Series CX4 multi-serial module

SERIES CX4 MULTI-SERIAL MODULE

Interface with:
PROFIBUS, CANopen, EtherNet/IP, PROFINET, EtherCAT
Can be integrated with I/O Modules

CE

» Maximum flexibility in use

» Easily changeable

» Analog I/O modules

» Digital I/O modules

» Connection with electric modules: connector and terminal block (Push in)

» Can be configured as NPN, PNP, Volt or mA

» Maximum configuration: 128 In + 128 Out digital and 16 In +16 Out analog

» Large range of communication protocols

**Series CX4 multi-serial module can interface with the most common fieldbus protocols, like Profibus-DP, CANOpen, EtherCAT, EtherNet/IP, PROFINET.
The possibility to enlarge with both Digital and Analog I/O modules, the acquisition of signals coming from Bridge, RTD or TC sensors, the resolution of up to 24 bit and the high number of manageable signals make it particularly suitable for different needs.**

Connectable with PC through Micro-USB port, check and configuration of connected components by means of UVIX software. Configuration through Fieldbus. By means of a mechanical interface connection it is used in combination with the Series D valve islands.
More detailed information and descriptions can be found at: http://catalogue.camozzi.com

GENERAL DATA

Number of digital outputs	128
Number of analogic outputs	16
Number of digital inputs	128
Number of analogic inputs	16
Maximum input absorption	1,5 A
Maximum output absorption	2,5 A
Supply voltage	24 V DC +/-10% logic supply 24 V DC +/-10% power supply
Protection	overload and reverse polarity
Protection class	IP65 (IP20 in case of module I/O with terminal block)
Conform with standards	EN-61131-2
Operating temperature	0-50°C
Material	Polymer

CODING EXAMPLE

CX	4	01	W	-	2A2Q	-	R

CX	SERIES	
4	VERSION 4 = CX4	
01	PROTOCOL: 00 = Base closed without Fieldbus cover 01 = PROFIBUS 03 = CANopen 04 = EtherNet/IP 05 = EtherCAT 06 = PROFINET	
W	INTERFACE 0 = No interface W = WLAN	
2A2Q	INPUT/OUTPUT MODULES 0 = no module A = 8 digital inputs M8 B = 16 digital inputs terminal block (Push-in) connection C = 2 analog inputs (config. 0-10V, ±10V, 0-20mA, 4-20mA, ±20mA) M12 D = 2 analog inputs (config. 0-10V, ±10V, 0-20mA, 4-20mA, ±20mA) terminal block (Push-in) connection E = 2 BRIDGE inputs M12 F = 2 BRIDGE inputs terminal block (Push-in) connection G = 2 RTD inputs M12 (PT100, PT200, PT500, PT1000) H = 2 RTD inputs terminal block (Push-in) connection (PT100, PT200, PT500, PT1000) L = 2 TCM12 inputs (THERMOCOUPLES) M = 2 TC inputs terminal block (Push-in) connection (THERMOCOUPLES) Q = 8 digital outputs M8 R = 16 digital outputs terminal block (Push-in) connection T = 2 Analog outputs (config. 0-10V,±10V,0-20mA, 4-20mA,±20mA), M12 U = 2 Analog outputs (config. 0-10V,±10V,0-20mA,4-20mA,±20mA), terminal block W ** = Closed base without I / O cover	
R	FIXING TYPE = direct R = DIN rail	

**The closed base without I / O cover must always be placed after the other modules if present ex: CX401W-2A2W-R...

Fieldbus protocols - Technical data

Protocol	Max nr of nodes defined by the protocol	Communication speed defined by the protocol
PROFIBUS	32/127	9,6 kBit/s per 1000 m 12 Mbit/s per < 100 m
CANopen	127	125 kBit/s 500 m 1 Mbit/s per 4 m
PROFINET	unlimited	100 Mbit/s per 100 m
EtherNet/IP	unlimited	100 Mbit/s per 100 m
EtherCAT	unlimited	100 Mbit/s per 100 m

Multi-serial modules

On this module there are three connectors, one for supply on which it is possible to separate logic supply from power supply and two connectors for the inlet and outlet of the protocol.
A Micro-USB port enables to interface with a PC and by means of the UVIX configuration software it is possible to monitor and configure both the Multi-serial Module and the I/O Modules. Connectable on the left side.
These can be configured as PNP or NPN for the Digital Inputs, while for the Analog Inputs, both voltage and current is possible.
The configuration of the Multi-serial Module and the components connected to it is also possible through different communication protocols.
In the event of malfunction or breakage, even without power supply, a NFC function enables to download the configuration data, by means of a special App, on an external device to transmit them to a new Multi-serial Module.

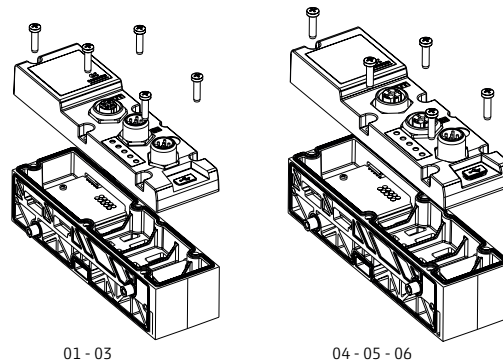The supply includes:
2x tie-rods
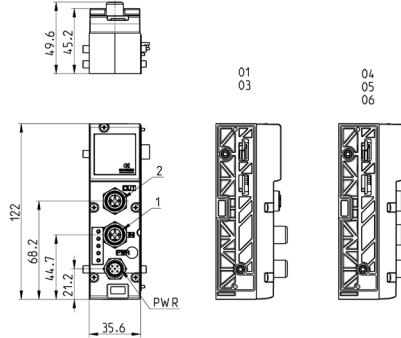
NO WLAN / WITH WLAN	Mod.	Fieldbus Protocol	1	2	Bus-IN connector	Bus-OUT connector
CX4010-0/CX401W-0	01	PROFIBUS	Bus-OUT	Bus-IN	M12 B 5-pin male	M12 B 5-pin female
CX4030-0/CX403W-0	03	CANopen	Bus-OUT	Bus-IN	M12 A 4-pin male	M12 A 4-pin female
CX4040-0/CX404W-0	04	EtherNet/IP	Bus-IN	Bus-OUT	M12 D 4-pin female	M12 D 4-pin female
CX4050-0/CX405W-0	05	EtherCAT	Bus-IN	Bus-OUT	M12 D 4-pin female	M12 D 4-pin female
CX4060-0/CX406W-0	06	PROFINET	Bus-IN	Bus-OUT	M12 D 4-pin female	M12 D 4-pin female

Multi-serial Modules cover

It is possible to configure a valve island using only the housing base of the Fieldbus cover, this allows to use the island with different Fieldbus types simply by integrating the relative cover.
It is not possible to assemble an I/O-link cover on a Fieldbus base or a Fieldbus cover on an I/O-Link base.
The position of the fixing screws on the front of the cover allows a quick installation or replacement.

The supply includes:
1x cover
5x fixing screws

01 - 03   04 - 05 - 06

NO WLAN / WITH WLAN	Mod.	
CX4510-0/CX451W-0	01	PROFIBUS
CX4530-0/CX453W-0	03	CANopen
CX4540-0/CX454W-0	04	EtherNet/IP
CX4550-0/CX455W-0	05	EtherCAT
CX4560-0/CX456W-0	06	PROFINET

Digital Input Module Mod. ME4-0800-DC and ME4-1600-DT

The Digital input module can be connected at the left of the Multi-serial module and can be placed in any order with other, both digital and analog Input/Output modules.
The module integrates diagnostic functions and is available in versions with:
- Eight M8 3-pin connectors.
- Terminal block (Push-in) for the connection of 16 inputs
In the terminal block version, power supply is normally provided by the valve island directly.
In case of loads exceeding 800mA, power supply is provided by an external power supply to be connected to a 2-pin terminal block connector (PWR)

The supply includes:
2x tie-rods
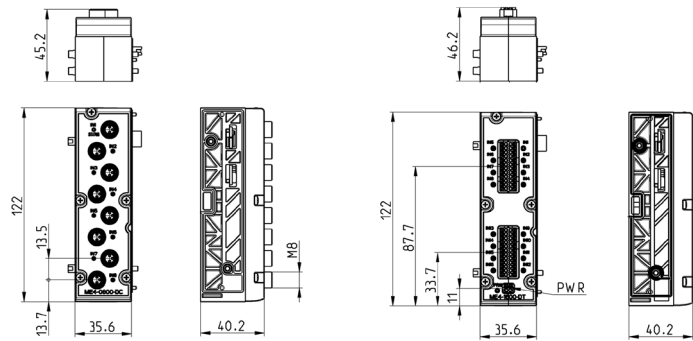
Mod.	Coding reference	Number of digital inputs	Connection	Number of connectors	Dimensions	Signalling	Sensor supply	Overvoltage protection	Absorption	Type of signal	Protection class	Operating temperature	Weight
ME4-0800-DC	A	8	M8 3 pin female	8	122 x 35.6 mm	8 yellow led 1 red led	24 V DC	400 mA for 4 sensors	10 mA	PNP	IP65	0 ÷ 50°C	110 g
ME4-1600-DT	B	16	2 terminal blocks 24 pin (push-in)	-	122 x 35.6 mm	8 yellow led 1 red led	24 V DC	Internal: 800 mA for 16 sensors External: 2 A for 16 sensors	10 mA	PNP	IP20	0 ÷ 50°C	110 g

Digital Input Module Cover Mod. ME4-0800-DC and ME4-1600-DT

It is possible to configure a valve island with free electric positions.
You can integrate further electrical signals in a valve island by replacing the cover plate with the relative I/O cover.

The supply includes:
1x cover
5x fixing screws
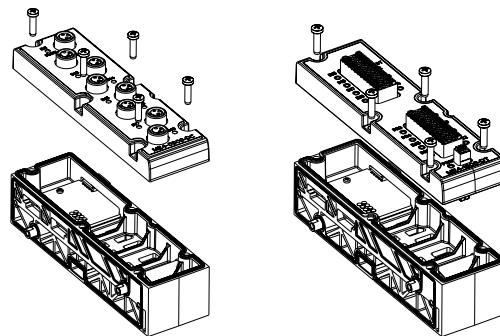
Mod.	Connection
ME4-0800-DC-C	M8 3-pin female
ME4-1600-DT-C	2 terminal blocks 24-pin (Push-in)

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Digital power Output Module Mod. ME4-0008-DC and ME4-0016-DT

The digital output module is connected on the left side of the Multi-serial module and can be positioned as desired with other both Digital and Analog I/O devices.
Available in two versions:
- 8 M8 3 pin connectors
- (Push-In) Terminal block for the connection of 16 outputs (8+8). The wire connection part is removable from the module.
For both versions, the outputs can be configured as PNP or NPN by means of a software UVIX.
(the standard version is configured as PNP)
The 8 output M8 version can supply 24W and is supplied directly by the valve island.
In the terminal block version, the power supply must always be supplied externally with 12-32V voltages, on the 2-pole connector. A maximum absorption of 48 W is possible.
The module is equipped with diagnostics (Status).

The supply includes:
2 tie-rods
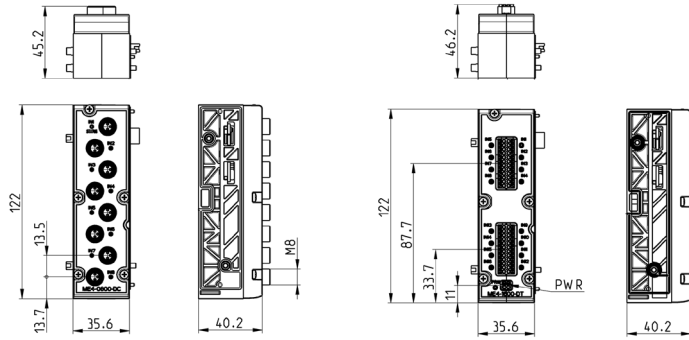
| Mod.	Coding reference	N° of digital outputs	Connection	Number of connectors	Dimensions	Signalling	Supply outputs	Max current per module	Max power per digital output	Type of signal	Protection class	Operating temperature	Weight
ME4-0008-DC	Q	8	M8 3-pin female	8	122 x 35,6 mm	8 yellow led 1 red led	24 V DC	24 W	3 W	NPN/ PNP	IP65	0 ÷ 50°C	100 g
ME4-0016-DT	R	16	2 terminal blocks 24-pin (Push-in)	-	122 x 35,6 mm	8 yellow led 1 red led	12-32 V DC	48 W	3 W	NPN/ PNP	IP20	0 ÷ 50°C	100 g

Digital power Output Module Cover Mod. ME4-0008-DC and ME4-0016-DT

It is possible to configure a valve island with free electric positions.
You can integrate further electrical signals in a valve island by replacing the cover plate with the relative I/O cover.

The supply includes:
1x cover
5x fixing screws
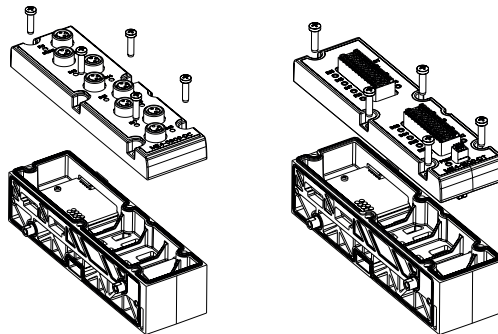
Mod.	Connection
ME4-0008-DC-C	M8 3-pin female
ME4-0016-DT-C	2 terminal blocks 24-pin (Push-in)

## Analog Input Module Mod. ME4-C000-AL and ME4-C000-AT

The analog input module can be connected at the left of the CPU module and can be placed in any order with other Input/Output devices.
It is possible to configure every analog input as differential input 0-10V, ±10V, 0-20mA, 4-20mA, ±20mA with a resolution up to 16 bit.

External voltage of 24 V is available to supply the sensor connected (max 0,25A/channel). The output is protected against short-circuit.

The module is equipped with diagnostics (Status) and is available both in the version with two M12 connectors with 5 contacts, and in terminal block version with Push-in spring connection.

The supply includes:
2x tie-rods
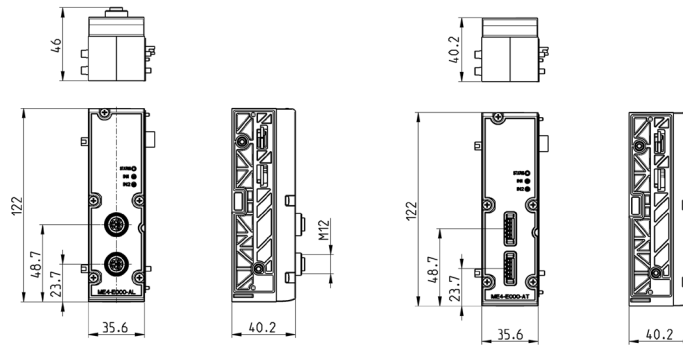
Mod.	Coding reference	Number of analog inputs	Connection	Number of connectors	Dimension	Signalling	Sensor supply	Overvoltage protection	Absorption	Protection class	Operating temperature	Weight
ME4-C000-AL	C	2 (Config. 0-10V,±10V,0-20mA,4-20mA,±20mA)	M12 A 5-pin female	2	122 x 35,6 mm	2 yellow led 1 red led	24 V DC	500 mA shared between the two channels	max 20 mA	IP65	0 ÷ 50°C	110 g
ME4-C000-AT	D	2 (Config. 0-10V,±10V,0-20mA,4-20mA,±20mA)	Terminal block 5-pin (Push-in)	2	122 x 35,6 mm	2 yellow led 1 red led	24 V DC	500 mA shared between the two channels	max 20 mA	IP20	0 ÷ 50°C	110 g

Analog Input Module Cover Mod. ME4-C000-AL and ME4-C000-AT

It is possible to configure a valve island with free electric positions.
You can integrate further electrical signals in a valve island by replacing the cover plate with the relative I/O cover.

The supply includes:
1x cover
5x fixing screws
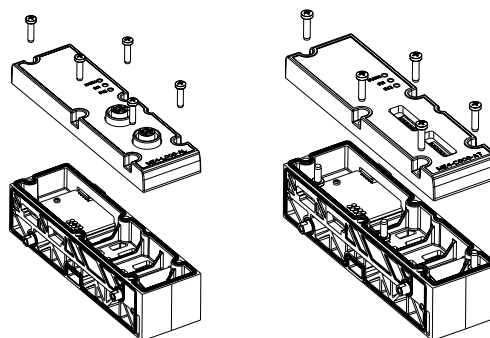
Mod.	Connection
ME4-C000-AL-C	M12 A 5-pin female
ME4-C000-AT-C	Terminal block 5-pin (Push-in)

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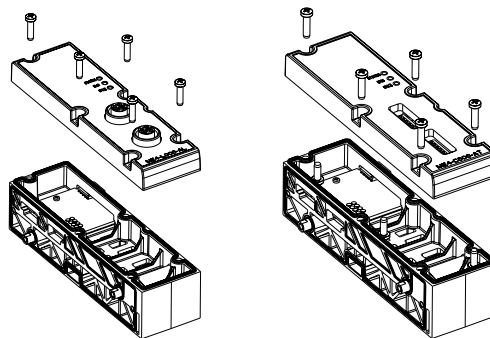## Analog Output Module Mod. ME4-T000-AL and ME4-T000-AT

The analog output module can be connected at the left of the Multi serial module and can be placed in any order with other Input/Output devices.
It is possible to configure every analog output as 0-10V, 0-5V, 4-20mA, 0-20mA output with a resolution up to 16 bit.
External voltage of 24 V is available to supply the device connected (max 0,25A/channel). The output is protected against short-circuit.
The module is equipped with diagnostics (Status) and is available both in the version with two M12 connectors with 5 contacts, and in terminal block version with Push-in spring connection.

The supply includes:
2x tie-rods
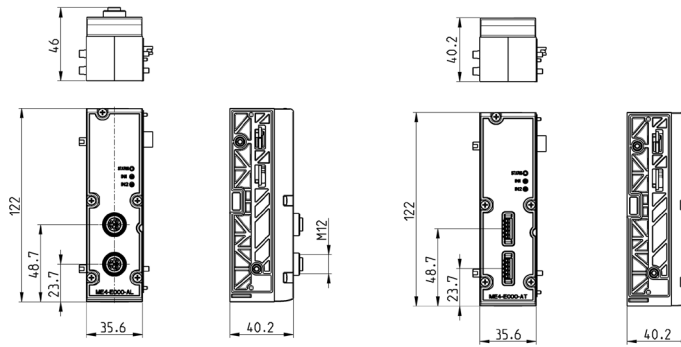
| Mod.	Coding reference	Number of analog outputs	Connection	Number of connectors	Dimension	Signalling	Sensor supply	Overvoltage protection	Absorption	Protection class	Operating temperature	Weight
ME4-T000-AL	T	2 (Config. 0-10V,0-5V,0-20mA,4-20mA)	M12 A 5 pin female	2	122 x 35,6 mm	2 yellow led 1 red led	24 V DC	500 mA shared between the two channels	max 6 mA	IP65	0 ÷ 50°C	110 g
ME4-T000-AT	U	2 (Config. 0-10V,0-5V,0-20mA,4-20mA)	Terminal block 5-pin (Push-In)	2	122 x 35,6 mm	2 yellow led 1 red led	24 V DC	500 mA shared between the two channels	max 6 mA	IP20	0 ÷ 50°C	110 g

Analog Output Module Cover Mod. ME4-T000-AL and ME4-T000-AT

It is possible to configure a valve island with free electric positions.
You can integrate further electrical signals in a valve island by replacing the cover plate with the relative I/O cover.

The supply includes:
1x cover
5x fixing screws

Mod.	Connection
ME4-T000-AL-C	M12 A 5-pin female
ME4-T000-AT-C	Terminal block 5-pin (Push-in)

Analog Input Module Mod. ME4-E000-A*, ME4-G000-A* and ME4-L000-A*

The analog input module can be connected at the left of the CPU module and can be placed in any order with other, both digital and analog Input/Output devices.

Analog, 2-channel Bridge module (ME4-E000-A*):
Sensor data acquisition module with Resistor Bridge-type (4-wire) output, like strain gauge, non isolated.
The module is able to process the two channel inputs with gain factor from 1mV/V to 255mV/V, with a resolution of up to 24bit.
Supply voltage of the sensor +5V (max 0,05A/channel). The output is protected against short-circuit.

Analog, 2-channel RTD module (ME4-G000-A*):
RTD Temperature sensor data acquisition module, in 2/3/4-wire configuration, non isolated.
The module is able to process the following sensor types:
PT100, PT200, PT500, PT1000, Ni100, Ni120, Ni1000, with a resolution of up to 16bit.
Typical measuring fields range from -200 ÷ +850 °C (PT sensors) and -60 ÷ +250 °C (Ni sensors)
Analog, 2-channel TC (thermocouples) module (ME4-L000-A*):

TC temperature sensor data acquisition module in 2-wire configuration, non isolated.
The module is able to process the following sensor types:
J, K, B, E, N, R, S, T, with a resolution of up to 16bit.

The supply includes:
2x tie-rods

All modules are equipped with diagnostics (Status).
The characteristics of the single input can be configured by a software for all analog module types.
The modules are available both in the version with two M12 connectors with 5 contacts, and in the terminal block version with Push-in spring connection.
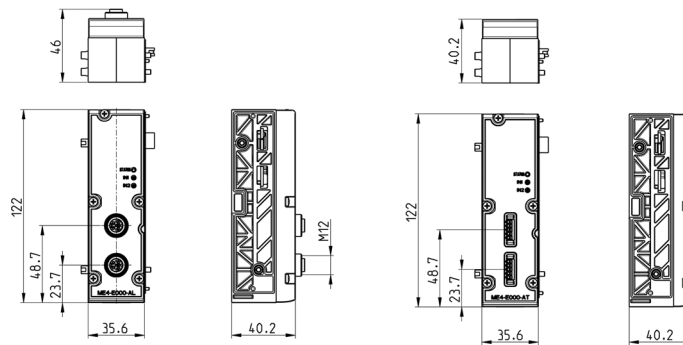
Mod.	Coding reference	Numbers of analog inputs	Connection	Number of connectors	Dimension	Signalling	Absorption	Protection class	Operating temperature	Weight
ME4-E000-AL	E	2 M12 bridge inputs	M12 A 5-pin female	2	122 x 35,6 mm	2 yellow led 1 red led	max 20 mA	IP65	0 ÷ 50°C	110 g
ME4-E000-AT	F	2 bridge inputs with terminal block (Push-in)	Terminal block (Push-in) 5-pin	2	122 x 35,6 mm	2 yellow led 1 red led	max 20 mA	IP20	0 ÷ 50°C	110 g
ME4-G000-AL	G	2 RTD M12 inputs	M12 A 5-pin female	2	122 x 35,6 mm	2 yellow led 1 red led	max 20 mA	IP65	0 ÷ 50°C	110 g
ME4-G000-AT	H	2 RTD inputs with terminal block (Push-in)	Terminal block (Push-in) 5-pin	2	122 x 35,6 mm	2 yellow led 1 red led	max 20 mA	IP20	0 ÷ 50°C	110 g
ME4-L000-AL	L	2 TC M12 inputs	M12 A 5-pin female	2	122 x 35,6 mm	2 yellow led 1 red led	max 20 mA	IP65	0 ÷ 50°C	110 g
ME4-L000-AT	M	2 TC inputs with terminal block (Push-in)	Terminal block (Push-in) 5-pin	2	122 x 35,6 mm	2 yellow led 1 red led	max 20 mA	IP20	0 ÷ 50°C	110 g

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Analog Input Module Cover Mod. ME4-E000-A*, ME4-G000-A* and ME4-L000-A*

It is possible to configure a valve island with free electric positions.
You can integrate further electrical signals in a valve island by replacing the cover plate with the relative I/O cover.
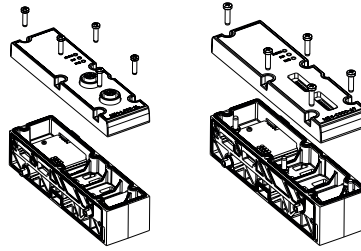
The supply includes:
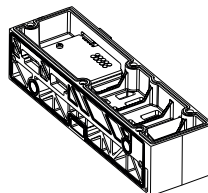1x cover
5x fixing screws

Mod.	Connection
ME4-E000-AL-C	M12 A 5-pin female
ME4-E000-AT-C	Terminal block (Push-in) 5-pin
ME4-G000-AL-C	M12 A 5-pin female
ME4-G000-AT-C	Terminal block (Push-in) 5-pin
ME4-L000-AL-C	M12 A 5-pin female
ME4-L000-AT-C	Terminal block (Push-in) 5-pin

Closed base without I/O cover
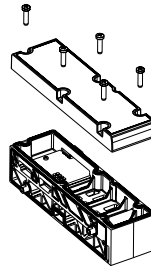
Mod.
ME4-0000-FP

Base without Fieldbus cover

Mod.
CX4000-0

Left and right terminal plate

The supply includes: terminal plate and fixing screws
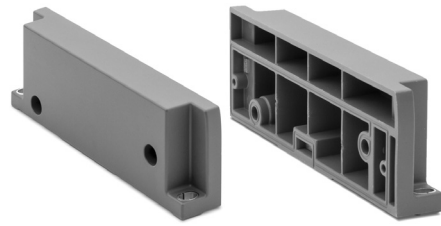
CX4AP-L
CX4AP-R

M12 male terminating resistor

For PROFIBUS, CANopen
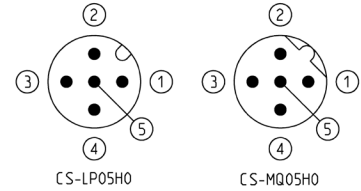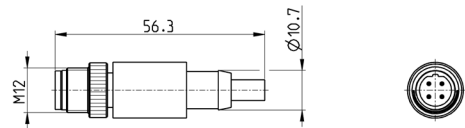
CS-LP05H0

CS-MQ05H0

Mod.	description	type of connector	connection	Fieldbus
CS-MQ05H0	moulded terminating resistor	straight	M12 B 4 pin male - Pin 5 is not connected	PROFIBUS
CS-LP05H0	moulded terminating resistor	straight	M12 A 5 pin male - Pin 5 is connected	CANOpen

Straight connector for power supply
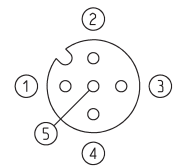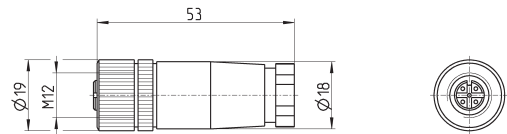
Mod.	description	type of connector	connection
CS-LF04HB	for wiring	straight	M12 A 4 pin female - Pin 5 is not connected

Straight female M12 connectors for Bus-IN
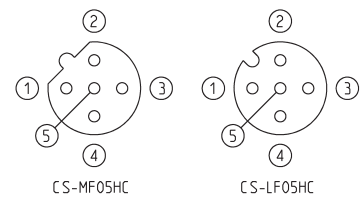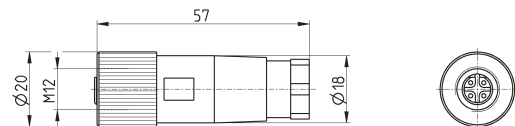
CS-MF05HC

CS-LF05HC

Mod.	description	type of connector	connection	Fieldbus
CS-LF05HC	for wiring	straight	M12 A 5 pin female	CANopen
CS-MF05HC	for wiring	straight	M12 B 5 pin female	PROFIBUS

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Male M12 connectors for Bus-OUT and I/O modules
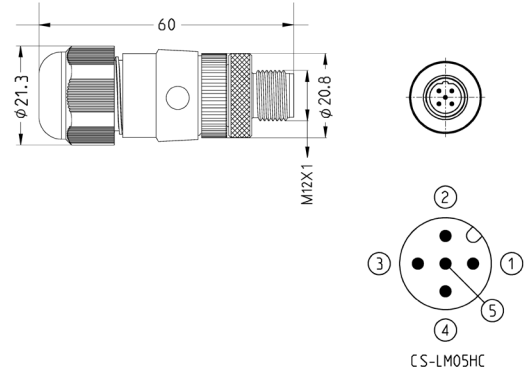
CS-LM05HC

Mod.	description	type of connector	connection	Fieldbus
CS-LM05HC	for metal wiring	straight	M12 A 5 pin male	CANopen

Straight male M12 connectors for Bus-OUT PROFIBUS
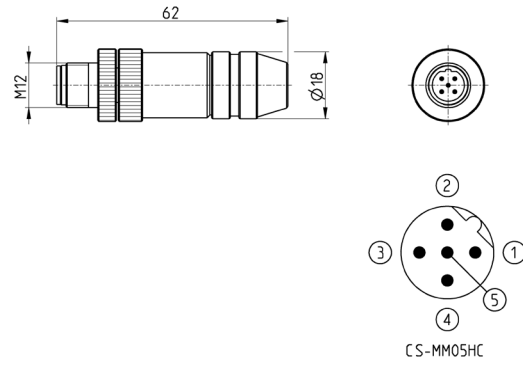
CS-MM05HC

Mod.	description	type of connector	connection	Fieldbus
CS-MM05HC	for metal wiring	straight	M12 B 5 pin male	PROFIBUS

3 pin male M8 wiring connector for digital input modules
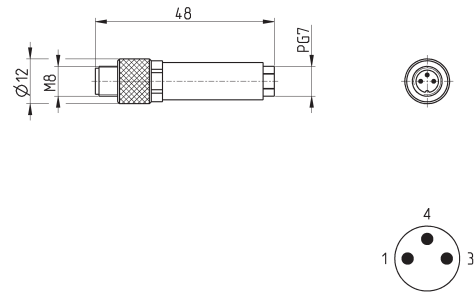
Mod.	description	type of connector	connection
CS-DM03HB	for wiring	straight	M8 3 pin male

Male wiring connector for Bus-IN and Bus-OUT

For PROFINET, EtherCAT, EtherNet/IP and subnet
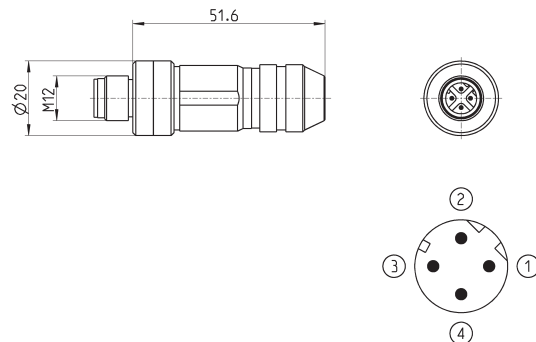
Mod.	description	type of connector	connection
CS-SM04H0	for metal wiring	straight	M12 D 4 pin

Right angle Sub-D female connector 25-44 pins

Protection class IP65
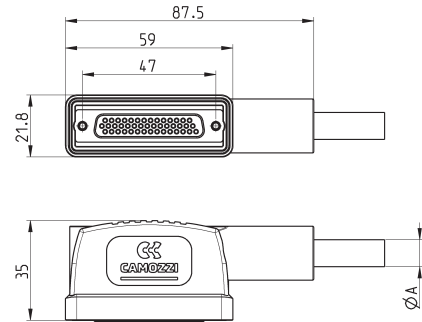
Mod.	øA	PIN	cable length (m)
G25X1-3	10	25	3
G25X1-5	10	25	5
G25X1-10	10	25	10
G25X1-15	10	25	15
G25X1-20	10	25	20
G25X1-25	10	25	25
G44X1-3	13	44	3
G44X1-5	13	44	5
G44X1-10	13	44	10
G44X1-15	13	44	15
G44X1-20	13	44	20
G44X1-25	13	44	25

Adaptor and panel mount for Ethernet RJ45 to M12 D networks

For PROFINET, EtherCAT, EtherNet/IP
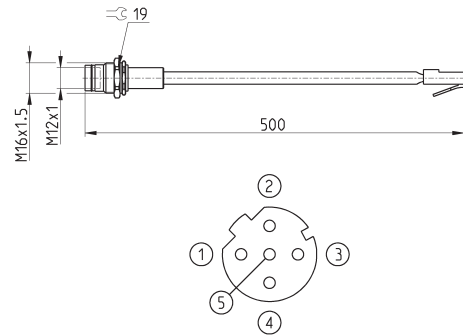
Mod.	description	type of connector	connection	cable length (m)
CS-SE04HB-F050	moulded cable	straight	RJ45 male, M12 D 4 pin female - Pin 5 is not connected	0.5

Extension with M8 connector, 3 pin male / female

Non shielded

For the connection of the digital input modules
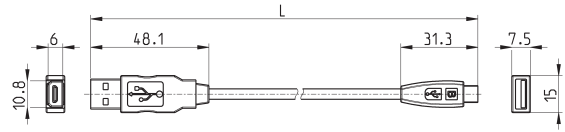ME3-0008 and ME3-0004
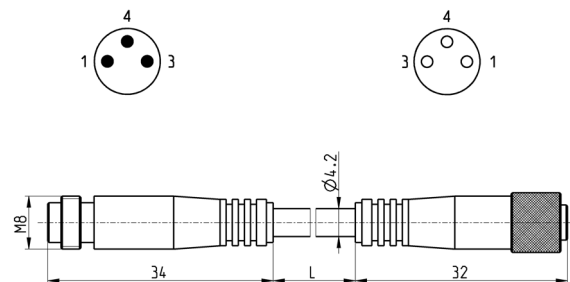
Mod.	description	type of connector	connection	L [cable length] (m)
CS-DW03HB-C250	moulded cable	straight	M8 3 pin male / female	2.5
CS-DW03HB-C500	moulded cable	straight	M8 3 pin male / female	5

Products designed for industrial applications.
General terms and conditions for sale are available on www.camozzi.com.
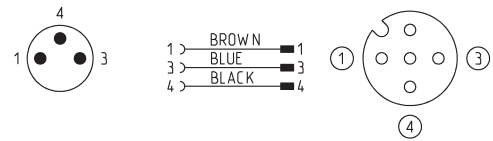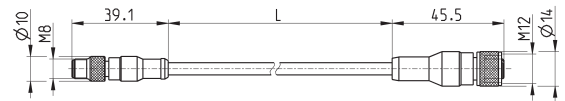
USB to Micro USB cable Mod. G11W-G12W-2

For the hardware configuration
of the Camozzi products

Mod.	description	connections	material for outer sheath	cable length "L" (m)
G11W-G12W-2	black shielded cable 28 AWG	standard USB to Micro USB	PVC	2

Adapter cable, M8 3-pin male - M12 4-pin female

Protection class: IP69K

Mod.	description	max voltage	max current	Nr conn. wires	connections	outer sheath	cable "L" (m)
CS-AG03HB-C250	3-pin cable 24 AWG, high flexibility	50V AC / 60V DC	3 A	3	M8 3-pin male - M12 4-pin fem.	PUR black	2.5
CS-AG03HB-C500	3-pin cable 24 AWG, high flexibility	50V AC / 60V DC	3 A	3	M8 3-pin male - M12 4-pin fem.	PUR black	5

Cable with straight connectors

For PROFINET, EtherCAT, EtherNet/IP and subnet
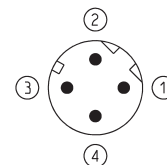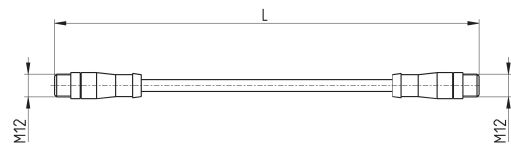
Mod.	description	type of connector	connection	L [cable length] (m)
CS-SB04HB-D100	moulded cable	straight	2x M12 D 4 pin male	1
CS-SB04HB-D500	moulded cable	straight	2x M12 D 4 pin male	5
CS-SB04HB-DA00	moulded cable	straight	2x M12 D 4 pin male	10

M8 and M12 connector cover caps
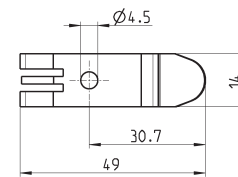
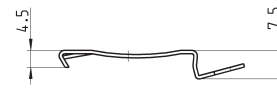For digital and analog input/output modules and subnet
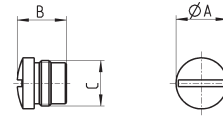
Mod.	A	B	C [Connection]
CS-DFTP	10	11	M8
CS-LFTP	13.5	13	M12

Mounting brackets for DIN rail

DIN EN 50022 (mm 7,5 x 35 - width 1)

Supplied with:
2x plates
2x screws M4x6 UNI 5931

Mod.
PCF-D1