



CK series with optional coding pins: avoid incorrect connections

The renewed CK series of inserts addresses the need for connector coding with the addition of coding pins CR K03, CR K04R and CR K04G.

Each connector is made to make coupling of inserts from different series impossible, by suitable key and key way. Inserts are also polarized against inadvertent 180° mating. When a number of identical connectors with different functions are mounted close together, the coupling of a free part onto a non-corresponding fixed part must be prevented in order to avoid possible damage and breakdown.

The coding pins added to the renewed CK series **allow the user to safely configure the male and female inserts** to prevent the incorrect connection of identical connectors.

With various combinations of coding pins available, it is possible to safely install up to 4 connectors of the same type but with different functions side-by-side.



SUM UP

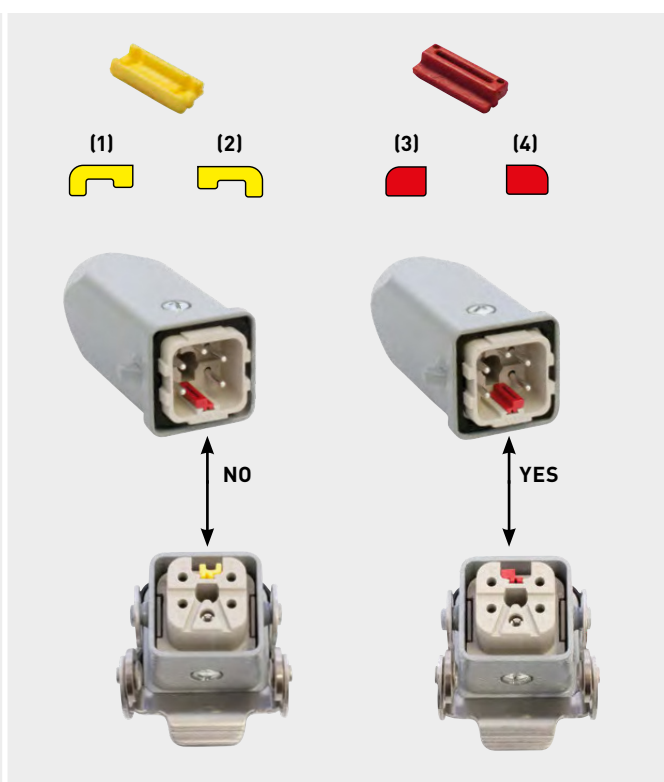
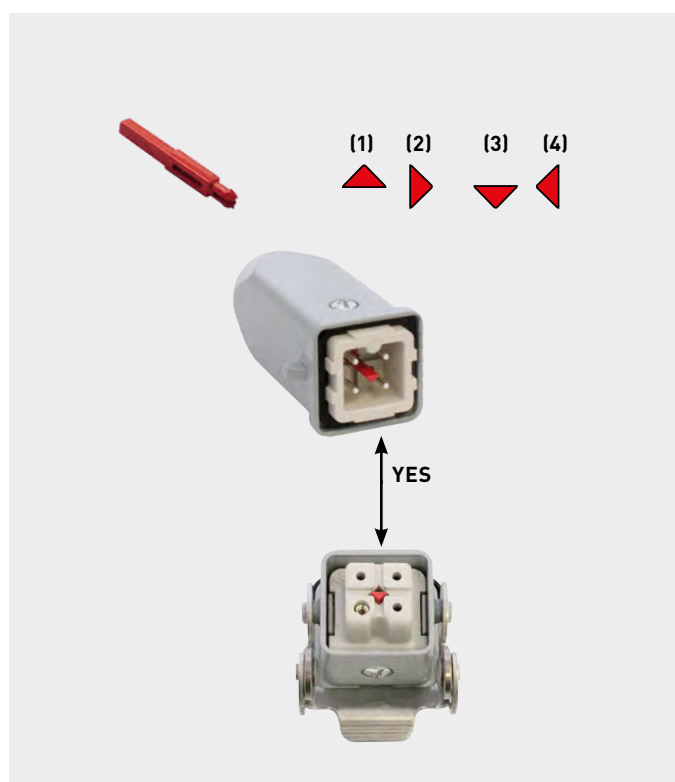
- ☑ Connection up to 2,5 mm²
- ☑ New RAL 7032 colour
- ☑ Bult-in silver or gold plated contacts

CR K03 version, for connectors 3P + ⊕

Inserting the pin in the 4 possible positions by rotating through 90° allows 4 different insert codings to be obtained.

CR K04 version, for connectors 4P + ⊕

2 pin versions available: yellow - red
Each pin has 2 possible specular insertion positions. Alternate use of the pins allows 4 coding combinations to be achieved.



CK 3 and 4 poles + ⊕ 10A - 230/400V

enclosures:
size "21.21"

page:

Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
E-Xtreme® corrosion proof	538 - 539
EMC	564 - 572
IP68	628 - 631

- can be mated with CKSH inserts

inserts, 3 poles + ⊕
screw terminal connections



Q SILVER PLATED CONTACTS

inserts, 4 poles + ⊕
screw terminal connections



Q SILVER PLATED CONTACTS

description	part No.	part No.	part No.	part No.
distinctive colour	white	black	white	black
female inserts with female contacts ¹⁾	CKF 03	CKF 03 N	CKF 04	CKF 04 N
male inserts with male contacts	CKM 03	CKM 03 N	CKM 04	CKM 04 N
distinctive colour				
female inserts with female contacts ¹⁾				
male inserts with male contacts				

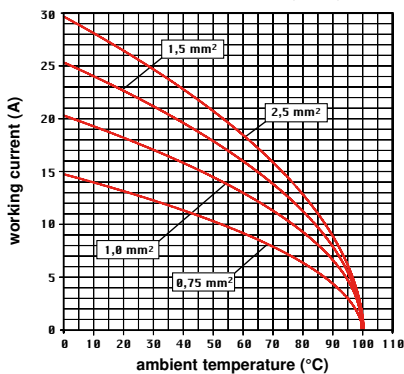
1) the female inserts can be mounted into the straight bulkhead housings CK I from the rear

- characteristics according to EN 61984:

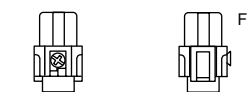
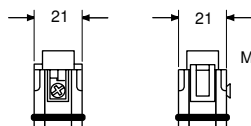
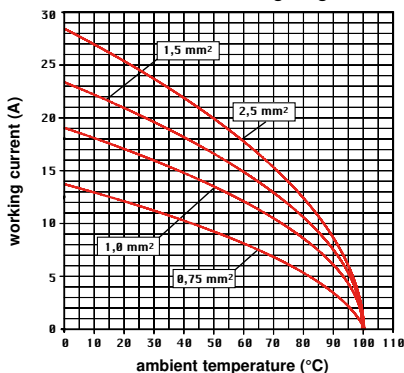
10A 230/400V 4kV 3
10A 400/690V 4kV 2

- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: $\geq 10 \text{ G}\Omega$
- ambient temperature limit: $-40 \text{ }^\circ\text{C} \dots +100 \text{ }^\circ\text{C}$
- made of self-extinguishing thermoplastic resin UL 94V-1
- mechanical life: ≥ 500 cycles
- contact resistance: $\leq 2 \text{ m}\Omega$
- for max. current load see the connector inserts derating diagrams below; for more information see page 28

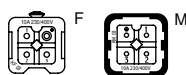
CK 03 poles connector inserts
Maximum current load derating diagram



CK 04 poles connector inserts
Maximum current load derating diagram

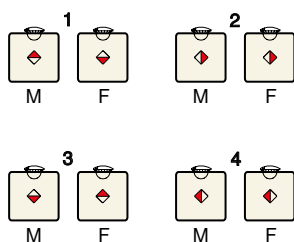


contacts side (front view)

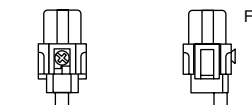
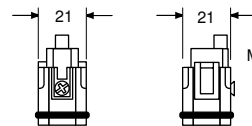


- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

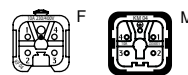
CR K03
coding pins
(page 688)



M = male insert
F = female insert

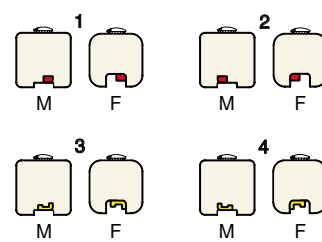


contacts side (front view)



- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

CR K04R
and **CR K04G** coding
pins (page 688)



M = male insert
F = female insert

CKD 3 and 4 poles + ⊕ 10A - 230/400V

enclosures:
size "21.21"

page:

Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
E-Xtreme® corrosion proof	538 - 539
EMC	564 - 572
IP68	628 - 631

inserts, 3 poles + ⊕
screw terminal connections



Q GOLD PLATED CONTACTS

inserts, 4 poles + ⊕
screw terminal connections

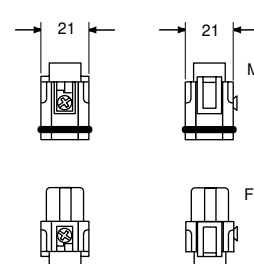


Q GOLD PLATED CONTACTS

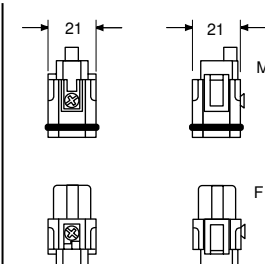
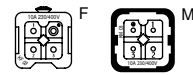
description	part No.	part No.
female inserts with female contacts ¹⁾ male inserts with male contacts	CKFD 03 CKMD 03	
female inserts with female contacts ¹⁾ male inserts with male contacts		CKFD 04 CKMD 04

1) the female inserts can be mounted into the straight bulkhead housings CK I from the rear

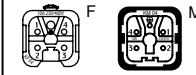
- characteristics according to EN 61984:
10A 230/400V 4kV 3
10A 400/690V 4kV 2
- certified
- rated voltage according to UL/GSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +100 °C
- made of self-extinguishing thermoplastic resin UL 94V-1
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 2 mΩ
- for max. current load see the connector inserts derating diagrams below; for more information see page 28



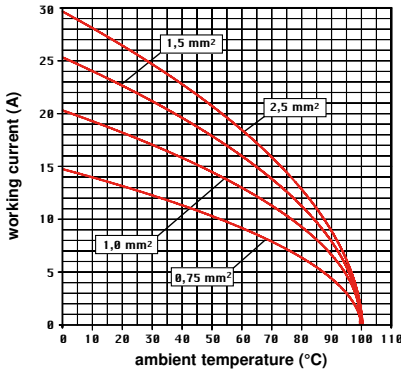
contacts side (front view)



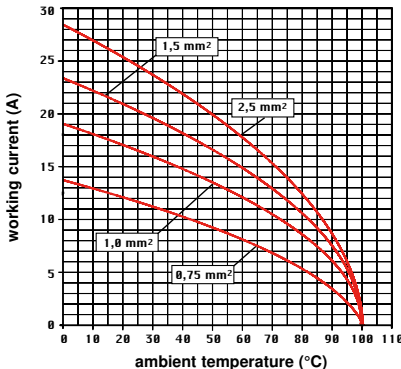
contacts side (front view)



CKD 03 poles connector inserts
Maximum current load derating diagram



CKD 04 poles connector inserts
Maximum current load derating diagram



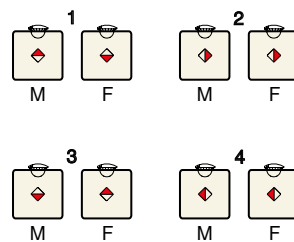
- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

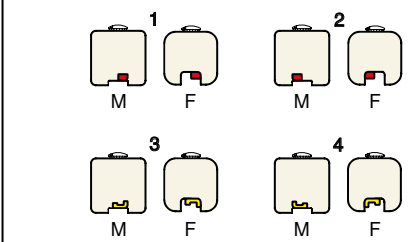
CR K03
coding pins
(page 688)



CR K04R
and **CR K04G** coding
pins (page 688)



M = male insert
F = female insert



M = male insert
F = female insert

CKSH-SQUICH® 3 and 4 poles + ⊕ 10A - 400V

enclosures:
size "21.21"

page:

Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
E-Xtreme® corrosion proof	538 - 539
EMC	564 - 572
IP68	628 - 631

- can be mated with CK inserts

inserts, 3 poles + ⊕
spring terminal connection without tools



inserts, 4 poles + ⊕
spring terminal connection without tools



description	part No.	part No.
female inserts with female contacts	CKSHF 03	CKSHF 04
male inserts with male contacts	CKSHM 03	CKSHM 04
female inserts with female contacts		
male inserts with male contacts		

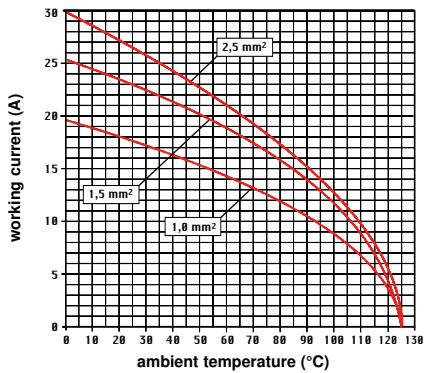
- characteristics according to EN 61984:

10A 400V 4kV 3
10A 690V 4kV 2

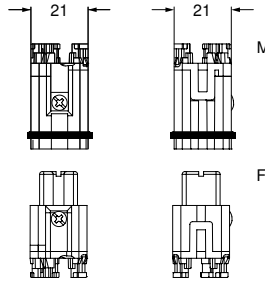
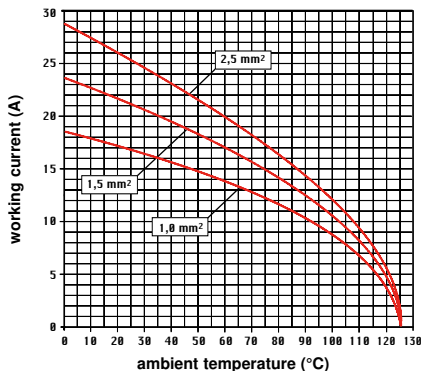
- cULus (UL for USA and Canada), DNV-GL, BUREAU VERITAS
EAC certified

- rated voltage according to UL/CSA: 600V
- insulation resistance: $\geq 10 \text{ G}\Omega$
- ambient temperature limits: $-40 \text{ }^\circ\text{C} \dots +125 \text{ }^\circ\text{C}$
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: $\leq 3 \text{ m}\Omega$
- for max. current load see the connector inserts derating diagrams below; for more information see page 28

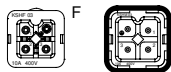
CKSH 03 poles connector inserts
Maximum current load derating diagram



CKSH 04 poles connector inserts
Maximum current load derating diagram



contacts side (front view)

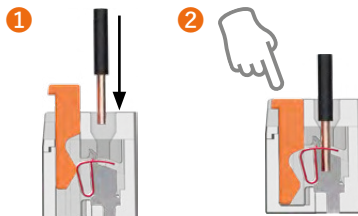


- inserts for wires with the following cross-sectional areas: 0,14 - 2,5 mm² - AWG 26 - 14 for prepared wires useable section: up to 1,5 mm² (AWG 16)
- conductor stripping length: 9...11 mm

CR K03
coding pins
(page 688)

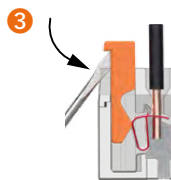


SQUICH®-spring connection technology
WIRING

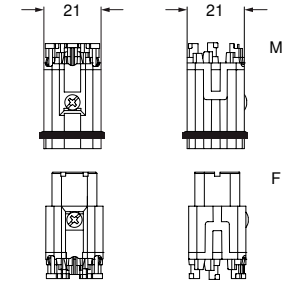


1 Deeply insert a stripped conductor into a round terminal.
2 Push the actuator button to close the terminal.

RE-OPENING



3 Insert a 0,5 x 3,5 mm flat blade screwdriver in the actuator button side window and pull it up by levering down.



contacts side (front view)

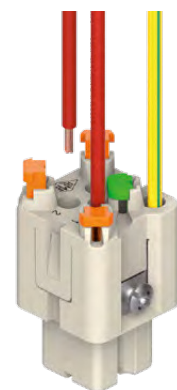


- inserts for wires with the following cross-sectional areas: 0,14 - 2,5 mm² - AWG 26 - 14 for prepared wires useable section: up to 1,5 mm² (AWG 16)
- conductor stripping length: 9...11 mm

CR K04R
and **CR K04G** coding pins
(page 688)



Rear top entry of wires for a more easier wiring



CQ4F/M 02 2 poles + ⊕ 40A - 400V

enclosures:
size "21.21"

page:

Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
EMC	564 - 572
IP68	628 - 631
E-Xtreme® corrosion proof	538 - 539

- cannot be used in angled enclosures (IA/IAP/VA version)

inserts, crimp connections



40A crimp contacts silver plated



description

part No.

part No.

without contacts (to be ordered separately), including PE female inserts for female contacts
male inserts for male contacts

CQ4F 02
CQ4M 02

40A female crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10
10 mm ²	AWG 8

40A male crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10
10 mm ²	AWG 8

CXFA 1.5
CXFA 2.5
CXFA 4.0
CXFA 6.0
CXFA 10

silver plated

CXMA 1.5
CXMA 2.5
CXMA 4.0
CXMA 6.0
CXMA 10

- characteristics according to EN 61984:

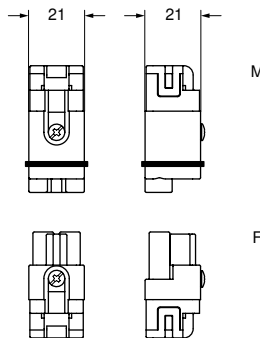
40A 400V 6kV 3

- cULus (UL for USA and Canada),

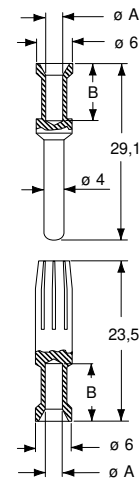
ERC certified

- rated voltage according to UL/CSA: 600V
- 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: ≤ 0,3 mΩ
- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please see the crimping tool section 40A contacts CXF and CXM series, on pages 708 - 741)

- wire diameter: up to 7,5 mm
conductor cross-sectional area: up to 10 mm²



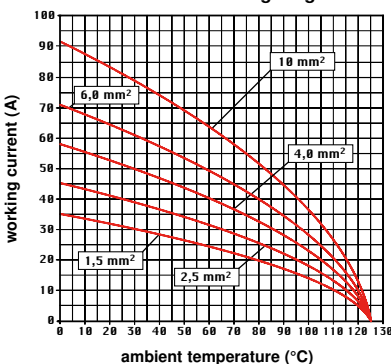
contacts side (front view)



CXF and CXM contacts

conductor cross-sectional area (mm ²)	conductor slot ø A (mm)	conductor stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6
10	4,3	15

CQ4 02, 2 poles + PE connector inserts
Maximum current load derating diagram



Coding pins
CR Q02
(page 691)



CQ4F/M 02 H 2 poles + ⊕ 40A - 830V

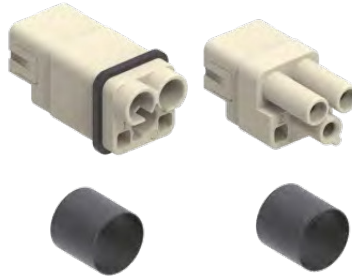
enclosures:
size "21.21"

page:

Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
EMC	564 - 572
IP68	628 - 631
E-Xtreme® corrosion proof	538 - 539

- cannot be used in angled enclosures
(IA/IAP/VA version)

inserts, crimp connections
heat-shrinking tube



HIGHER VOLTAGE 830V

40A crimp contacts
silver plated



description	part No.	part No.
-------------	----------	----------

without contacts (to be ordered separately), including PE
female inserts for female contacts
male inserts for male contacts

CQ4F 02 H
CQ4M 02 H

40A female crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10
10 mm ²	AWG 8

40A male crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10
10 mm ²	AWG 8

CXFA 1.5
CXFA 2.5
CXFA 4.0
CXFA 6.0
CXFA 10

silver plated

CXMA 1.5
CXMA 2.5
CXMA 4.0
CXMA 6.0
CXMA 10

- characteristics according to EN 61984:

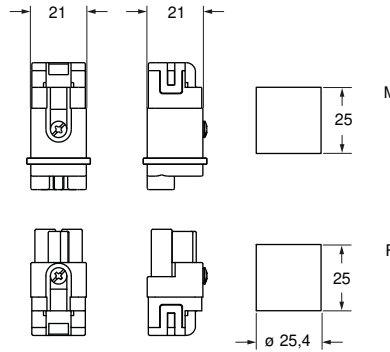
40A 830V 6kV 3

- (UL for USA and Canada),

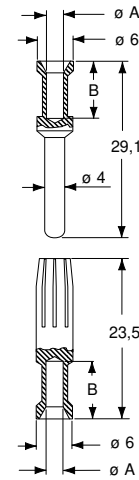
ERC certified

- rated voltage according to UL/CSA: 600V
- insulation resistance: $\geq 10 \text{ G}\Omega$
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: $\leq 0,3 \text{ m}\Omega$
- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please see the crimping tool section 40A contacts CXF and CXM series, on pages 708 - 741)

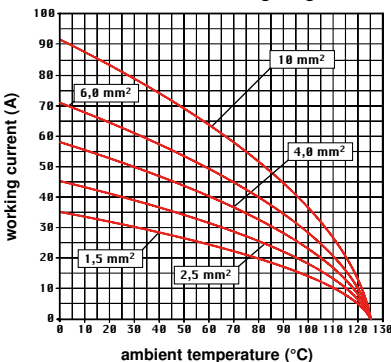
- wire diameter: up to 7,5 mm
conductor cross-sectional area: up to 10 mm²



contacts side (front view)



CQ4 02 H, 2 poles + PE connector inserts
Maximum current load derating diagram



Coding pins
CR Q02
(page 691)



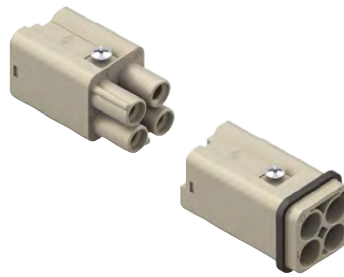
CXF and CXM contacts

conductor cross-sectional area (mm ²)	conductor slot ϕ A (mm)	conductor stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6
10	4,3	15

CQ4F/M 03 3 poles + ⊕ 40A - 400V

enclosures: size "21.21"	page:
Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
EMC	564 - 572
IP68	628 - 631
E-Xtreme® corrosion proof	538 - 539

inserts, crimp connections



40A crimp contacts
silver plated



- cannot be used in angled enclosures (IA/IAP/VA version)

description	part No.	part No.
-------------	----------	----------

without contacts (to be ordered separately)
female inserts for female contacts *
male inserts for male contacts *

CQ4F 03
CQ4M 03

40A female crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10
10 mm ²	AWG 8

CXFA 1.5
CXFA 2.5
CXFA 4.0
CXFA 6.0
CXFA 10

silver plated

40A male crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10
10 mm ²	AWG 8

CXMA 1.5
CXMA 2.5
CXMA 4.0
CXMA 6.0
CXMA 10

- the female insert **CQ4F 03** is finger proof (IP2X or IPXXB) even if not coupled, while the male insert **CQ4M 03** in this circumstance is protected from access with the back of the hand (IP1X or IPXXA).

- characteristics according to EN 61984:

40A 400V 6kV 3

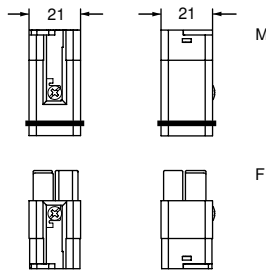
- us (UL for USA and Canada), certified

- 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: ≤ 0,3 mΩ

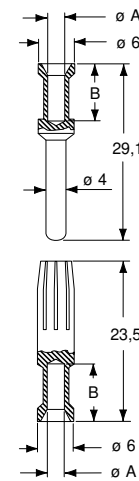
- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please see the crimping tool section 40A contacts CXF and CXM series, on pages 708 - 741)

- for max. current load see the connector inserts derating diagram below; for more information see page 28

* wire diameter: up to 7,5 mm
contact section: up to 10 mm²



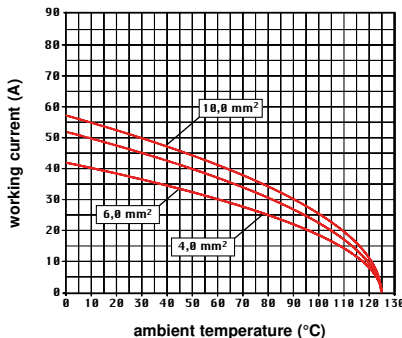
contacts side (front view)



CXF and CXM contacts

conductor section mm ²	conductor slot ø A (mm)	conductors stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6
10	4,3	15

CQ4 03, 3 poles + PE connector inserts
Maximum current load derating diagram



Coding pins
CR Q03
(4 possible positions)
(page 692)



CQ 4 poles (40A - 400/690V) + 2 poles (10A - 250V) + ⊕

enclosures:
size "32.13"

page:

insulating type
EMC

365 - 367
573 - 574

ISO 23570-3 standard and
DESINA specification
compliant



inserts, crimp connections



40A and 10A crimp contacts silver and gold plated



description	part No.	part No.
-------------	----------	----------

without contacts (to be ordered separately)
female inserts for female contacts
male inserts for male contacts

CQF 04/2
CQM 04/2

40A female crimp contacts
1,5 mm² AWG 16
2,5 mm² AWG 14
4 mm² AWG 12
6 mm² AWG 10

CXFA 1.5
CXFA 2.5
CXFA 4.0
CXFA 6.0

40A male crimp contacts
1,5 mm² AWG 16
2,5 mm² AWG 14
4 mm² AWG 12
6 mm² AWG 10

CXMA 1.5
CXMA 2.5
CXMA 4.0
CXMA 6.0

+ for basic or high
thickness gold
plating, please refer
to page 674

10A female contacts
0,14-0,37 mm² AWG 26-22 identification No. 1
0,5 mm² AWG 20 identification No. 2
0,75 mm² AWG 18 identification No. ②
1 mm² AWG 18 identification No. 3
1,5 mm² AWG 16 identification No. 4
2,5 mm² AWG 14 identification No. 5

CDFA 0.3
CDFA 0.5
CDFA 0.7
CDFA 1.0
CDFA 1.5
CDFA 2.5

CDFD 0.3
CDFD 0.5
CDFD 0.7
CDFD 1.0
CDFD 1.5
CDFD 2.5

10A male contacts
0,14-0,37 mm² AWG 26-22 identification No. 1
0,5 mm² AWG 20 identification No. 2
0,75 mm² AWG 18 identification No. ②
1 mm² AWG 18 identification No. 3
1,5 mm² AWG 16 identification No. 4
2,5 mm² AWG 14 identification No. 5

CDMA 0.3
CDMA 0.5
CDMA 0.7
CDMA 1.0
CDMA 1.5
CDMA 2.5

CDMD 0.3
CDMD 0.5
CDMD 0.7
CDMD 1.0
CDMD 1.5
CDMD 2.5

- characteristics according to EN 61984:

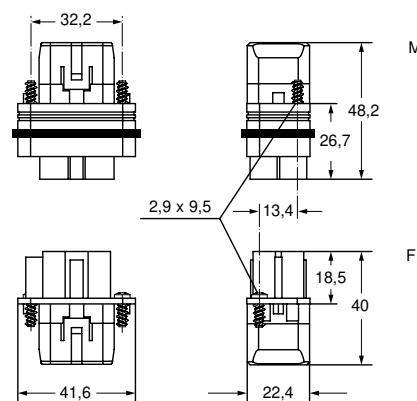
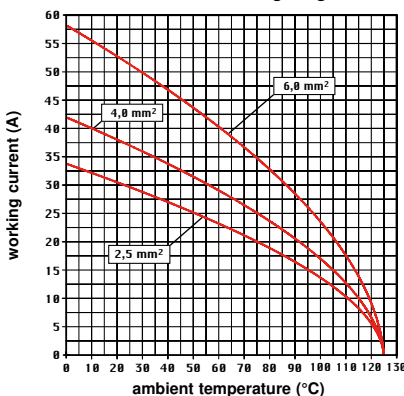
4 poles 40A 400/690V 6kV 3
2 poles 10A 250V 4kV 3

- cULus (UL for USA and Canada),

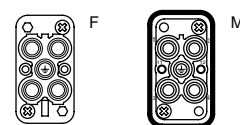
certified

- rated voltage according to UL/CSA: 600V
- 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: ≤ 0,3 mΩ (4 poles), ≤ 3 mΩ (2 poles)
- for max. current load see the connector inserts derating diagram below; for more information see page 28

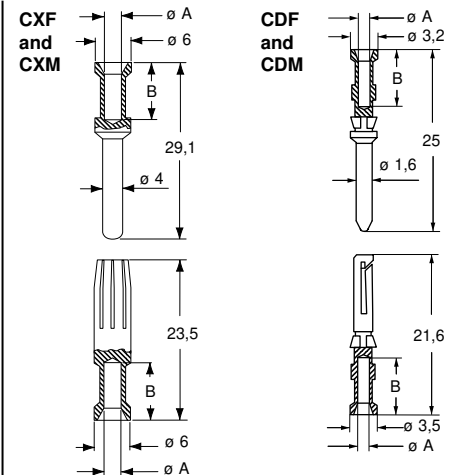
CQ 04/2 power poles connector inserts
Maximum current load derating diagram



contacts side (front view)



- each insert supplied with 2 fixing screws, self-tapping, zinc plated steel Ø2,9x9,5 mm, Ph1
- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please see the crimping tool section 40A contacts, CXF, CXM series and 10A contacts CDF, CDM series on pages 708 - 741)



CXF and CXM contacts

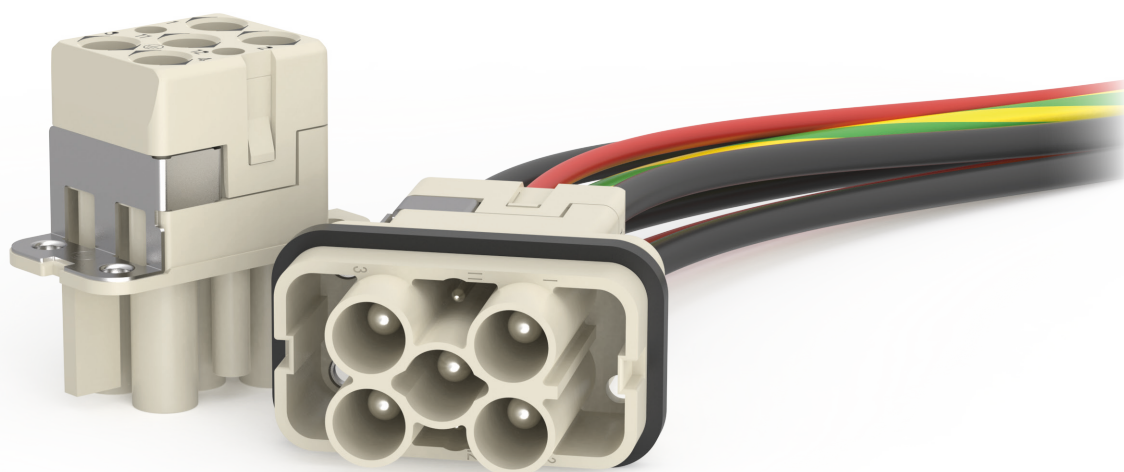
conductor section mm ²	conductor slot Ø A (mm)	conductors stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6

CDF and CDM contacts

0,14-0,37	0,9	8
0,5	1,1	8
0,75	1,3	8
1,0	1,45	8
1,5	1,8	8
2,5	2,2	6

CRIMP CQF /M 04/2E

New inserts in crimp technology



The variant with integral PE plate
of popular CQF /M 04/2 crimp connector inserts

CQ..E connectors with PE plate

4 P + ⊕ (power): 40 A 400/690 V 6 kV 3

2 P (auxiliary): 10 A 250 V 4 kV 3



Find out more
www.ilme.com

TECHNICAL FEATURES

The new **CQF /M 04/2E** size “32.13” crimp connector inserts, for use with series **CX 40 A** power contacts (5 contacts per inserts required) and series **CD** auxiliary contacts, **are the variant with integral PE plate** of popular **CQF /M 04/2** crimp connector inserts, ISO 23570-3 standard and DESINA® specification compliant, with which they are intermateable, for use in the **new size “32.13” metallic enclosures with stainless steel lever series CQA/MQA**.

The integral PE plate implements the equipotential bonding contact between the protective power earth crimp contact (positioned in the middle of the inserts) and the CQA/MQA metal enclosure.

The existing crimp equivalent inserts **CQF /M 04/2** – unsuitable for metallic hoods/housings – needed to be complemented by this new variant, equipped with such integrated PE plate.

These **new crimp version CQF /M 04/2E** (the E after the polarity means with integrated PE plate) is suitable for use either inside traditional size “32.13” CQ/MQ insulating enclosures (where CQF /M 04/2 are enough) or inside the **new size “32.13” series CQA/MQA metallic enclosures (Figure 1)**.

These new connector inserts combined with CQA/MQA metallic enclosures, when used in conjunction with commercially available M25 EMC cable gland, and by replacing the standard rubber sealing gasket provided with the male insert **CQM 04/2E** with the special conductive sealing gasket **CR 08 EMC** (see CN.19 page 575), can provide improved EMC shielding attenuation compared with metallized insulating enclosures **CQS/MQS 08**, necessary when these connectors are used e.g., to feed three-phase AC motors through pulse width modulation (PWM) drives (inverters), for speed/torque motion control, known to inherently produce significant harmonic pollution.

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 the **new series CQA/MQA metallic enclosures**, these have been **provided with a coding** by means of **internal keys** that match only with the corresponding **keyways** foreseen on the new inserts with PE plate bonding connection to the PE contact. These **CQF /M 04/2E** (crimp) connector inserts size “32.13” are added to the already available **CQF /M 08E** (crimp) and **CQYF /M 08E (AXYR®)** as suitable for these metallic “32.13” coded enclosures.

Max diameter of wire sheathings:

- ø 5 mm for 4+PE power poles (max wire size 6 mm² / AWG 10)
- ø 3,8 mm for 2 auxiliary poles (max wire size 2,5 mm² / AWG 14)

✓ CERTIFICATIONS

- cURus, CQC, DNV, BV, EAC pending.
- **CE** and **UKCA** markings.
- RoHS: compliant.

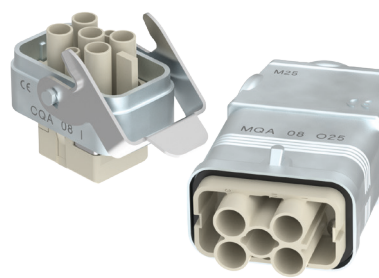
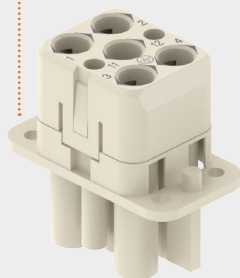
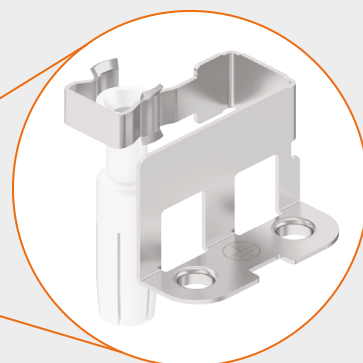
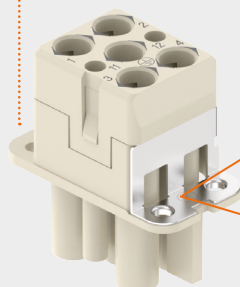


Figure 1.
New size “32.13” series CQA/MQA metallic enclosures

▶ Existing CQF 04/2 crimp connector



▶ New CQF 04/2E with integrated PE plate for bonding to PE of metallic enclosures



▶ PE plate

CQ 04/2E 4 poles + ⊕ (40 A – 400/690 V) + 2 poles (10 A – 250 V)

enclosures:
size "32.13"

page:

insulating type
EMC (insulating)

365 - 367
573 - 574

page:

metallic

38

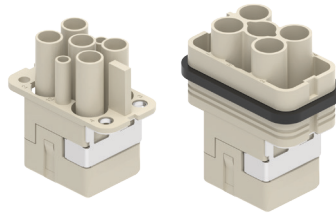
ISO 23570-3
standard and DESINA.
specification compliant



refer to CN.19 pages

refer to News 2022 pages

inserts,
crimp connections



Q SIZE "32.13"

FROM MARCH 2023

description

part No.

without contacts (to be ordered separately)
female insert with female contacts
male insert with male contacts

[CQF 04/2E](#)
[CQM 04/2E](#)

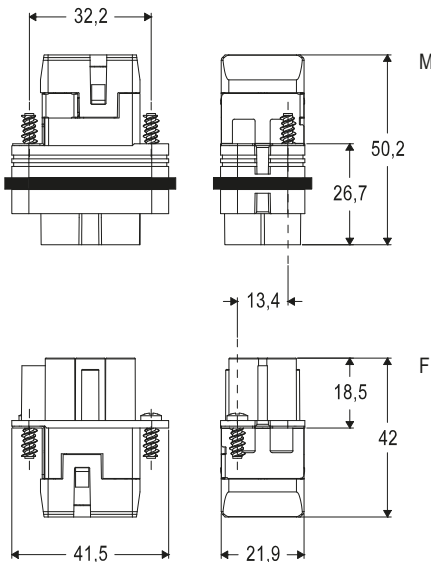
- characteristics according to EN 61984:
4 poles 40 A 400/690 V 6 kV 3
2 poles 10 A 250 V 4 kV 3

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

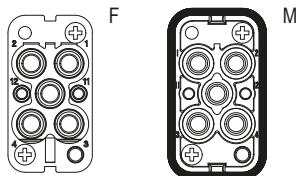
- rated voltage according to UL/CSA: 600 V
- insulation resistance: $\geq 10 \text{ G}\Omega$
- ambient temperature limit: $-40 \text{ }^\circ\text{C} \dots +125 \text{ }^\circ\text{C}$
- made of self-extinguishing thermoplastic resin UL 94V-0

- mechanical life: ≥ 500 cycles
- contact resistance: $\leq 0,3 \text{ m}\Omega$ (4 P), $\leq 3 \text{ m}\Omega$ (2 P)
- Max diameter of wire sheathings:
- $\varnothing 5 \text{ mm}$ for 4+PE power poles (max wire size 6 mm^2 / AWG 10)
- $\varnothing 3,8 \text{ mm}$ for 2 auxiliary poles (max wire size $2,5 \text{ mm}^2$ / AWG 14)

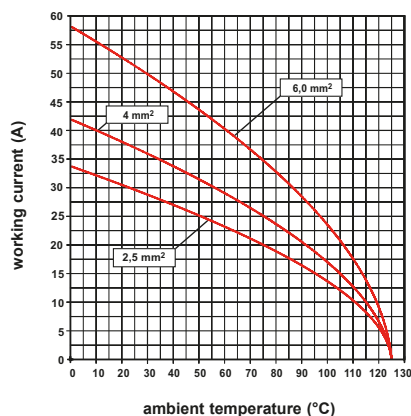
- for max. current load see the connector inserts derating diagram below; for more information see page 28 of CN.19 catalogue.



contacts side (front view)



CQ 04/2E, 04/2 power poles connector inserts
Maximum current load derating diagram



- each insert supplied with 2 fixing screws,
self-tapping, zinc plated steel $\varnothing 2,9 \times 9,5 \text{ mm}$, Ph1

40 A and 10 A crimp contacts silver and gold plated

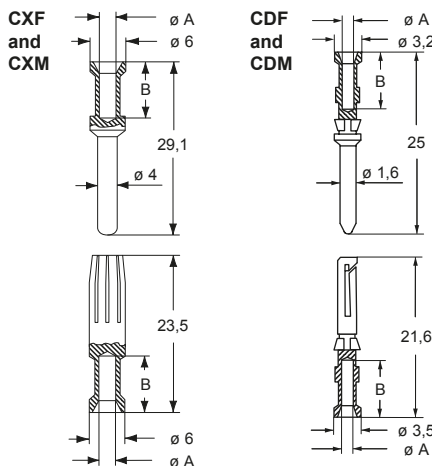


description	part No.	part No.
40 A female crimp contacts		
1,5 mm ² AWG 16	CXFA 1.5	silver plated
2,5 mm ² AWG 14	CXFA 2.5	
4 mm ² AWG 12	CXFA 4.0	
6 mm ² AWG 10	CXFA 6.0	
40 A male crimp contacts		
1,5 mm ² AWG 16	CXMA 1.5	silver plated
2,5 mm ² AWG 14	CXMA 2.5	
4 mm ² AWG 12	CXMA 4.0	
6 mm ² AWG 10	CXMA 6.0	
10 A female crimp contacts		
0,14-0,37 mm ² AWG 26-22 identification No. 1	CDFA 0.3	CDFD 0.3
0,5 mm ² AWG 20 identification No. 2	CDFA 0.5	CDFD 0.5
0,75 mm ² AWG 18 identification No. ②	CDFA 0.7	CDFD 0.7
1 mm ² AWG 18 identification No. 3	CDFA 1.0	CDFD 1.0
1,5 mm ² AWG 16 identification No. 4	CDFA 1.5	CDFD 1.5
2,5 mm ² AWG 14 identification No. 5	CDFA 2.5	CDFD 2.5
10 A male crimp contacts		
0,14-0,37 mm ² AWG 26-22 identification No. 1	CDMA 0.3	CDMD 0.3
0,5 mm ² AWG 20 identification No. 2	CDMA 0.5	CDMD 0.5
0,75 mm ² AWG 18 identification No. ②	CDMA 0.7	CDMD 0.7
1 mm ² AWG 18 identification No. 3	CDMA 1.0	CDMD 1.0
1,5 mm ² AWG 16 identification No. 4	CDMA 1.5	CDMD 1.5
2,5 mm ² AWG 14 identification No. 5	CDMA 2.5	CDMD 2.5

* for basic or high thickness gold plating, please refer to CN.19 at page 674

gold plated

- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 40A contacts, CXF, CXM series and 10A contacts CDF, CDM series on CN.19 at pages 708 - 741)

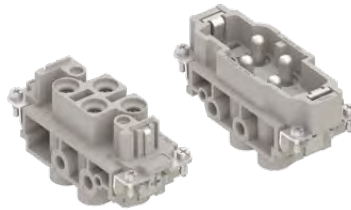


CXF and CXM contacts		
conductor section mm ²	conductor slot ø A (mm)	conductors stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6
CDF and CDM contacts		
0,14-0,37	0,9	8
0,5	1,1	8
0,75	1,3	8
1,0	1,45	8
1,5	1,8	8
2,5	2,2	6

CX 4 poles (80A - 830V) + ⊕

enclosures: size "77.27"	page:
C-TYPE IP65/IP66	402 - 411
C7 IP67, two levers	439 - 440
V-TYPE IP65/IP66, single lever	454 - 458
BIG hoods	470 - 471
T-TYPE IP65 insulating	484 - 485
T-TYPE / W IP66/IP69 insulating	491
HYGIENIC T-TYPE / H IP66/IP69	503
HYGIENIC T-TYPE / C IP66/IP69, -50 °C	508
W-TYPE for aggressive environments	523
E-Xtreme® corrosion proof	534 - 535, 544, 554 - 555
EMC	580
Central lever	609 - 611
LS-TYPE	622 - 623
IP68	640 - 643
panel supports: COB	page: 652 - 653

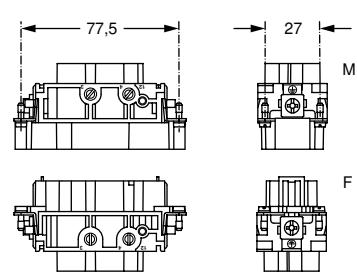
inserts, screw terminal connection



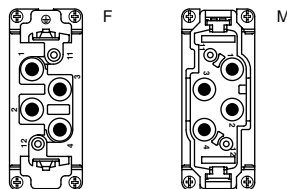
✓ RATING 830V
Q SILVER PLATED CONTACTS

description	part No.
female inserts with female contacts	CXF 4/0
male inserts with male contacts	CXM 4/0

- characteristics according to EN 61984:
- 80A 830V 8kV 3**
- certified
- rated voltage according to UL/CSA: 600V
- 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: ≤ 0,3 mΩ
- for max. current load see the connector inserts derating diagram below; for more information see page 28

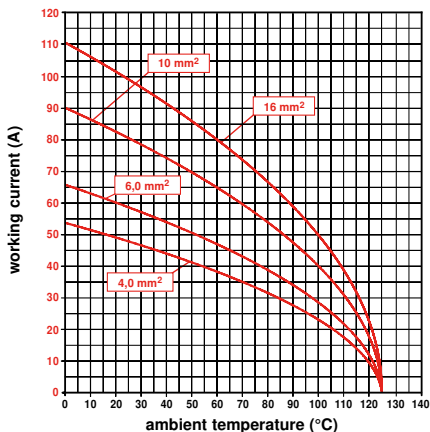


contacts side (front view)



- 80A contacts**
- without plate for section conductors:
4 - 16 mm² - AWG 12 - 6
 - conductors stripping length: 14 mm
 - terminal screw torque: 2,5 Nm (22.1 lb.in),
for more information see page 20 and 21

CX 4/0 poles connector inserts
Maximum current load derating diagram



CX 4/0

CQ4 SERIES COMBINED INSERT “21.21”
CQ4F /M 03/2



CQ4 Series - Combined insert “21.21”
3 poles + ⊕ power: 40 A 400 V 6 kV 3
2 poles auxiliary: 10 A 250 V 4 kV 3



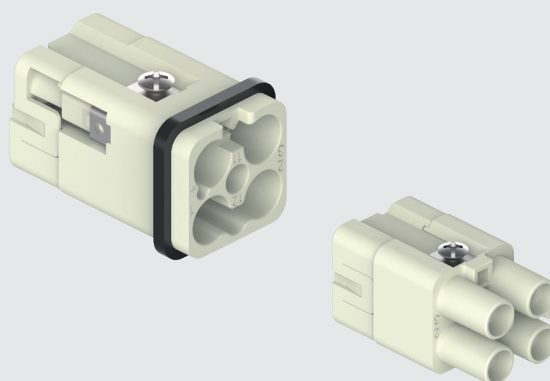
Find more
information on
our products at
www.ilme.com

TECHNICAL FEATURES

CQ4F /M 03/2

- Proprietary design, in the same space of the currently available CQ4 03, it features two additional auxiliary contacts plus one (optional) coding pin.
- Combined insert size "21.21" (first ever) for use with 4 (3P + ⊕) removable crimp contacts series **CX** up to size **6.0** (6 mm² / 10 AWG) for power and 2 removable crimp contacts series **CD** up to size **2.5** (2,5 mm² / 14 AWG) for auxiliaries.
- Suitable to drive a 1-axis power motion control system (feeding the 3Φ AC motor of the axis) with its 2-pole braking circuit, while the encoder signals are served by a separate second connector, for ease of shielding against interferences typical of PWM variable frequency drivers.
- One optional coding pin, **CR Q03/2** (red colour), to realize 4 different codings and avoid mismatching in case of installation of up to four similar connectors nearby.
- EN/IEC 61984 ratings:
 - 3P + ⊕ power: **40 A 400 V 6 kV 3**
 - 2P auxiliary: **10 A 250 V 4 kV 3**
- Lower and Upper Limiting Temperatures (LLT ... ULT):
-40 °C ... +125 °C.
- Max diameter of wire sheathing:
 - **5,0 mm** for 3P + ⊕ 40 A power contacts,
 - **3,8 mm** for 2P 10 A auxiliary contacts.

original
proprietary design
for high density
combination of
power and brakes
contacts



CQ4F / M 03/2 combined "21.21" 3 poles + ⊕ (40 A - 400 V) + 2 poles (10 A - 250 V)

enclosures:
size "21.21"

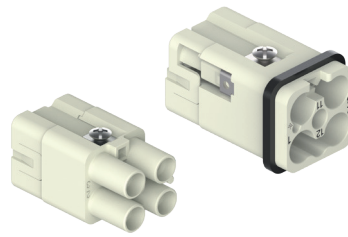
page:

Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
EMC	564 - 572
IP68	628 - 631
E-Xtreme® corrosion proof	538 - 539

- cannot be used in angled enclosures
(IA/IAP/VA version)

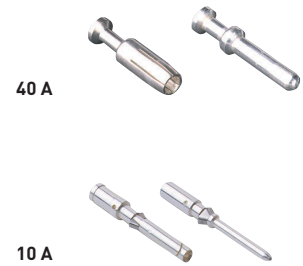
refer to CN.19 pages

inserts, crimp connections



FROM JUNE 2020

40 A and 10 A crimp contacts silver plated



description

part No.

part No.

without contacts (to be ordered separately), including PE female inserts for female contacts
male inserts for male contacts

CQ4F 03/2
CQ4M 03/2

40 A female crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10

CXFA 1.5
CXFA 2.5
CXFA 4.0
CXFA 6.0

40 A male crimp contacts

1,5 mm ²	AWG 16
2,5 mm ²	AWG 14
4 mm ²	AWG 12
6 mm ²	AWG 10

CXMA 1.5
CXMA 2.5
CXMA 4.0
CXMA 6.0

10 A female crimp contacts

0,14-0,37 mm ²	AWG 26-22	identification No. 1
0,5 mm ²	AWG 20	identification No. 2
0,75 mm ²	AWG 18	identification No. ②
1 mm ²	AWG 18	identification No. 3
1,5 mm ²	AWG 16	identification No. 4
2,5 mm ²	AWG 14	identification No. 5

CDFA 0.3
CDFA 0.5
CDFA 0.7
CDFA 1.0
CDFA 1.5
CDFA 2.5

10 A male crimp contacts

0,14-0,37 mm ²	AWG 26-22	identification No. 1
0,5 mm ²	AWG 20	identification No. 2
0,75 mm ²	AWG 18	identification No. ②
1 mm ²	AWG 18	identification No. 3
1,5 mm ²	AWG 16	identification No. 4
2,5 mm ²	AWG 14	identification No. 5

CDMA 0.3
CDMA 0.5
CDMA 0.7
CDMA 1.0
CDMA 1.5
CDMA 2.5

silver plated

- characteristics according to EN/IEC 61984 ratings:

40 A 400 V 6 kV 3
10 A 250 V 4 kV 3

- cUL (UL for USA and Canada), CSA, CQC, DNV-GL, BV, EAC pending

- rated voltage according to UL/CSA: 600 V

- insulation resistance: ≥ 10 GΩ

- Lower and Upper Limiting Temperatures (LLT ... ULT):
-40 °C ... +125 °C

- made of self-extinguishing thermoplastic resin
UL 94V-0

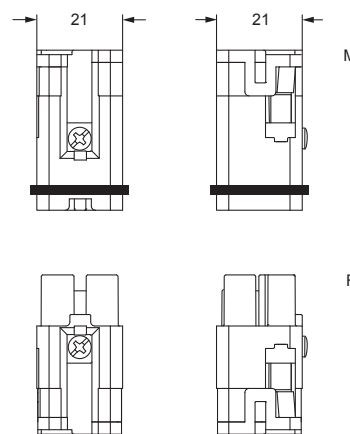
- mechanical life: ≥ 500 cycles

- contact resistance: ≤ 0,3 mΩ (CX power contacts)
≤ 3 mΩ (CX auxiliary contacts)

- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please see the crimping tool section 40A contacts CXF and CXM series and 10A contacts CDF, CDM series, on pages 708 - 741 of CN.19 catalogue).

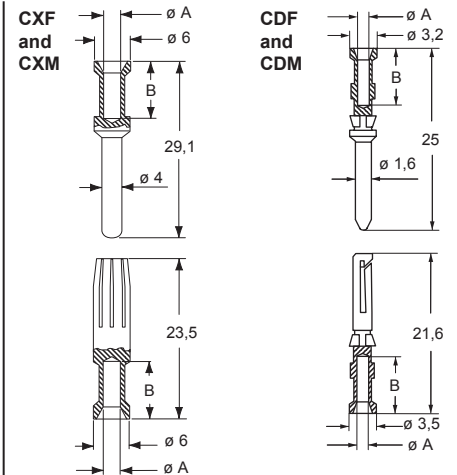
For 40 A contacts and 10 A contacts see also new pneumatic crimping tool CCPZP RN (see page 145)

- for max. current load see the connector inserts derating diagrams **under construction**.



contacts side (front view)

side with reference arrow ▲



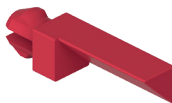
CXF and CXM contacts

conductor cross-sectional (mm ²)	conductor slot ø A (mm)	conductor stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6

CDF and CDM contacts

0,14-0,37	0,9	8
0,5	1,1	8
0,75	1,3	8
1,0	1,45	8
1,5	1,8	8
2,5	2,2	6

coding pin for crimp inserts



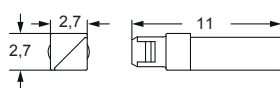
FROM JUNE 2020

description

part No.

coding pin (optional) for CQ4 03/2 inserts

CR Q03/2

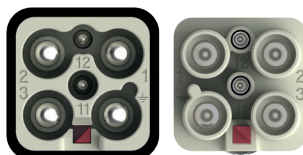


CR Q03/2 CODING OPTIONS



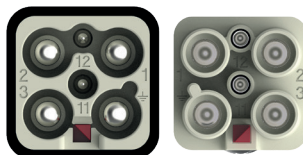
M

F



M

F



M

F



M

F

Thanks to the use of the **optional CR Q03/2 coding pin** it is possible to achieve up to **4 different codings**.