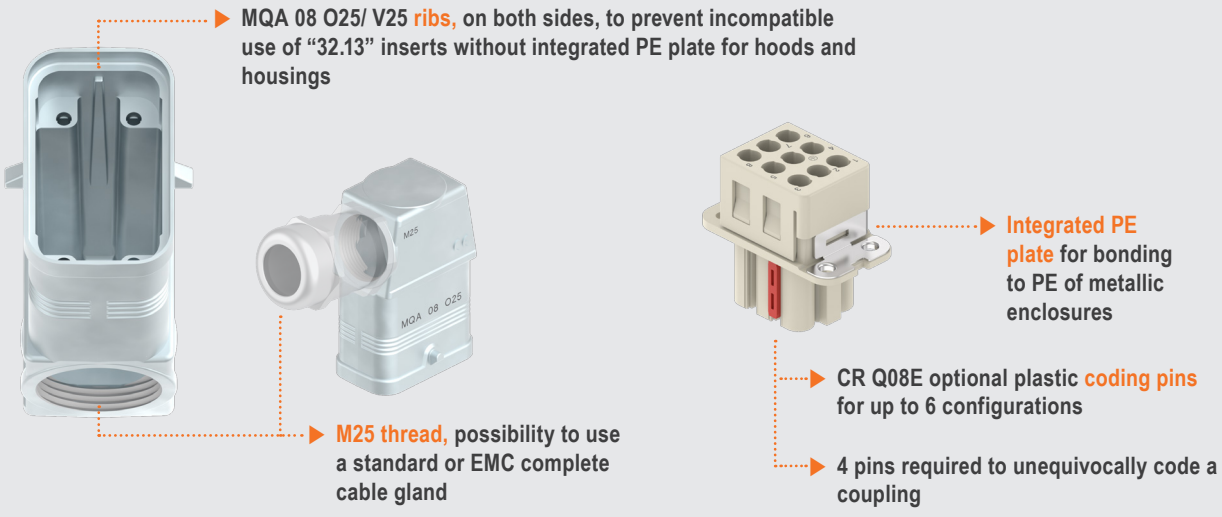
Being metallic, these new zinc alloy, zinc plated die cast enclosures, require proper bonding to protective earth (PE), for safety reasons. The existing solutions on the market, in order to fulfil this requirement and provide a safety-robust design in line with the mandatory CE marking statement for such devices, were unsatisfactory in this regard: such a compact design leaves no space for including a separate PE terminal inside the hoods/housings without implying the split of the hood/housing in two parts – thus adding at least two screws and one sealing gasket – and the presence of an additional arm and screw terminal inside the hood, likely to obstruct the wiring space, thus making the assembly utterly complex, expensive, and prone to additional troubles in keeping the high IP degree of protection provided by such enclosures.

On the other hand, insulating enclosures do not provide – although special insulating metallized EMC versions CQS 08 (CN.19 pages 573-575) exist – the necessary shielding of electromagnetic interference that the "32.13" connector inserts typically require for being used in conjunction with pulse width modulation (PWM) drives (inverters) for electric motors' speed/torque motion control, systems that are likely to produce significant harmonic pollution.

The new metallic enclosures, provided with a robust stainless steel locking lever, have their outer surface protected against corrosion by a conductive layer of galvanic zinc plating, thus they can easily serve as EMC enclosures, once provided with commercially available M25 EMC cable glands, and by replacing the standard rubber sealing gasket provided with the dedicated "32.13" male inserts with special conductive sealing gasket **CR 08 EMC** (see CN.19 page 575).

**New metallic enclosures CQA/MQA size "32.13"** were therefore demanded to serve such applications. The solution envisaged is to let the "32.13" connector inserts provide such bonding to the surrounding metal hood/housing via **a newly introduced PE plate** reliably in contact with their PE male or female contact.
In order to dumb-proof avoid possibly hazardous mounting of any previously available connector inserts not provided with such PE plate (i.e.: CQF /M 08, CQF /M 04/2, CQF /M 17) into these **new series CQA/MQA metallic enclosures,** these ones have been provided by **internal keys** that match only with the corresponding **keyways** foreseen on the new inserts **CQF /M 08E (crimp),** the only ones suitable for these enclosures, at their date of availability. Further new inserts for these "32.13" enclosures are planned for later release.

The existing crimp equivalent inserts **CQF /M 08** – unsuitable for metallic hoods/housings – needed to be complemented by a new variant, equipped with such additional PE plate; thus, the **new crimp version CQF /M 08E** (where the E after the polarity means presence of PE plate) is also suitable for use either inside traditional size "32.13" CQ/MQ insulating enclosures or inside the **new size "32.13" series CQA/MQA metallic enclosures.**



# CQF /M 08E 8 poles + ⏚ 16 A - 500 V

**enclosures:**
**size "32.13"** **page:**

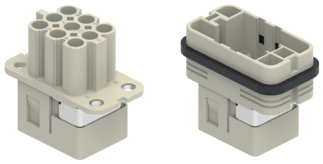
**metallic** **38**

**insulating type** **365 - 367**
**EMC (insulating)** **573 - 574**

**ISO 23570-3 standard and DESINA® specification compliant**

**refer to CN.19 pages**

**inserts, crimp connections**



**FROM MAY 2022**

**16 A crimp contacts standard or for advanced opening silver and gold plated**

STANDARD

ADVANCED OPENING

| description | part No. |
|---|---|
| without contacts (to be ordered separately) | |
| female insert for female contacts | **CQF 08E** |
| male insert for male contacts | **CQM 08E** |

16 A female contacts

| | | | | | |
|---|---|---|---|---|---|
| 0,14-0,37 mm² | AWG 26-22 | one groove | **CCFA 0.3** | silver plated | **CCFD 0.3** |
| 0,5 mm² | AWG 20 | with no grooves | **CCFA 0.5** | | **CCFD 0.5** |
| 0,75 mm² | AWG 18 | one groove (back side) | **CCFA 0.7** | | **CCFD 0.7** |
| 1 mm² | AWG 18 | one groove | **CCFA 1.0** | | **CCFD 1.0** |
| 1,5 mm² | AWG 16 | two grooves | **CCFA 1.5** | | **CCFD 1.5** |
| 2,5 mm² | AWG 14 | three grooves | **CCFA 2.5** | | **CCFD 2.5** |
| 3 mm² | AWG 12 | one wide groove | **CCFA 3.0** | | **CCFD 3.0** |
| 4 mm² | AWG 12 | with no grooves | **CCFA 4.0** | | **CCFD 4.0** |

16 A male contacts

| | | | | | |
|---|---|---|---|---|---|
| 0,14-0,37 mm² | AWG 26-22 | one groove | **CCMA 0.3** | | **CCMD 0.3** |
| 0,5 mm² | AWG 20 | with no grooves | **CCMA 0.5** | | **CCMD 0.5** |
| 0,75 mm² | AWG 18 | one groove (back side) | **CCMA 0.7** | | **CCMD 0.7** |
| 1 mm² | AWG 18 | one groove | **CCMA 1.0** | | **CCMD 1.0** |
| 1,5 mm² | AWG 16 | two grooves | **CCMA 1.5** | | **CCMD 1.5** |
| 2,5 mm² | AWG 14 | three grooves | **CCMA 2.5** | | **CCMD 2.5** |
| 3 mm² | AWG 12 | one wide groove | **CCMA 3.0** | | **CCMD 3.0** |
| 4 mm² | AWG 12 | with no grooves | **CCMA 4.0** | | **CCMD 4.0** |

16 A male crimp contacts for advanced opening

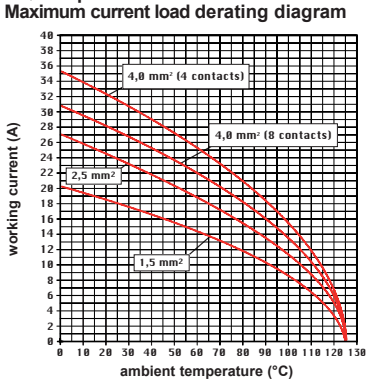
| | | | | |
|---|---|---|---|---|
| 0,5 mm² | AWG 20 | with no grooves | **CC 0.5 AN** | |
| 0,75 mm² | AWG 18 | one groove (back side) | **CC 0.7 AN** | |
| 1 mm² | AWG 18 | one groove | **CC 1.0 AN** | |
| 1,5 mm² | AWG 16 | two grooves | **CC 1.5 AN** | |
| 2,5 mm² | AWG 14 | three grooves | **CC 2.5 AN** | |

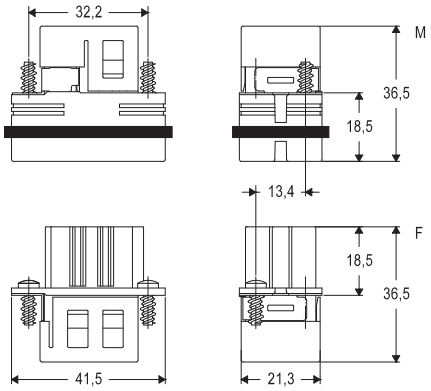
gold plated⁺

⁺ for basic or high thickness gold plating, please refer to CN.19 at page 675

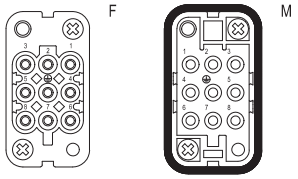
- characteristics according to EN 61984:
  **16 A 500 V 6 kV 3**
  **16 A 400/690 V 8 kV 2**
- cURus (ECBT2/8 and PVVA2/8) pending
- CQC, EAC, DNV-GL, BV pending
- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made by UL 94V-0 glass reinforced polycarbonate, EN 45545-2:2015 compliant
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 1 mΩ
- each insert supplied with 2 fixing screws, self-tapping, zinc plated steel ø 2,9 x 9,5 mm, Ph1
- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please refer to the crimping tool section 16 A contacts, CCF, CCM and CC...AN series on CN.19, pp 708-741)
- for max. current load see the connector inserts derating diagram below; for more information **see page 28** of CN.19 catalogue

**CQ 08E poles connector inserts**
**Maximum current load derating diagram**



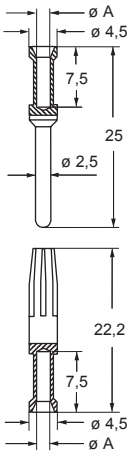




contacts side (front view)

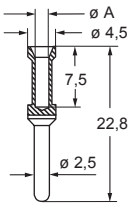



**Coding pin**
**CR Q08E**
**(refer to page 39)**

**CCF and CCM**




**CC...AN**




**CCF, CCM and CC...AN contacts**

| conductor section mm² | conductor slot ø A (mm) | conductors stripping length (mm) |
|---|---|---|
| 0,14-0,37 | 0,9 | 7,5 |
| 0,5 | 1,1 | 7,5 |
| 0,75 | 1,3 | 7,5 |
| 1,0 | 1,45 | 7,5 |
| 1,5 | 1,8 | 7,5 |
| 2,5 | 2,2 | 7,5 |
| 3 | 2,55 | 7,5 |
| 4 | 2,85 | 7,5 |

# CQA - MQA Metallic version

| inserts | | page: |
|---|---|---|
| **CQY 08E** | 8 poles + ⏚ | **36** |
| **CQ 08E** | 8 poles + ⏚ | **37** |

**bulkhead mounting housings with single lever**

FROM MAY 2022

**hoods with 2 pegs**

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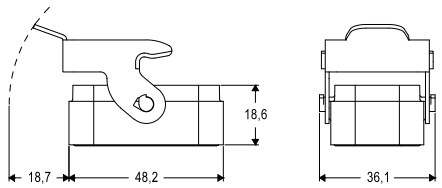
| description | part No. | part No. | entry M |
|---|---|---|---|
| with lever and gasket | **CQA 08 I** | | |
| with pegs, side entry | | **MQA 08 O25** | 25 |
| with pegs, top entry | | **MQA 08 V25** | 25 |

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

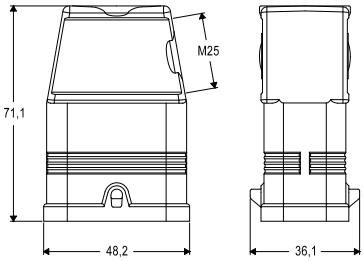
- ambient temperature limit: -40 °C ... +125 °C

- zinc die-cast, zinc plated
- stainless steel lever
- NBR flange gasket (interface gasket provided with male insert, where applicable)
- EMC (with suitable cable glands) and replacement of interface gasket on male insert with CR 08 EMC (refer to CN.19, page 575)
- top/side M25 cable entry

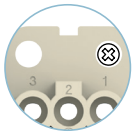
**CQA 08 I**



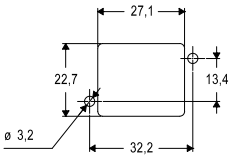

**MQA 08 O25**



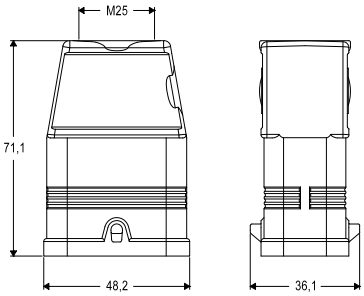

**IMPORTANT NOTE:**
coded for use with “32.13” PE inserts only.




panel cut-out




**MQA 08 V25**




cURus
Type 4/4X/12 pending

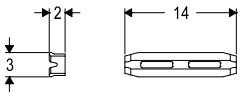
EN 60529 IP66 IP67 IP69 IEC 60529 according to IEC/EN 60529

# CR coding pin

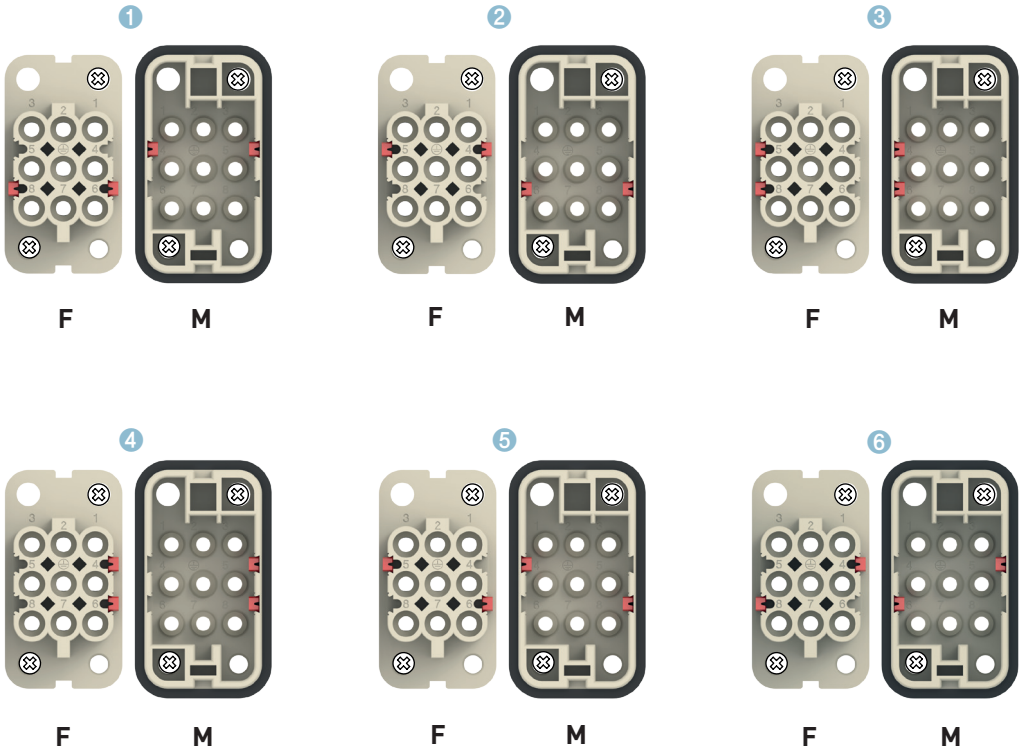
**coding pin**

| description | part No. |
|---|---|
| plastic coding pin | **CR Q08E** |

- 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.




## CR Q08E CODING OPTIONS



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