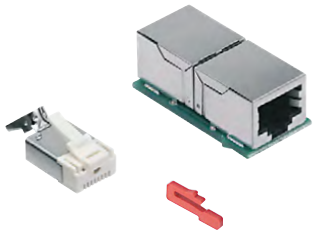
CJ RJ45 connector

enclosures:	page:
size "21.21"	
insulating type (CK IN, CKG/MKG VN/VAN)	**346 - 348**
metallic type	
(CKAX I, CKAG/MKAG V/VA)	**353 - 355**
(MKAX/MKA/MKAXX IF)	**362 - 363**
IP68 (CGK I, CGK/MGK V)	**628 - 631**

adaptor for RJ45 connectors

RJ45 connectors



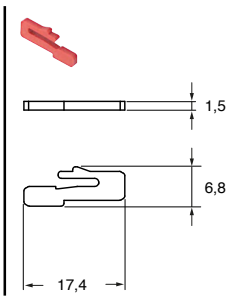
description	part No.	part No. data contacts only	part No. data contacts/+2 power contacts
without RJ45 connector (to be ordered separately) adapter for RJ45 female connector in fixed enclosures	**CJ KF**		
RJ45 coupler jack with 8 data contacts [1]		**CX 8 JF**	
RJ45 coupler jack with 8 data contacts/2 power contacts [1]			**CX 8/2 JF**
without RJ45 connector (to be ordered separately) adapter for RJ45 male connector [2]	**CJ KM**		
RJ45 plug with 4 data contacts		**CX 4 JM**	
RJ45 plug with 4 data contacts/2 power contacts			**CX 4/2 JM**
RJ45 plug with 6 data contacts/2 power contacts			**CX 6/2 JM**
RJ45 plug with 8 data contacts		**CX 8 JM**	
RJ45 plug, 4 data contacts **cat. 5e ProfiNET®**		**CX 4E JM**	

[1] 4-pole version on request, part No. **CX 4 JF** and **CX 4/2 JF** with "crossover" link

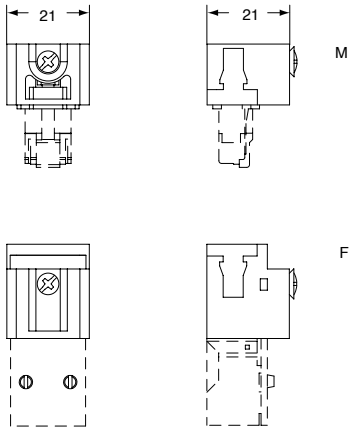
[2] to be used with hoods

RJ45 connector features:
- RJ45 insert, Class 5 Ethernet
- rated current: 2,1A at 70 °C
- rated voltage: 50VDC / 35VAC
- IDC terminals:
  for 0,22 mm² (AWG 24/7) data contacts **CX 4 JM**
  for 0,14 mm² (AWG 26/7) or 0,22 mm² (AWG 24/7) data contacts **CX 4/2 JM**
  for 0,34 mm² (AWG 22/7) or 0,38 mm² (AWG 22/19) power contacts
  for 0,14 mm² (AWG 26/7) data contacts **CX 6/2 JM**
  for 0,25 mm² (AWG 23/19) power contacts
  for 0,14 mm² (AWG 26/7) data contacts **CX 8 JM**
  for 0,34 mm² (AWG 22/7) data contacts **CX 4E JM**
- /7 = 7-strands wire
  /19 = 19-strands wire
- $Ø_{max}$ insulating conductors 1 mm (data), 1,4 mm (power and CX 4E JM)
- $Ø_{max}$ complete cable 7 mm (CX 8 JM: 6,9 mm)
- temperature range: from -40°C to 120 °C
- nickel plated brass screening
- insert coding pin for RJ45 adapters (optional)*: **CR KC**
  * Optional four coding positions CR KC insert coding pin (4 pins required for each connector coupling).
- self-extinguishing properties: to UL 94V-0
- crimp pliers: **CJPZ Y**
- screened cable stripper: **CJST**
- for crimping a male connector, see the crimp tool section page 735
- cULus (UL for USA and Canada) certified

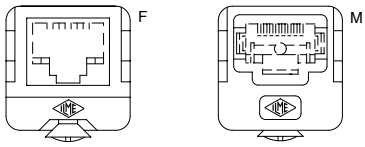
CR KC insert coding pin



CJ KF, CJ KM

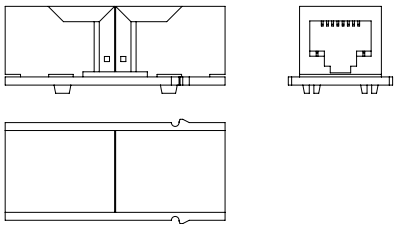


contacts side (front view)

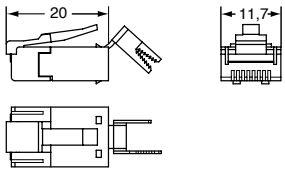


inserts already supplied with stainless steel fixing screw with gasket, which ensures IP66/IP67/IP69 degree of protection

CX 4 JF, CX 4/2 JF, CX 8 JF, CX 8/2 JF



CX 4 JM, CX 4E JM, CX 4/2 JM, CX 6/2 JM, CX 8 JM



How to use CR KC coding pins (cannot be used with IP68 enclosures)

CJZ RJ45 connector

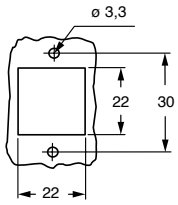
- IP66/IP67/IP69 degree of protection (EN 60529)
- insert RJ45, CAT. 5 Ethernet
- rated current: 2.1A at 70 °C
- rated voltage: 50V DC / 35V AC
- temperature limit: -40 °C, +120 °C
- nickel-plated brass screening
- insert coding pin: **CR KC**
- self-extinguishing: UL 94V-0
- insulating enclosures in black self-extinguishing thermoplastic material
- hoods with cable gland
- female insert with two connected entries

IP66 / IP67 connector in bulkhead housing, female inserts

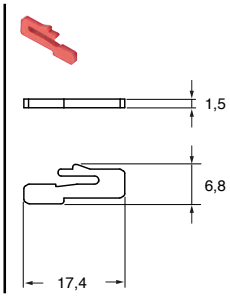
patch cord with 2 RJ45 connectors, male inserts

description	part No.	part No.	(L) metre
connector in insulating enclosure and insert with 8 data contacts	**CJZ 8 IN**		
connector in metal enclosure and insert with 8 data contacts	**CJZA 8 I**		
RJ45 connector 8 data contacts, in insulating enclosure		**CWK 2 J2M8**	2
		CWK 5 J2M8	5
		CWK 10 J2M8	10
RJ45 connector 8 data contacts, in metal enclosure		**CWKA 2 J2M8**	2
		CWKA 5 J2M8	5
		CWKA 10 J2M8	10

panel cut-out for bulkhead mounting housings

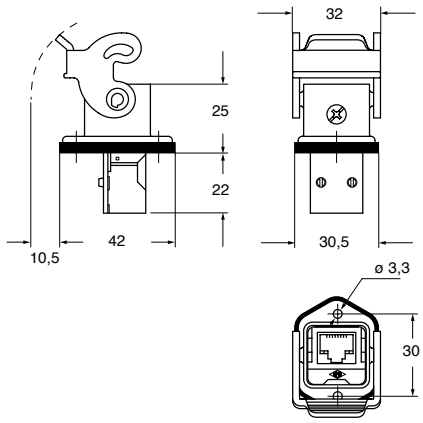


CR KC
insert coding pin

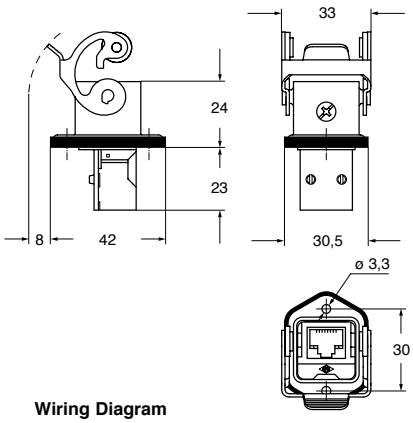


How to use CR KC coding pins
(cannot be used with IP68 enclosures)

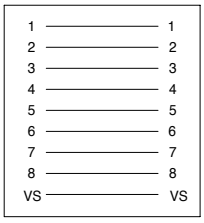
CJZ IN



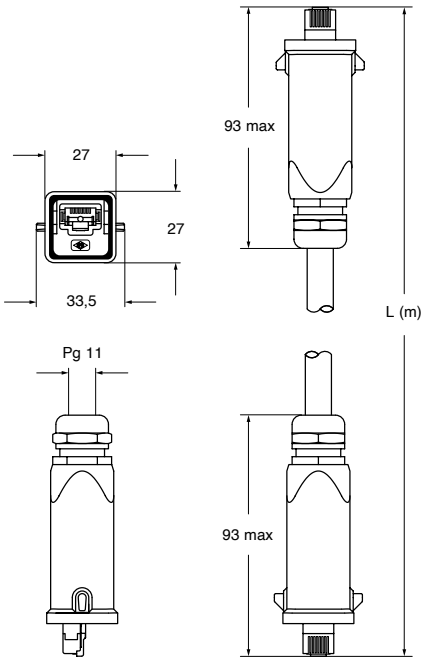
CJZA I



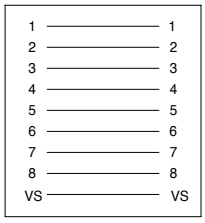
Wiring Diagram



CWK J2M8 and **CWKA J2M8**



Wiring Diagram



CYG RJ45 connector

Allows two complete portable RJ45 connectors to be joined, IP65/IP67/IP69 version

insulated version coupling, for RJ45 connectors

metal version coupling, for RJ45 connectors

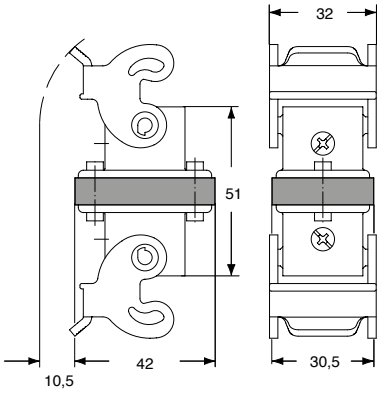
description	part No. data contacts only	part No. data contacts/+2 power contacts	part No. data contacts only	part No. data contacts/+2 power contacts
RJ45 coupler jack within housings, 8 data contacts [1] RJ45 coupler jack within housings, 8 data contacts/2 power contacts [1]	**CYG 8 JF**	**CYG 8/2 JF**		
RJ45 coupler jack within housings, 8 data contacts [2] RJ45 coupler jack within housings, 8 data contacts/2 power contacts [2]			**CYG 8 JFA**	**CYG 8/2 JFA**

[1] 4-pole version on request, part No. **CYG 4 JF** and **CYG 4/2 JF** with "crossover" link

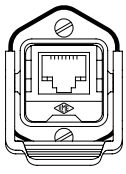
[2] 4-pole version on request, part No. **CYG 4 JFA** and **CYG 4/2 JFA** with "crossover" link

RJ45 connector features:
- RJ45, Class 5 connector
- nominal current: 2.1A at 70 °C
- nominal voltage: 50VDC / 35VAC
- temperature range: from -40 °C to +120 °C
- nickel plated brass screening
- insert coding pin: **CR KC**
- self-extinguishing properties: UL 94V-0
- die cast zinc alloy metal enclosures
- black self-extinguishing thermoplastic insulated enclosures.

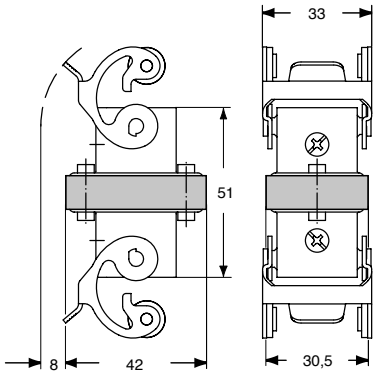
CYG 4 JF, CYG 4/2 JF, CYG 8 JF, CYG 8/2 JF



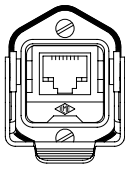
contacts side (front view)



CYG 4 JFA, CYG 4/2 JFA, CYG 8 JFA, CYG 8/2 JFA



contacts side (front view)



DATA CONNECTORS

CJK adapters 1 seat for RJ45 connector Cat. 6 Class E_A

enclosures: **page:**

size "21.21"

insulating type **346 - 348**
(CK IN, CKG/MKG VN/VAN *)

metallic type
(CKAX I, CKAX/MKAX IAP/AP/VG) **349 and 353**
(CKAG/MKAG V/VA *) **354 - 355**
(MKAX/MKA/MKAXX IF) **362 - 363**

IP68 **628 - 631**
(CGK I, CGK/MGK IAP, CGK/MGK V)

***)** angled enclosures cannot be used with CX 8 J6IM

- characteristics according to EN 61984:
  1A 50V 0,8kV 3
- c UL us (UL for USA and Canada) certified
- insulation resistance: ≥ 10 GΩ
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- temperature range: from -40 °C to +70 °C
- we recommend to fix the cable with cable tie

adapters for RJ45 male connectors, RJ45 female-female connectors

RJ45 male connectors, crimp and IDC termination

Watch our online tutorial

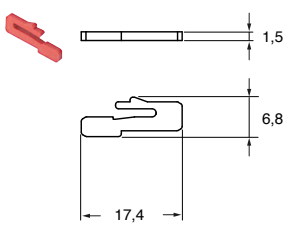
description	part No.	part No.
socket insert with 1 RJ45 female connector plug inserts for 1 RJ45 male crimp connector, 8 data contacts (without RJ45 connector, to be ordered separately)	**CJK 8FT** **CJK 8MT**	
plug insert for 1 RJ45 male IDC connector, 8 data contacts (without RJ45 connector, to be ordered separately)	**CJK 8IMT**	
RJ45 male crimp connector, 8 data contacts		**CX 8 J6M**
RJ45 male IDC connector, 8 data contacts		**CX 8 J6IM**

CJK 8FT technical data:
- RJ45 female insert, Cat. 6 Class E_A
- shielding housing: zinc diecast
- housing finish: nickel-plated
- current carrying capacity at 50 °C: 1A
- adequate for Power over Ethernet: PoE according to IEEE 802.3af
- connectors: IEC 60603-7-5
- adequate for 10 Gigabit Ethernet: 10 Gigabit Ethernet acc. to IEEE 802.3an
- custom-designed cabling systems: PROFINET Installation Guideline
- generic cabling systems: ANSI/TIA/EIA-568-C.2 ISO/IEC 11801 EN50173-1 ISO/IEC 24702 EN 61918
- class E_A (channel): ISO/IEC 11801, EN 50173-1

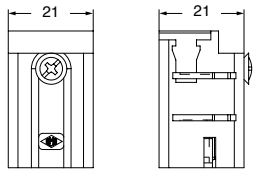
CX 8 J6M technical data:
- RJ45 male crimp connectors Cat. 6_A
- crimp pliers: **CJPZ T**
- screened cable stripper: **CJST**
- Cu-conductor diameter solid: 0,40 - 0,51 mm (AWG 26/1 - 24/1) stranded: 0,46 - 0,61 mm (AWG 27/7 - 24/7)
- insulation diameter: 0,85 - 1,05 mm
- cable diameter: 5,0 - 7,0 mm
- connectors: IEC 60603-7-51
- 10 Gigabit Ethernet acc. to IEEE 802.3an: adequate for 10 Gigabit Ethernet
- category 6_A: ISO/IEC 11801; EN 50173-1
- class E_A: ISO/IEC 11801; EN 50173-1
- category 6_A: ANSI/TIA/EIA-568-C.2

CX 8 J6IM technical data:
- RJ45 male IDC connectors Cat. 6 Class E_A
- Cu-conductor diameter solid: 0,41 - 0,64 mm (AWG 26/1 - 22/1) stranded: 0,48 - 0,76 mm (AWG 26/7 - 22/7)
- insulation diameter: 0,85 - 1,6 mm
- cable diameter: 5,5 - 8,5 mm
- connectors: IEC 60603-7-5
- category 6_A: ISO/IEC 11801; DIN EN 50173-1
- wrenches pliers for CX 8 J6IM: **CJPW K**
- 10 Gigabit Ethernet acc. to IEEE 802.3an: adequate for 10 Gigabit Ethernet
- class E_A: ISO/IEC 11801; EN 50173-1
- category 6: ANSI/TIA/EIA-568-C.2
- custom-designed cabling systems: according to PROFINET Installation Guideline

CR KC insert coding pin

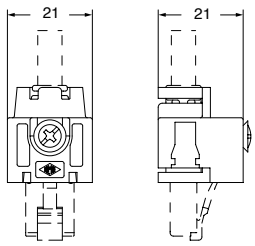


CJK 8FT



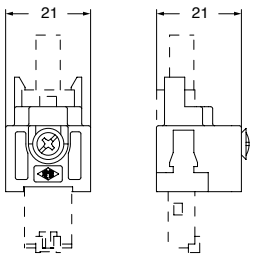
Female-Female

CJK 8MT [1]



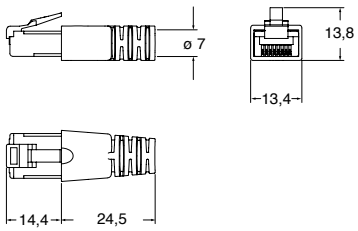
[1] to be used with hoods

CJK 8IMT [1]

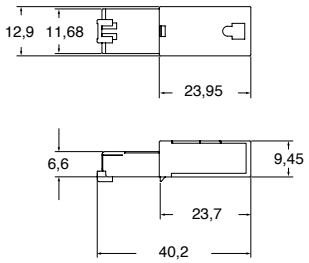


[1] to be used with hoods

CX 8 J6M (can be used with CJK 8MT)



CX 8 J6IM (can be used with CJK 8IMT)



How to use CR KC coding pins (cannot be used with IP68 enclosures)

dimensions shown in mm are not binding and may be changed without notice

CW RJ45 patch cord

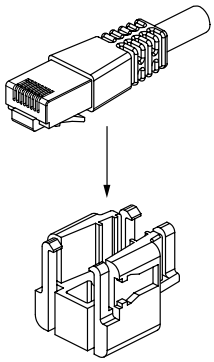
with 2 RJ45 male connectors

description	part No.	(L) metre
RJ45 male connector with 8 data contacts	**CW 1 J2M87**	1
	CW 2 J2M87	2
	CW 3 J2M87	3
	CW 5 J2M87	5
	CW 7.5J2M87	7,5
	CW 10 J2M87	10
	CW 15 J2M87	15

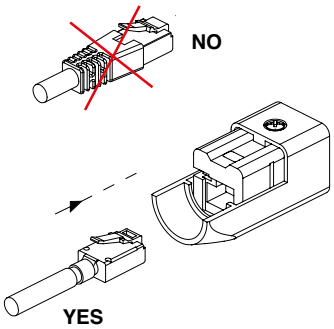
RJ45 patch cord technical data:
- S/FTP Cat. 7 PUR
- temperature range: from -40 °C ÷ +75 °C
- nickel plated brass screening
- green RAL 6018 colour

Can be used with:
- MIXO RJ45 **CX 01 J8M** male inserts (see page 302)
- **CJK 8MT** adapters

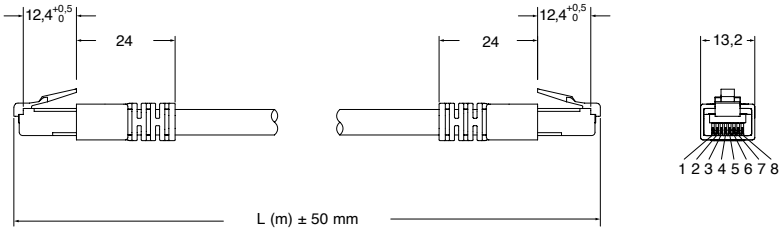
CJK 8MT male assembly



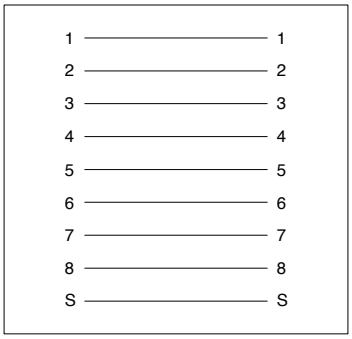
CJK 8FT to be used in VG or IAP enclosures with male crimp version



CW...J2M87



Wiring Diagram



CJK adapters 1 seat for RJ45 IDC connector Cat. 6 Class E_A

enclosures: **page:**

size "21.21"

insulating type **346 - 348**
(CK IN, CKG/MKG VN/VAN *)

metallic type
(CKAX I, CKAX/MKAX IAP/AP/VG) **349 and 353**
(CKAG/MKAG V/VA *) **354 - 355**
(MKAX/MKA/MKAXX IF) **362 - 363**

IP68 **628 - 631**
(CGK I, CGK/MGK IAP, CGK/MGK V)

***)** angled enclosures cannot be used with CX 8 J6IM

- characteristics according to EN 61984:
  1A 50V 0,8kV 3
- c UL us (UL for USA and Canada) certified
- insulation resistance: ≥ 10 GΩ
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- temperature range: from -40 °C to +70 °C
- we recommend to fix the cable with cable tie

adapters for RJ45 male connectors, RJ45 female - cable IDC connectors

RJ45 male connectors, IDC termination

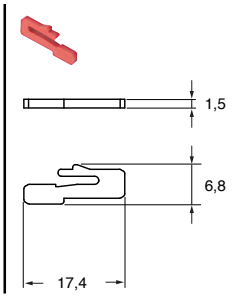
Watch our online tutorial

description	part No.	part No.
socket insert with 1 RJ45 female-IDC connector contact coding according to **T568A**	**CJK 8IFT**	
socket insert with 1 RJ45 female-IDC connector contact coding according to **T568B**	**CJK 8B IFT**	
socket insert with 1 RJ45 female-IDC connector contact coding according to **PROFINET**	**CJK 8P IFT**	
plug insert for 1 RJ45 male IDC connector, 8 data contacts (without RJ45 connector, to be ordered separately)	**CJK 8IMT**	
RJ45 male IDC connector, 8 data contacts		**CX 8 J6IM**

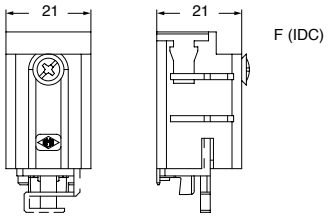
CJK 8IFT, CJK 8B IFT, CJK 8P IFT technical data:
- RJ45 female insert, Cat. 6_A
- Cu-conductor diameter
  solid: 0,40 - 0,64 mm (AWG 26/1 - 22/1)
  stranded: 0,48 - 0,76 mm (AWG 26/7 - 22/7)
- insulation diameter: 0,85 - 1,6 mm
- shielding housing: zinc diecast
- housing finish: nickel-plated
- current carrying capacity at 50 °C: 1A
- adequate for Power over Ethernet:
  PoE according to IEEE 802.3af
- connectors: IEC 60603-7-5
- adequate for 10 Gigabit Ethernet:
  10 Gigabit Ethernet acc. to IEEE 802.3an
- custom-designed cabling systems: PROFINET Installation Guideline
- generic cabling systems:
  ANSI/TIA/EIA-568-C.2
  ISO/IEC 11801
  EN50173-1
  ISO/IEC 24702
  EN 61918
- class E_A (channel): ISO/IEC 11801, EN 50173-1

CX 8 J6IM technical data:
- RJ45 male IDC connectors Cat. 6 Class E_A
- Cu-conductor diameter
  solid: 0,41 - 0,64 mm (AWG 26/1 - 22/1)
  stranded: 0,48 - 0,76 mm (AWG 26/7 - 22/7)
- insulation diameter: 0,85 - 1,6 mm
- cable diameter: 5,5 - 8,5 mm
- connectors: IEC 60603-7-5
- category 6_A: ISO/IEC 11801; DIN EN 50173-1
- wrenches pliers for CX 8 J6IM: **CJPW K**
- 10 Gigabit Ethernet acc. to IEEE 802.3an:
  adequate for 10 Gigabit Ethernet
- class E_A: ISO/IEC 11801; EN 50173-1
- category 6: ANSI/TIA/EIA-568-C.2
- custom-designed cabling systems:
  according to PROFINET Installation Guideline

CR KC insert coding pin

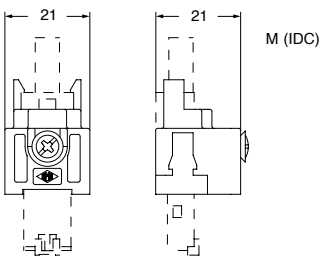


CJK 8IFT



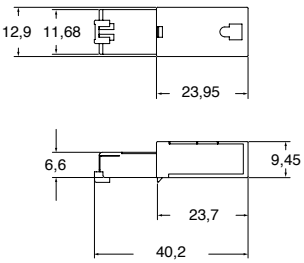
Female-Cable IDC

CJK 8IMT [1)]



[1)] to be used with hoods

CX 8 J6IM (can be used with CJK 8IMT)



How to use CR KC coding pins (cannot be used with IP68 enclosures)

dimensions shown in mm are not binding and may be changed without notice

CW - CWC connecting cables for MIXO RJ45 CAT. 6_A

with 2xRJ45 CAT. 6_A cable plug

M12x1 CAT. 7 cable plug black

description	part No.	(L) metre	part No.	(L) metre	part No.	(L) metre
S/FTP CAT. 6A cable 4x2xAWG 27/7 (**PUR**) * - SHIELDED * chemical resistant cable jacket Colour outer jacket green	**CW J6 1M** **CW J6 2M** **CW J6 3M** **CW J6 5M** **CW J6 7.5M** **CW J6 10M** **CW J6 15M**	1 2 3 5 7,5 10 15				
S/FTP CAT. 6A cable 4x2xAWG 27/7 (**PVC**) - SHIELDED Colour outer jacket green			**CWC J6 1M** **CWC J6 2M** **CWC J6 3M** **CWC J6 5M** **CWC J6 7.5M** **CWC J6 10M** **CWC J6 15M**	1 2 3 5 7,5 10 15		
Over moulded IP67 to RJ45 plug crimp IP20 **S/FTP CAT. 7 cable** 4x2xAWG 26/7 (**PUR**) * * chemical resistant cable jacket Colour outer jacket green					**CW XJ0.5M** **CW XJ1M** **CW XJ2M** **CW XJ3M** **CW XJ5M** **CW XJ7.5M** **CW XJ10M**	0,5 1 2 3 5 7,5 10

CW - CWC connecting cables for MIXO RJ45 CAT. 5

with 2xRJ45 CAT. 5 cable plug

description	part No.	(L) metre	part No.	(L) metre
SF/UTP CAT. 5 4x2xAWG 26/7 (**PUR**) [1] - SHIELDED [1] chemical resistant cable jacket Colour outer jacket green	**CW J5 1M** **CW J5 2M** **CW J5 3M** **CW J5 5M** **CW J5 7.5M** **CW J5 10M** **CW J5 15M**	1 2 3 5 7,5 10 15		
SF/UTP CAT. 5 4x2xAWG 26/7 (**PVC**) - SHIELDED Colour outer jacket green			**CWC J5 1M** **CWC J5 2M** **CWC J5 3M** **CWC J5 5M** **CWC J5 7.5M** **CWC J5 10M** **CWC J5 15M**	1 2 3 5 7,5 10 15

CWH connecting cables for MIXO RJ45 CAT. 6_A - CAT. 5e

with 2xRJ45 CAT. 6_A cable plug

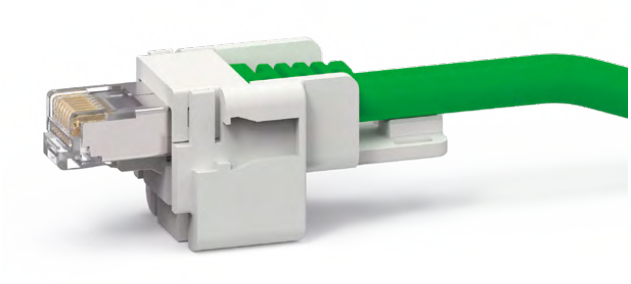
with 2xRJ45 CAT. 5_e cable plug

description	part No.	(L) metre	part No.	(L) metre	part No.	(L) metre
CAT. 6_A wiring 1:1 cable S/FTP (LSHZ) - SHIELDED Colour outer jacket green	**CWH J6 0.25M** **CWH J6 0.5M** **CWH J6 1M** **CWH J6 2M** **CWH J6 3M** **CWH J6 5M** **CWH J6 7.5M** **CWH J6 10M** **CWH J6 15M**	0,25 0,5 1 2 3 5 7,5 10 15				
1x90° - 1x180° cable boot **CAT. 6_A wiring 1:1 cable** S/FTP (LSHZ) - SHIELDED Colour outer jacket green			**CWH J6 0,5MA** **CWH J6 1MA** **CWH J6 2MA** **CWH J6 3MA** **CWH J6 5MA** **CWH J6 7.5MA** **CWH J6 10MA**	0,5 1 2 3 5 7,5 10		
CAT. 5_e wiring 1:1 cable S/FTP (LSHZ) - SHIELDED Colour outer jacket green					**CWH JE 0.5M** **CWH JE 1M** **CWH JE 2M** **CWH JE 3M** **CWH JE 5M** **CWH JE 7.5M** **CWH JE 10M** **CWH JE 15M**	0,5 1 2 3 5 7,5 10 15

CJK 8M

TECHNICAL FEATURES

- **CJK 8M** adapter insert size “21.21” for placing an RJ45 plug (male connector) of a pre-assembled patch cord into a **M25** size “21.21” top cable entry hood, either metal or insulating;
- it allows a **truly “universal”** use thanks to the possibility to install virtually any RJ45 patch cord plugs available on the market (of any Category: Cat. 5, 5e, 6, 6_A, 7, or 8) inside the growing range of size “21.21” top entry hoods with glued gasket, **without any disassembly of the patch cord.** A straighforward smart solution, all the more so if compared with more complex and expensive solutions;
- the **proprietary ILME design** of this adapter foresees a **two-part insulating carrier** (the first part acting as **carrier,** the second as **latch**) that can quickly and easily make captive the RJ45 plug (male connector), the assembly is then introduced in the relevant “21.21” M25 top entry hood and fastened to it by the usual screw;
- **a metallic** (nickel plated brass) **or insulating** (light grey or black colour) **M25 cable gland** with suitable internal diameter to let the patch cord RJ45 plug pass-through **is separately available;**
- the **CR CJK G special sealing gasket,** provided with the **CJK 8M** RJ45 universal patch cord adapter, **is longitudinally cut** on its flank and must be applied over the cable to increase its diameter in the portion to introduce in the cable gland sealing, according to instructions;

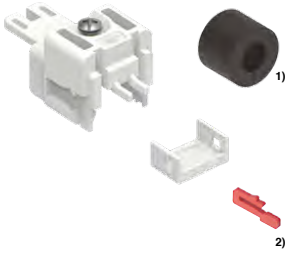


- suitable for the combination of an RJ45 patch cord with one or both RJ45 plug extremities mounted inside suitable size “21.21” *insulating* or *metal* M25 top entry hood with glued gasket, with an RJ45 jack counterpart (female connector), e.g. a **CJ KF** adapter combined with the relevant female/female RJ45 connector **CX 8 JF** or **CX 8/2 JF** (4-way version **CX 4 JF** or 4/2-way version **CX 4/2 JF** are available upon request), mounted inside a corresponding counterpart hood or housing with locking lever size “21.21”;
- optional four coding positions with **CR KC** insert coding pin (4 pins required for each connector coupling).

CJK 8M

enclosures:	page:
size “21.21”	
MKG V25	**348**
MKG VN25	**348**
MKAG V25	**353**

RJ45
universal patch cord adapter



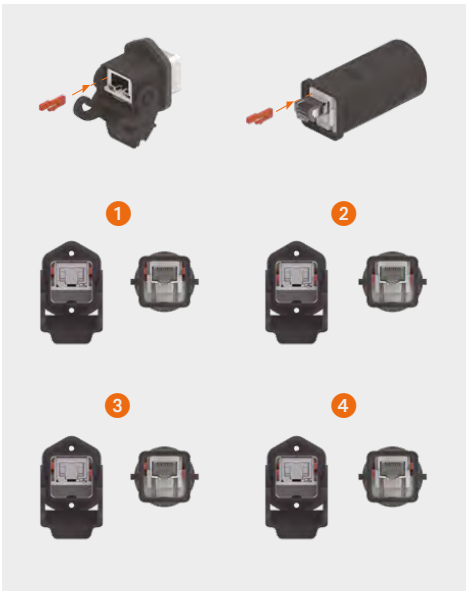
M25
cable gland

description	part No	part No.	entry M
universal patch cord adapter	**CJK 8M**		
insert coding pin for RJ45 adapters (optional) [2]	**CR KC**		
plastic cable gland, light grey (RAL 7035)		**AW M25IJ**	25
plastic cable gland, black (RAL 9005)		**AW M25INJ**	25
nickel plated brass cable gland		**AW M25PJ**	25

[1] CR CJK G gasket, supplied with CJK 8M universal patch cord adapter, see page 234, note (*****).

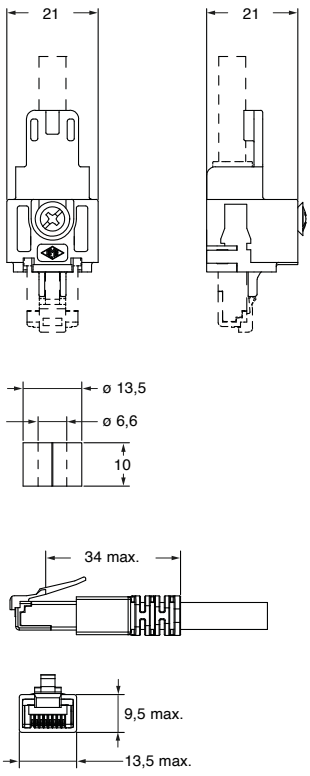
[2] Optional four coding positions CR KC insert coding pin (4 pins required for each connector coupling).

How to use CR KC coding pins
(cannot be used with IP68 enclosures)

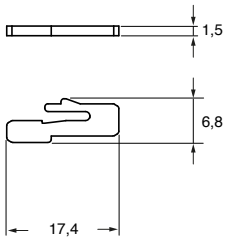


cURus pending

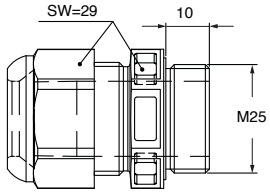
CJK 8M



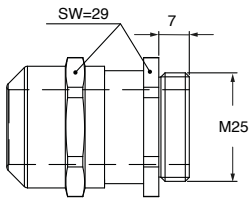
CR KC



AW M25IJ and AW M25INJ



AW M25PJ



Watch our online tutorial

Female inserts

Housings

RJ45 CONNECTOR Cat 6$_A$

RJ45 female/female coupler
(8 data contacts)

CJK 8FT

RJ45 female/IDC jack
(8 data contacts)

CJK 8IFT
CJK 8B IFT
CJK 8P IFT

RJ45 CONNECTOR Cat 5-5$_e$

RJ45
female crimp coupler jack
(8 data contacts)

CX 8 JF** + CJ KF

RJ45
female crimp coupler jack
(8 data + 2 power contacts)

CX 8/2 JF** + CJ KF

21.21 CK/MK PLASTIC

MK VGN25*****
MK VG25*****

CK 03 IN
CK 03 I

21.21 CKA/MKA METAL

CKAX 03 I

CKAX 03 ILS

CKAX IAPS*** /APS*** /VGS***
MKAX IAP20*** /AP20*** /VG20***

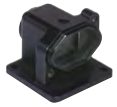
CKAX 03 IA4*
MKAX AP25 /IAP25*****

MKAX IF MKAX VG25

CKAX 03 CXA
(cover for hoods)

21.21 CGK/MGK IP68

CGK I



CGK IAP13***
MGK IAP20***

Legend

* angled enclosures cannot be used with CX 8 J6IM, CJK 8FT/IFT, CLK and CJ KF inserts/adapter
** version with 4 data crossover wirings on request (CX4 JF, CX4/2 JF)
*** cannot be used with CJ KF adapter
**** suitable cable glands AW M25 PJ/IJ/INJ
***** suitable cable glands AW M25 PJ/IJ/INJ + CR CJK G gasket (already supplied with the CJK 8M universal patch cord adapter, see page 233, note [1]); cannot be used with CJ KF adapter

Hoods

21.21 CK/MK PLASTIC

CKG 03 V/VA
CKG 03 VN /VAN*
MKG VN20 /VAN 20*
MKG V20/VA20

CKG 03 C
CKG 03 CN
(cover for housings)

21.21 CKA/MKA METAL

CKAG 03 V /VA*
MKAG V20 /VA20*

CKAG 03 C
(cover for housings)

21.21 ENLARGED METAL/PLASTIC

MKAG V25****

MKG VN25****
MKG V25****

21.21 CGK/MGK IP68

CGK V13
MGK V20

MGK V25

Male inserts

RJ45 CONNECTOR Cat 6$_A$

RJ45 male crimp plug

CX 8 J6M + CJK 8MT

RJ45 male IDC plug

CX 8 J6IM + CJK 8IMT

RJ45 CONNECTOR Cat 5-5$_e$

RJ45 male crimp plug
(4 data contacts)

CX 4 JM + CJ KM

RJ45 male crimp plug
(8 data contacts)

CX 8 JM + CJ KM

RJ45 male crimp plug
(4 data + 2 power contacts)

CX 4/2 JM + CJ KM

RJ45 male crimp plug
(6 data + 2 power contacts)

CX 6/2 JM + CJ KM

RJ45 male crimp plug
(4 data cont. cat.5$_e$) PROFINET

CX 4E JM + CJ KM

RJ45 universal patch cord

CJK 8M

CUK adapters with 1 USB connector

enclosures: **page:**

size "21.21"

insulating type **346 - 348**
(CK IN, CKG/MKG VN/VAN *)

metallic type
(CKAX I, CKAX/MKAX IAP/AP/VG) **349 and 353**
(CKAG/MKAG V/VA *) **354 - 355**

IP68 **628 - 631**
(CGK I, CGK/MGK IAP, CGK/MGK V)

***)** angled enclosures cannot be used with CX 8 J6IM

USB female - female connectors

patch cable USB

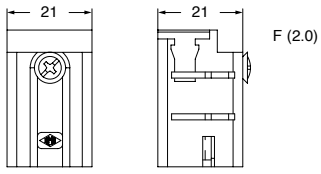
description	part No.	part No.
female insert with USB 2.0 female - female connector	**CUK 2FT**	
female insert with USB 3.0 female - female connector,	**CUK 3FT**	
patch cable USB-A / USB-A, 2 m [1]		**CW 2 UAM**

[1] 5 m on request

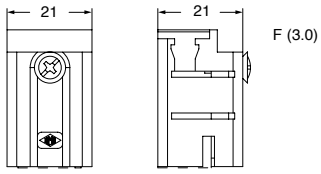
USB connector features:
- USB-A / USB-A Hi-Speed - 2.0 or 3.0 insert
- temperature range: from -25 °C to +80 °C

- c UL us (UL for USA and Canada) certified

CUK 2FT

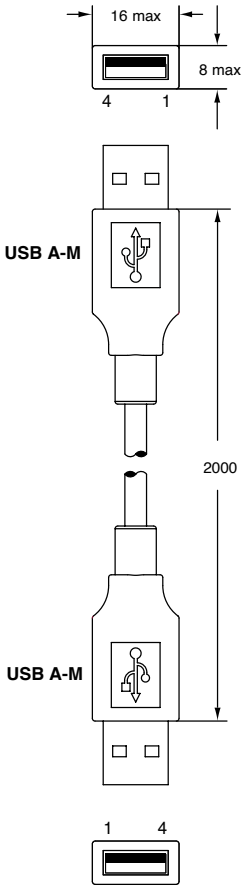


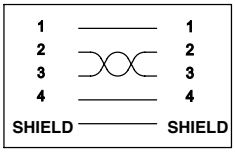
CUK 3FT



inserts already supplied with stainless steel fixing screw with gasket, which ensures IP66/IP67/IP69 degree of protection

CW UAM





ATR cover for boxes for unit Ø 22 mm

cover for RJ45/USB/LC connectors

RJ45/USB/LC connectors for ATR C22

description	part No.	part No.
communication interface bulkhead IP65	**ATR C22**	
RJ45 jack A Cat.6A [1] RJ45 coupler Cat.6		**AT 8IFT** **AT 8FT**
USB 2.0 coupler F-F Type A USB 3.0 coupler F-F Type A		**AT U2F** **AT U3F**
LC-Duplex adapter MM LC-Duplex adapter SM		**AT LCMM** **AT LCSM**

[1] jack B and jack P on request

Technical Data

Mechanical Characteristics

Materials

Housing	PA UL94V-0 - black
Nut	PA UL94V-0 - black
Bulkhead protective cap	EPDM
Elastic band / Seal	EPDM
EU Directive 2011/65/EU (RoHS)	RoHS-compliant

Environmental Requirements

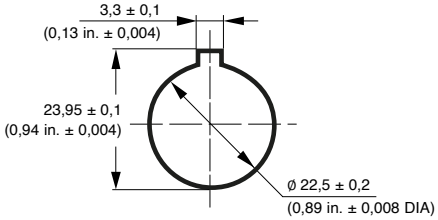
Protection against ingress

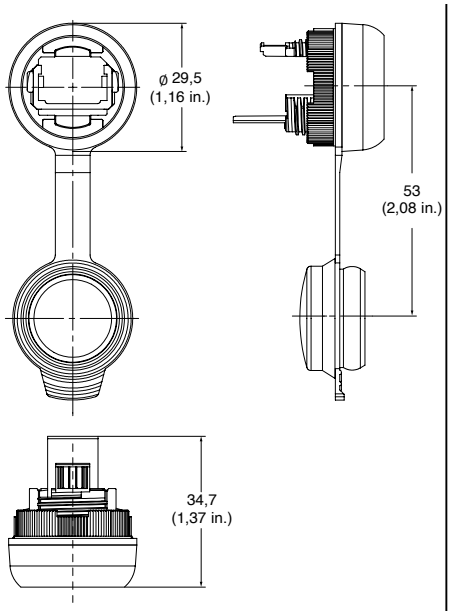
Particulate ingress	IP6X
Water / Immersion	IPX5
Degrees of protection provided by enclosures (IP code)	IEC 60529

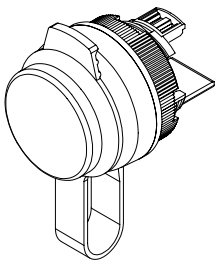
Climatical and chemical

Ambient temperature	-40 °C ... + 70 °C

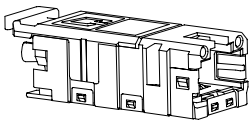
Mounting dimensions
wall thickness 1-5 mm (0,039-0,197 in.)



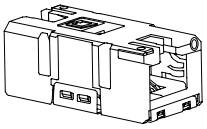




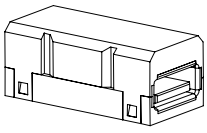
AT 8IFT (RJ45 IDC-FEMALE)



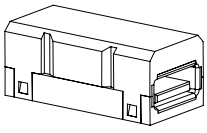
AT 8FT (RJ45 FEMALE-FEMALE)



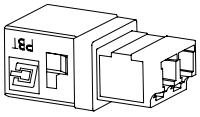
AT U2F (USB 2.0)



AT U3F (USB 3.0)



AT LCMM - AT LCSM (LC DUPLEX)



DATA CONNECTORS

CLK 04 SC adapters
TECHNICAL FEATURES

The new adapter CLK 04 SC enables use of fibre optic SC contacts, up to 4 SC contacts per connector, for indoor or outdoor heavy duty industrial applications, with ILME connector enclosures size “21.21” series CKA (IP66/IP67/IP69, metallic, both C-TYPE, grey-painted, for normal environments, and W-TYPE black-painted, for aggressive environments, only the hood models provided with sealing gasket), series CGK/MGK (IP66/IP68/IP69, metallic, either Pg or metric-threaded cable outlet) and series CK (IP66/IP67/IP69, insulating, only the hood models provided with sealing gasket).

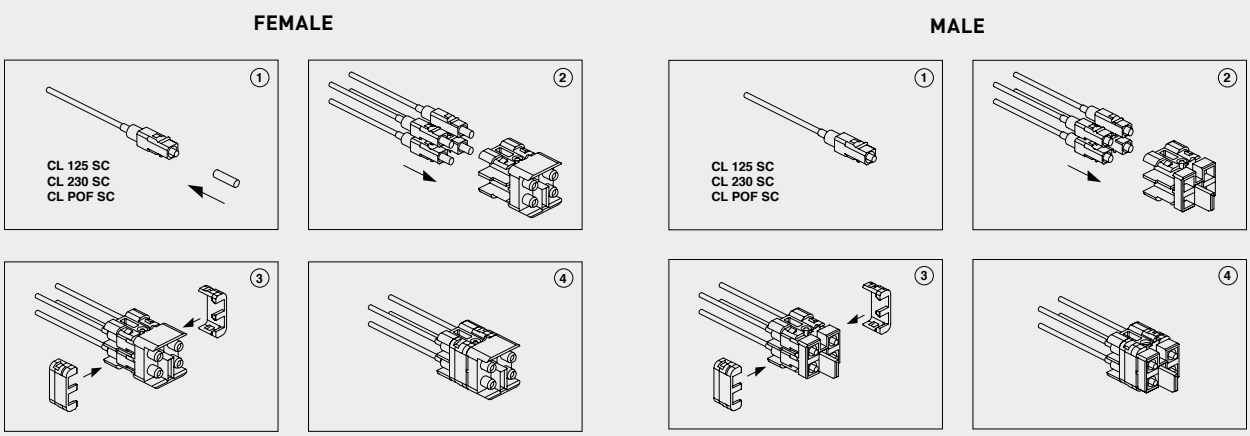
The fibre optic SC contacts (genderless, to be purchased separately) are available both for multi-mode fibres (50/125 µm or 62,5/125 µm) and single-mode fibre (9/125 µm).
The fibre optic SC contacts are also available for the hard-clad silica (HCS) or polymer-clad fibre (PCF) 200/230 µm fibre optic cables and for the less demanding, with shorter transmission distance covered, but more cost effective POF Ø 1 mm applications, available with crimp technique version (crimping tool required).

NOTE
Due to the higher skill and training required to produce an effectively performing fibre optic junction for a single-mode type fibre-optic cable than for a multi-mode one, dedicated contacts for single-mode are available only upon request. Contact our Commercial Department for a quotation. It is more practical in such case to equip the CLK 04 SC adaptor with ready-to-use fibre optic patch cords.
Quick assembly technique version (tool-less) for POF Ø 1 mm cables are also available only upon request, please send inquiry to our Commercial Department.

The female adapter inserts are provided with 4 ceramic (zirconia) type split alignment sleeves, for minimal insertion loss (e.g. critical network connections) and best suitable for single-mode F/O cable connections. As optional accessory, metallic (phosphor bronze) split alignment sleeves are also available for more durable (less prone to cracking) applications, but less demanding precision alignment, thus most suitable for multi-mode fibre applications.

Part No. of adapter	**CLK 04 SC**
No. of seats/poles for optical contacts	4
Ambient temperature limit (°C)	min -40 / max +70
Degree of protection with enclosures (according to type)	IP66/**IP67**/IP69, IP66/**IP68**/IP69
Conductor connections	crimp
Mechanical endurance (rating cycles)	≥ 500
Self-extinguishing capacity UL 94	V0

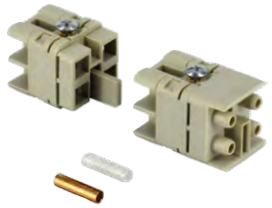
CLK 04 SC Assembling instructions



CLK adapters 4 seats for fibre optic SC contacts

enclosures:	page:
size "21.21"	
insulating type (CK IN, CKG/MKG VN)	**346 - 348**
metallic type	
(CKAX I, CKAX/MKAX IAP/AP/VG)	**349 and 353**
(CKAG/MKAG V)	**354 - 355**
(MKAX/MKA/MKAXXIAP/AP25)	**358 - 359**
(MKAX/MKA/MKAXX VG25)	**360 - 361**
(MKAX/MKA/MKAXX IF)	**362 - 363**
IP68 (CGK I, CGK/MGK IAP, CGK/MGK V)	**628 - 631**

adapter insert for SC connectors



crimp FO contacts

description	part No.	part No.
adapter insert with seats for 4 SC contacts		
female insert, with ceramic sleeve	**CLK 04 SCF**	
female insert, with metallic sleeve	**CLK 04 SCF-H**	
male insert	**CLK 04 SCM**	
SC contact for GI FIBRE 50/125 µm or 62.5/125 µm		**CL 125 SC**
SC contact for 1 mm ø POF		**CL POF SC**

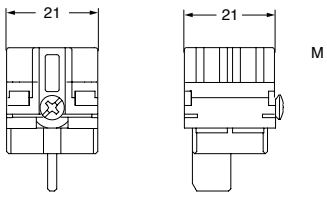
- inserts already supplied with stainless steel fixing screw with gasket, which ensures IP66/IP67/IP69 degree of protection
- adapter insert designed to be used with SC contacts
- SC contact for SI FIBRE (HCS®) 200/230 µm: **CL 230 SC** (on request)

- base equipment for SC contact GI FIBRE: **CLKZ 125 SC** If this application is required, please contact ILME S.p.A.

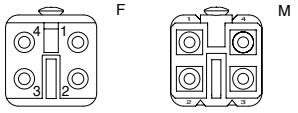
- supplementary set for POF: **CLKZ POF** (to be ordered with CLKZ 125 SC) If this application is required, please contact ILME S.p.A.

- c UL us (UL for USA and Canada), CSA, DNV·GL, BUREAU VERITAS certified
- insulation resistance: ≥ 10 GΩ
- temperature range: from -40 °C to +70 °C

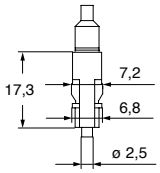
CLK 04 SCF, CLK 04 SCM



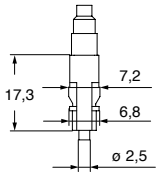
contacts side (front view)



CL 125 SC



CL POF SC



CW SC patch cord FO SC duplex patch cords

SC duplex patch cord

SC duplex patch cord

description	part No.	(L) metre	part No.	(L) metre
SC duplex patch cord, GL fibre E9/125 (YELLOW)	**CW 1 SC9**	1		
	CW 2 SC9	2		
	CW 3 SC9	3		
	CW 5 SC9	5		
	CW 10 SC9	10		
SC duplex patch cord, GL fibre G50/125 (ORANGE)			**CW 1 SC50**	1
			CW 2 SC50	2
			CW 3 SC50	3
			CW 5 SC50	5
			CW 10 SC50	10
SC duplex connector, GL fibre G62,5/125 (ORANGE)			**CW 1 SC62**	1
			CW 2 SC62	2
			CW 3 SC62	3
			CW 5 SC62	5
			CW 10 SC62	10

- operating temperature: from -5 °C ÷ +55 °C
- storage temperature: from -30 °C ÷ +70 °C
- installation temperature: from -5 °C ÷ +50 °C
- flame retardancy: IEC 60332-1
- halogen-free acc. to: IEC 60754-2

DATA CONNECTORS

CX BD adapter insert

TECHNICAL FEATURES

To be able to use circular shielded connectors series **MIXO BUS** (multiaxial, for balanced cables with multiple pairs) or coaxial connectors (for coaxial cables) even in compact enclosures size “21.21” **CK/MK**, **CKA/MKA** or **CGK/MGK**, it is necessary to purchase the adapter insert **CX 1/2 BD**. This insert can be used to assemble MIXO coaxial connectors part No. **CX 01 BM/BF** for coaxial cables with a characteristic impedance of 75 Ω and **CX 01 BCM/BCF** for coaxial cables with a characteristic impedance of 50 Ω, or MIXO BUS **CX 04 BM/BF** multiaxial shielded connectors with 4 poles + shield and the new **CX 08 BM/BF** shielded connectors with 8 poles + shield, in addition to providing seats for 2 additional optional contacts series CD for the connection of a SELV (safety extra-low voltage) supply line.

The connector portion of this adaptor has rated values compliant with standard EN 61984 and equivalent to 10A 50V 0,8kV 3.

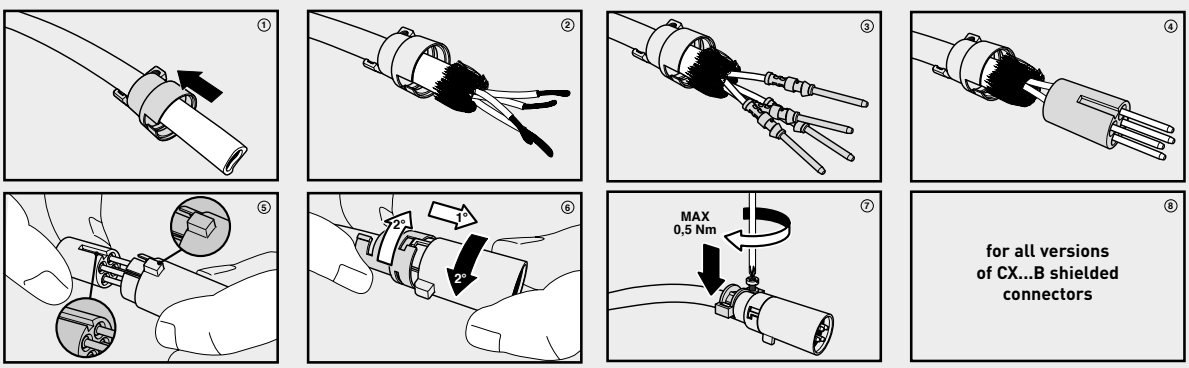
Adaptor insert **CX 1/2 BDM/BDF** is fitted with multiaxial and coaxial MIXO BUS shielded connectors and is designed to be used only with the models specified below of the following enclosures: **CK/MK** or **CKA/MKA** (IP66/IP67/IP69) or **CGK/MGK** (IP66/IP68/IP69) with glued gasket on hoods and covers. The cable shielding is electrically separated from the earthing connection of the metal enclosure. If used with MIXO BUS **CX 04 BM/BF** shielded connectors, the connector is able to support all field bus protocols with 4 conductors.

Part No. of adapter		**CX 1/2 BD**
No. of seats/poles	seats for shielded connector [1]	1
	seats for auxiliary contacts	2
Rated current [2]	shielded connector	depending on type: 5A, 10A, 16A
	auxiliary contacts	10A
EN 61984	rated voltage	50V
	rated impulse withstand voltage	0,8kV
	pollution degree	3
UL 1977 / CSA C22.2 - N°187.3	rated voltage (a.c./d.c.)	50V
Contact resistance	shielded connector	depending on the type of contact used
	auxiliary contacts	≤ 3 mΩ
Insulation resistance		≥ 10 GΩ
Ambient temperature limit (°C)	min	-40
	max	+70
Degree of protection	with enclosures (according to type)	IP66/**IP67**/IP69, IP66/**IP68**/IP69
	without enclosures (in mated condition)	IP20 (IPXXB)
Conductor connections		crimp
Conductor section	shielded connector (mm^2/AWG)	depending on the type of contact used
	auxiliary contacts (mm^2)	0,14÷2,5
	auxiliary contacts (AWG)	26÷14
Conductors stripping lenght		depending on contact
Mechanical endurance (mating cycles)		≥ 500
Self-extinguishing capacity UL 94		V0

[1] Depending on the selected shielded connector, which must be ordered separately, the number of poles + shield could be 1 (coaxial connectors), 4 (4-way multiaxial connector for 2 pairs) or 8 (8-way multiple connector, for example for 4 pairs).

[2] It is generally necessary to refer to the loading curves of the inserts to determine the actual operating current limit for a specific ambient temperature. These curves are not required for MIXO BUS / coaxial shielded connectors, because these are signal connectors designed to be used by the transmission protocols to transmit currents in fractions of amperes. The current capacity specified is the maximum current traditionally assigned to contacts, not the one assigned to the shielded connector when in use.

CX 04 BF/BM Assembling instructions



CX BD adapter insert 1 seat for shielded connector + 2 aux contacts 10A - 50V

adapter insert for shielded connectors

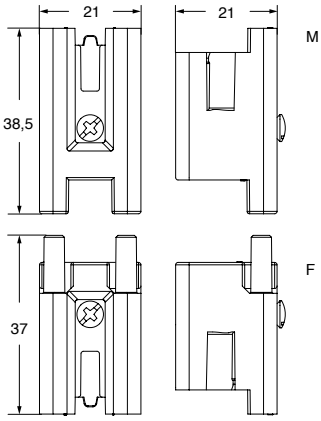
10A crimp contacts, silver or gold plated

description	part No.	part No.
adapter insert with seats for 1 shielded connector + 2 aux contacts 10A female insert, 1 seat for BUS connector and 2 seats for 10A female contacts (CDF)	**CX 1/2 BDF**	
male insert, 1 seat for BUS connector and 2 seats for 10A male contacts (CDM)	**CX 1/2 BDM**	

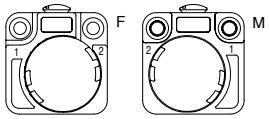
10A female contacts			silver plated	gold plated÷
0,14-0,37 mm²	AWG 26-22	identification No. 1	**CDFA 0.3**	**CDFD 0.3**
0,5 mm²	AWG 20	identification No. 2	**CDFA 0.5**	**CDFD 0.5**
0,75 mm²	AWG 18	identification No. ②	**CDFA 0.7**	**CDFD 0.7**
1 mm²	AWG 18	identification No. 3	**CDFA 1.0**	**CDFD 1.0**
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:
  adapter insert CX 1/2 BD (2 aux contacts)
  10A 50V 0,8kV 3
- c UL us (UL for USA and Canada), CSA, DNV·GL BUREAU VERITAS certified
- both the female and the male inserts may accept any of the above shielded connectors of any gender, as far as the correct specular assignment is set on the mating connector
- **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)
- extraction tool for BUS/coax shielded connectors from adaptor insert **CX 1/2 BD** part No. **CX BES** see page 703
- contact resistance adaptor insert, 2 aux contacts: ≤ 3 mΩ
- inserts already supplied with stainless steel fixing screw with gasket, which ensures IP66/IP67/IP69 degree of protections
- adapter insert designed to be used with **CX01 BCF/M CX 01 BF/M**, **CX 04 BF/M** and **CX 08 BF/M** shielded connectors see pages 289, 291, 293

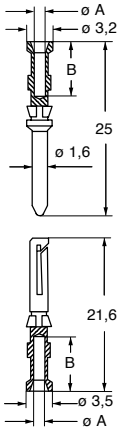
CX 1/2 BDF, CX 1/2 BDM



contacts side (front view)



CDF and **CDM**



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

TECHNICAL FEATURES

DESINA® (which stands for **DE**centralised and **S**tandardised **IN**stAllation technology) is an innovative installation concept behind a study headed by the German manufacturers of machine tools association (VDW), with the co-operation of users (including German automotive manufacturers) and component manufacturers, which has led to the introduction of a specification aimed to standardise electrical, hydraulic and pneumatic components and their interconnection on common platform for CNC controlled machine tools and manufacturing lines.

In the last few years, the DESINA® specification has been successfully endorsed by the ISO TC 184/SC 1 "Industrial automation systems and integration / Physical device control" as an ISO standard.

This work has been completed, and the following standards have become available:

ISO 23570-1 Industrial automation systems and integration – Distributed installation in industrial applications:
Part 1 – Sensors and actuators.

ISO 23570-2 Industrial automation systems and integration – Distributed installation in industrial applications:
Part 2 – Hybrid communication bus.

ISO 23570-3 Industrial automation systems and integration – Distributed installation in industrial applications:
Part 3 – Power distribution bus.

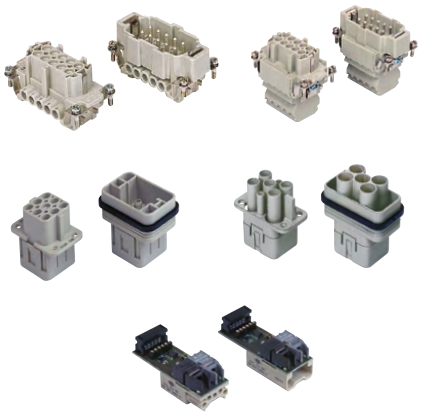
Normally, production systems are controlled by various field buses available on the market such as PROFIBUS, CAN, INTERBUS, etc. DESINA® decentralised approach and interface and connector standardisation, which allows a single distributed control system to be independent from the bus communication protocol selected by the final user, ensure lower installation costs.

The availability of diagnostic capabilities in all the system components ensures a speedier diagnosis in the event of faults and an easier and quicker reset operation, which may be carried out by less specialised staff. DESINA® connection topology requires a **control bus** and a **power bus.**

The hybrid (optical/electrical) control bus provides a serial connection for the devices by using a cable consisting of two fibre optics and four power lines. The devices are fitted with 2 hybrid connectors (and matching flush mounted enclosures) for bus entry and exit.

The hybrid connectors include an interface circuit which turns the TX electrical signal to optical signal with TTL levels and the RX signal from optical to electrical signal with TTL levels.

In other words, **the interface is independent from the selected field bus protocol,** and simply converts the electrical signals into optical signals and vice versa; by doing so, the physical connection between the devices can be used for different bus protocols and can reach a 50 m range by using POF plastic fibres or 300 m by using HCS® fibreglass (Hard Clad Silica – Spectran Corporation registered trademark). The highest baud rate is 12 Mbit/s, compatible with the most advanced field buses.



ISO 23570-3 standard and DESINA® specification compliant

Another variant is also available, which is based on transmitting data on a pair of screened copper cables (instead of fibre optics); in this case, however, the system can only be used for PROFIBUS or CAN buses with RS 485 TX signals.

In both cases, the connector is fitted with housings for 5, 10A auxiliary contacts (**CD** series crimp contacts), which allow all connected devices to receive a permanent direct voltage of 24V (to supply circuits) and a 24V non permanent power supply (only used to open the contactors after operating an emergency switch or a safety switch), as well as a contact available for an optional earth.

The power bus provides a serial connection for drives, controls and power supplies and, more specifically, is suitable to supply power to motors and to their control units.

The standard connector to control motors is the **CQM/F 08** which, with 8 poles + ⏚ 16A 500V, and **CC** series crimp contacts, not only provides a power connection, but also connects the motor brake and safety thermistor.

Another variant is available in the same sizes as the enclosure: **CQM/F 04/2** featuring 4 poles + ⏚ 40A 400/690V and 2, 10A 250V auxiliaries.

For the motor side connection, the connector **CNEM/F 10** (10P + ⏚ 16A 500V 6kV 3, with screw terminals) should be used; with the option to make a star or a delta connection on the connector, the **CSSM/F 10** connector (10P + ⏚ 16A 500V 6kV 3, with spring terminals, two per pole) should be used.

ILME connectors are manufactured to DESINA® specifications and in compliance with ISO 23570-2 and 23570-3 standards.

Hybrid socket and plug connectors for field buses compliant with DESINA® specifications and with ISO 23570-2 standard

	electrical auxiliary female contacts	electrical auxiliary male contacts
The hybrid connectors for field buses are listed below:		
- optical field bus **plug**	**CXL 2/4 PF** (for plastic fibre optics POF)	**CXL 2/4 PM** (for plastic fibre optics POF)
	CXL 2/4 PFH (for glass fibre optics HCS®)	**CXL 2/4 PMH** (for glass fibre optics HCS®)
- optical field bus **socket**	**CXL 2/4 SF**	**CXL 2/4 SM**

The hybrid inserts for **socket** type optical field buses can only be fitted inside **fixed enclosures**.
The **plug** types, on the other hand, can only be fitted inside **free enclosures (hoods)**.

The enclosures and matching accessories available are listed below:

Construction details	Material: **PLASTIC**	Material: **METAL**
- fixed, flush mounted enclosure:	**CK 03 IN**	**CKAX 03 I**
- free enclosures (hoods), top entry:	**CKG 03 VN** (Pg 11)	**CKAG 03 V** (Pg 11)
	MKG VN20 (M 20)	**MKAG V20** (M 20)
- free enclosures (hoods), side entry:	**CKG 03 VAN** (Pg 11)	**CKAG 03 VA** (Pg 11)
	MKG VAN20 (M 20)	**MKAG VA20** (M 20)
- cover:	**CKG 03 CN**	**CKAG 03 C**

The portable enclosures and the covers are fitted with an additional seal in order to achieve the versatile **IP65/IP67** degree of protection according to IEC/EN 60529. With these accessories the enclosures also achieve the **IP69** degree of protection (tightness to high pressure and temperature water jets) according to the same standard. The full versatile degree of protection becomes therefore **IP65/IP67/IP69**. The **IPX9** test is identical with that of former German standard DIN 40050-9 (IP69K) currently specified by **ISO 20653** for use on board road vehicles.

Specifications

Interface

Hybrid electrical-optical connector insert consisting of 2 connectors for fibre optics and 4 contacts for electrical wires; an interface circuit built into the optical socket converts the electrical signals into optical signals and vice versa.

Optical parts

transmitter (T):	Agilent (HP) Versatile Link HFBR-1525, or equivalent
receiver (R):	Agilent (HP) Versatile Link HFBR-2525, or equivalent
male optical contact:	Agilent (HP) Versatile Link HFBR-4531, or equivalent, Simplex snap-in type (without crimping) for POF plastic fibre optics; HFBR-4521, or equivalent, crimp contact, for HCS® glass fibre optics
note:	POF is a plastic fibre optic with a 1000 µm diameter for red light and wavelength = 660 nm. HCS® is a Hard Clad Silica glass fibre optic with a 200 µm diameter for red light with wavelength = 660 nm.
Optical parts:	laser class I
Electrical contacts	4 maximum current 10A, gold or silver plated brass crimp contacts, cable section 0,14...2,5 mm² (CD series); live wire end female. Nominal voltage 24V. Electrical data in compliance with EN 61984: **10A 25V 0,8kV 3**
Degrees of protection:	IP65/IP67/IP69 according to EN 60529 (if a cable clamp with IP67/IP69 rating is used).
Temperature range:	-40 °C / +70 °C

Data transmission/reception rate (Data rate): up to 12 Mbit/s

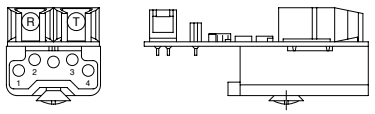
Designation of auxiliary electrical contacts

Designation of auxiliary electrical contacts (male and female) in the hybrid socket connector with optical TX system:

Socket connector with male auxiliary electrical contacts CXL 2/4 SM

Pos.	Function
1:	+ 24V not switched
2:	0V (reference for contact 1)
3:	0V (reference for contact 4)
4:	+ 24V switched

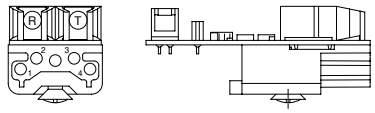
optical →
electrical →



Socket connector with female auxiliary electrical contacts CXL 2/4 SF

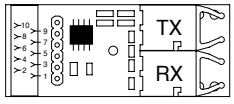
Pos.	Function
1:	+ 24V not switched
2:	0V (reference for contact 1)
3:	0V (reference for contact 4)
4:	+ 24V switched

optical →
electrical →



Insulation displacement connector (IDC) for ribbon flat cable on printed circuit

Pos.	Function	Pos.	Function
1:	earth	6:	TXD
2:	RXD	7:	earth
3:	RXD	8:	+5V DC
4:	earth	9:	+5V DC
5:	TXD	10:	earth



The contacts in the hybrid socket connector are numbered in a clockwise direction.
With reference to this, the contacts in the field bus hybrid plug connector are numbered anticlockwise.
"R" Data reception (beam exit) - "T" Data transmission (beam entry).

Socket and plug connectors for power buses compliant with DESINA® specifications and with ISO 23570-3 standard

The connector inserts on the power bus for a motor controller are as follows:
- CQM 08 plug
- CQF 08 socket

The connector inserts for the motor controller may be fitted inside the following enclosures:

Construction details
Material: **PLASTIC**

- bulkhead mounting, straight, fixed enclosure:	**CQ 08 I**
- bulkhead mounting, angled, fixed enclosure:	**CQ 08 IA**
- bulkhead mounting, angled, fixed enclosure, rear entry:	**CQ 08 IAP**
- free enclosure (hood), top entry:	**CQ 08 V**
- free enclosure (hood), side entry:	**CQ 08 VA**
- free enclosure (hood), top entry and lever:	**CQ 08 VG**
- free enclosure (hood), side and top entry:	**MQ 08 VO225**
- socket cover:	**CQ 08 C**
- plug cover:	**CQ 08 CA**

The **CQ/MQ 08** enclosures and covers once complete and fitted with suitably rated cable gland or conduit fitting ensure the versatile **IP65/IP67** degree of protection according to IEC/EN 60529. With these accessories the enclosures also achieve the **IP69** degree of protection (tightness to high pressure and temperature water jets) according to the same standard. The full versatile degree of protection becomes therefore **IP65/IP67/IP69**. The **IPX9** test is identical with that of former German standard DIN 40050-9 currently specified by **ISO 20653** for use on board road vehicles.

Specifications

Connection: **9 contacts (8 + ⏚)**
The male connectors (plugs) are used for termination of connecting cables; the female connectors (sockets) are fitted on the motor controller

Electrical contacts: 9 maximum current 10A, gold or silver plated crimp contacts, cable section 0,5...2,5 mm² (20 AWG -14 AWG) CC series

Degrees of protection: IP65/IP67/IP69 according to EN 60529 (if a cable clamp with IP67/IP69 rating is used)

Temperature range: -40 °C / +125 °C

Electrical data: compliant with EN 61984: **16A 500V 6kV 3**

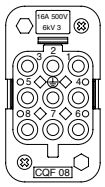
Self extinguishing properties: 94V-0 compliant with UL 94 standard; glow-wire 960 °C compliant with IEC/EN 60695-2-11 standard

Designation of contacts

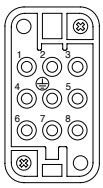
The designation of contacts for motor controller outlet is as follows:

contact	designation
1	line L1
2	
3	line L3
4	brake (0 V)
5	temperature sensor
6	brake (+24V c.c.)
7	line L2
8	temperature sensor
PE	protective earth

F



M



The connector inserts on the power bus for a motor controller are as follows:
- CQM 04/2 plug
- CQF 04/2 socket

These connector inserts can be fitted inside the following enclosures:

Construction details
Material: **PLASTIC**

- bulkhead mounting, straight, fixed enclosure:	**CQ 08 I**
- bulkhead mounting, angled, fixed enclosure:	**CQ 08 IA**
- bulkhead mounting, angled, fixed enclosure, rear entry:	**CQ 08 IAP**
- free enclosure (hood), top entry:	**CQ 08 V**
- free enclosure (hood), side entry:	**CQ 08 VA**
- free enclosure (hood), top entry and lever:	**CQ 08 VG**
- free enclosure (hood), side and top entry:	**MQ 08 VO225**
- socket cover:	**CQ 08 C**
- plug cover:	**CQ 08 CA**

The **CQ/MQ 08** enclosures and covers once complete and fitted with suitably rated cable gland or conduit fitting ensure the versatile **IP65/IP67** degree of protection according to IEC/EN 60529. With these accessories the enclosures also achieve the **IP69** degree of protection (tightness to high pressure and temperature water jets) according to the same standard. The full versatile degree of protection becomes therefore **IP65/IP67/IP69**. The **IPX9** test is identical with that of former German standard DIN 40050-9 (IP69K) currently specified by **ISO 20653** for use on board road vehicles.

Specifications

Connection: **5 (4 + ⏚) power contacts + 2 auxiliary contacts**
The male connectors (plugs) are used for termination of connecting cables; the female connectors (sockets) are fitted on the motor controller

Electrical contacts: 5 maximum current 40A (3P+N+⏚) gold or silver plated crimp contacts, cable section 1,5...6 mm² (16 AWG -10 AWG) CX series; 2 maximum current 10A, gold or silver plated crimp contacts, cable section 0,14...2,5 mm² (26 AWG -14 AWG) CD series

Degrees of protection: IP65/IP67/IP69 according to EN 60529 (if a cable clamp with IP67/IP69 rating is used)

Temperature range: -40 °C / +125 °C

Electrical data: compliant with EN 61984: **40A 400/690V 6kV 3**

Self extinguishing properties: 94V-0 compliant with UL 94 standard glow-wire 960 °C compliant with IEC/EN 60695-2-11 standard

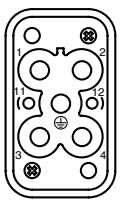
Designation of contacts

The designation of contacts for motor controller outlet is as follows:

contact	designation
1	line L1
2	line L2
3	line L3
4	neutral
PE	protective earth
11	aux
12	aux

F

M



The connector inserts on the power bus for a motor controller are as follows:

	screw type with cover	spring type dual terminal for pole
- plug	**CNEM 10 T**	**CSSM 10**
- socket	**CNEF 10 T**	**CSSF 10**

To be installed in the enclosures illustrated in this catalogue or equivalent, with single lever (directed towards the motor).

The enclosures once complete and fitted with suitably rated cable gland or conduit fitting ensure the versatile **IP65/IP67** degree of protection according to IEC/EN 60529. With these accessories the enclosures also achieve the **IP69** degree of protection (tightness to high pressure and temperature water jets) according to the same standard. The full versatile degree of protection becomes therefore **IP65/IP67/IP69**. The **IPX9** test is identical with that of former German standard DIN 40050-9 (IP69K) currently specified by **ISO 20653** for use on board road vehicles.

Specifications

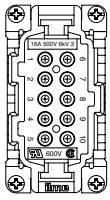
Connection:	**10 contacts + ⏚**
Electrical contacts:	10 screw type contacts (CNE series) or spring type (CSS series), maximum current 16A, silver plated, wire section 0,5...2,5 mm² (20 AWG -14 AWG)
Degrees of protection:	IP65/IP67/IP69 according to EN 60529 (if a cable clamp with IP67/IP69 rating is used).
Temperature range:	-40 °C / +125 °C
Electrical data	compliant with EN 61984: **16A 500V 6kV 3**
Self extinguishing properties	94V-0 compliant with UL 94 standard glow-wire 960 °C compliant with IEC/EN 60695-2-11 standard

Designation of contacts

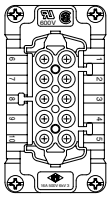
The designation of contacts for motor connector is as follows:

contact	designation
1	winding U1 - L1
2	winding V1 - L2
3	winding W1 - L3
4	brake (0 V)
5	brake (+24V cc)
6	winding W2
7	winding U2
8	winding V2
9	temperature sensor
10	temperature sensor
PE	protective earth

F



M

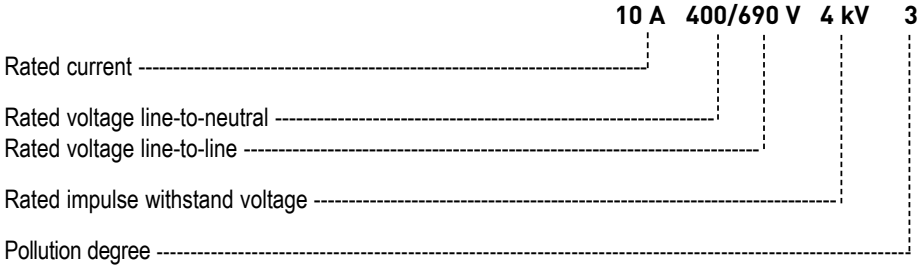


Inserts series	No. of poles		EN 61984 (2001-11) pollution degree 3			EN 61984 (2001-11) pollution degree 2			Certification UL/CSA
Code	main contacts	aux. contacts	rated voltage	rated impulse withstand voltage	pollution degree	rated voltage	rated impulse withstand voltage	pollution degree	rated voltage AC or DC
CXL 2/4	**2**	—	contacts for plastic fibre optics (POF) Ø 1mm						—
		4 (+⏚)	25V	0,8kV	3	—	—	—	50V
CXL 2/4...H	**2**	—	contacts for HCS® fibre optics Ø 200 µm						—
		4 (+⏚)	25V	0,8kV	3	—	—	—	50V
CQ 08	**8 (+⏚)**	—	500V	6kV	3	400/690V	6kV	2	600V
CQ 04/2	**4 (+⏚)**	—	400/690V	6kV	3	—	—	—	600V
		2	250V	4kV	3	—	—	—	600V
CQ 12	**10 (+⏚)**	—	500V	6kV	3	400/690V	6kV	2	600V
CNE	**12 (+⏚)**	—	400V	6kV	3	400/690V	6kV	2	600V

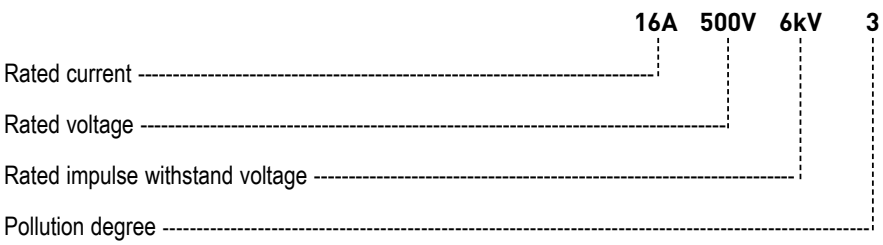
Nominal Data

Nominal data complies with requirements of EN 61984 standard.

Marking example to be applied only in a mains power supply with insulated neutral or with neutral to earth in a corner (see Table 5, EN 61984):



Marking example to be applied in any mains power supplies, including those with insulated neutral and the delta power supplies with earth in a corner (see Table 5, EN 61984):



Insert series	max. rated current [1]	contact resistance ≤	insulation resistance ≥	Ambient temperature limit (° C)		Protection rating		Wire connection [2]					Certifications
Code				min	max	with enclosures	without enclosures (in mated condition)	screw	spring	connection block at 45°	crimp	snap-in	
CXL 2/4	—	—	—	-40	+70	IP65/IP67	IP20 [3]	—				●	—
	10A	3 mΩ	10 GΩ	-40	+70	IP65/IP67	IP20 [3]	—			●	—	UL, CSA, DNV-GL, BV, EAC
CXL 2/4...H	—	—	—	-40	+70	IP65/IP67	IP20 [3]	—			●	—	—
	10A	3 mΩ	10 GΩ	-40	+70	IP65/IP67	IP20 [3]	—			●	—	UL, CSA, DNV-GL, BV, EAC
CQ 08	16A	1 mΩ	10 GΩ	-40	+125	IP65/IP67	IP20 [3]	—			●	—	cUL$_{A)}$, CSA, CQC, DNV-GL, BV, EAC
CQ 04/2	40A	0,3 mΩ	10 GΩ	-40	+125	IP65/IP67	IP20 [3]	—			●	—	cUL$_{A)}$, CSA, CQC, DNV-GL, BV, EAC
	10A	3 mΩ	10 GΩ										
CQ 12	10A	3 mΩ	10 GΩ	-40	+125	IP66/IP67	IP20 [3]	—			●	—	cUL$_{A)}$, CSA, CQC, DNV-GL, BV, EAC
CNE	16A	1 mΩ	10 GΩ	-40	+125	IP65	IP20 [3]	●	—				cUL$_{A)}$, CSA, CQC, DNV-GL, BV, EAC

[1] See the insert load curves to establish the actual maximum operating current according to the ambient temperature
[2] For the wire electrical connection data, see from page 22
[3] IPXXB.
[A] UL for USA and Canada

Contacts series

10A max contacts - CD series

Conductor section		Number Identification
(mm²)	AWG	
0,14 - 0,37	26 - 22	
0,5	20	
0,75	18	
1	18	
1,5	16	
2,5	14	

Contacts supplied in both silver/gold plated versions

16A max contacts - CC series

Conductor section		Throat Identification
(mm²)	AWG	
0,14 - 0,37	26 - 22	
0,5	20	
0,75	18	
1	18	
1,5	16	
2,5	14	
3,0	12	
4	12	

Contacts supplied in both silver/gold plated versions; male contacts can also be supplied in the "advanced" version and iron/constantan contacts fro thermocouples J type.

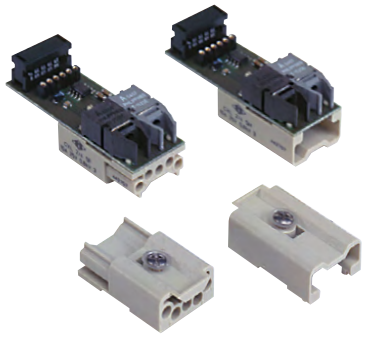
40A max contacts - CX series

Conductor section		Number hole
(mm²)	AWG	
1,5	16	Ø 1,75 mm
2,5	14	Ø 2,25 mm
4	12	Ø 2,85 mm
6	10	Ø 3,5 mm

Contacts supplied in both silver/gold plated versions

CXL 2 p fibre optics + 4 p 10A max - 25V/0,8kV/3 + ⏚ opt. DESINA®

inserts, crimp connections



10A crimp contacts silver and gold plated

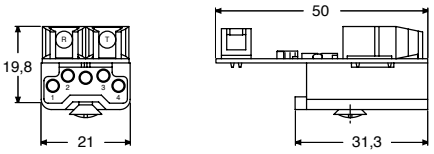
description	part No.	part No.
inserts for fixed enclosures, complete with electro-optical interface [1]		
without contacts (to be ordered separately)		
socket inserts for female contacts	**CXL 2/4 SF**	
plug inserts for male contacts	**CXL 2/4 SM**	
without electro-optical interface for housings		
without contacts (to be ordered separately)		
socket inserts for female contacts	**CXL SF**	
plug inserts for male contacts	**CXL SM**	

10A female contacts			silver plated	gold plated ✣
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**

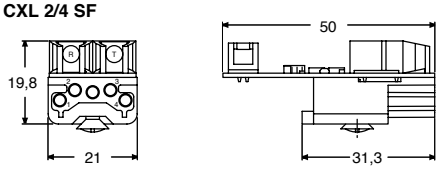
[1] fitted with IDC connector for TTL to bus connection ribbon cable

- characteristics according to EN 61984:
  10A 25V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- data baud rate: up to 12 MBit/s
- temperature range: from -40 °C to +70 °C
- 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)

CXL 2/4 SM



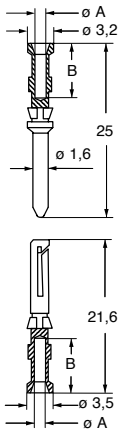
CXL 2/4 SF



CXL SM

CXL SF

CDF and **CDM**



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

CXL 2 p fibre optics + 4 p 10A max - 25V/0,8kV/3 + ⏚ opt. DESINA®

inserts, snap-in (POF)
or crimp (HCS®) optical connection
electrical crimp connection

10A crimp contacts
silver and gold plated

description	part No.	part No.
inserts for portable enclosures with: 4 + 1 crimp 1,5 mm² contacts (included) + 2 snap on contacts for 1 mm [1] plastic (POF) fibre optics socket inserts with CDFA 1.5 female contacts plug inserts with CDMA 1.5 male contacts	 **CXL 2/4 PF** **CXL 2/4 PM**	
inserts for hoods with: 4 + 1 crimp 1,5 mm² contacts (included) + 2 crimp contacts for 0,2 mm [2] HCS® fibre optics socket inserts with CDFA 1.5 female contacts plug inserts with CDMA 1.5 male contacts	 **CXL 2/4 PFH** **CXL 2/4 PMH**	
inserts for hoods with: 4 + 1 crimp contacts (not included – CDF and CDM series) + 2 snap on POF fibre optic contacts (not included) [3] socket inserts with female contacts plug inserts with male contacts	 **CXL PF** **CXL PM**	
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**

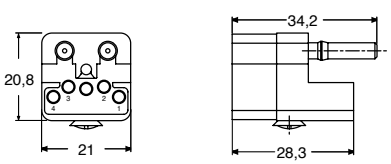
[1] for POF fibre preparation, the polishing kit Agitent HFBR-4593 (CXL POL) is available on request

[2] for HCS® (Hard Clad Silica - SpecTran Corporation registered ™) connection preparation, the Crimp & Clear cabling kit (without glue or polishing kit) for simplex connectors for 200/300 µm HCS® fibre optics is available on request.
The (CXL KCC) kit consists of:
- No. 1 scissors for kevlar cutting
- No. 1 cable stripper
- No. 1 fibre stripper
- No. 1 calibrated pliers
- No. 1 precision fibre optics cutter with diamond blade.
- All accessories are stored in a hard carrying case

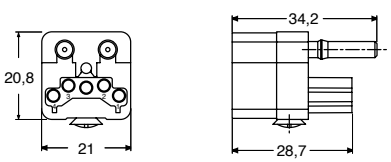
[3] see data on page 245

- characteristics according to EN 61984:
10A 25V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- temperature range: from -40 °C to +70 °C
- 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)

CXL 2/4 PM and **PMH**

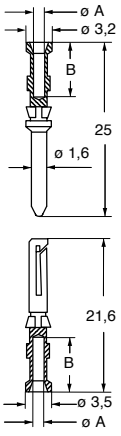


CXL 2/4 PF and **PFH**



- 8 mm wire stripping
- POF 7 mm fibre stripping

CDF and **CDM**



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

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

Gigabit 8 poles 5A - 50V

The modular inserts must be installed in suitable frames which are then mounted in traditional enclosures* or in COB panel support.
Single-sized modular units may be directly mounted inside MIXO ONE enclosures.

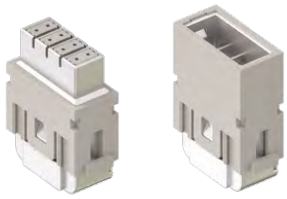
page:
frames for modular units* **316 - 317**

MIXO ONE enclosures **369**

* enclosures: bulkhead mounting housings, high construction housings or high construction hoods

- we recommend the use of CRF / CRM code pins together with relevant MIXO frame

modular units, crimp connections

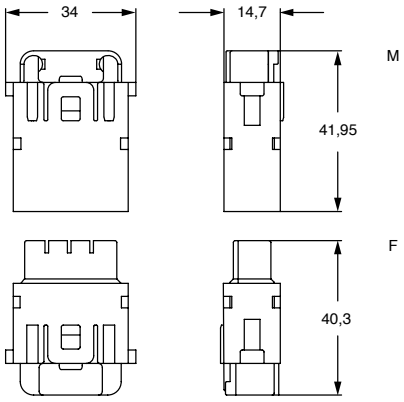


cable clamp

description	part No.	part No.
without contacts (to be ordered separately)		
female insert for female contacts	**CX 08 I6F**	
male insert for male contacts	**CX 08 I6M**	
cable clamp for 5-7 mm cable diameter		**CX 5/7 CA**
cable clamp for 7-10 mm cable diameter		**CX 7/10 CA**
cable clamp for 10-12 mm cable diameter		**CX 10/12 CA**

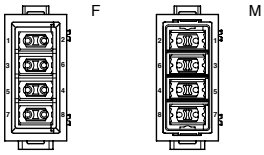
- characteristics according to EN 61984:
  5A 50V 0,8kV 3
- UL, CSA, CQC, DNV-GL, BV pending
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +85 °C
- suitable for bus signals, in particular for Ethernet Cat. 6A (Gigabit)
- shield electrically separated from the PE of the housings
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 4 mΩ
- for crimp contacts CI series use:
  CIPZ D crimping tool
  CITP D turret head

CX 08 I6F, CX 08 I6M



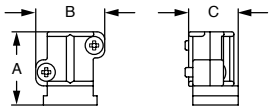
contacts side (front view)

side with reference arrow ▲



- 1 frame slot

CX 5/7 CA, CX 7/10 CA, CX 10/12 CA

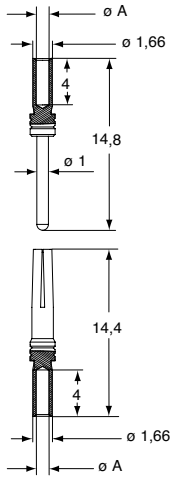


part No.	A	B	C
CX 5/7 CA	19,1	18	12,95
CX 7/10 CA	19,1	18	12,95
CX 10/12 CA	19,1	20,8	12,95

Watch our online tutorial

CI (5A) crimp contacts gold plated

description	part No.	
CI (5A) female crimp contacts		
0,08-0,21 mm² AWG 28-24	**CIFD 0.2**	gold plated
0,13-0,33 mm² AWG 26-22	**CIFD 0.3**	
0,33-0,52 mm² AWG 22-20	**CIFD 0.5**	
CI (5A) male crimp contacts		
0,08-0,21 mm² AWG 28-24	**CIMD 0.2**	
0,13-0,33 mm² AWG 26-22	**CIMD 0.3**	
0,33-0,52 mm² AWG 22-20	**CIMD 0.5**	



CIF and CIM contacts

conductor section (mm²)	conductor slot ø 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

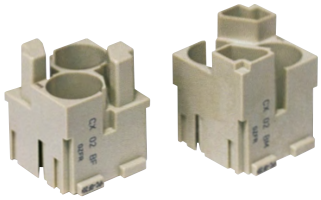
CX 02 BF/BM 2 seats for connector 1 pole + shield

The modular inserts must be installed in suitable frames, which are then mounted in traditional enclosures* or in COB panel supports.

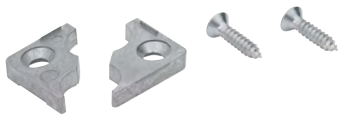
page:
frames for modular units* **316**

* enclosures: bulkhead mounting housings, high construction housings or high construction hoods

modular units,
2-seat holder for shielded connectors



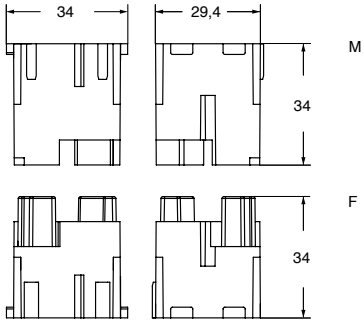
earthing adapter



description	part No.	part No
2-seat holder for shielded connectors female insert, two seats for BUS connectors male insert, two seats for BUS connectors	**CX 02 BF** **CX 02 BM**	
earthing adapter (optional)		**CR GND**

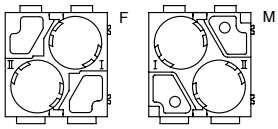
MIXO DATA

- characteristics according to EN 61984:
  50V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- suitable to hold in place any combination of up to two shielded connectors **CX 01 BC** (page 289), **CX 01 B** (page 291), **CX 04 B** (page 291) or **CX 08 B** (page 293)
- both the female and the male inserts may accept a combination of up to two shielded connectors of any gender, as far as the correct specular assignment is set on the mating connector
- extraction tool for BUS shielded connectors from MIXO BUS insert part No. **CX BES** see page 703

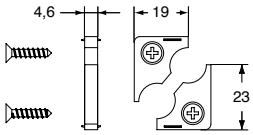


contacts side (front view)

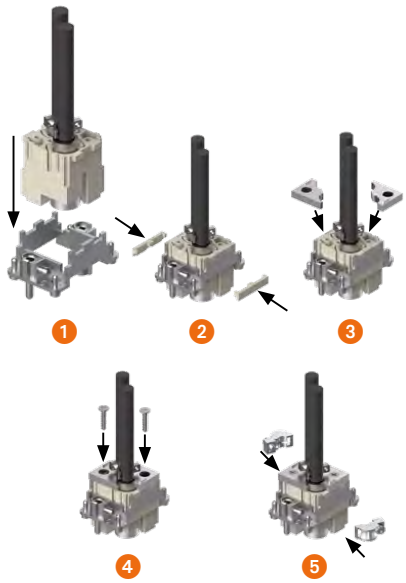
side with reference arrow ▲



- 2 frame slots



USE OF THE CR GND EARTHING ADAPTER



Note:
The shielded connectors have their shield insulated from the enclosure's earthing point.
If you wish to earth-connect the shield, install on the panel an anchorage for shielded cables **CR..ST** (see page 678) or the **CR GND** earthing adapter.

Watch our online tutorial

CX 01 BCF/BCM 1 pole + shield (each connector) 16A - 50V

- characteristics according to EN 61984:
  CX 01 BC shielded connector
  16A 50V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +70 °C
- contact resistance: ≤ 1 mΩ
- mechanical life: ≥ 500 cycles
- for information on the crimping of contacts series CC (CX 01 BC shielded connector) and on the insertion/ removal tools, see the section related to crimping tools (16A contacts, CCF and CCM series) on pages 708 - 741
- CX 01 BC shielded connector for **cable with a typical impedance of 50 Ω** (atténuation see below)
- suitable for **CX 02 B** (MIXO 2-seat holder) or **CX 1/2 BD** ("21.21" 1-seat adapter insert)
- female and male shielded connectors fit both in female and in male holder / adapter insert

shielded connectors

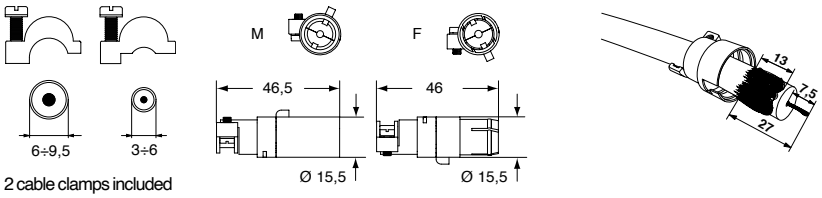
16A crimp contacts, silver and gold plated

description	part No.	part No.
shielded BUS coaxial connectors, 1 pole + shield		
female insert, one contact seat 16A (CCF) + shield	**CX 01 BCF**	
male insert, one contact seat 16A (CCM) + shield	**CX 01 BCM**	
16A female crimp contacts		
0,14-0,37 mm² AWG 26-22 one groove	**CCFA 0.3**	**CCFD 0.3**
0,5 mm² AWG 20 with no grooves	**CCFA 0.5**	**CCFD 0.5**
0,75 mm² AWG 18 one groove (back side)	**CCFA 0.7**	**CCFD 0.7**
1 mm² AWG 18 one groove	**CCFA 1.0**	**CCFD 1.0**
1,5 mm² AWG 16 two grooves	**CCFA 1.5**	**CCFD 1.5**
2,5 mm² AWG 14 three grooves	**CCFA 2.5**	**CCFD 2.5**
3 mm² AWG 12 one wide groove	**CCFA 3.0**	**CCFD 3.0**
4 mm² AWG 12 with no grooves	**CCFA 4.0**	**CCFD 4.0**
16A male crimp contacts		
0,14-0,37 mm² AWG 26-22 one groove	**CCMA 0.3**	**CCMD 0.3**
0,5 mm² AWG 20 with no grooves	**CCMA 0.5**	**CCMD 0.5**
0,75 mm² AWG 18 one groove (back side)	**CCMA 0.7**	**CCMD 0.7**
1 mm² AWG 18 one groove	**CCMA 1.0**	**CCMD 1.0**
1,5 mm² AWG 16 two grooves	**CCMA 1.5**	**CCMD 1.5**
2,5 mm² AWG 14 three grooves	**CCMA 2.5**	**CCMD 2.5**
3 mm² AWG 12 one wide groove	**CCMA 3.0**	**CCMD 3.0**
4 mm² AWG 12 with no grooves	**CCMA 4.0**	**CCMD 4.0**

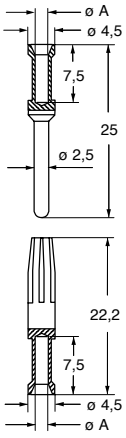
silver plated

gold plated+

CX 01 BCF, CX 01 BCM

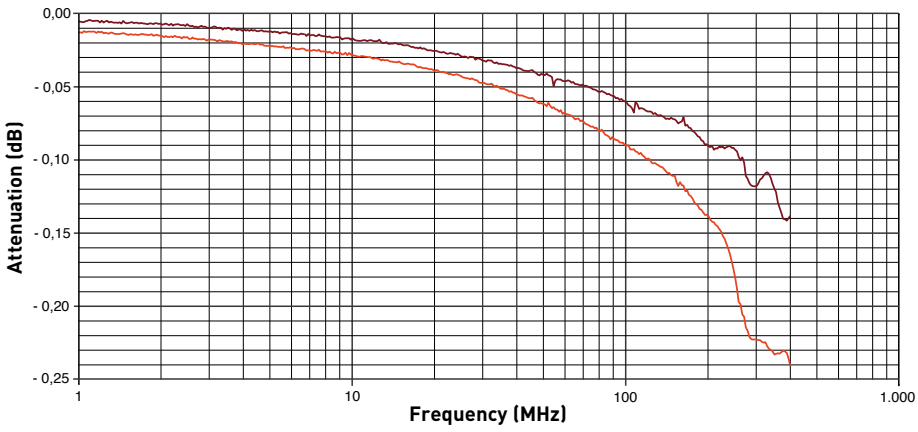


2 cable clamps included in the package



Test performed in accordance with IEC/EN 60512-25-2 (2002), 4.1.3.2 (coaxial cable only) and 4.2.2.2 (coaxial cable and connector).

Attenuation (insertion loss) 50 ohm coaxial connector (CX 01 BCF / BCM)



— **RG 213/U cable and CX 01 BC connector (50 ohm)**
— **RG 213/U cable (50 ohm)**

CCF and CCM contacts

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

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

MIXO DATA

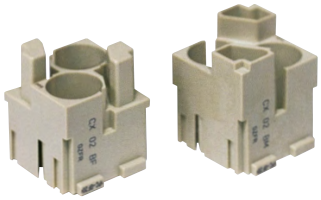
CX 02 BF/BM 2 seats for connector 1 or 4 poles + shield

The modular inserts must be installed in suitable frames, which are then mounted in traditional enclosures* or in COB panel supports.

page:
frames for modular units* **316**

* enclosures: bulkhead mounting housings, high construction housings or high construction hoods

modular units,
2-seat holder for shielded connectors

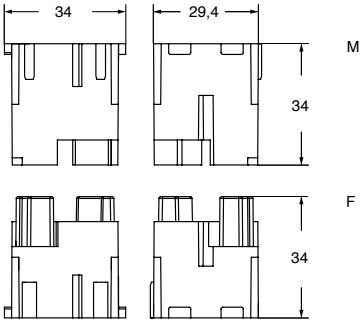


earthing adapter

description	part No.	part No
2-seat holder for shielded connectors female insert, two seats for BUS connectors male insert, two seats for BUS connectors	 **CX 02 BF** **CX 02 BM**	
earthing adapter (optional)		**CR GND**

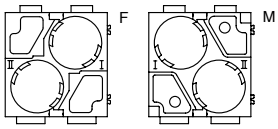
MIXO DATA

- characteristics according to EN 61984:
  50V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- suitable to hold in place any combination of up to two shielded connectors **CX 01 BC** (page 289), **CX 01 B** (page 291), **CX 04 B** (page 291) or **CX 08 B** (page 293)
- both the female and the male inserts may accept a combination of up to two shielded connectors of any gender, as far as the correct specular assignment is set on the mating connector
- extraction tool for BUS shielded connectors from MIXO BUS insert part No. **CX BES** see page 703

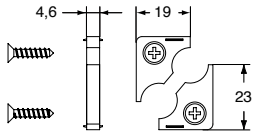


contacts side (front view)

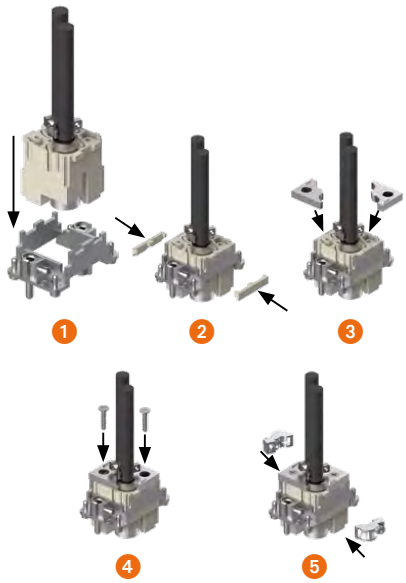
side with reference arrow ▲



- 2 frame slots



USE OF THE CR GND EARTHING ADAPTER



Note:
The shielded connectors have their shield insulated from the enclosure's earthing point.
If you wish to earth-connect the shield, install on the panel an anchorage for shielded cables **CR..ST** (see page 678) or the **CR GND** earthing adapter.

CX 01 BF/BM - CX 04 BF/BM 1 or 4 poles + shield (each connector) 10A - 50V

- characteristics according to EN 61984:
  CX 04 B / CX 01 B shielded connector
  10A 50V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +85 °C
- mechanical life: ≥ 500 cycles
- contact resistance:
  shielded connector CX 04 B: ≤ 3 mΩ
  coaxial connector CX 01 B: ≤ 3 mΩ
- for contact crimping instructions, refer to the crimping tool section (10A contacts, CDF and CDM series) on pages 708 - 741
- coaxial connector CX 01 B **cables with a typical impedance of 75 Ω** (atténuation see below)
- CX 04 B multiaxial connector for STP cables with 2 pairs and terminations compliant with EN 50173-1 Cat. 5 (100 MHz), compatible with 4-wire field bus protocols
- suitable for **CX 02 B** (MIXO 2-seat holder) or **CX 1/2 BD** ("21.21" 1-seat adapter insert)
- female and male shielded connectors fit both in female and in male holder / adapter insert

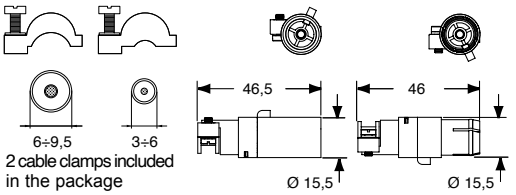
shielded connectors

10A crimp contacts, silver and gold plated

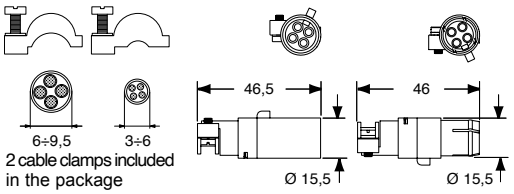
description	part No.	part No.
shielded BUS coaxial connectors, 1 pole + shield		
female insert, one contact seat 10A (CDF) + shield	**CX 01 BF**	
male insert, one contact seat 10A (CDM) + shield	**CX 01 BM**	
shielded BUS multi axial connectors, 4 poles + shield		
female insert, four contact seats 10A (CDF) + shield	**CX 04 BF**	
male insert, four contact seats 10A (CDM) + shield	**CX 04 BM**	

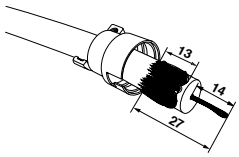
10A female crimp contacts			silver plated	gold plated ✣
0,14-0,37 mm²	AWG 26-22	identification No. 1	**CDFA 0.3**	**CDFD 0.3**
0,5 mm²	AWG 20	identification No. 2	**CDFA 0.5**	**CDFD 0.5**
0,75 mm²	AWG 18	identification No. ②	**CDFA 0.7**	**CDFD 0.7**
1 mm²	AWG 18	identification No. 3	**CDFA 1.0**	**CDFD 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 crimp 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**

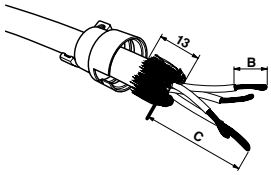
CX 01 BF, CX 01 BM



CX 04 BF, CX 04 BM

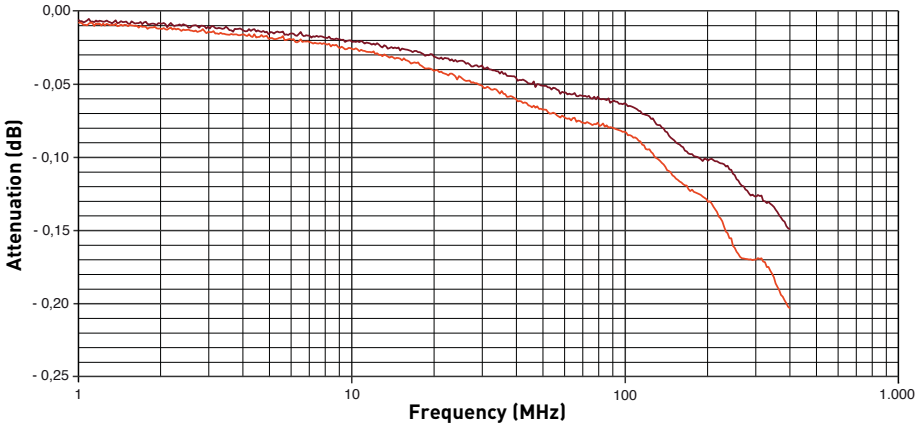






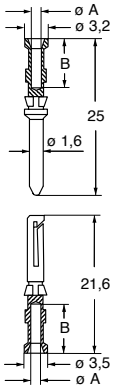
Test performed in accordance with IEC/EN 60512-25-2 (2002), 4.1.3.2 (coaxial cable only) and 4.2.2.2 (coaxial cable and connector).

Attenuation (insertion loss) 75 ohm coaxial connector (CX 01 BF / BM)



— **RG 11 A/U cable and CX 01 B connector (75 ohm)**
— **RG 11 A/U cable (75 ohm)**

cable clamp	C (mm)
3-6	20
6-9,5	25



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

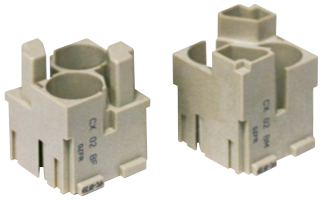
CX 02 BF/BM 2 seats for connector 8 poles + shield

The modular inserts must be installed in suitable frames, which are then mounted in traditional enclosures* or in COB panel supports.

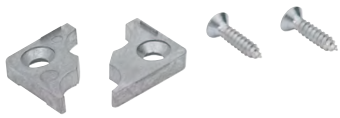
page:
frames for modular units* **317**

* enclosures: bulkhead mounting housings, high construction housings or high construction hoods

modular units,
2-seat holder for shielded connectors

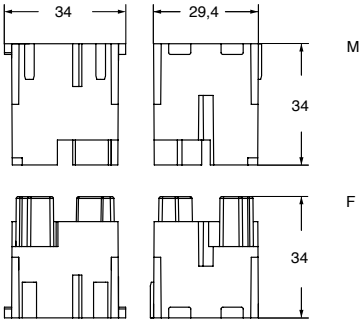


earthing adapter



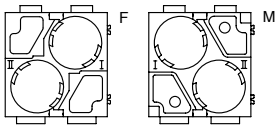
description	part No.	part No
2-seat holder for shielded connectors female insert, two seats for BUS connectors male insert, two seats for BUS connectors	 **CX 02 BF** **CX 02 BM**	
earthing adapter (optional)		**CR GND**

- characteristics according to EN 61984:
  50V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- suitable to hold in place any combination of up to two shielded connectors **CX 01 BC** (page 289), **CX 01 B** (page 291), **CX 04 B** (page 291) or **CX 08 B** (page 293)
- both the female and the male inserts may accept a combination of up to two shielded connectors of any gender, as far as the correct specular assignment is set on the mating connector
- extraction tool for BUS shielded connectors from MIXO BUS insert part No. **CX BES** see page 703

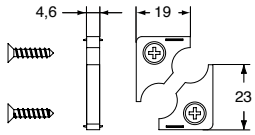


contacts side (front view)

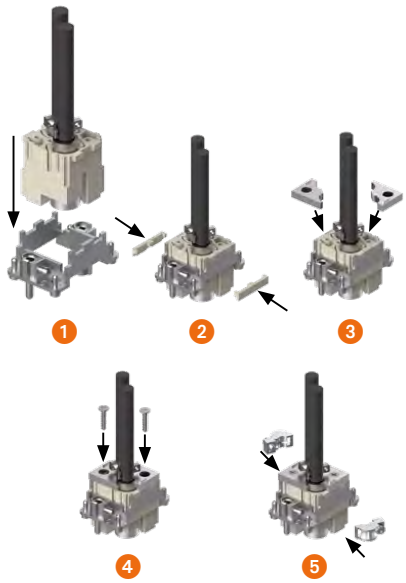
side with reference arrow ▲



- 2 frame slots



USE OF THE CR GND EARTHING ADAPTER



Note:
The shielded connectors have their shield insulated from the enclosure's earthing point.
If you wish to earth-connect the shield, install on the panel an anchorage for shielded cables **CR..ST** (see page 678) or the **CR GND** earthing adapter.

MIXO DATA

CX 08 BF/BM 8 poles + shield (each connector) 5A - 50V

shielded connectors

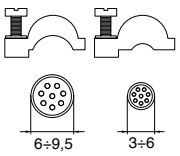
CI (5A) crimp contacts, silver and gold plated

description	part No.	part No.	
shielded BUS multi axial connectors, 8 poles + shield			
female insert, eight contact seats 5A (CIF) + shield	**CX 08 BF**		
male insert, eight contact seats 5A (CIM) + shield	**CX 08 BM**		
CI (5A) female crimp contacts			
0,08-0,21 mm² AWG 28-24		**CIFA 0.2**	**CIFD 0.2**
0,13-0,33 mm² AWG 26-22		**CIFA 0.3**	**CIFD 0.3**
0,33-0,52 mm² AWG 22-20		**CIFA 0.5**	**CIFD 0.5**
CI (5A) male crimp contacts			
0,08-0,21 mm² AWG 28-24		**CIMA 0.2**	**CIMD 0.2**
0,13-0,33 mm² AWG 26-22		**CIMA 0.3**	**CIMD 0.3**
0,33-0,52 mm² AWG 22-20		**CIMA 0.5**	**CIMD 0.5**

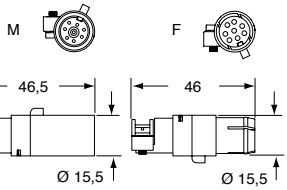
silver plated

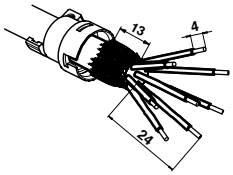
gold plated

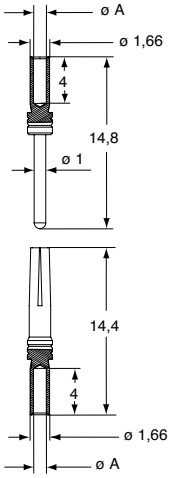
- characteristics according to EN 61984:
  CX 08 B shielded connector
  5A 50V 0,8kV 3
- certified
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +85 °C
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 4 mΩ
- max. Ø of insulation for contacts CI series: 2,4 mm
- suitable for **CX 02 B** (MIXO 2-seat holder) or **CX 1/2 BD** ("21.21" 1-seat adapter insert)
- female and male shielded connectors fit both in female and in male holder / adapter insert
- for crimp 5A contacts CI series use:
  CIPZ D crimping tool
  CITP D turret head
  CIES insertion / removal tool



2 cable clamps included in the package







CIF and CIM contacts

conductor section (mm²)	conductor slot ø 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

MIXO DATA

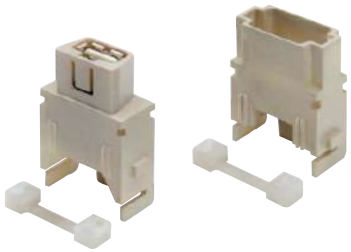
CX 01 UF/UM for 1 USB connector

The modular inserts must be installed in suitable frames which are then mounted in traditional enclosures* or in COB panel support.
Single-sized modular units may be directly mounted inside MIXO ONE enclosures.

	page:
frames for modular units*	**316 - 317**
MIXO ONE enclosures	**369**

* enclosures: bulkhead mounting housings, high construction housings or high construction hoods

housing for USB male connectors, USB female - female connectors



patch cable USB

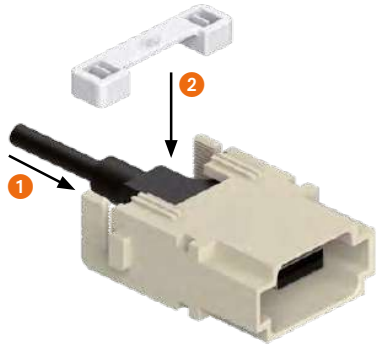
description	part No.	part No.
female insert with USB female - female connector [1]	**CX 01 UF**	
male insert without USB male connector (patch cable to be ordered separately) [1]	**CX 01 UM**	
patch cable USB-A / USB-A, 2 m [2]		**CW 2 UAM**

[2] 5 m on request

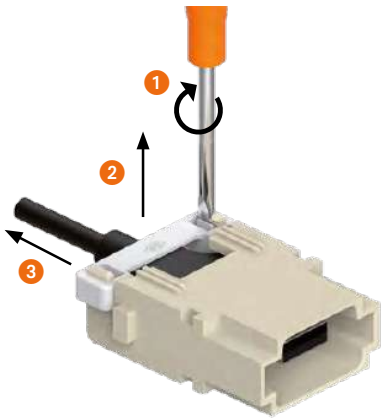
- characteristics according to EN 61984:
  1A 50V 0,8kV 3
- cULus (UL for USA and Canada), DNV-GL
  BUREAU VERITAS EAC certified [1]
- insulation resistance: ≥ 10 GΩ
- contact resistance: ≤ 3 mΩ

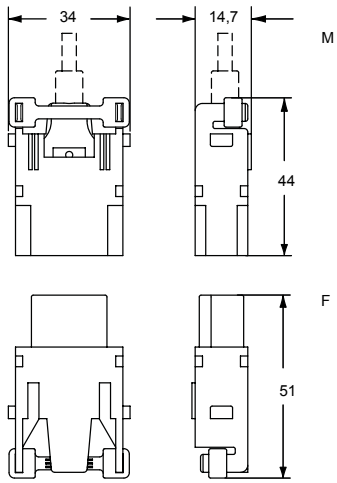
USB connector features:
- USB-A / USB-A Hi-Speed - 2.0 insert
- temperature range: from -25 °C to +80 °C

FIXING



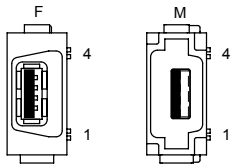
REOPENING



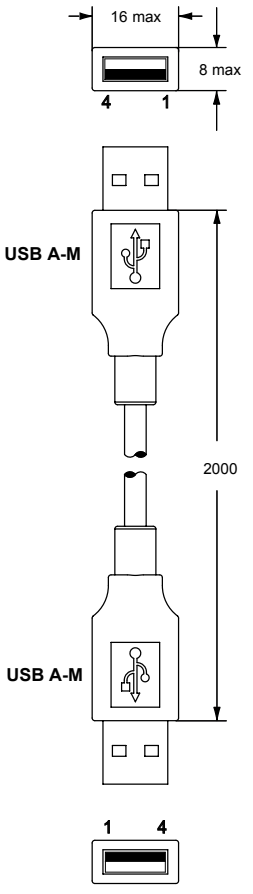


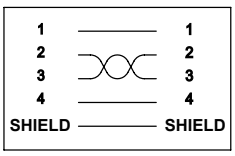
contacts side (front view)

side with reference arrow ▲



- 1 frame slot





MIXO DATA

dimensions shown in mm are not binding and may be changed without notice


GTHM
CX 08 16M
GIGABIT
>PC-GF20<

CX 01 9VF/9VM for 9-pole crimp D-SUB connector

The modular inserts must be installed in suitable frames which are then mounted in traditional enclosures* or in COB panel support.
Single-sized modular units may be directly mounted inside MIXO ONE enclosures.

page:
frames for modular units* **316 - 317**

MIXO ONE enclosures **369**

* enclosures:
housings or high construction hoods

module adapter for 1 D-SUB connector

CI (5A) crimp contacts for D-SUB gold plated

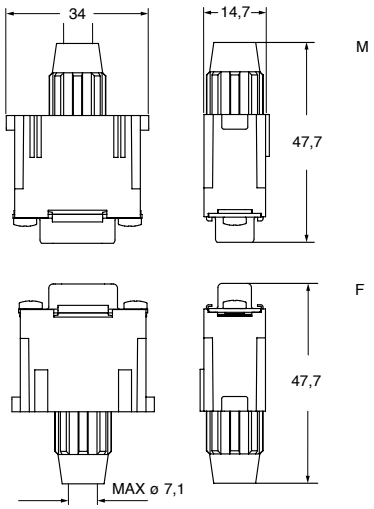
description	part No.	part No
seat for 1 D-SUB crimp contacts connector and shield (included)		
female insert with connector	**CX 01 9VF**	
male insert with connector	**CX 01 9VM**	
CI (5A) female crimp contacts		
0.08-0.13 mm² AWG 28-26		**CIVFD 0.1**
0.20-0.52 mm² AWG 24-20		**CIVFD 0.5**
CI (5A) male crimp contacts		
0.08-0.13 mm² AWG 28-26		**CIVMD 0.1**
0.20-0.52 mm² AWG 24-20		**CIVMD 0.5**

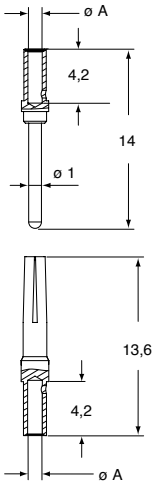
gold plated

MIXO DATA

- characteristics according to EN 61984:
  5A 50V 0,8kV 3
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +70 °C
- for crimp 5A contacts CI series use, on page 717:
  CIPZ D crimping tool
  CIVTP D turret head
  CIVES insertion / removal tool

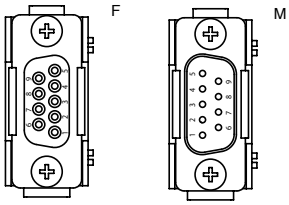
Warnings:
We recommend the use of code pins **CRF CX** / **CRM CX**.





contacts side (front view)

side with reference arrow ▲

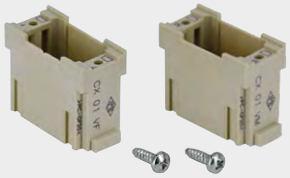


- 1 frame slot

ALTERNATIVELY

- Seats for 1 D-SUB screw connectors (without shield):

  CX 01 9VFS (with female connectors)
  CX 01 9VMS (with male connectors)



- Seat for 1 D-SUB connector
  (without connector and shield):

  CX 01 VM (for male connector)
  CX 01 VF (for female connector)

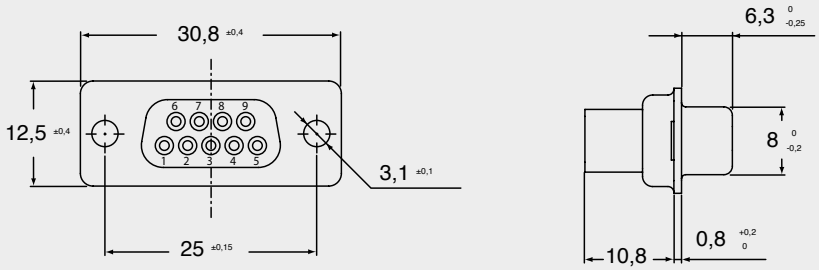
Can also be used with 15-pole D-SUB Hi-Density connectors.
For further information, please contact ILME S.p.A.

- CR CX VS shield
  for CX 01 VM/VF inserts

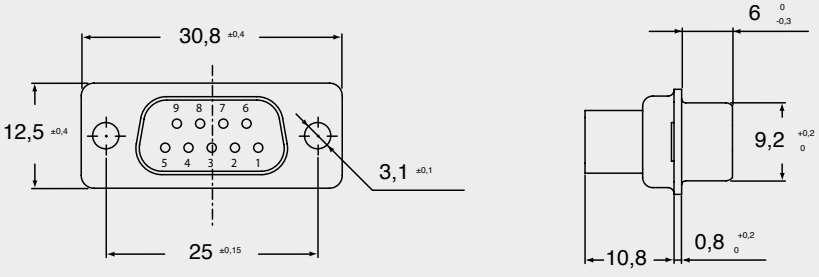
- Special version with cable contacts section
  0,32-0,82 mm² AWG 22-18

  CIVFD 0.8 female
  CIVMD 0.8 male

9-POLE FEMALE CRIMP D-SUB CONNECTOR (CAN BE USED WITH CX 01 VF)



9-POLE MALE CRIMP D-SUB CONNECTOR (CAN BE USED WITH CX 01 VM)



CX 01 9VTF 9-pole crimp D-SUB RS-485 BUS connector

The modular inserts must be installed in suitable frames which are then mounted in traditional enclosures* or in COB panel support.
Single-sized modular units may be directly mounted inside MIXO ONE enclosures.

page:
frames for modular units* **316 - 317**

MIXO ONE enclosures **369**

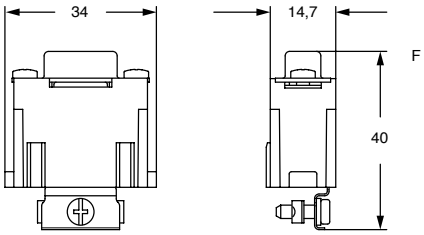
* enclosures:
housings or high construction hoods

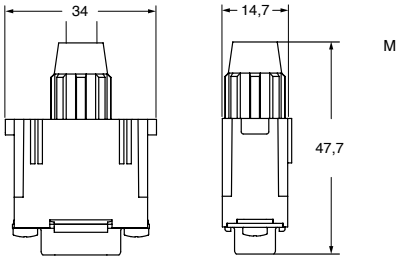
module adapter
for 1 D-SUB RS-485 connector

module adapter
for 1 D-SUB connector

description	part No.	part No
MIXO D-Sub 9-pole female module for RS-485 T-connection, with cable clamp accommodation for 2 cables	**CX 01 9VTF**	
seat for 1 D-SUB crimp contacts connector and shield (included) male insert with connector		**CX 01 9VM**

- characteristics according to EN 61984:
  5A 50V 0,8kV 3
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +70 °C
- "T" functionality with connection of two RS-485 bus cables (screw terminal)
- to be coupled with CX 01 9VM module
- for wires 0,14-0,5 mm² - 26-20 AWG
- cable screen max outer diameter 6 mm

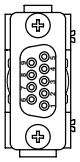




Warnings:
We recommend the use of code pins
CRF CX / CRM CX.

contacts side (front view)

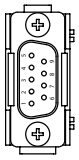
side with reference arrow ▲



- 1 frame slot

contacts side (front view)

side with reference arrow ▲



- 1 frame slot

Watch our online tutorial

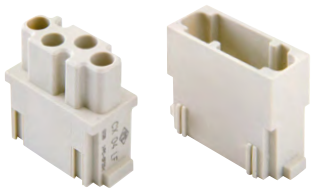
for 4 POF or MOST® [3] contacts (DIN 41626-3)

The modular inserts must be installed in suitable frames which are then mounted in traditional enclosures or in COB panel support.
Single-sized modular units may be directly mounted inside MIXO ONE enclosures.

page:
frames for modular units **316 - 317**

MIXO ONE enclosures **369**

modular units, crimp connections



POF / MOST crimp contacts

description	part No.	part No.
without contacts (to be ordered separately)		
female inserts for female contacts [1]	**CX 04 LF**	
male inserts for male contacts [1]	**CX 04 LM**	
female contacts POF [2] 1,0 mm		**CX PLF**
male contacts POF [2] 1,0 mm		**CX PLM**
female contacts MOST® [3] 1/1,5 mm		**CX MLF**
male contacts MOST® [3] 1/1,5 mm		**CX MLM**

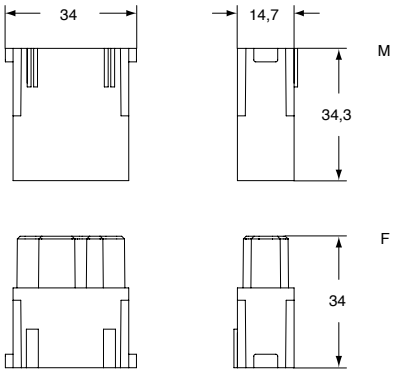
[2] **POF = POLYMER OPTICAL FIBRE**

[3] **MOST® = MEDIA ORIENTED SYSTEM TRANSPORT**
MOST® = is a registered trade mark of Microchip Technology Inc.

- cULus (UL for USA and Canada), DNV-GL BUREAU VERITAS EAC certified [1]
- insulation resistance: ≥ 1 GΩ
- ambient temperature limit: -40 °C ... +85 °C
- inserts made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 30 mΩ
- for crimp contacts CI series use:
  CIPZ D crimping tool
  CITP D turret head
- max external diameter: 2,2 mm (POF)
  2,3 mm (MOST)
- polymer fibre diameter: 1,0 mm (POF)
  1/1,5 mm (MOST)
- attenuation: < 2.5 dB
- to crimp contacts CX PLF / PLM and CX MLF / MLM please use tool CLPZ R (see the crimping tool section on page 730)

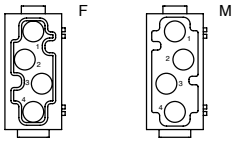
We recommend to use CLASS enclosures with two levers or V-TYPE enclosures (with one or two levers) that provides a higher coupling depth due to the higher locking force they produce. We further suggest the use of code pins CRF CX / CRM CX.

CX 04 LF / LM

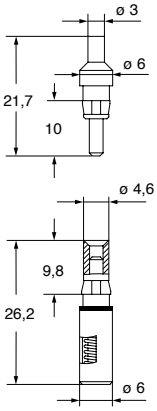


contacts side (front view)

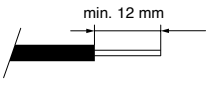
side with reference arrow ▲



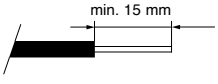
- 1 frame slot



cable stripping for fibre optic



male contact



female contact

MIXO DATA

for 4 coaxial contacts DIN 41626-T2

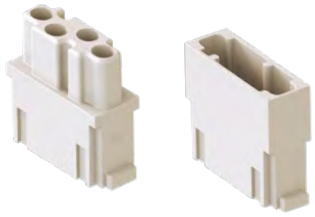
The modular inserts must be installed in suitable frames which are then mounted in traditional enclosures or in COB panel support.
Single-sized modular units may be directly mounted inside MIXO ONE enclosures.

page:

frames for modular units **316 - 317**

MIXO ONE enclosures **369**

modular units, crimp connections



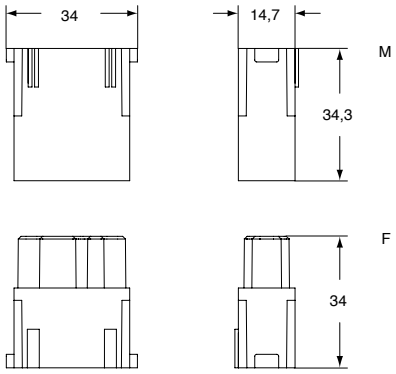
crimp coaxial contacts

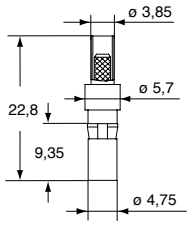
description	part No.	part No.
without contacts (to be ordered separately)		
female inserts for female contacts	**CX 04 RF**	
male inserts for male contacts	**CX 04 RM**	
female coaxial contacts 50Ω		**CX 50 RF**
male coaxial contacts 50Ω		**CX 50 RM**
female coaxial contacts 75Ω		**CX 75 RF**
male coaxial contacts 75Ω		**CX 75 RM**

- characteristics according to EN 61984:
  1,5A 50V 0,8kV 3
- DNV·GL BUREAU VERITAS certified
- insulation resistance: ≥ 5 GΩ
- temperature range: -40 °C ... +125 °C
- inserts are made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- in accordance with standard DIN 41626-T2
- finishing:
  contact surfaces, body, back end and ferrule gold plated
- impedance: 50 Ω
- frequency: DC to 6 GHz
- return loss: ≥ 21 dB, DC to 2 GHz
  ≥ 19 dB, 2 to 6 GHz
- insertion loss: ≤ 0,1 x √f(GHz) dB
- center contact resistance: ≤ 10 mΩ
- outer contact resistance: ≤ 3 mΩ
- test voltage: 750V rms
- working voltage: 250V rms
- RF-leakage: ≥ 80 dB up to 0,5 GHz
  ≥ 65 dB up to 1,5 GHz
- to crimp contacts CX 50 RM/RF, CX 75 RM/RF use tool COPZ R (see the crimping tool section on page 734)

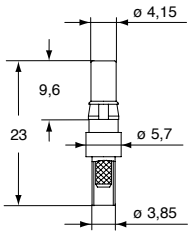
Warnings:
We recommend the use of code pins **CRF CX / CRM CX**.

CX 04 RF / RM





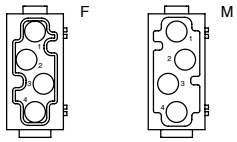
M (**CX 50 RM / CX 75 RM**)



F (**CX 50 RF / CX 75 RF**)

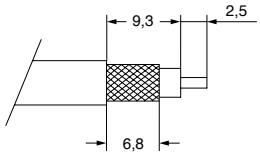
contacts side (front view)

side with reference arrow ▲



- 1 frame slot

conductor stripping



coaxial contacts	for cables	ø external	part No.
50Ω	RG 316/U	2,49 ±0,1	CX 50 RF
	RG 174/U	2,79 ±0,127	CX 50 RM
	RG 188 A/U	2,79 max	
75Ω	RG 179 B/U	2,54 ±0,127	CX 75 RF
	RG 187 A/U	2,79 max	CX 75 RM
	TZC 75 101	2,79 max	

4 seats for fibre optic SC contacts

The modular inserts must be installed in suitable frames which are then mounted in traditional enclosures or in COB panel support.
Single-sized modular units may be directly mounted inside MIXO ONE enclosures.

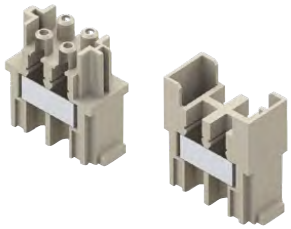
page:

frames for modular units **316 - 317**

MIXO ONE enclosures **369**

WARNING:
inserts can be used on high enclosures or bulkhead housings only.

module adaptor for SC connectors

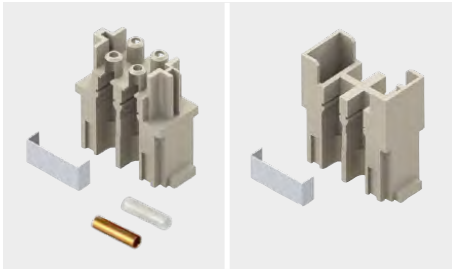


crimp FO contacts

description	part No.	part No.
module insert with seats for 4 SC contacts (metal fixing plate included)		
female insert, with ceramic sleeve	**CX 04 SCF**	
female insert, with metallic sleeve	**CX 04 SCF-H**	
male insert	**CX 04 SCM**	
SC contact for GI FIBRE 50/125 µm or 62.5/125 µm		**CL 125 SC**
SC contact for ø POF 1 mm		**CL POF SC**

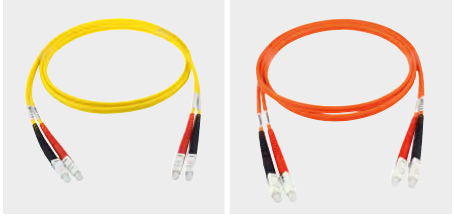
- DNV·GL BUREAU VERITAS certified
- insulation resistance: ≥ 10 GΩ
- temperature range: from -40 °C to +85 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- adaptor insert fitted with metal plate and sleeve (female only) fixing

CX 04 SC



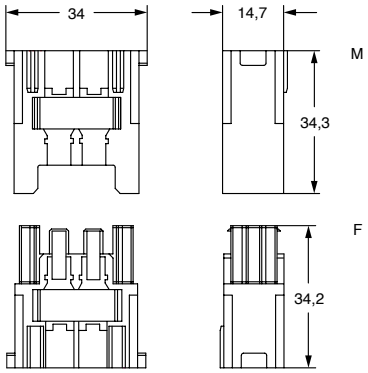
- adaptor insert designed to be used with SC contacts
- SC contact for SI FIBRE (HCS®) 200/230 µm:
  CL 230 SC (on request)
- base equipment for SC contact GI FIBRE:
  CLKZ 125 SC
  If this application is required, please contact ILME S.p.A.
- supplementary set for POF:
  CLKZ POF
  (to be ordered with CLKZ 125 SC)
  If this application is required, please contact ILME S.p.A.

SC duplex patch cord



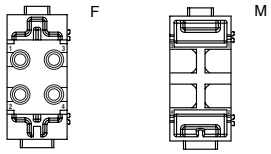
CW SC from page 240

CX 04 SCF, CX 04 SCF-H, CX 04 SCM



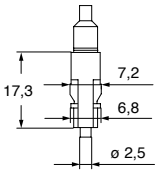
contacts side (front view)

side with reference arrow ▲

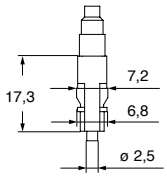


- 1 frame slot

CL 125 SC



CL POF SC



for 1 RJ45 Cat. 6 Class E_A

The modular inserts must be installed in suitable frames, which are then mounted in traditional enclosures or in COB panel supports.

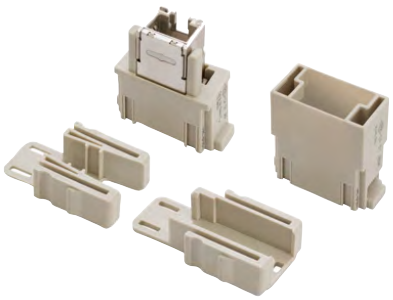
page:

frames for modular units **316 - 317**

MIXO ONE enclosures **369**

- characteristics according to EN 61984:
  1A 50V 0,8kV 3
- c UL us (UL for USA and Canada), DNV·GL BUREAU VERITAS EAC certified
- rated voltage according to UL/CSA: 50V
- insulation resistance: ≥ 10 GΩ
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- temperature range: from -40 °C to +70 °C
- we recommend to fix the cable with cable tie
- for contact crimping instructions, please see the crimping tool section on page 736 and 737

housing for RJ45 male connectors, RJ45 female connectors



crimp and IDC termination, RJ45 male connectors

description	part No.	part No.
- female insert with 1 RJ45 female connector	**CX 01 J8F**	
- male insert for 1 RJ45 male crimp connector, (without RJ45 connector, to be ordered separately) or connecting cables	**CX 01 J8M**	
- male insert for 1 RJ45 male IDC connector, 8 data contacts (without RJ45 connector, to be ordered separately) [1]	**CX 01 J8IM**	
RJ45 male crimp connector, 8 data contacts		**CX 8 J6M**
RJ45 male IDC connector, 8 data contacts		**CX 8 J6IM**

CX 01 J8F technical data:
- RJ45 female insert, Cat. 6 Class E_A
- shielding housing: zinc diecast
- housing finish: nickel-plated
- current carrying capacity at 50 °C: 1A
- adequate for Power over Ethernet: PoE according to IEEE 802.3af
- connectors: IEC 60603-7-5
- adequate for 10 Gigabit Ethernet: 10 Gigabit Ethernet acc. to IEEE 802.3an
- custom-designed cabling systems: PROFINET Installation Guideline
- generic cabling systems: ANSI/TIA/EIA-568-C.2 ISO/IEC 11801 EN 50173-1 ISO/IEC 24702 EN 61918
- Class E_A (channel): ISO/IEC 11801, EN 50173-1

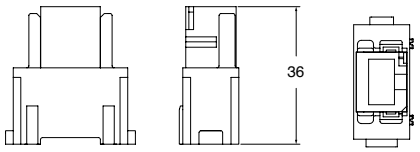
CX 8 J6M technical data:
- RJ45 male crimp connectors Cat. 6_A
- crimp pliers: **CJPZ T**
- screened cable stripper: **CJST**
- current carrying capacity at 50 °C: 1A
- Cu-conductor diameter solid: 0,40 - 0,51 mm (AWG 26/1 - 24/1) stranded: 0,46 - 0,61 mm (AWG 27/7 - 24/7)
- insulation diameter: 0,85 - 1,05 mm
- cable diameter: 5,0 - 6,6 mm
- connectors: IEC 60603-7-51
- 10 Gigabit Ethernet acc. to IEEE 802.3an: adequate for 10 Gigabit Ethernet
- category 6_A: ISO/IEC 11801; EN 50173-1
- Class E_A: ISO/IEC 11801; EN 50173-1
- Category 6_A: ANSI/TIA/EIA-568-C.2

CX 8 J6IM technical data:
- RJ45 male IDC connectors Cat. 6 Class E_A
- Cu-conductor diameter solid: 0,41 - 0,64 mm (AWG 26/1 - 22/1) stranded: 0,48 - 0,76 mm (AWG 26/7 - 22/7)
- insulation diameter: 0,85 - 1,6 mm
- current carrying capacity at 50 °C: 1A
- cable diameter: 5,5 - 7,3 mm
- connectors: IEC 60603-7-5
- category 6_A: ISO/IEC 11801; DIN EN 50173-1
- wrenches pliers for CX 8 J6IM: **CJPW K**
- 10 Gigabit Ethernet acc. to IEEE 802.3an: adequate for 10 Gigabit Ethernet
- Class E_A: ISO/IEC 11801; EN 50173-1
- Category 6: ANSI/TIA/EIA-568-C.2
- custom-designed cabling systems: according to PROFINET Installation Guideline

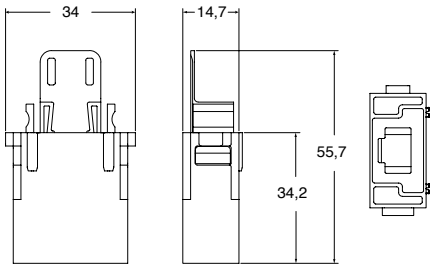
WARNING:
inserts can be used on high enclosures or bulkhead housings only.

[1] CX 01 J8IM: to be used with high enclosures (T-TYPE hood M32 / M40 only and CZAV/MZAV top entry hood only), bulkhead housings or COB ... BC/TCQ/TSF/ TSFS only.

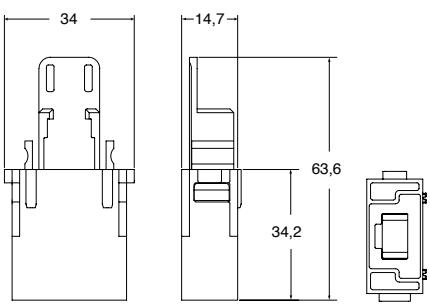
CX 01 J8F



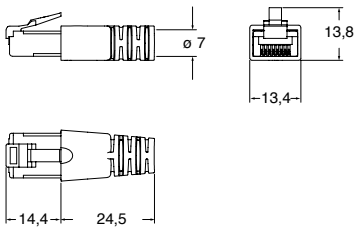
CX 01 J8M
can be used with connecting cables CW series (RJ45 and M12x1)



CX 01 J8IM

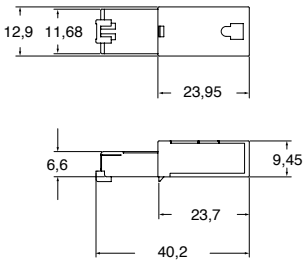


CX 8 J6M
can be used with CX 01 J8M



for free cable end X-coded DTW X...W (M12x1)

CX 8 J6IM
can be used with CX 01 J8IM



for free cable end X-coded DTW...W (M12x1)

MIXO DATA

CW RJ45 patch cord

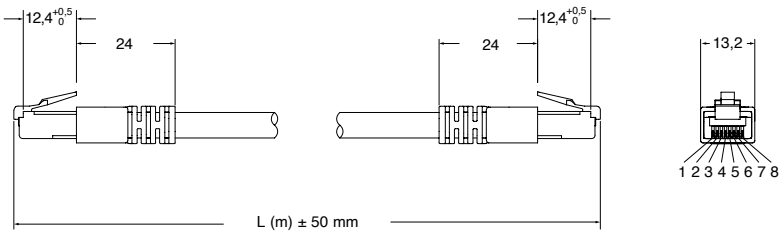
with 2 RJ45 male connectors

description	part No.	(L) meter
RJ45 male connector with 8 data contacts	**CW 1 J2M87**	1
	CW 2 J2M87	2
	CW 3 J2M87	3
	CW 5 J2M87	5
	CW 7.5J2M87	7,5
	CW 10 J2M87	10
	CW 15 J2M87	15

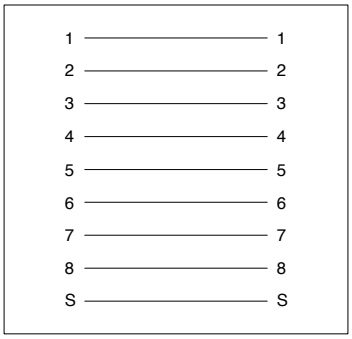
RJ45 patch cord technical data:
- S/FTP Cat. 7 PUR
- temperature range: from -40 °C ÷ +75 °C
- nickel plated brass screening
- green RAL 6018 colour

Can be used with:
- MIXO RJ45 **CX 01 J8M** male inserts
- **CJK 8MT** adapters (see page 226)

CW...J2M87



Wiring Diagram



for 1 RJ45 + 4 poles connector 10A - 250V

The modular inserts must be installed in suitable frames, which are then mounted in traditional enclosures or in COB panel supports.

page:

frames for modular units **316**

- characteristics according to EN 61984:
  10A 250V 4kV 3
- c UL us (UL for USA and Canada), SP cec DNV·GL BUREAU VERITAS EAC certified
- insulation resistance: ≥ 10 GΩ
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- **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

housing for RJ45 + 4 poles connector

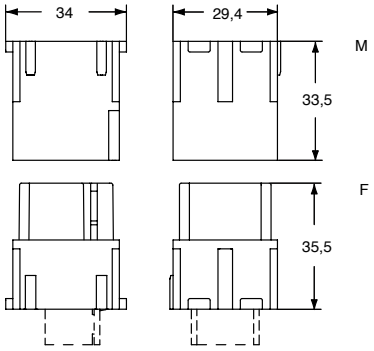
RJ45 connectors

description	part No.	part No. data contacts only	part No. data contacts/+2 power contacts
without RJ45 connector and without contacts (to be ordered separately)			
- female inserts for 1 RJ45 female connector and for 4 10A (CDF) female contacts [1]	**CX 01 JF**		
- male inserts for 1 RJ45 male connector and for 4 10A (CDM) male contacts	**CX 01 JM**		
RJ45 coupler jack, 8 data contacts [2]		**CX 8 JF**	
RJ45 coupler jack, 8 data contacts / 2 power contacts [2]			**CX 8/2 JF**
RJ45 plug, 4 data contacts		**CX 4 JM**	
RJ45 plug, 4 data contacts / 2 power contacts			**CX 4/2 JM**
RJ45 plug, 6 data contacts / 2 power contacts			**CX 6/2 JM**
RJ45 plug, 8 data contacts **Cat. 5e**		**CX 8 JM**	
RJ45 plug, 4 data contacts **Cat. 5e ProfiNET®**		**CX 4E JM**	

RJ45 connector features:
- RJ45 insert, **Cat. 5 Ethernet**
- rated current: 2,1A at 70 °C
- rated voltage: 50VDC / 35VAC
- IDC terminals:
  for 0,22 mm² (AWG 24/7) data contacts **CX 4 JM**
  for 0,14 mm² (AWG 26/7) or 0,22 mm² (AWG 24/7) data contacts **CX 4/2 JM**
  for 0,34 mm² (AWG 22/7) or 0,38 mm² (AWG 22/19) power contacts **CX 4/2 JM**
  for 0,14 mm² (AWG 26/7) data contacts **CX 6/2 JM**
  for 0,25 mm² (AWG 23/19) power contacts **CX 6/2 JM**
  for 0,14 mm² (AWG 26/7) data contacts **CX 8 JM**
  for 0,34 mm² (AWG 22/7) data contacts **CX 4E JM**
- /7 = 7-strands wire
  /19 = 19-strands wire
- insulation diameter: 1 mm (data), 1,4 mm (power and CX 4E JM)
- $Ø_{max}$ complete cable 7 mm (CX 8 JM: 6,9 mm)
- temperature range: from -40°C to 120 °C
- nickel plated brass screening
- crimp pliers: **CJPZ Y**
- screened cable stripper: **CJST**

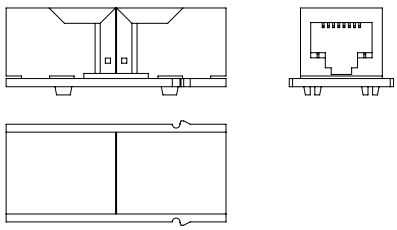
[1] **WARNING:**
the female inserts can only be used on high or flush mounting enclosures

CX 01 JF, CX 01 JM

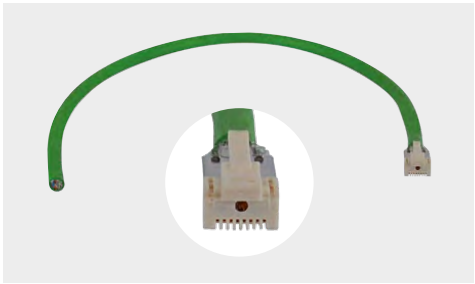


[2] 4-pole version on request, part No. **CX 4 JF** and **CX 4/2 JF** with "**crossover**" link

CX 4 JF, CX 4/2 JF, CX 8 JF, CX 8/2 JF



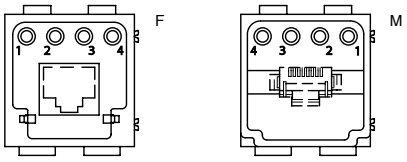
CW patch cord RJ45



CW JM from page 308

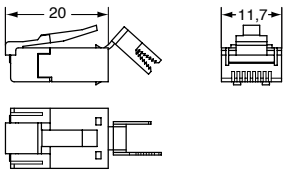
contacts side (front view)

side with reference arrow ▲



- 2 frame slots

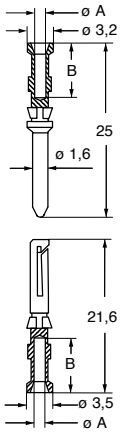
CX 4 JM, CX 4/2 JM, CX 6/2 JM, CX 8 JM, CX 4E JM



MIXO DATA

10A crimp contacts, silver and gold plated

description			part No.		part No.	
				silver plated		gold plated ✣
10A female crimp 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 crimp 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**	



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

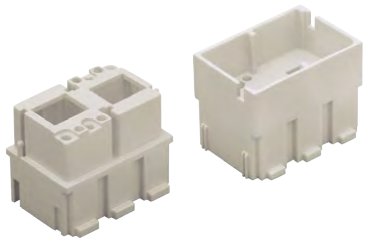
for 2 RJ45 + 8 poles connector 10A - 250V

The modular inserts must be installed in suitable frames, which are then mounted in traditional enclosures or in COB panel supports.

page:
frames for modular units **316**

- characteristics according to EN 61984:
  10A 250V 4kV 3
- c UL us (UL for USA and Canada), CSA, cec, DNV·GL, BUREAU VERITAS, EAC certified
- insulation resistance: ≥ 10 GΩ
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 3 mΩ
- **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

housing for RJ45 + 8 poles connector



RJ45 connectors

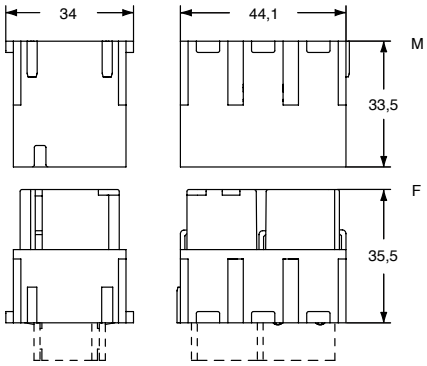
description	part No.	part No. data contacts only	part No. data contacts/+2 power contacts
without RJ45 connector and without contacts (to be ordered separately)			
- female insert for 2 RJ45 female connectors and for 8 10A (CDF) female contacts [1]	**CX 02 JF**		
- male insert for 2 RJ45 male connectors and for 8 10A (CDM) male contacts	**CX 02 JM**		
RJ45 coupler jack, 8 data contacts [2]		**CX 8 JF**	
RJ45 coupler jack, 8 data contacts / 2 power contacts [2]			**CX 8/2 JF**
RJ45 plug, 4 data contacts		**CX 4 JM**	
RJ45 plug, 4 data contacts / 2 power contacts			**CX 4/2 JM**
RJ45 plug, 6 data contacts / 2 power contacts			**CX 6/2 JM**
RJ45 plug, 8 data contacts **Cat. 5e**		**CX 8 JM**	
RJ45 plug, 4 data contacts **Cat. 5e ProfiNET®**		**CX 4E JM**	

RJ45 connector features:
- RJ45 insert, **Cat. 5 Ethernet**
- rated current: 2,1A at 70 °C
- rated voltage: 50VDC / 35VAC
- IDC terminals:
  for 0,22 mm² (AWG 24/7) data contacts **CX 4 JM**
  for 0,14 mm² (AWG 26/7) or 0,22 mm² (AWG 24/7) data contacts **CX 4/2 JM**
  for 0,34 mm² (AWG 22/7) or 0,38 mm² (AWG 22/19) power contacts **CX 4/2 JM**
  for 0,14 mm² (AWG 26/7) data contacts **CX 6/2 JM**
  for 0,25 mm² (AWG 23/19) power contacts **CX 6/2 JM**
  for 0,14 mm² (AWG 26/7) data contacts **CX 8 JM**
  for 0,34 mm² (AWG 22/7) data contacts **CX 4E JM**
- /7 = 7-strands wire
  /19 = 19-strands wire
- insulation diameter: 1 mm (data), 1,4 mm (power and CX 4E JM)
- $Ø_{max}$ complete cable 7 mm (CX 8 JM: 6,9 mm)
- temperature range: from -40°C to 120 °C
- nickel plated brass screening
- crimp pliers: **CJPZ Y**
- screened cable stripper: **CJST**

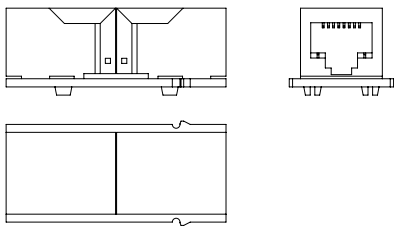
[1] **WARNING:**
the female inserts can only be used on high or flush mounting enclosures

[2] 4-pole version on request, part No. **CX 4 JF** and **CX 4/2 JF** with "**crossover**" link

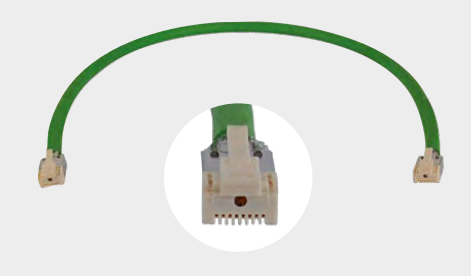
CX 02 JF, CX 02 JM



CX 4 JF, CX 4/2 JF, CX 8 JF, CX 8/2 JF



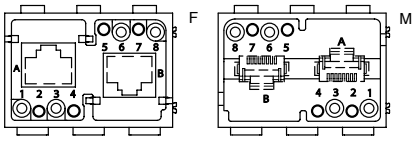
CW patch cord RJ45



CW J2M from page 308

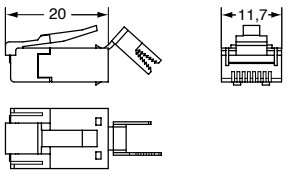
contacts side (front view)

side with reference arrow ▲



- 3 frame slots

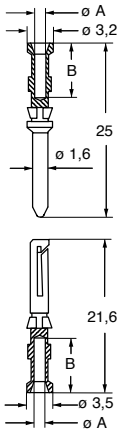
CX 4 JM, CX 4/2 JM, CX 6/2 JM, CX 8 JM, CX 4E JM



MIXO DATA

10A crimp contacts, silver and gold plated

description			part No.		part No.	
10A female crimp contacts				silver plated		gold plated ÷
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 crimp 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**	



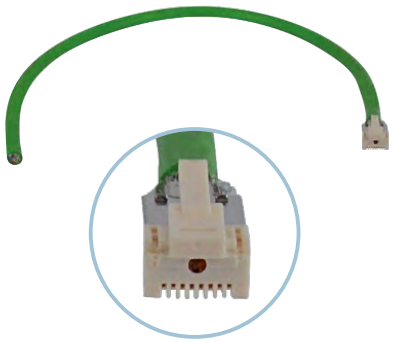
CDF and CDM contacts

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

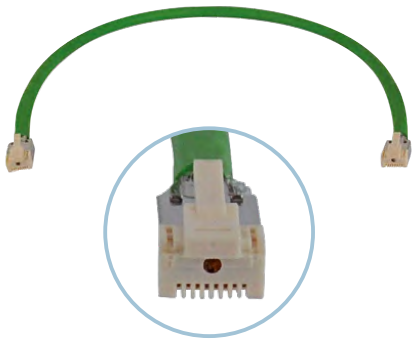
÷ for basic or high thickness gold plating, please refer to page 674

CW patch cord RJ45

with 1 RJ45 male connector



with 2 RJ45 male connectors

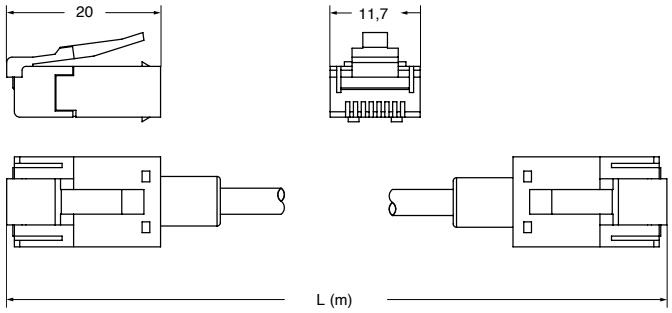


description	part No.	(L) metre	part No.	(L) metre
RJ45 male connector with 4 data contacts / 2 power contacts	**CW 0.5 JM4/2**	0.5		
	CW 2 JM4/2	2		
	CW 5 JM4/2	5		
	CW 10 JM4/2	10		
RJ45 male connector with 8 data contacts	**CW 0.5 JM8**	0.5	**CW 0.5 J2M8**	0.5
	CW 2 JM8	2	**CW 2 J2M8**	2
	CW 5 JM8	5	**CW 5 J2M8**	5
	CW 10 JM8	10	**CW 10 J2M8**	10
RJ45 male connector with 4 data contacts, **Cat. 5e**	**CW 0.5 JM4E**	0.5	**CW 0.5 J2M4E**	0.5
	CW 2 JM4E	2	**CW 2 J2M4E**	2
	CW 5 JM4E	5	**CW 5 J2M4E**	5
	CW 10 JM4E	10	**CW 10 J2M4E**	10

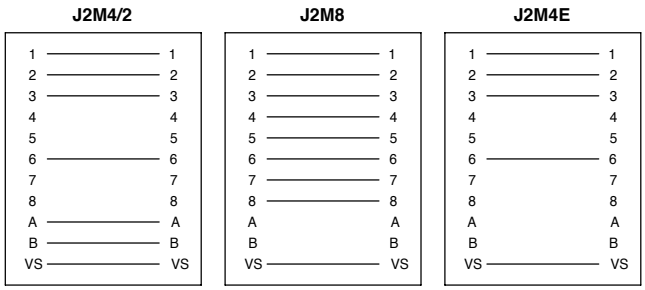
RJ45 connector features:
- insert RJ45, Cat. 5 Ethernet
- nominal current: 2,1A at 70 °C
- nominal voltage: 50V DC / 35V AC
- temperature range: from -40 °C to +120 °C
- nickel plated brass screening

Can be used with:
- MIXO RJ45: CX 01 JM and CX 02 JM male inserts
  see pages 304 and 306

CW JM 4/2, 8, 4E and CW J2M 4/2, 8, 4E



Wiring Diagram



CX FM

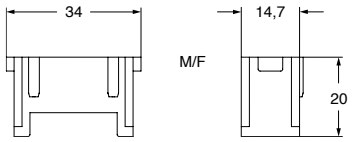
The modular inserts must be installed in suitable frames, which are then mounted in traditional enclosures or in COB panel supports.
Alternatively, individual modules with a width of 14,7 mm can be installed in plastic supports.

page:
frames for modular units **316**

dummy module

description	part No.
dummy module for unused frame seats	**CX FM**

Remark:
The new version is formed by a single piece and has a reduced height.
It allows the mating of a MIXO insert including it with a corresponding MIXO insert even having - in front of the dummy module - a regular male or female module equipped with contacts, which obviously will not work.
The sole exceptions to this feature are that an insert with this dummy module cannot mate an insert showing in front a CX 3/4 XDF/M, CX 04 XF/M or CX 02 HF module.



- 1 frame slot

MIXO units

MIXO a-f frame for housings

Enclosures

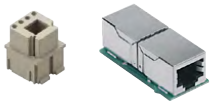
RJ45 MIXO CONNECTOR Cat 6$_A$

RJ45 female/female coupler

CX 01 J8F

RJ45 MIXO CONNECTOR Cat 5-5e

1x RJ45 female/female coupler
+ 4x 10A crimp contacts



CX 01 JF+ CX 8 JF
or
CX 8/2 JF

2x RJ45 female/female coupler
+ 8x 10A crimp contacts

CX 02 JF + 2x CX 8 JF
or
2x CX 8/2 JF

CX 01 T

CX 02 TF

CX 03 TF

CX 04 TF

CX 06 TF

- MIXO ONE
- CZ IL-BRID
- C-TYPE
- C7 IP68
- V-TYPE
- T-TYPE
- W-TYPE
- EMC
- LS-TYPE
- COB
- IP68
- Central lever
- BIG

Enclosures

MIXO A-F frame for hoods

MIXO units

MIXO ONE

CZ IL-BRID

C-TYPE

C7 IP68

V-TYPE

T-TYPE

W-TYPE

EMC

LS-TYPE

COB

IP68

Central lever

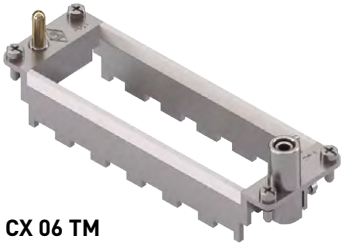
BIG

CX 01 T

CX 02 TM

CX 03 TM

CX 04TM



CX 06 TM

RJ45 male crimp plug

CX 01 J8M + CX 8 J6M

RJ45 male IDC plug

CX 01 J8IM + CX 8 J6IM

RJ45 MIXO CONNECTOR Cat 6$_A$

1x RJ45 male crimp plug
+ 4x 10A crimp contacts

CX 01 JM +
CX 4 JM
(4 data contacts) **or**
CX 8 JM
(8 data contacts) **or**
CX 4/2 JM
(4 data + 2 power contacts) **or**
CX 6/2 JM
(6 data + 2 power contacts) **or**
CX 4E JM
(4 data cont. cat.5e PROFINET)

2x RJ45 male crimp plug
+ 8x 10A crimp contacts

CX 02 JM +
2x CX 4 JM
(4 data contacts) **or**
2x CX 8 JM
(8 data contacts) **or**
2x CX 4/2 JM
(4 data + 2 power contacts) **or**
2x CX 6/2 JM
(6 data + 2 power contacts) **or**
2x CX 4E JM
(4 data cont. cat.5e PROFINET)

RJ45 MIXO CONNECTOR Cat 5-5e