CD - CDD series

CD series

It is a multipole connector series for crimped connections made with removable crimp contacts **CD** series.
There are 5 different sizes available (6 polarities):
- "21.21" with two inserts, respectively **CD 07** (7 P + ⏚) and **CD 08** (8 P) for SELV applications;
  NOTE – These two polarities are coded to avoid their incorrect cross-mating. **CD 07**, being equipped with a pass-through PE connection that does not serve as equipotential bonding of a metal enclosure, is suitably safety-coded to avoid mismatch with a metal enclosure of this size.
- "49.16" with **CD 15** (15 P + ⏚) provided by 3 rows of 5 contact seats each;
- "66.16" with **CD 25** (25 P + ⏚) provided by 2 outer rows of 9 contact seats each and 1 inner row with 7 contact seats;
- "77.27" with **CD 40** (40 P + ⏚) provided by 4 rows of 10 contact seats each;
- "104.27" with **CD 64** (64 P + ⏚) provided by 4 rows of 16 contact seats each.

It is also possible to mount **two inserts side-by-side in a connector enclosure** is also given:
- for inserts size "66.16" (**CD 25** + **CD 25 Z)** to get a **50 P** + ⏚ connector with connector enclosures size "66.40";
- for inserts size "77.27" (**CD 40** + **CD 40**) to get an **80 P** + ⏚ connector with connector enclosures size "77.62";
- for inserts size "104.27" (**CD 64** + **CD 64**) to get a **128 P** + ⏚ connector with connector enclosures size "104.62".

The last four sizes of the first list are described in **EN 175 301-801:2006** European standard, which derives from the old German standard **DIN 43 652**, whose first edition dates back to the Seventies of last century. This standard provides dimensional standardization for these four sizes of connector inserts as well as for **CD series crimp contacts,** solid, machined, used by these connectors, and of the main types (and sizes) of relevant **connector enclosures,** including interface dimensions between the connector inserts and the relevant connector hood or housing, overall dimensions of locking levers and pegs, etc. This standard provides ground for the dimensional standardization of the other connector sizes (e.g. "44.27", "57.27") for all series of connector inserts with the same size and for all connector enclosure series with these sizes.
As for any series of connector inserts for crimped connections, the polarity is to be intended as "*up to*", being always possible to fit a connector insert with a reduced number of crimped connections, suiting the specific application. In this regard, see e.g. next page for use of **CD** series connector inserts at special (higher) voltages.

These connectors cover applications for rated voltage up to **250V AC/DC in pollution degree 3** (industrial environment) when connectors are fully equipped with contacts, and for rated currents up to **10A** per pole (derating diagram show actual current carrying capacity as a function of number of poles, conductor size and ambient temperature).

The PE connection for size "21.21" **CD 07** is a pass-through (crimp) connection that does not provide equipotential bonding to earth to a possible metal connector enclosure, hence the safety coding implemented in inserts **CDM 07** and **CDF 07** to avoid mismatch with metal enclosures.

The PE connection for the other sizes is provided by a screw terminal on the side of pole #1, and by lateral mating contacts. The PE terminal of the inserts provide earthing to the metal enclosures.

CDD series

It is the high density evolution of **CD** series. It provides choice of **5 different sizes** (5 polarities) of multipole connector inserts for crimped connections made with removable crimp contacts **CD** series:
- "44.27" with **CDD 24** (24 P + ⏚) provided by 6 rows of 4 contact seats each;
- "66.16" with **CDD 38** (38 P + ⏚) provided by 2 outer rows of 10 contact seats each and 2 inner rows with 9 contact seats each;
- "57.27" with **CDD 42** (42 P + ⏚) provided by 6 rows of 7 contact seats each;
- "77.27" with **CDD 72** (72 P + ⏚) provided by 6 rows of 12 contact seats each;
- "104.27" with **CDD 108** (108 P + ⏚) provided by 6 rows of 18 contact seats each.

It is also possible to mount two inserts side-by-side in a connector enclosure is also provided:
- for inserts size "66.16" (**CDD 38** + **CDD 38**) to get a **76 P** + ⏚ connector with connector enclosures size "66.40";
- for inserts size "77.27" (**CDD 72** + **CDD 72**) to get a **144 P** + ⏚ connector with connector enclosures size "77.62";
- for inserts size "104.27" (**CDD 108** + **CDD 108**) to get a **216 P** + ⏚ connector with connector enclosures size "104.62".

These connectors cover applications for rated voltage up to **250 VAC/DC in pollution degree 2** (suitable for industrial environment once used inside enclosures >IP54) when connectors are fully equipped with contacts, and for rated currents up to 10A per pole (derating diagram show actual current carrying capacity as a function of number of poles, conductor size and ambient temperature).
The PE connection for all sizes is provided by a screw terminal on the side of pole #1, and lateral mating contacts. The PE terminal of the inserts provide earthing to the metal enclosures.

Even when the coding function is not required, **it is highly recommended to use CRM and CRF coding pins** (see pages 685, 686 in this catalogue) **with CD and CDD connector inserts**, to reduce movements when mating and unmating the connectors, to avoid contact damage. To this aim, standard EN 175 301-801:2006 specifies a max allowed angular longitudinal fluctuation of ± 5°.

Special voltages for CDD series

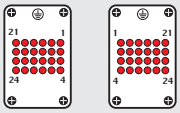
When all the contacts are used, CDD series connector inserts may be used with voltage up to 250V (first column); pollution degree 2, in accordance with the standard EN 61984.
If the number of contacts is reduced and the contacts assigned accordingly, these connectors may be used with higher voltages. This is possible because the decrease in the number of contacts leads to an increase in clearences (insulating distance in air) and creepage distances (insulating distances along the surface).
When the contacts are arranged as shown below, the inserts may be used at rated voltages of 400V (second column) and 500V (third column); pollution degree 2, in accordance with the standard EN 61984.

for use up to 250V
pollution degree 2

diagrams
contacts side (front view)

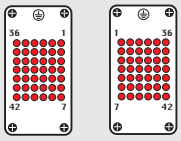
CDD 24 - 24 + ⏚

F M



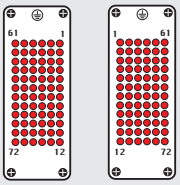
CDD 42 - 42 + ⏚

F M



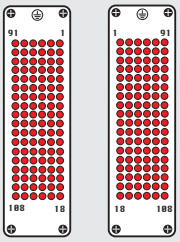
CDD 72 - 72 + ⏚

F M



CDD 108 - 108 + ⏚

F M



Legend:

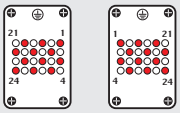
● working contact
○ without contact
M = male insert
F = female insert

for use up to 400V
pollution degree 2

diagrams
contacts side (front view)

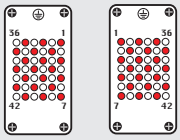
CDD 24 - 12 + ⏚

F M



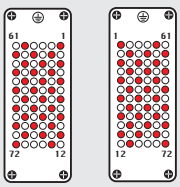
CDD 42 - 21 + ⏚

F M



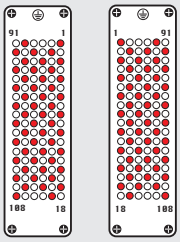
CDD 72 - 34 + ⏚

F M



CDD 108 - 52 + ⏚

F M

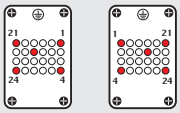


for use up to 500V
pollution degree 2

diagrams
contacts side (front view)

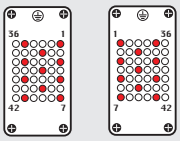
CDD 24 - 5 + ⏚

F M



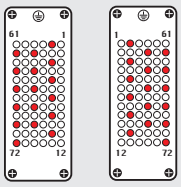
CDD 42 - 11 + ⏚

F M



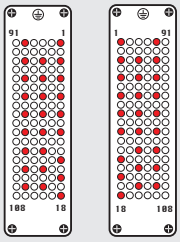
CDD 72 - 17 + ⏚

F M



CDD 108 - 26 + ⏚

F M

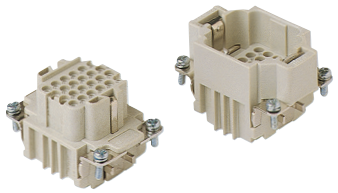


CDD 24 poles + ⏚ 10A - 250V

enclosures:
size "44.27" **page:**

PCBs interface, see article CIF 2.4 on page 670

inserts, crimp connections

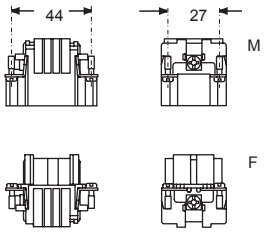


10A crimp contacts
silver and gold plated

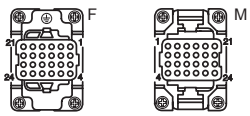
description			part No.	part No.	part No.
without contacts (to be ordered separately)					
female inserts for female contacts			**CDDF 24**		
male inserts for male contacts			**CDDM 24**		
10A female contacts					
0,14-0,37 mm²	AWG 26-22	identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0,5 mm²	AWG 20	identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0,75 mm²	AWG 18	identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm²	AWG 18	identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1,5 mm²	AWG 16	identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2,5 mm²	AWG 14	identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts					
0,14-0,37 mm²	AWG 26-22	identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0,5 mm²	AWG 20	identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0,75 mm²	AWG 18	identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm²	AWG 18	identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1,5 mm²	AWG 16	identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2,5 mm²	AWG 14	identification No. 5		**CDMA 2.5**	**CDMD 2.5**

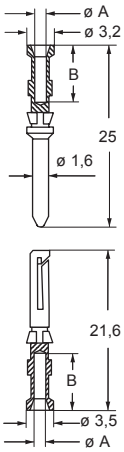
silver plated **gold plated✢**

- characteristics according to EN 61984:
  10A 250V 4kV 2
- c UL us (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC 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 applications requiring higher voltages, please see the special voltage application section on page 75
- **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)

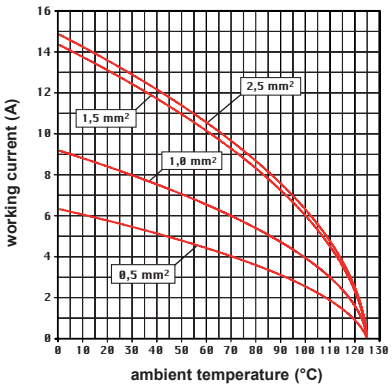




CDF and CDM contacts

conductor section mm²	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

CDD 24 poles connector inserts
Maximum current load derating diagram



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

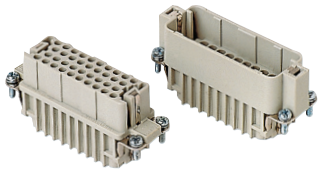
✢ for basic or high thickness gold plating, please refer to page 674

CDD 38 poles + ⏚ 10A - 250V

enclosures: size “66.16”	page:
IL-BRID	378 - 382
CZ7 IP67, single lever	385
W-TYPE for aggressive environments	520
E-Xtreme® corrosion proof	541
EMC	577

panel supports:	page:
COB	652 - 653

inserts, crimp connections

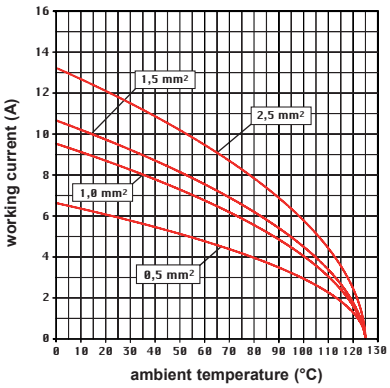


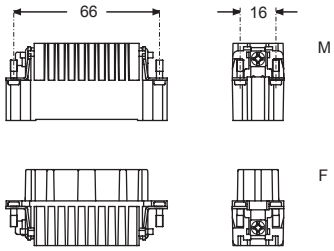
10A crimp contacts silver and gold plated

description			part No.	part No. (silver plated)	part No. (gold plated✢)
without contacts (to be ordered separately)					
female inserts for female contacts			**CDDF 38**		
male inserts for male contacts			**CDDM 38**		
10A female contacts					
0,14-0,37 mm²	AWG 26-22	identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0,5 mm²	AWG 20	identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0,75 mm²	AWG 18	identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm²	AWG 18	identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1,5 mm²	AWG 16	identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2,5 mm²	AWG 14	identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts					
0,14-0,37 mm²	AWG 26-22	identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0,5 mm²	AWG 20	identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0,75 mm²	AWG 18	identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm²	AWG 18	identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1,5 mm²	AWG 16	identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2,5 mm²	AWG 14	identification No. 5		**CDMA 2.5**	**CDMD 2.5**

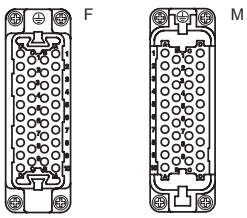
- characteristics according to EN 61984:
  10A 250V 4kV 2
- c UL us (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- for applications requiring higher voltages, please see the special voltage application section on page 75
- **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

CDD 38 poles connector inserts
Maximum current load derating diagram

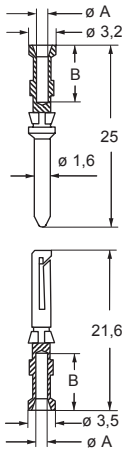




contacts side (front view)



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



CDF and CDM contacts

conductor section mm²	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

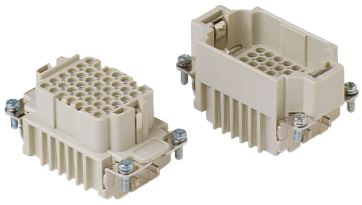
✢ for basic or high thickness gold plating, please refer to page 674

CDD 42 poles + ⏚ 10A - 250V

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

PCBs interface, see article CIF 2.4 on page 670

inserts, crimp connections



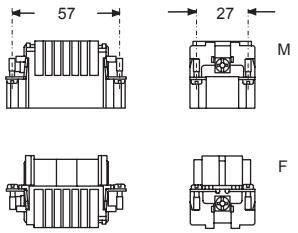
10A crimp contacts silver and gold plated

description	part No.	part No.	part No.
without contacts (to be ordered separately)			
female inserts for female contacts	**CDDF 42**		
male inserts for male contacts	**CDDM 42**		
10A female contacts			
0,14-0,37 mm² AWG 26-22 identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0,5 mm² AWG 20 identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0,75 mm² AWG 18 identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1,5 mm² AWG 16 identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2,5 mm² AWG 14 identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts			
0,14-0,37 mm² AWG 26-22 identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0,5 mm² AWG 20 identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0,75 mm² AWG 18 identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1,5 mm² AWG 16 identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2,5 mm² AWG 14 identification No. 5		**CDMA 2.5**	**CDMD 2.5**

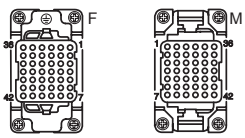
silver plated

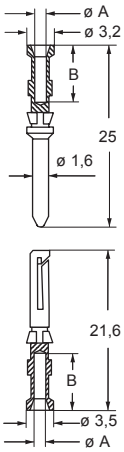
gold plated✢

- characteristics according to EN 61984:
  10A 250V 4kV 2
- c UL us (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC 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 applications requiring higher voltages, please see the special voltage application section on page 75
- **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)

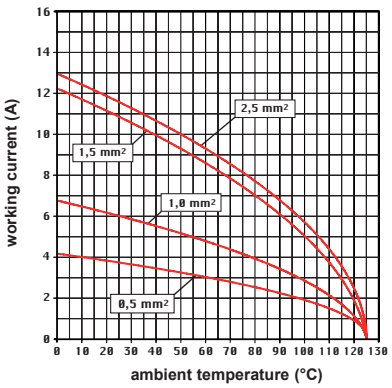




CDF and CDM contacts

conductor section mm²	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

CDD 42 poles connector inserts
Maximum current load derating diagram



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

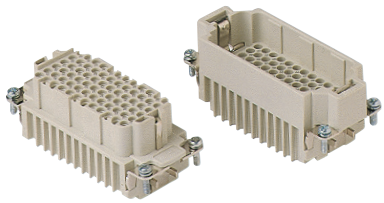
✢ for basic or high thickness gold plating, please refer to page 674

CDD 72 poles + ⏚ 10A - 250V

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

PCBs interface, see article CIF 2.4 on page 670

inserts, crimp connections

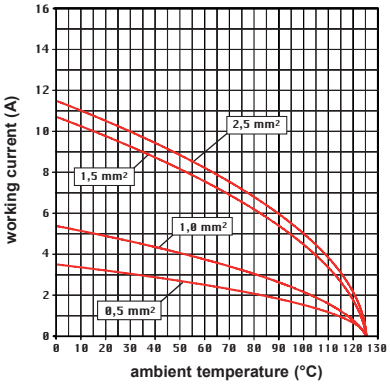


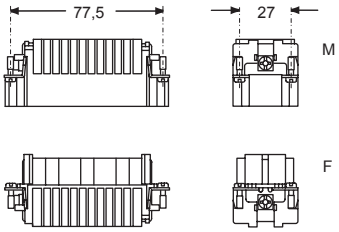
10A crimp contacts silver and gold plated

description	part No.	part No. (silver plated)	part No. (gold plated✢)
without contacts (to be ordered separately)			
female inserts for female contacts	**CDDF 72**		
male inserts for male contacts	**CDDM 72**		
10A female contacts			
0,14-0,37 mm² AWG 26-22 identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0,5 mm² AWG 20 identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0,75 mm² AWG 18 identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1,5 mm² AWG 16 identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2,5 mm² AWG 14 identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts			
0,14-0,37 mm² AWG 26-22 identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0,5 mm² AWG 20 identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0,75 mm² AWG 18 identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1,5 mm² AWG 16 identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2,5 mm² AWG 14 identification No. 5		**CDMA 2.5**	**CDMD 2.5**

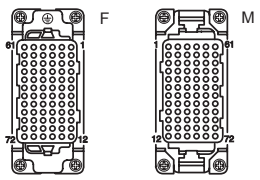
- characteristics according to EN 61984:
  10A 250V 4kV 2
- c UL us (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- for applications requiring higher voltages, please see the special voltage application section on page 75
- **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

CDD 72 poles connector inserts
Maximum current load derating diagram

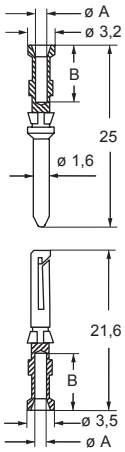




contacts side (front view)



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



CDF and CDM contacts

conductor section mm²	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

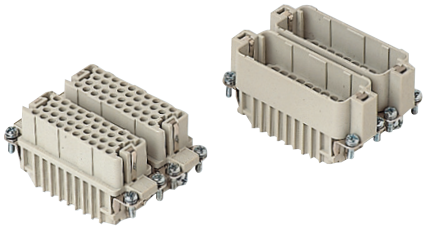
✢ for basic or high thickness gold plating, please refer to page 674

CDD 76 poles + ⏚ 10A - 250V

enclosures:
size "66.40" **page:**

C-TYPE IP65 or IP66/IP69	**431 - 434**
W-TYPE for aggressive environments	**527**

inserts, crimp connections

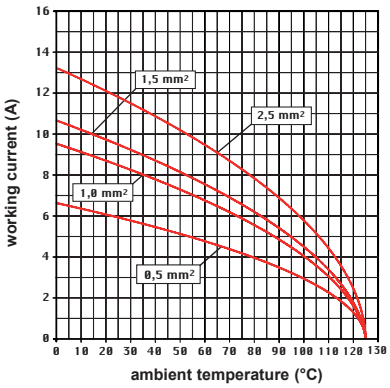


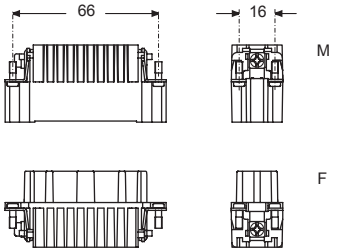
10A crimp contacts silver and gold plated

description			part No.	part No.	part No.		part No.	
without contacts (to be ordered separately)								
female inserts			**CDDF 38**	**CDDF 38**				
male inserts			**CDDM 38**	**CDDM 38**				
10A female contacts								
0,14-0,37 mm²	AWG 26-22	identification No. 1			**CDFA 0.3**	silver plated	**CDFD 0.3**	gold plated✢
0,5 mm²	AWG 20	identification No. 2			**CDFA 0.5**		**CDFD 0.5**	
0,75 mm²	AWG 18	identification No. ②			**CDFA 0.7**		**CDFD 0.7**	
1 mm²	AWG 18	identification No. 3			**CDFA 1.0**		**CDFD 1.0**	
1,5 mm²	AWG 16	identification No. 4			**CDFA 1.5**		**CDFD 1.5**	
2,5 mm²	AWG 14	identification No. 5			**CDFA 2.5**		**CDFD 2.5**	
10A male contacts								
0,14-0,37 mm²	AWG 26-22	identification No. 1			**CDMA 0.3**		**CDMD 0.3**	
0,5 mm²	AWG 20	identification No. 2			**CDMA 0.5**		**CDMD 0.5**	
0,75 mm²	AWG 18	identification No. ②			**CDMA 0.7**		**CDMD 0.7**	
1 mm²	AWG 18	identification No. 3			**CDMA 1.0**		**CDMD 1.0**	
1,5 mm²	AWG 16	identification No. 4			**CDMA 1.5**		**CDMD 1.5**	
2,5 mm²	AWG 14	identification No. 5			**CDMA 2.5**		**CDMD 2.5**	

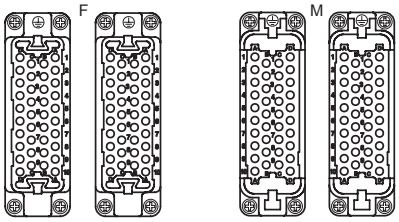
- characteristics according to EN 61984:
  10A 250V 4kV 2
- cULus (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- for applications requiring higher voltages, please see the special voltage application section on page 75
- **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

CDD 76 poles connector inserts
Maximum current load derating diagram

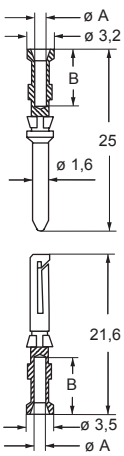




contacts side (front view)



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



CDF and CDM contacts

conductor section mm²	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

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

CDD 108 poles + ⏚ 10A - 250V

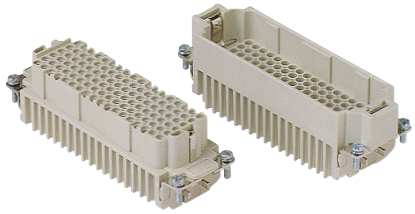
enclosures:
size "104.27" **page:**

C-TYPE IP65 or IP66/IP69	**412 - 423**
C7 IP67, two levers	**441 - 442**
V-TYPE IP65 or IP66/IP69, single lever	**459 - 463**
BIG hoods	**472 - 473**
T-TYPE IP65 insulating	**486 - 487**
T-TYPE / W IP66/IP69 insulating	**492**
HYGIENIC T-TYPE / H IP66/IP69	**504**
HYGIENIC T-TYPE / C IP66/IP69, -50 °C	**509**
W-TYPE for aggressive environments	**524**
E-Xtreme® corrosion proof	**536 - 537, 545, 556 - 557**
EMC	**581**
Central lever	**612 - 614**
LS-TYPE	**624 - 625**
IP68	**644 - 647**

panel supports: **page:**
COB **652 - 653**

PCBs interface, see article CIF 2.4 on page 670

inserts, crimp connections

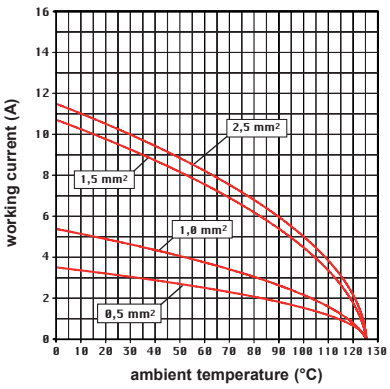


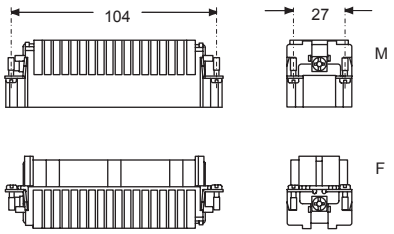
10A crimp contacts
silver and gold plated

description			part No.	part No. silver plated	part No. gold plated✢
without contacts (to be ordered separately)					
female inserts for female contacts			**CDDF 108**		
male inserts for male contacts			**CDDM 108**		
10A female contacts					
0,14-0,37 mm²	AWG 26-22	identification No. 1		**CDFA 0.3**	**CDFD 0.3**
0,5 mm²	AWG 20	identification No. 2		**CDFA 0.5**	**CDFD 0.5**
0,75 mm²	AWG 18	identification No. ②		**CDFA 0.7**	**CDFD 0.7**
1 mm²	AWG 18	identification No. 3		**CDFA 1.0**	**CDFD 1.0**
1,5 mm²	AWG 16	identification No. 4		**CDFA 1.5**	**CDFD 1.5**
2,5 mm²	AWG 14	identification No. 5		**CDFA 2.5**	**CDFD 2.5**
10A male contacts					
0,14-0,37 mm²	AWG 26-22	identification No. 1		**CDMA 0.3**	**CDMD 0.3**
0,5 mm²	AWG 20	identification No. 2		**CDMA 0.5**	**CDMD 0.5**
0,75 mm²	AWG 18	identification No. ②		**CDMA 0.7**	**CDMD 0.7**
1 mm²	AWG 18	identification No. 3		**CDMA 1.0**	**CDMD 1.0**
1,5 mm²	AWG 16	identification No. 4		**CDMA 1.5**	**CDMD 1.5**
2,5 mm²	AWG 14	identification No. 5		**CDMA 2.5**	**CDMD 2.5**

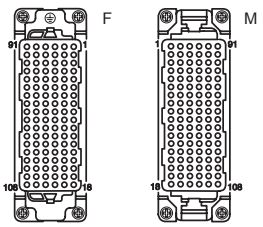
- characteristics according to EN 61984:
  10A 250V 4kV 2
- c UL us (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- for applications requiring higher voltages, please see the special voltage application section on page 75
- **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

CDD 108 poles connector inserts
Maximum current load derating diagram

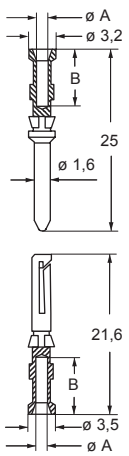




contacts side (front view)



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



CDF and CDM contacts

conductor section mm²	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

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

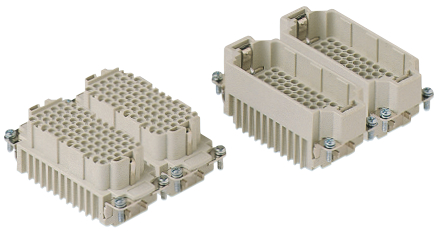
CDD 144 poles + ⏚ 10A - 250V

enclosures:
size "77.62" **page:**

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

PCBs interface, see article CIF 2.4 on page 670

inserts, crimp connections

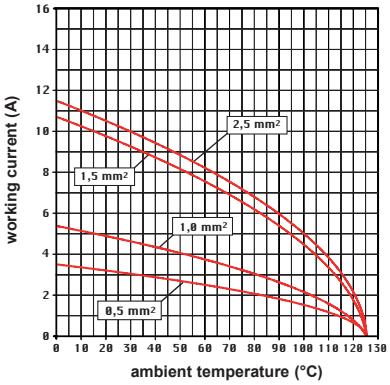


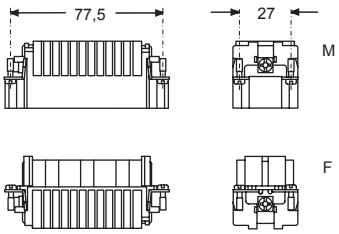
10A crimp contacts silver and gold plated

description			part No.	part No.	part No.		part No.	
without contacts (to be ordered separately)								
female inserts, No. (1-72) and (73-144)			**CDDF 72**	**CDDF 72 N**				
male inserts, No. (1-72) and (73-144)			**CDDM 72**	**CDDM 72 N**				
10A female contacts								
0,14-0,37 mm²	AWG 26-22	identification No. 1			**CDFA 0.3**	silver plated	**CDFD 0.3**	gold plated✢
0,5 mm²	AWG 20	identification No. 2			**CDFA 0.5**		**CDFD 0.5**	
0,75 mm²	AWG 18	identification No. ②			**CDFA 0.7**		**CDFD 0.7**	
1 mm²	AWG 18	identification No. 3			**CDFA 1.0**		**CDFD 1.0**	
1,5 mm²	AWG 16	identification No. 4			**CDFA 1.5**		**CDFD 1.5**	
2,5 mm²	AWG 14	identification No. 5			**CDFA 2.5**		**CDFD 2.5**	
10A male contacts								
0,14-0,37 mm²	AWG 26-22	identification No. 1			**CDMA 0.3**		**CDMD 0.3**	
0,5 mm²	AWG 20	identification No. 2			**CDMA 0.5**		**CDMD 0.5**	
0,75 mm²	AWG 18	identification No. ②			**CDMA 0.7**		**CDMD 0.7**	
1 mm²	AWG 18	identification No. 3			**CDMA 1.0**		**CDMD 1.0**	
1,5 mm²	AWG 16	identification No. 4			**CDMA 1.5**		**CDMD 1.5**	
2,5 mm²	AWG 14	identification No. 5			**CDMA 2.5**		**CDMD 2.5**	

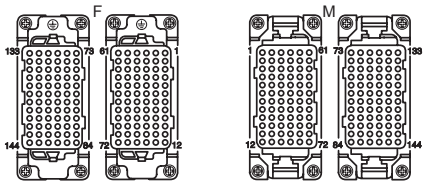
- characteristics according to EN 61984:
  10A 250V 4kV 2
- c UL us (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- for applications requiring higher voltages, please see the special voltage application section on page 75
- **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

CDD 144 poles connector inserts
Maximum current load derating diagram

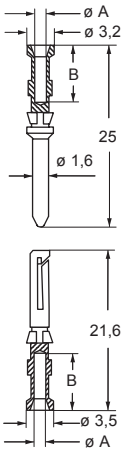




contacts side (front view)



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



CDF and CDM contacts

conductor section mm²	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

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

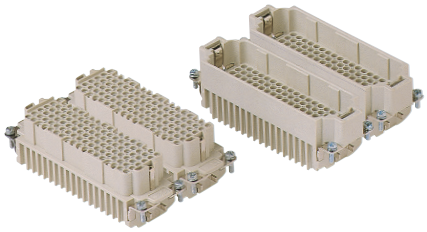
CDD 216 poles + ⏚ 10A - 250V

enclosures:
size "104.62" **page:**

C-TYPE IP65 or IP66/IP69	**430**
W-TYPE for aggressive environments	**526**
E-Xtreme® corrosion proof	**547**

PCBs interface, see article CIF 2.4 on page 670

inserts, crimp connections



10A crimp contacts
silver and gold plated

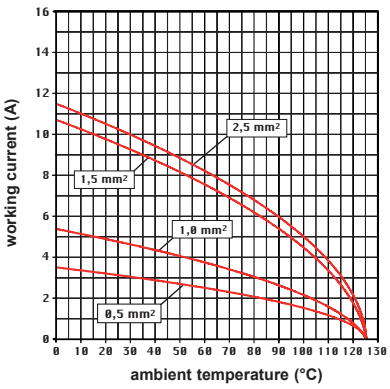
description	part No.	part No.	part No.	part No.
without contacts (to be ordered separately)				
female inserts, No. (1-108) and (109-216)	**CDDF 108**	**CDDF 108 N**		
male inserts, No. (1-108) and (109-216)	**CDDM 108**	**CDDM 108 N**		
10A female contacts				
0,14-0,37 mm² AWG 26-22 identification No. 1			**CDFA 0.3**	**CDFD 0.3**
0,5 mm² AWG 20 identification No. 2			**CDFA 0.5**	**CDFD 0.5**
0,75 mm² AWG 18 identification No. ②			**CDFA 0.7**	**CDFD 0.7**
1 mm² AWG 18 identification No. 3			**CDFA 1.0**	**CDFD 1.0**
1,5 mm² AWG 16 identification No. 4			**CDFA 1.5**	**CDFD 1.5**
2,5 mm² AWG 14 identification No. 5			**CDFA 2.5**	**CDFD 2.5**
10A male contacts				
0,14-0,37 mm² AWG 26-22 identification No. 1			**CDMA 0.3**	**CDMD 0.3**
0,5 mm² AWG 20 identification No. 2			**CDMA 0.5**	**CDMD 0.5**
0,75 mm² AWG 18 identification No. ②			**CDMA 0.7**	**CDMD 0.7**
1 mm² AWG 18 identification No. 3			**CDMA 1.0**	**CDMD 1.0**
1,5 mm² AWG 16 identification No. 4			**CDMA 1.5**	**CDMD 1.5**
2,5 mm² AWG 14 identification No. 5			**CDMA 2.5**	**CDMD 2.5**

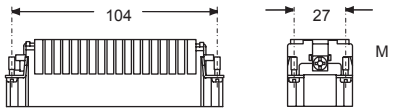
silver plated

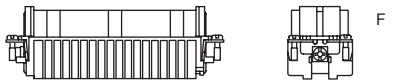
gold plated✢

- characteristics according to EN 61984:
  10A 250V 4kV 2
- c UL us (UL for USA and Canada), CSA, CQC, DNV, BUREAU VERITAS, EAC 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 applications requiring higher voltages, please see the special voltage application section on page 75
- **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

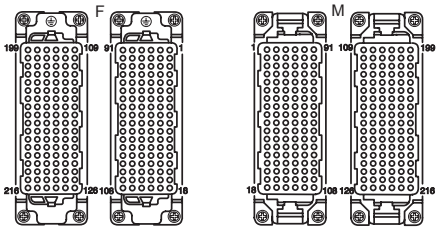
CDD 216 poles connector inserts
Maximum current load derating diagram



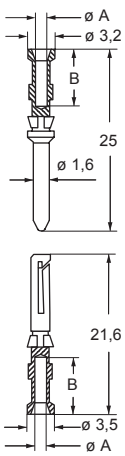




contacts side (front view)



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



CDF and CDM contacts

conductor section mm²	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

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

RECOMMENDED TIGHTENING TORQUE

- insert terminal screws, including PE terminal and fixing screws
- axial screw insert, MIXO series CX 02 4A / CX 02 4B
- enclosures assembly screws

Insert terminal screws, including PE terminal and fixing screws

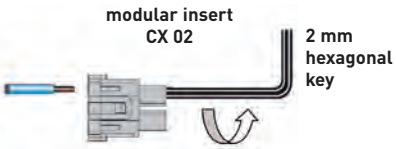
Increasing the tightening torque of terminal screws does not considerably improve the contact resistance. The screw torques are selected according to standard EN 60999-1, to provide excellent mechanical, thermal and electric behaviour. The conductor or terminal may be damaged if the recommended values are significantly exceeded.

Screw size	Connector type	Recommended tightening torque		Recommended size of screwdriver
		(Nm)	(lb.in)	
	LINE TERMINALS			
M2,5	CT 40, 64	0,4	3,5	0,5 x 3
M2,6	CT 06..24	0,4	3,5	0,5 x 3
M3	CK	0,5	4,4	0,5 x 3
M3	CDA	0,5	4,4	Ph0 or 0,6 x 3,5
M3	CNE, CME	0,5	4,4	Ph0 or 0,8 x 4
M3	CX 4/2, CX 4/8 (16A)	0,5	4,4	0,6 x 3,5
M3	CX 4/8 Q (16A)	0,5	4,4	Ph0
M4	CP	1,2	10,6	Ph1 or 0,8 x 4
M6	CX 4/.. (80A)	2,5	22,1	1,0 x 5,5
	PE TERMINAL			
M3	CK, CQ 05, CQ 07, CQ 12	0,5	4,4	0,5x3
M4	all series except CD 15, CD 25, CDA, CDC, CSAH, MIXO	1,2	10,6	Ph2 or 1,0 x 5,5
M3,5	series CD 15, CD 25, CDA, CDC, CSAH	0,8	7,1	Ph1 or 0,8 x 5,5
M3	small PE terminal, MIXO frames series	0,5	4,4	Ph1 or 1,0 x 4,5
M4	large PE terminal, MIXO frames series	1,2	10,6	Ph1 or 1,0 x 5,5
M4	PE terminal, MIXO ONE enclosures	1,2	10,6	Ph1 or 1,0 x 5,5
	FASTENING SCREWS			
M3	CK, CKS, CKSH, CD 07, CD 08, CQ 05, CQ 07, CQ 12, CQ 21, CQ4 02 /02 H, CQ4 03, CX 1/2 BD	0,5	4,4	Ph1 or 0,8 x 5,5
M3	screw for fastening inserts to enclosures of all series except T-TYPE, CQ-MQ 08 and MIXO ONE	0,8	7,1	Ph1 or 0,8 x 4
Ø 2,9	screws for fastening “32.13” inserts CQ 04/2, CQ 08, CQ 17 to CQ-MQ 08 enclosures	0,7	6,2	Ph1
M3	screw for fastening inserts to T-TYPE enclosures	0,5	4,4	Ph1 or 0,8 x 4
Ø 2,9	series MIXO ONE enclosures, assembly of top and bottom parts	0,8	7,1	Ph1
M4	CYR 16.3, CYR 24.4 cable pass-through hoods, assembly of two halves	1,2	10,6	Ph2 or 1,0 x 5,5
M4	CYG 16 in-line joint, assembly of two halves and mounting of two bulkhead mounting housings size “77.27”	1,2	10,6	Ph2 or 1,0 x 5,5
M5	series BIG enclosures, assembly of top and bottom parts	1,0	8,8	Ph2

Axial screw insert, MIXO series CX 02 4A / CX 02 4B

The connections of the conductors to the female and male inserts are made via axial screw. Fully insert the stripped wire in the back of the contact (axial screw terminals are supplied fully opened); while holding the wire down, insert a 2 mm hexagonal key in the front of the contact and tighten to recommended torque. After assembling the complete connector periodically check that the contact is screwed tight by re-applying the proper tightening torque.

— Usable conductor cross-sections (EN 60228 Class 5):
  from 2,5 to 8 mm^2 (14 AWG to 10 AWG) (CX 02 4AF/M)
  from 6 to 10 mm^2 (10 AWG to 8 AWG) (CX 02 4BF/M)
  (extra-flexible EN 60228 class 6: 2,5... 6 mm^2 (14 AWG to 10 AWG)
— Use only stranded flexible copper conductors
— Do not twist the strands!
— Tightening torque with 2 mm hexagonal Allen key:
  1,5 Nm (13,3 lb.in) max for conductors with section 2,5 ... 4 mm^2 (14 AWG to 12 AWG)
  2 Nm (17,7 lb.in) max for conductors with section 6 ... 10 mm^2 (10 AWG to 8 AWG)
— Stripping length: 8^{+1} mm



Enclosures assembly screws

In the table below, the recommended minimum and maximum tightening torque to apply to the fixing screws of ILME bulkhead mounting housings are shown, assuming the use of steel screws with 8.8 resistance class and a good fixing panel surface according to the requirements mentioned therein.

Series	Number of screws	Screw size	Recommended torque		Flange sealing element
			(Nm)	(lb.in)	
CK/MK, CKX, CKA/MKA, CQ	2	M3	0,8 – 1,0	7,1 – 8,9	Gasket
MIXO ONE	4	M3	0,5 – 0,9	4,4 - 8,0	Gasket
CZI 15 /25	4	M3	0,8 – 1,0	7,1 – 8,9	Gasket
CHI 50	4	M4	1,2 – 1,8	10,6 – 15,9	Gasket
CHI 06 /10 /16 /24	4	M4	0,8 – 1,2	7,1 – 10,6	Gasket
CHI 32	4	M4	1,2 – 1,8	10,6 – 15,9	Gasket
CHI 48	4	M6	3,0 – 3,6	26,6 – 31,9	Gasket
CGK/MGK (IP68)	2	M4	0,8 – 1,2	7,1 – 10,6	O-ring
CGI/ MGI 06/ 10/ 16/ 24 (IP68)	2	M6	3,0 – 3,6	26,6 – 31,9	O-ring
T-TYPE, T-TYPE/H, T-TYPE/C, T-TYPE/ W	4	M4	0,8 – 1,2	7,1 – 10,6	Gasket

To guarantee the declared IP degree of protection of the housings reported in this catalogue, according to EN IEC 60529 or to the relevant Type rating per ANSI/UL 50 and 50E (for those products bearing approval to those ratings), the surface of the mounting panel must meet the following requirements (definitions are provided in ISO 4287 standard):

– Waviness Wt ≤ 0,2 mm over a distance of 200 mm (measured on the panel without load)

– Roughness Ra ≤ 16 µm

NOTE: The values of tightening torque indicated in the above table are just recommended values, that must be related – by the designer of the final application – to the resistance class of the screws (not included in the delivery), with the assumption that the mounting panel is sufficiently rigid (stiff). If the deflection of the panel, under the effect of tightening the screws, is greater than 0,7 mm over a distance of 100 mm, it is necessary to use the counter-flanges mentioned in our catalogue or the special flange gaskets available upon request (please contact our Sales Department). For the CGI/MGI IP68 enclosures the specific counter-flanges mentioned in our catalogue are always recommended.

Enclosures locking screws

Series	Number of screws	Screw size	Recommended tightening torque		Recommended size of screwdriver
			(Nm)	(lb.in)	
CGK/MGK	2	M4	1,2	10,6	1,0 x 5,5 or 7 mm hexagonal key
CG/MG	2	M6	2,5	22,1	1,6 x 10 or 10 mm hexagonal key

RANGE OF CONDUCTOR CROSS-SECTIONAL AREA AND STRIPPING LENGTH

Connector inserts connection technique	Range of conductor cross-sectional area		Stripping length
Screw	**(mm^2)**	**AWG**	**(mm)**
CK	0,75 – 2,5	18 – 14	6
CX 4/2, CX 4/8 (poles 16A) [1]	0,75 – 4	18 – 12	7
	0,75 – 2,5	18 – 14	7
CNE [1]	0,5 – 4	20 – 12	7
CNE..X	0,25 – 2,5	24 – 14	7
CDA [1]	0,5 – 4	20 – 12	7
CDA..X	0,25 – 2,5	24 – 14	7
CT 06..24	0,75 – 2,5	18 – 14	12
CT 40 and 64	0,75 – 2,5	18 – 14	12
CME [1]	0,5 – 4	20 – 12	7
CME..X	0,5 – 2,5	20 – 14	7
CP [1]	0,75 – 6	18 – 10	10,5
CX 4/.. (80A poles)	4 – 16	12 – 5	14
Crimp			
MIXO (5A), CX 25 IB	0,08 – 0,75	28 – 18	4
CQ 21	0,08 – 0,5	28 – 20	4
CDD, CD, MIXO (10A), CQ 12, CQ 07	0,14 – [2,5]*	26 – 14	8 – *[6 for 2,5 mm^2]
CCE, CDC, CMCE, CQ, CQE, CQEE, MIXO (16A)	0,14 – 4	26 – 12	7,5
CX, MIXO (40A), CQ4 03	1,5 – 2,5	16 – 14	9
	4 – 6	12 – 10	9.6
MIXO (70A)	10 – 25	7 – 4	15
MIXO (100A), CX 6/6	10 – 35	7 - 2	15
MIXO (200A)	16 – 70	6 - 2/0	15
Spring			
CSE, CSH, CTSE 06..24, CMSH, MIXO [CX 05 S [2], CX 05 SH], CSS	0,14 – 2,5	26 – 14	9 - 11
CTS 40/64	0,14 – 2,5 unprepared 0,14 – 1 prepared	26 – 14 unprepared 26 – 18 prepared	9 - 11
CKS, CKSH, CDS, CDSH, CSAH	0,14 – 2,5 unprepared 0,14 – 1,5 prepared	26 – 14 unprepared 26 – 16 prepared	9 - 11

[1] For CNE, CDA, CP, CME, "CX 4/8 – pole 16A" series connectors with screw terminal and conductor protection plate, the use of ferrules is not necessary (= unprepared conductor).
The use of ferrules (= prepared conductor) causes a reduction in maximum useful cross-section to the lower size (e.g. 4 mm^2 unprepared - 2,5 mm^2 prepared).

[2] Available upon request.

LOAD CURVES

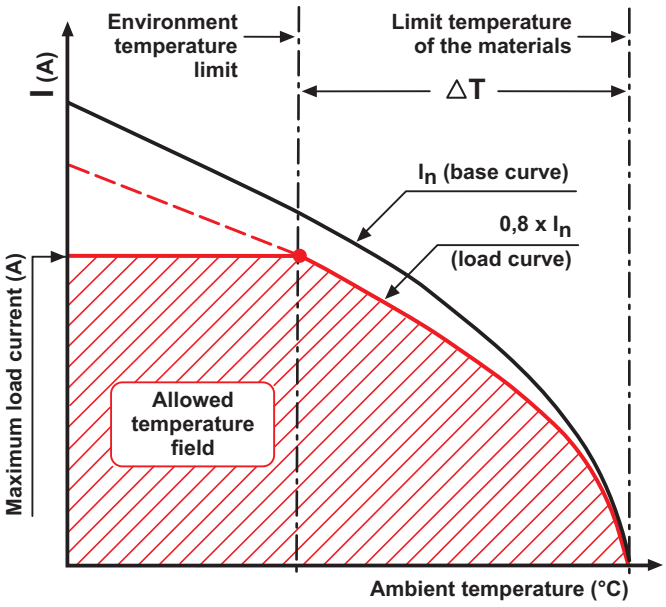
The permitted current carrying capacity for connectors is variable: it becomes lower with the increase of the number of poles and of the ambient temperature in which the connector is installed and it depends upon the thermal properties of the material used for the contacts and the insulating parts including those of the type of conductor used. The current carrying capacity is obtained from the load curves which are constructed according to standard IEC 60512-5-2 for currents circulating simultaneously in all poles.

The limit current curves express current values that determine the achievement of the upper limit temperature of the materials. The choice of the permanent load applicable on the contacts **must be made within the field of operation possible delimited by the above mentioned curves.**

Since use of connectors at the limit values of their characteristics is not recommended, the **base curve** is de-rated. The reduction of the load currents to 80% defines the correction curve where both the maximum permissible contact resistances and the inaccuracy of the temperature measurements are sufficiently taken into consideration.

The correction curve represents the final **limit current curve (load curve)** as defined by standard IEC 60512-5-2. It therefore bears in consideration the differences between the various connector inserts, as well as errors in the temperature measurements.

All the load curves presented in this catalogue include the correction. See figure below.



Legend

Maximum load current (A)
Value for which the connector reaches the upper limit temperature of the material at the corresponding ambient temperature intersected on the load curve.

Limit temperature of the materials
Value determined by the characteristics of the material used. The sum of the environmental temperature and the increase of the ΔT (temperature rise) caused by the current flow must not exceed the limit temperature of the materials.

Environment temperature limit
The environmental conditions must not exceed this value. It may be known and determines the maximum load current, or it may be directly obtained from the load curve.

Base curve
Set of current and temperature values obtained from laboratory tests and influenced by the connector's characteristics (number of poles, construction shape, thermal conductivity of the materials, etc.) and the cross-section of the conductor used.

Load curve (limit current curve)
Obtained from the base curve via the safety coefficient.

ΔT (temperature rise)
Temperature rise produced by a permanent current circulating through all the poles of a connector coupling; difference between the upper limit temperature of the material and the ambient temperature obtained on the limit current curve.