

## CQ4 (CQ4F /M 02 – CQ4F /M 02 H – CQ4F /M 03)

### Compact size “21.21” for high current or higher voltage

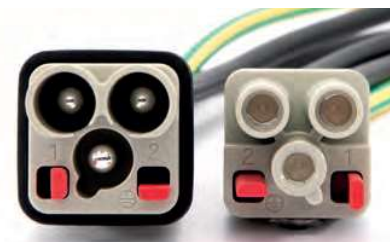
- Compact size “21.21” **2P+PE** and **3P+PE** connector inserts for **high current (40 A)**, and either standard voltage up to 400 V or **higher voltage 830 V**, ideally complemented by the expanding range of hoods and housings size “21.21” with **M25** threaded cable entry, either insulating or metallic (**MK, MKA, MGK**), which are particularly suitable for use with high cross-sectional area conductors (large cable diameter).
- Series **CQ4** encompasses the following size “21.21” connector inserts:
  - › **CQ4F /M 03** with 3P+PE with up to 40 A current-carrying capacity and standard rated voltage up to 400 V (e.g. for 3-phase motor connections);
  - › **CQ4F /M 02** with 2P+PE with up to 40 A current-carrying capacity and standard rated voltage up to 400 V (e.g. for 1-phase AC or for DC power connections), this one with better current-carrying capacity by the derating diagrams, due to a power contact less in the same space;
  - › **CQ4F /M 02 H** with 2P+PE with up to 40 A current-carrying capacity and higher rated voltage applications, up to **830 V** (for 1-phase AC or for DC higher power connections).
- Suitable for series **CX** crimp contacts (including the PE pre-leading one), covering stranded copper conductors cross sectional area range **1,5 mm<sup>2</sup> to 10 mm<sup>2</sup>** (16 AWG to 8 AWG).
- Protection against direct contact when unmated:
  - › **CQ4F 02**: both male and female connector inserts are **fingerproof** (IP2X) even on the mating face when uncoupled (useful e.g. when a male connector is on the motor side of a drive including capacitors, potentially charged for residual time).
  - › **CQ4F 03**: the female insert is **fingerproof** (IP2X) even on the mating face when uncoupled, while the male insert **CQ4M 03** in that circumstance is protected from access with the back of the hand (IP1X).
- **CQ4F /M 02** and **CQ4F /M 02 H** specific features:
  - › Special **polarisation key** on the connector bodies mating face of both versions, differently oriented, to avoid the mismatching of CQ4F /M 02 H **830 V** version with the lower voltage CQ4F /M 02 **400 V** version.
  - › **CQ4F /M 02 H** supplied with a **special insulating heat-shrinking tube** that provides the required additional insulation towards a metal housing.
  - › **CQ4F /M 02 H** specific **830 V** rated voltage duly marked on the inserts, to avoid any possible confusion with similar CQ4F /M 02 for 400 V.

#### - Codings:

- › **CQ4 03**: possibility of up to **4 different codings** thanks to the use of the **optional CR Q03 coding pin** (4 possible positions);
- › **CQ4 02** and **CQ4 02 H**: possibility of up to **16 different codings** thanks to the use of **two optional CR Q02 coding pins** (it is possible to install two pins with 4 positions each).



**CQ4F/M 02**  
Lower voltage version



**CQ4F/M 02 H**  
Higher 830V voltage version

# CQ4 series

## TECHNICAL FEATURES

Inserts series		CQ4		
Cat. No.		CQ4F /M 02	CQ4F /M 02 H	CQ4F /M 03
No. of poles		2 + ⊕	2 + ⊕	3 + ⊕
rated current <sup>1)</sup>		40 A		
EN 61984 pollution degree 3	rated voltage	400 V	830 V	400 V
	rated impulse voltage	6 kV		
	pollution degree	3		
contact resistance		≤ 0,3 mΩ		
insulation resistance		≥ 10 GΩ		
ambient temperature limit (°C) (°C)	min.	-40 °C		
	max.	+125 °C		
degree of protection	with enclosures (according to version)	IP44, IP65, IP66, IP67, IP68, IP69		
	without enclosures: - in mated condition	IP20 IP20 (IPXXB)		
	- termination side on male and female inserts	IP20 (IPXXB)		
	- mating side on female inserts	IP20 (IPXXB)		
	- mating side on male inserts	IP20 (IPXXB)	IP1X (IPXXA)	
conductor connections		crimp		
conductor cross-sectional area	mm <sup>2</sup>	1,5 ... 10		
	AWG	16 ... 8		
stripping length	mm	9 – 9,6 – 15 (according to contact size)		
mechanical endurance (mating cycles)		≥ 500		

<sup>1)</sup> See derating diagrams

# CQ4F/M 02 2 poles + PE 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)

CQ4

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 <sup>2</sup>	AWG 16
2,5 mm <sup>2</sup>	AWG 14
4 mm <sup>2</sup>	AWG 12
6 mm <sup>2</sup>	AWG 10
10 mm <sup>2</sup>	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 <sup>2</sup>	AWG 16
2,5 mm <sup>2</sup>	AWG 14
4 mm <sup>2</sup>	AWG 12
6 mm <sup>2</sup>	AWG 10
10 mm <sup>2</sup>	AWG 8

**CXMA 1.5**  
**CXMA 2.5**  
**CXMA 4.0**  
**CXMA 6.0**  
**CXMA 10**

- characteristics according to EN 61984:

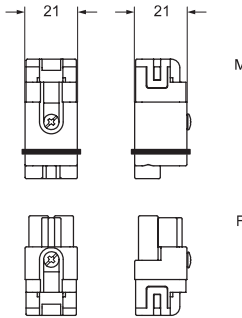
**40A 400V 6kV 3**

- cULus (UL for USA and Canada),

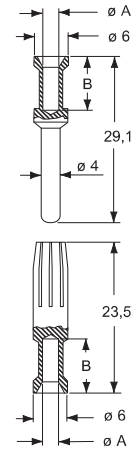
**ERC** certified

- rated voltage according to UL/CSA: 600V
- insulation resistance:  $\geq 10 \text{ G}\Omega$
- 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:  $\geq 500$  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)
- for max. current load see the connector inserts derating diagram below; for more information see page 28

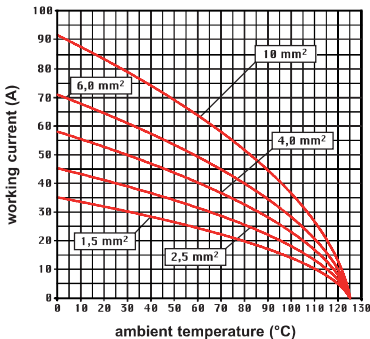
- wire diameter: up to 7,5 mm  
conductor cross-sectional area: up to 10 mm<sup>2</sup>



contacts side (front view)



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



**Crimping pins**  
**CR Q02**  
**(page 691)**



**CXF and CXM contacts**

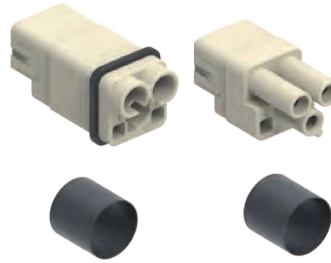
conductor cross-sectional area (mm <sup>2</sup> )	conductor slot ø A (mm)	conductor stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6
10	4,3	15

# 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<sup>2</sup> AWG 16  
2,5 mm<sup>2</sup> AWG 14  
4 mm<sup>2</sup> AWG 12  
6 mm<sup>2</sup> AWG 10  
10 mm<sup>2</sup> 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<sup>2</sup> AWG 16  
2,5 mm<sup>2</sup> AWG 14  
4 mm<sup>2</sup> AWG 12  
6 mm<sup>2</sup> AWG 10  
10 mm<sup>2</sup> AWG 8

**CXMA 1.5**  
**CXMA 2.5**  
**CXMA 4.0**  
**CXMA 6.0**  
**CXMA 10**

- characteristics according to EN 61984:

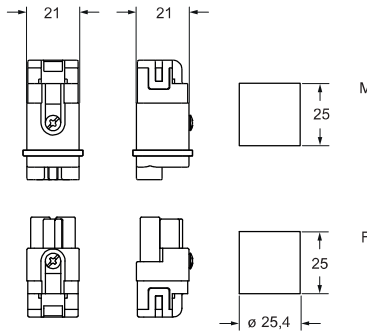
**40A 830V 6kV 3**

- cULus (UL for USA and Canada),

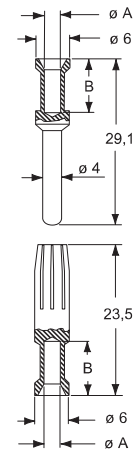
**ERC** certified

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

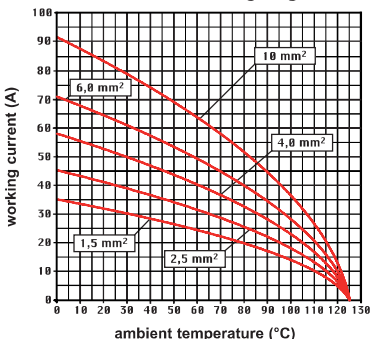
- wire diameter: up to 7,5 mm  
conductor cross-sectional area: up to 10 mm<sup>2</sup>



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 <sup>2</sup> )	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

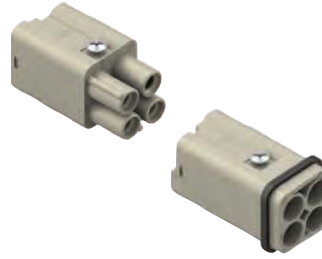
# CQ4F/M 03 3 poles + PE 40A - 400V

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 <sup>2</sup>	AWG 16
2,5 mm <sup>2</sup>	AWG 14
4 mm <sup>2</sup>	AWG 12
6 mm <sup>2</sup>	AWG 10
10 mm <sup>2</sup>	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 <sup>2</sup>	AWG 16
2,5 mm <sup>2</sup>	AWG 14
4 mm <sup>2</sup>	AWG 12
6 mm <sup>2</sup>	AWG 10
10 mm <sup>2</sup>	AWG 8

**CXMA 1.5**  
**CXMA 2.5**  
**CXMA 4.0**  
**CXMA 6.0**  
**CXMA 10**

\* wire diameter: up to 7,5 mm  
contact section: up to 10 mm<sup>2</sup>

- 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:

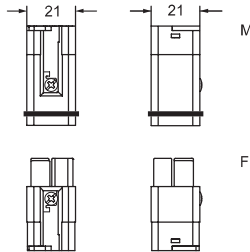
**40A 400V 6kV 3**

- cULus (UL for USA and Canada),   
ERC certified

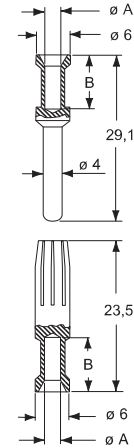
- insulation resistance:  $\geq 10 \text{ G}\Omega$
- ambient temperature limit:  $-40 \text{ }^\circ\text{C} \dots +125 \text{ }^\circ\text{C}$
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life:  $\geq 500$  cycles
- contact resistance:  $\leq 0,3 \text{ m}\Omega$

- **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)

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



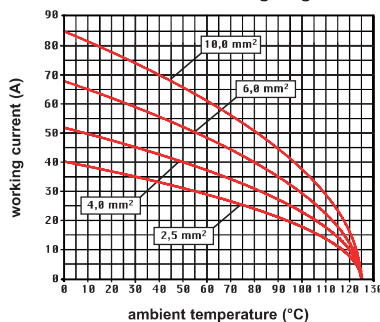
contacts side (front view)



### CXF and CXM contacts

conductor section mm <sup>2</sup>	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 5 poles + ⊕ 16A - 230/400V

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

- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 16A contacts, CCF, CCM and CC...AN series on pages 708 - 741)
- inserts and enclosures for applications with temperatures up to 180 °C, available on request
- can also be used partially fitted with 4 mm² section contacts

## inserts, crimp connections



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



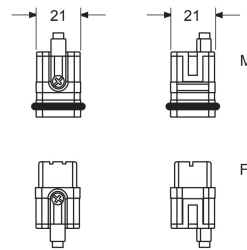
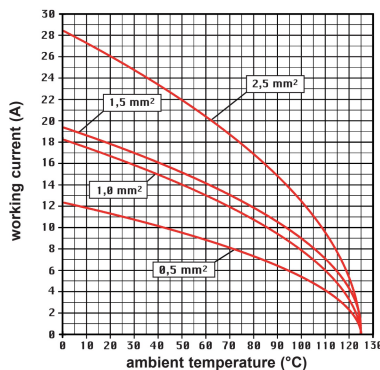
STANDARD

ADVANCED OPENING

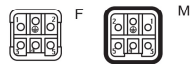
description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	<b>CQF 05</b>		
male inserts for male contacts	<b>CQM 05</b>		
<b>16A female contacts</b>			
0,14-0,37 mm² AWG 26-22 one groove		<b>CCFA 0.3</b>	<b>CCFD 0.3</b>
0,5 mm² AWG 20 with no grooves		<b>CCFA 0.5</b>	<b>CCFD 0.5</b>
0,75 mm² AWG 18 one groove (back side)		<b>CCFA 0.7</b>	<b>CCFD 0.7</b>
1 mm² AWG 18 one groove		<b>CCFA 1.0</b>	<b>CCFD 1.0</b>
1,5 mm² AWG 16 two grooves		<b>CCFA 1.5</b>	<b>CCFD 1.5</b>
2,5 mm² AWG 14 three grooves		<b>CCFA 2.5</b>	<b>CCFD 2.5</b>
3 mm² AWG 12 one wide groove		<b>CCFA 3.0</b>	<b>CCFD 3.0</b>
4 mm² AWG 12 with no grooves		<b>CCFA 4.0</b>	<b>CCFD 4.0</b>
<b>16A male contacts</b>			
0,14-0,37 mm² AWG 26-22 one groove		<b>CCMA 0.3</b>	<b>CCMD 0.3</b>
0,5 mm² AWG 20 with no grooves		<b>CCMA 0.5</b>	<b>CCMD 0.5</b>
0,75 mm² AWG 18 one groove (back side)		<b>CCMA 0.7</b>	<b>CCMD 0.7</b>
1 mm² AWG 18 one groove		<b>CCMA 1.0</b>	<b>CCMD 1.0</b>
1,5 mm² AWG 16 two grooves		<b>CCMA 1.5</b>	<b>CCMD 1.5</b>
2,5 mm² AWG 14 three grooves		<b>CCMA 2.5</b>	<b>CCMD 2.5</b>
3 mm² AWG 12 one wide groove		<b>CCMA 3.0</b>	<b>CCMD 3.0</b>
4 mm² AWG 12 with no grooves		<b>CCMA 4.0</b>	<b>CCMD 4.0</b>
<b>16A male crimp contacts for advanced opening</b>			
0,5 mm² AWG 20 with no grooves		<b>CC 0.5 AN</b>	+ for basic or high thickness gold plating, please refer to page 675
0,75 mm² AWG 18 one groove (back side)		<b>CC 0.7 AN</b>	
1 mm² AWG 18 one groove		<b>CC 1.0 AN</b>	
1,5 mm² AWG 16 two grooves		<b>CC 1.5 AN</b>	
2,5 mm² AWG 14 three grooves		<b>CC 2.5 AN</b>	

- characteristics according to EN 61984:  
**16A 230/400V 4kV 3**  
**16A 320/500V 4kV 2**
- 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: ≤ 1 mΩ
- for max. current load see the connector inserts derating diagram below; for more information see page 28

**CQ 05 poles connector inserts**  
Maximum current load derating diagram

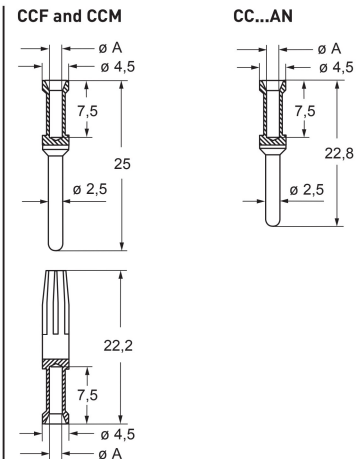


contacts side (front view)



**Note:**  
PE screw connection for unprepared wires only

**Coding pins CR CPQ**  
(page 689)



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

conductor section mm²	conductor slot width 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

# CQ 7 poles + ⊕ 10A - 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

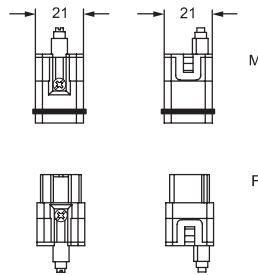


10A crimp contacts  
silver and gold plated



description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	<b>CQF 07</b>		
male inserts for male contacts	<b>CQM 07</b>		
<b>10A female contacts</b>			
0,14-0,37 mm <sup>2</sup> AWG 26-22 identification No. 1		<b>CDFA 0.3</b>	<b>CDFD 0.3</b>
0,5 mm <sup>2</sup> AWG 20 identification No. 2		<b>CDFA 0.5</b>	<b>CDFD 0.5</b>
0,75 mm <sup>2</sup> AWG 18 identification No. ②		<b>CDFA 0.7</b>	<b>CDFD 0.7</b>
1 mm <sup>2</sup> AWG 18 identification No. 3		<b>CDFA 1.0</b>	<b>CDFD 1.0</b>
1,5 mm <sup>2</sup> AWG 16 identification No. 4		<b>CDFA 1.5</b>	<b>CDFD 1.5</b>
2,5 mm <sup>2</sup> AWG 14 identification No. 5		<b>CDFA 2.5</b>	<b>CDFD 2.5</b>
<b>10A male contacts</b>			
0,14-0,37 mm <sup>2</sup> AWG 26-22 identification No. 1		<b>CDMA 0.3</b>	<b>CDMD 0.3</b>
0,5 mm <sup>2</sup> AWG 20 identification No. 2		<b>CDMA 0.5</b>	<b>CDMD 0.5</b>
0,75 mm <sup>2</sup> AWG 18 identification No. ②		<b>CDMA 0.7</b>	<b>CDMD 0.7</b>
1 mm <sup>2</sup> AWG 18 identification No. 3		<b>CDMA 1.0</b>	<b>CDMD 1.0</b>
1,5 mm <sup>2</sup> AWG 16 identification No. 4		<b>CDMA 1.5</b>	<b>CDMD 1.5</b>
2,5 mm <sup>2</sup> AWG 14 identification No. 5		<b>CDMA 2.5</b>	<b>CDMD 2.5</b>

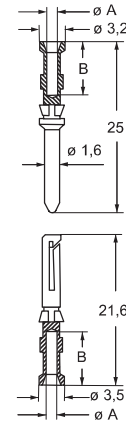
- characteristics according to EN 61984:  
**10A 400V 6kV 3**
- **UL** (UL for USA and Canada), **DNV-GL**, **VERITAS**
- **IEC** certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- inserts already supplied with stainless steel fixing screw with gasket, which ensures IP66/IP67/IP69 degree of protection
- first-make last-break screw-type PE contact
- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please see the crimping tool section 10A contacts, CDF and CDM series on pages 708 - 741)
- for max. current load see the connector inserts derating diagram below; for more information see page 28



contacts side (front view)



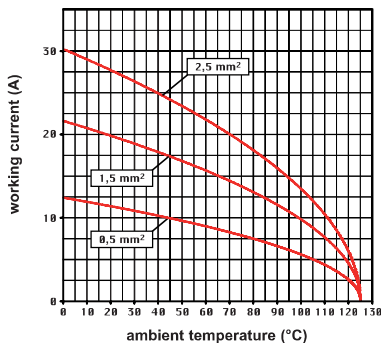
**Note:**  
PE screw connection for unprepared wires only



**CDF and CDM contacts**

conductor section mm <sup>2</sup>	conductor slot ø A (mm)	conductors stripping length B (mm)
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

**CQ 07 poles connector inserts**  
Maximum current load derating diagram



The **CR QF07** and **CR QM07** coding pins (to be ordered separately), allow the user to create 6 different combinations, according to the diagram shown on **page 690**



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



CQ

# CQ 12 poles + ⊕ series

## TECHNICAL FEATURES

### Compactness meets performance

Compact solution for high density needs.

Reliable, 16 coding possibilities, perfect for small motors with bridges for star/delta configuration.




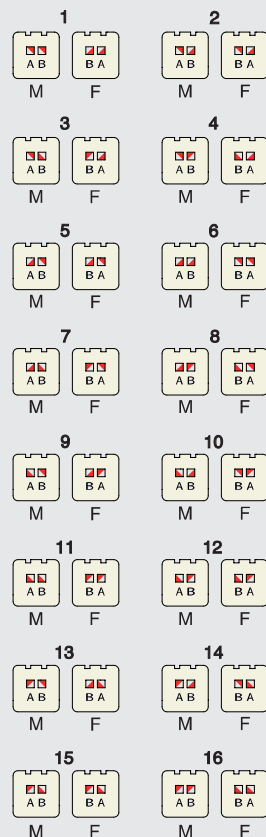
Bridges for delta or star connection  
from page 694, 695

### Coding positions for CQ 12 connector

See diagram to the right



**Legend:**  
 (A B) CQ 12 coding pin  
 M = male insert  
 F = female insert



# CQ 12 poles + ⊕ 10A - 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

ISO 23570-3 standard and  
DESINA, specification  
compliant



## inserts, crimp connections



## 10A crimp contacts silver and gold plated



description

part No.

part No.

part No.

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

**CQF 12**  
**CQM 12**

### 10A female contacts

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

### 10A male contacts

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

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

silver plated

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

gold plated<sup>+</sup>

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

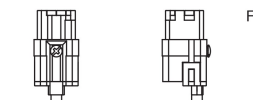
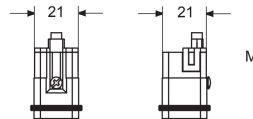
CDMD 0.3  
CDMD 0.5  
CDMD 0.7  
CDMD 1.0  
CDMD 1.5  
CDMD 2.5

- characteristics according to EN 61984:

**10A 400V 6kV 3**  
**10A 400/690V 6kV 2**

- cULus (UL for USA and Canada),   
- Bureau Veritas ERI certified

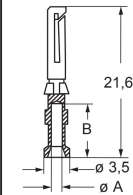
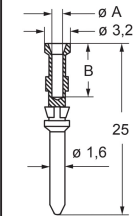
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- inserts already supplied with stainless steel fixing screw with gasket, which ensures IP66/IP67/IP69 degree of protection
- **it is recommended to crimp the contacts with crimping tools homologated by ILME** (please see the crimping tool section 10A contacts, CDF and CDM series on pages 708 - 741)
- for max. current load see the connector inserts derating diagram below; for more information see page 28



contacts side (front view)



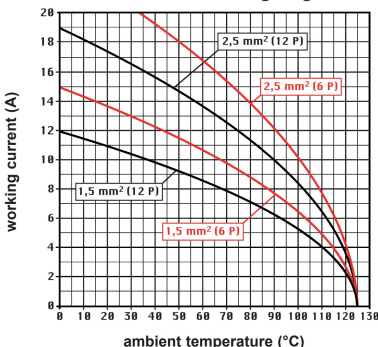
**Note:**  
PE screw connection for unprepared wires only



### CDF and CDM contacts

conductor section mm <sup>2</sup>	conductor slot diameter A (mm)	conductors stripping length B (mm)
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

**CQ 12 poles connector inserts**  
**Maximum current load derating diagram**



The **CR Q12** coding pins (to be ordered separately), allow the user to create 16 different combinations, according to the diagram shown on **page 689**



<sup>+</sup> for basic or high thickness gold plating, please refer to page 674

# CQ 21 poles 6,5A - 50V ac / 120V dc

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



## CI crimp contacts silver and gold plated



CQ

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

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

**CQF 21**  
**CQM 21**

CI female crimp contacts  
0,08-0,21 mm<sup>2</sup> AWG 28-24  
0,13-0,33 mm<sup>2</sup> AWG 26-22  
0,33-0,52 mm<sup>2</sup> AWG 22-20

**CIFA 0.2**  
**CIFA 0.3**  
**CIFA 0.5**

silver plated

**CIFD 0.2**  
**CIFD 0.3**  
**CIFD 0.5**

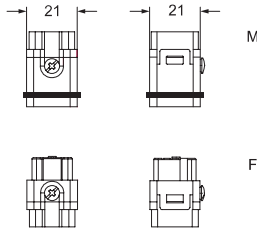
gold plated

CI male crimp contacts  
0,08-0,21 mm<sup>2</sup> AWG 28-24  
0,13-0,33 mm<sup>2</sup> AWG 26-22  
0,33-0,52 mm<sup>2</sup> AWG 22-20

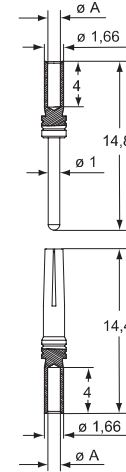
**CIMA 0.2**  
**CIMA 0.3**  
**CIMA 0.5**

**CIMD 0.2**  
**CIMD 0.3**  
**CIMD 0.5**

- characteristics according to EN 61984:  
**6,5A 50V ac / 120V dc 0,8kV 3**
- (UL for USA and Canada), certified
- rated voltage according to UL/CSA: 250V
- 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: ≤ 4 mΩ
- seat of contact #9 on both inserts set forward to obtain pre-leading contact (e.g. for FE functional earth)
- for crimp contacts CI series use, see page 716 - 719
- CIPZ D** crimping tool
- CITP D** turret head
- CIES** insertion / removal tool
- for max. current load see the connector inserts derating diagram below; for more information see page 28



contacts side (front view)

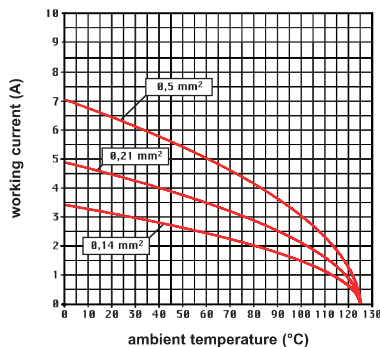


### CIF and CIM contacts

conductor section mm <sup>2</sup>	conductor slot $\phi A$ (mm)	conductors stripping length (mm)
0,08-0,21	0,64	4
0,13-0,33	0,90	4
0,33-0,52	1,12	4

max insulation diameter: 1,7 mm

**CQ 21 poles connector inserts**  
**Maximum current load derating diagram**



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

enclosures:  
size "32.13"

page:

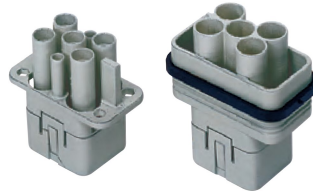
insulating type  
EMC

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.	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 mm<sup>2</sup> AWG 16  
2,5 mm<sup>2</sup> AWG 14  
4 mm<sup>2</sup> AWG 12  
6 mm<sup>2</sup> AWG 10

**CXFA 1.5**  
**CXFA 2.5**  
**CXFA 4.0**  
**CXFA 6.0**

silver plated

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

40A male crimp contacts  
1,5 mm<sup>2</sup> AWG 16  
2,5 mm<sup>2</sup> AWG 14  
4 mm<sup>2</sup> AWG 12  
6 mm<sup>2</sup> AWG 10

**CXMA 1.5**  
**CXMA 2.5**  
**CXMA 4.0**  
**CXMA 6.0**

10A female contacts  
0,14-0,37 mm<sup>2</sup> AWG 26-22 identification No. 1  
0,5 mm<sup>2</sup> AWG 20 identification No. 2  
0,75 mm<sup>2</sup> AWG 18 identification No. ②  
1 mm<sup>2</sup> AWG 18 identification No. 3  
1,5 mm<sup>2</sup> AWG 16 identification No. 4  
2,5 mm<sup>2</sup> 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**

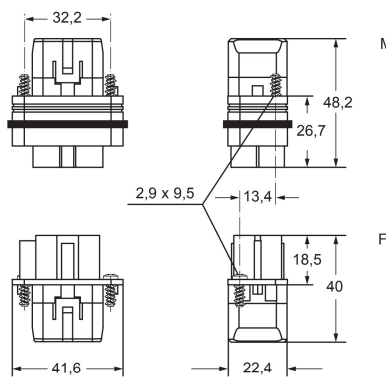
gold plated+

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

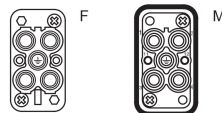
**CDMA 0.3**  
**CDMA 0.5**  
**CDMA 0.7**  
**CDMA 1.0**  
**CDMA 1.5**  
**CDMA 2.5**

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

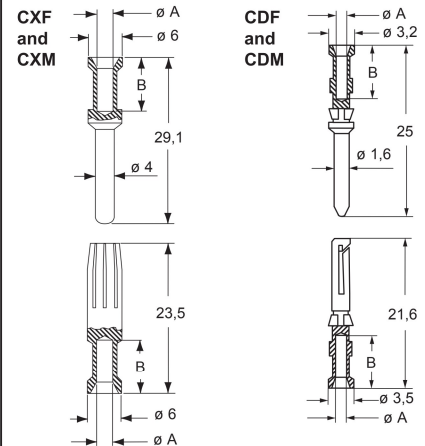
- characteristics according to EN 61984:
- 4 poles 40A 400/690V 6kV 3**
- 2 poles 10A 250V 4kV 3**
- us (UL for USA and Canada),
- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic 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



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)



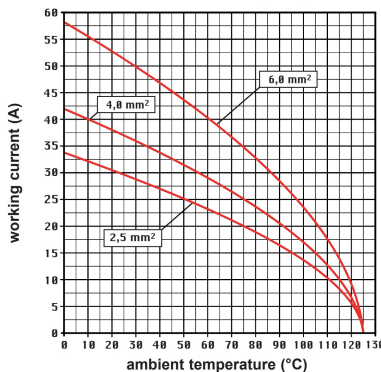
### CXF and CXM contacts

conductor section mm <sup>2</sup>	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

conductor section mm <sup>2</sup>	conductor slot ø A (mm)	conductors stripping length B (mm)
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

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



# CQ 8 poles + ⊕ 16A - 500V

enclosures:  
size "32.13"

page:

insulating type  
EMC

365 - 367  
573 - 574

- can also be used partially fitted with 4 mm<sup>2</sup> section contacts

ISO 23570-3 standard and  
DESINA<sub>®</sub> specification  
compliant



## inserts, crimp connections



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



STANDARD



ADVANCED OPENING

description

part No.

part No.

part No.

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

**CQF 08**  
**CQM 08**

### 16A female contacts

0,14-0,37 mm <sup>2</sup>	AWG 26-22	one groove
0,5 mm <sup>2</sup>	AWG 20	with no grooves
0,75 mm <sup>2</sup>	AWG 18	one groove (back side)
1 mm <sup>2</sup>	AWG 18	one groove
1,5 mm <sup>2</sup>	AWG 16	two grooves
2,5 mm <sup>2</sup>	AWG 14	three grooves
3 mm <sup>2</sup>	AWG 12	one wide groove
4 mm <sup>2</sup>	AWG 12	with no grooves

### 16A male contacts

0,14-0,37 mm <sup>2</sup>	AWG 26-22	one groove
0,5 mm <sup>2</sup>	AWG 20	with no grooves
0,75 mm <sup>2</sup>	AWG 18	one groove (back side)
1 mm <sup>2</sup>	AWG 18	one groove
1,5 mm <sup>2</sup>	AWG 16	two grooves
2,5 mm <sup>2</sup>	AWG 14	three grooves
3 mm <sup>2</sup>	AWG 12	one wide groove
4 mm <sup>2</sup>	AWG 12	with no grooves

### 16A male crimp contacts for advanced opening

0,5 mm <sup>2</sup>	AWG 20	with no grooves
0,75 mm <sup>2</sup>	AWG 18	one groove (back side)
1 mm <sup>2</sup>	AWG 18	one groove
1,5 mm <sup>2</sup>	AWG 16	two grooves
2,5 mm <sup>2</sup>	AWG 14	three grooves

CCFA 0.3  
CCFA 0.5  
CCFA 0.7  
CCFA 1.0  
CCFA 1.5  
CCFA 2.5  
CCFA 3.0  
CCFA 4.0

silver plated

CCFD 0.3  
CCFD 0.5  
CCFD 0.7  
CCFD 1.0  
CCFD 1.5  
CCFD 2.5  
CCFD 3.0  
CCFD 4.0

gold plated

CCMA 0.3  
CCMA 0.5  
CCMA 0.7  
CCMA 1.0  
CCMA 1.5  
CCMA 2.5  
CCMA 3.0  
CCMA 4.0

CCMD 0.3  
CCMD 0.5  
CCMD 0.7  
CCMD 1.0  
CCMD 1.5  
CCMD 2.5  
CCMD 3.0  
CCMD 4.0

CC 0.5 AN  
CC 0.7 AN  
CC 1.0 AN  
CC 1.5 AN  
CC 2.5 AN

+ for basic or high thickness gold plating, please refer to page 675

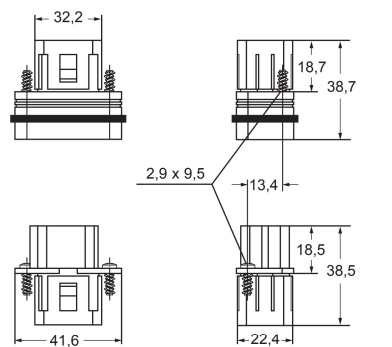
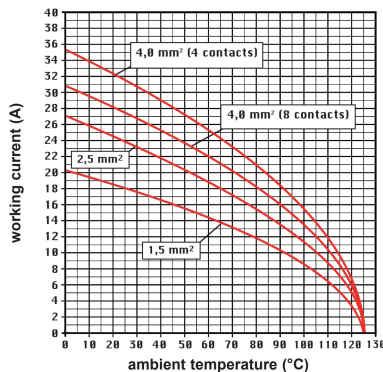
- characteristics according to EN 61984:

**16A 500V 6kV 3**  
**16A 400/690V 8kV 2**

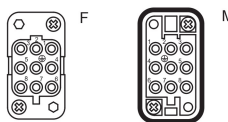
- cULus (UL for USA and Canada), SP, CEC, DNV-GL

- Bureau Veritas ENEC 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: ≤ 3 mΩ
- for max. current load see the connector inserts derating diagram below; for more information see page 28

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

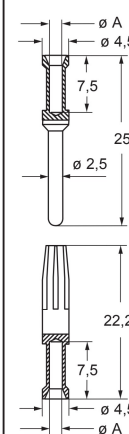


contacts side (front view)

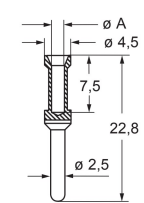


- each insert supplied with 2 fixing screws, self-tapping, zinc plated steel Ø2,9x9,5 mm, Ph1
- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 16A contacts, CCF, CCM and CC...AN series on pages 708 - 741)

### CCF and CCM



### CC...AN



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

conductor section mm <sup>2</sup>	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

# CQ 17 poles + ⊕ 10A - 160V

enclosures:  
size "32.13"

page:

insulating type  
EMC

365 - 367  
573 - 574

## inserts, crimp connections



## 10A crimp contacts silver and gold plated



description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	<b>CQF 17</b>		
male inserts for male contacts	<b>CQM 17</b>		
<b>10A female contacts</b>			
0,14-0,37 mm <sup>2</sup> AWG 26-22 identification No. 1		<b>CDFA 0.3</b>	<b>CDFD 0.3</b>
0,5 mm <sup>2</sup> AWG 20 identification No. 2		<b>CDFA 0.5</b>	<b>CDFD 0.5</b>
0,75 mm <sup>2</sup> AWG 18 identification No. ②		<b>CDFA 0.7</b>	<b>CDFD 0.7</b>
1 mm <sup>2</sup> AWG 18 identification No. 3		<b>CDFA 1.0</b>	<b>CDFD 1.0</b>
1,5 mm <sup>2</sup> AWG 16 identification No. 4		<b>CDFA 1.5</b>	<b>CDFD 1.5</b>
2,5 mm <sup>2</sup> AWG 14 identification No. 5		<b>CDFA 2.5</b>	<b>CDFD 2.5</b>
<b>10A male contacts</b>			
0,14-0,37 mm <sup>2</sup> AWG 26-22 identification No. 1		<b>CDMA 0.3</b>	<b>CDMD 0.3</b>
0,5 mm <sup>2</sup> AWG 20 identification No. 2		<b>CDMA 0.5</b>	<b>CDMD 0.5</b>
0,75 mm <sup>2</sup> AWG 18 identification No. ②		<b>CDMA 0.7</b>	<b>CDMD 0.7</b>
1 mm <sup>2</sup> AWG 18 identification No. 3		<b>CDMA 1.0</b>	<b>CDMD 1.0</b>
1,5 mm <sup>2</sup> AWG 16 identification No. 4		<b>CDMA 1.5</b>	<b>CDMD 1.5</b>
2,5 mm <sup>2</sup> AWG 14 identification No. 5		<b>CDMA 2.5</b>	<b>CDMD 2.5</b>

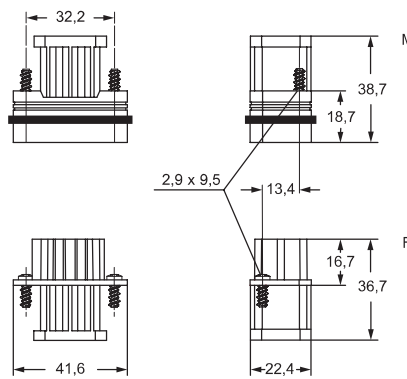
- characteristics according to EN 61984:

**10A 160V 2,5kV 3**  
**10A 250V 4kV 2**

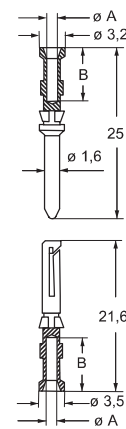
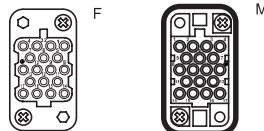
- cULus (UL for USA and Canada), DNV-GL, BUREAU VERITAS

**ERC** certified

- rated voltage according to UL/CSA: 250V
- 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
- seat of PE contact on female insert set forward to obtain pre-leading PE
- 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 10A contacts, CDF and CDM series on pages 708 - 741)
- for max. current load see the connector inserts derating diagram below; for more information see page 28



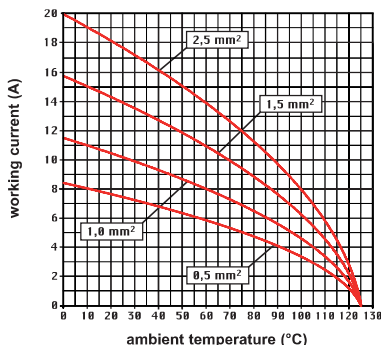
contacts side (front view)



### CDF and CDM contacts

conductor section mm <sup>2</sup>	conductor slot Ø A (mm)	conductors stripping length B (mm)
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

**CQ 17 poles connector inserts**  
**Maximum current load derating diagram**



**CR CP coding pin with loss of one contact (page 689)**



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