Series F valve islands, Multipole and Fieldbus

New versions

Multipole integrated electrical connection (PNP)
Valve functions: 2x2/2; 2x3/2; 5/2; 5/3 CC
It can interface with all major serial communication protocols.

» Valve size: 12 and 14 mm

» Modularity: single

» Valve positions: from 2 to 24

» Manual override: Push or Push & Turn

» Available Protocols: PROFIBUS-DP, CANopen, DeviceNet, EtherNet/IP, PROFINET, EtherCAT

The Multipole version of Series F valve island can be easily integrated with the accessories of the new Series CX multi-serial module, thus connecting to the different serial nets provided.
It is also possible to manage a standard multipole island by means of a Sub-D adapter or through an integrated node in the island. The typical Series F single modularity allows the installation of up to 24 solenoids on 24 valve positions, even in the Fieldbus version.

The use of technopolymer in this Series has allowed to realize a valve island which is characterized by small dimensions, high flow and reduced weight. The reduced dimensions, its flexibility during the assembly as well as the wide range of valve functions make Series F a highly innovative product which is suitable for several application requirements.
Usable silencers (Mod. 2939): see the section 2/9.05.

Manuals, instruction sheets and configuration files are available on the site http://catalogue.camozzi.com or by means of the QR code indicated on the lable of the product.

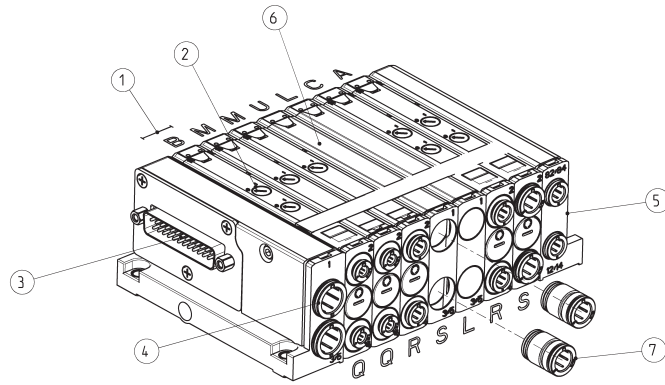## GENERAL CHARACTERISTICS

PNEUMATIC SECTION	
Valve construction	spool with seals
Valve functions	5/2 monostable and bistable 5/3 CC 2x2/2 NO 2x2/2 NC 1x2/2 NC + 1x2/2 NO 2x3/2 NO 2x3/2 NC 1x3/2 NC + 1x3/2 NO
Materials	aluminium spool HNBR seals other seals in NBR brass cartridges technopolymer body and end covers
Connections	Inlets 2 and 4, size 1 (12 mm) = tube ø4; ø6 Inlets 2 and 4, size 2 (14 mm) = tube ø4; ø6; ø8 Supply 1, size 1 and 2 = tube ø8; ø10 Servo pilot 12/14, size 1 and 2 = tube ø6 Exhausts 3/5, size 1 and 2 = tube ø8; ø10 Exhausts 82/84, size 1 and 2 = tube ø6
Temperature	0 ÷ 50°C
Air specifications	Filtered compressed air, non lubricated, class 6.4.4 according to ISO 8573-1:2010 standard. If lubrication is necessary, please use only oils with maximum viscosity of 32 Cst and the version with external servo-pilot supply. The servo-pilot supply air quality class must be 6.4.4 according to ISO 8573-1:2010 standard.
Valve sizes	12 mm 14 mm
Working pressure	- 0,9 ÷ 10 bar
Pilot pressure	3 ÷ 7 bar 4.5 ÷ 7 bar (with working pressure exceeding 6 bar for the versions 2x2/2 and 2x3/2)
Flow rate	250 Nl/min (12 mm) 500 Nl/min (14 mm)
Mounting position	any position
Duty cycle	ED 100%
Protection class (according to EN 60529)	IP40

ELECTRICAL SECTION - MULTIPOLE VERSION	
Supply voltage	24 V DC +/- 10%
Max number of solenoids	24
Max number of valve functions	24 (monostable)
Type of Sub-D connection	Sub-D 25 pin
Max absorption	0.8 A

ELECTRICAL SECTION - FIELDBUS VERSION	
General characteristics	see the section about the Series CX multi-serial module (2.3.50)
Max absorption	digital outputs / analogic outputs and inputs 3 A digital/analogic inputs 3 A
Supply voltage	logic supply 24 V DC +/- 10% power supply 24 V DC +/- 10%
Max number of operable coils	24 on 24 valve functions (monostable)

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CODING EXAMPLE - MULTIPOLE VERSION

F	P	2	R	M	T	A	-	MB2CMUL2B	-	2QR3SLQR

F	SERIES
P	TYPE: P = pneumatic A = accessories
2	SIZE: 1 = 12 mm 2 = 14 mm
R	MANUAL OVERRIDE: P = pressure actuation control R = actuation control with push & turn device
M	ELECTRICAL CONNECTION: M = multipole
T	CARTRIDGES FOR LEFT TERMINAL: S = tube Ø 8 T = tube Ø 10 Note: the cartridges for the right terminal are for tube Ø 6.
A	SERVO-PILOT SUPPLY: A = internal B = external
MB2CMUL2B	SOLENOID VALVES AND ADDITIONAL PLATES *: M = 5/2 monostable D = 5/2 monostable with bistable electric board B = 5/2 bistable C = 2x3/2 NC A = 2x3/2 NO G = 3/2 NC + 3/2 NO E = 2x2/2 NC F = 2x2/2 NO I = 2/2 NC + 2/2 NO V = 5/3 CC L = free position with passing electric board W = free position with bistable electric board Z = free position with monostable electric board X = supplementary supply and exhaust T = separated supply and exhaust U = separated supply, supplementary exhaust K = supplementary supply, separated exhaust
2QR3SLQR	CARTRIDGES FOR SOLENOID VALVES AND ADDITIONAL PLATES *: Q = tube Ø 4 R = tube Ø 6 S = tube Ø 8 (not for Size 1) L = free position (no cartridges) W = free position with bistable electric board (no cartridges) Z = free position with monostable electric board (no cartridges)
	* in case of identical and consecutive codes, in the choices "SOLENOID VALVES AND ADDITIONAL PLATES" and "CARTRIDGES FOR SOLENOID VALVES AND ADDITIONAL PLATES", replace the letters with the number. With the choice "CARTRIDGES FOR SOLENOID VALVES AND ADDITIONAL PLATES" both of the following connections are defined: 2 and 4; 1 and 3/5. Examples: FP2RMTA-MBCCMULMMMBB-QQRSSLRRRQRR FP2RMTA-MB2CMUL3M2B-2QR2SL3RQ2R

CODING - MULTIPOLE VERSION


```
    1 2 3 4 5         6               7
  F P 2 R M T A  -  B 2 M U L C A  -  2 Q R S L R S
```

FP...

(1)	SIZE	(2)	MANUAL OVERRIDE	(3)	ELECTRICAL CONNECTION	(4)	CARTRIDGES for LEFT TERMINAL	(5)	SERVO-PILOT SUPPLY	(6)	SOLENOID VALVES and ADDITIONAL PLATES	(7)	CARTRIDGES for SOLENOID VALVES and ADDITIONAL PLATES
1	12 mm	P	pressure actuation control	M	Multipole	S	Ø8	A	internal	M	5/2 monostable	Q	Ø4
2	14 mm	R	actuation control with push & turn device			T	Ø10	B	external	D	5/2 monostable with bistable electric board	R	Ø6
										B	5/2 bistable	S	Ø8
										C	2x3/2 NC	L	free position (no cartridges)
										A	2x3/2 NO	W	free position with bistable electric board (no cartridges)
										G	3/2 NC + 3/2 NO	Z	free position with monostable electric board (no cartridges)
										E	2x2/2 NC		
										F	2x2/2 NO		
										I	2/2 NC + 2/2 NO		
										V	5/3 CC		
										L	free position with passing electric board		
										W	free position with bistable electric board		
										Z	free position with monostable electric board		
										X	supplementary supply and exhaust		
										T	separated supply and exhaust		
										U	separated supply, supplementary exhaust		
										K	supplementary supply, separated exhaust		

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CODING EXAMPLE - FIELDBUS VERSION

| F | P | 2 | R | 01 | T | A | - | ABCR | - | MB2CMUL2B | - | 2QR3SLQR |

|	
F	SERIES
P	TYPE: P = pneumatic A = accessories
2	SIZE: 1 = 12 mm 2 = 14 mm
R	MANUAL OVERRIDE: P = pressure actuation control R = actuation control with push & turn device
01	PROTOCOL: 01 = PROFIBUS-DP 02 = DeviceNet 03 = CANopen 04 = EtherNet/IP 05 = EtherCAT 06 = PROFINET 99 = Expansion Module
T	CARTRIDGES FOR PNEUMATIC/ELECTRICAL TERMINAL: S = tube Ø 8 T = tube Ø 10 Note: the cartridges for the right terminal are for tube Ø 6.
A	SERVO-PILOT SUPPLY: A = internal B = external
ABCR	INPUT / OUTPUT MODULES: 0 = no module A = 8 digital inputs M8 B = 4 digital inputs M8 C = 2 analog inputs 4-20 mA D = 2 analog inputs 0-10 V E = 1 analog input 4-20 mA + 1 input 0-10 V Q = 4 M12 duo digital outputs R = 2 analog outputs 4-20 mA T = 2 analog outputs 0-10 V U = 1 analog output 4-20 mA + 1 output 0-10 V V = 1 analog output 4-20 mA + 1 input 0-10 V Z = 1 analog output 4-20 mA + 1 input 4-20 mA K = 1 analog output 0-10 V + 1 input 0-10 V Y = 1 analog output 0-10 V + 1 input 4-20 mA S = Initial subnet module
MB2CMUL2B	SOLENOID VALVES AND ADDITIONAL PLATES: M = 5/2 monostable D = 5/2 monostable with bistable electric board B = 5/2 bistable C = 2x3/2 NC A = 2x3/2 NO G = 3/2 NC + 3/2 NO E = 2x2/2 NC F = 2x2/2 NO I = 2/2 NC + 2/2 NO V = 5/3 CC L = free position with passing electric board W = free position with bistable electric board Z = free position with monostable electric board X = supplementary supply and exhaust T = separated supply and exhaust U = separated supply, supplementary exhaust K = supplementary supply, separated exhaust
2QR3SLQR	CARTRIDGES FOR SOLENOID VALVES AND ADDITIONAL PLATES: Q = tube Ø 4 R = tube Ø 6 S = tube Ø 8 (not for Size 1) L = free position (no cartridges) W = free position with bistable electric board (no cartridges) Z = free position with monostable electric board (no cartridges)

CODING - FIELDBUS VERSION
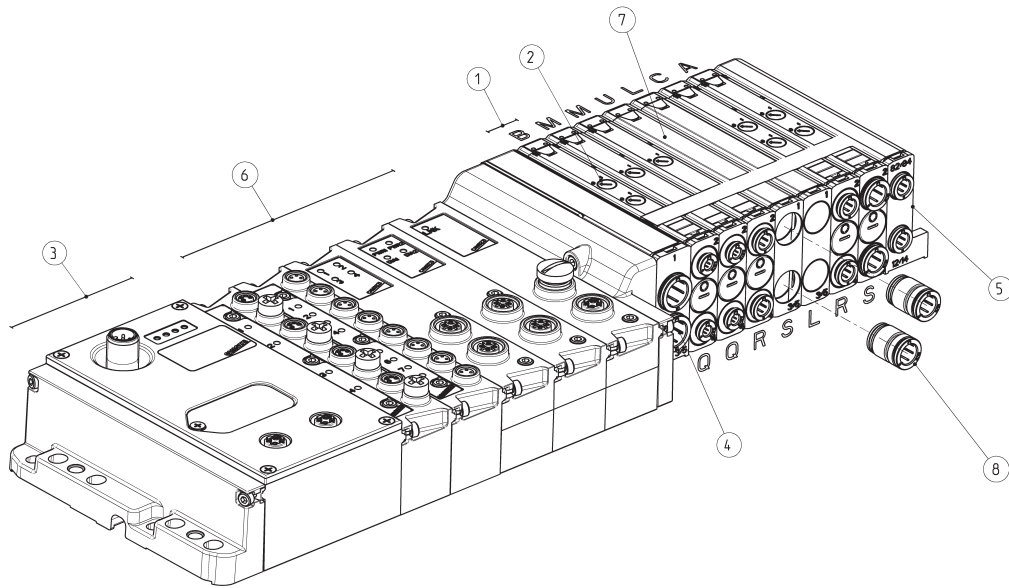
| 1 2 3 4 5	6	7	8
F P 2 R 01 T A	A B Q R	B 2 M U L C A	2 Q R S L R S

FP...

(1)	SIZE	(2)	MANUAL OVERRIDE	(3)	PROTOCOL	(4)	CARTRIDGES for LEFT TERMINAL	(5)	SERVO-PILOT SUPPLY	(6)	INPUT/OUTPUT MODULES	(7)	SOLENOID VALVES and ADDITIONAL PLATES	(8)	CARTRIDGES for SOLENOID VALVES and ADDITIONAL PLATES
1	12 mm	P	pressure	01	PROFIBUS-DP	S	Ø8	A	internal	0	no module	M	5/2 monostable	Q	Ø4
2	14 mm	R	push & turn device	02	DeviceNet	T	Ø10	B	external	A	8 digital inputs M8	D	5/2 monostable with bistable electric board	R	Ø6
				03	CANopen					B	4 digital inputs M8	B	5/2 bistable	S	Ø8
				04	EtherNet/IP					C	2 analog IN 4-20 mA	C	2x3/2 NC	L	free position with passing electric board (no cartridges)
				05	EtherCAT					D	2 analog IN 0-10 V	A	2x3/2 NO	W	free position with bistable electric board (no cartridges)
				06	PROFINET					E	1 analog IN 4-20 mA + 1 IN 0-10 V	G	3/2 NC + 3/2 NO	Z	free position with monostable electric board (no cartridges)
				99	Expansion Module					Q	4 M12 duo digital OUT	E	2x2/2 NC		
										R	2 analog OUT 4-20 mA	F	2x2/2 NO		
										T	2 analog OUT 0-10 V	I	2/2 NC + 2/2 NO		
										U	1 analog OUT 4-20 mA + 1 OUT 0-10 V	V	5/3 CC		
										V	1 analog OUT 4-20 mA + 1 IN 0-10 V	L	free position with passing electric board		
										Z	1 analog OUT 4-20 mA + 1 IN 4-20 mA	W	free position with bistable electric board		
										K	1 analog OUT 0-10 V + 1 IN 0-10 V	Z	free position with monostable electric board		
										Y	1 analog OUT 0-10 V + 1 IN 4-20 mA	X	supplementary supply and exhaust		
										S	Initial subnet module	T	separated supply and exhaust		
												U	separated supply, supplemen. exhaust		
												K	supplemen. supply, separated exhaust		

MULTIPOLE VERSION AND MULTIPOLE WITH SUB-D ADAPTER
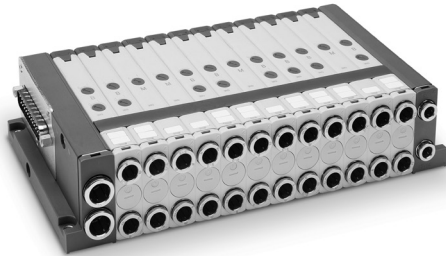
In the Multipole version the front position of the 25 pin Sub-D connector makes the connection easier.
The connectors with pre-wired cable, which are available in different lengths and with axial or radial orientation, simplify the electrical connection. The Island can be configured up to a max. of 24 solenoids on 24 valve positions (24 monostable).

It is possible to create zones with differentiated pressure.
It is available with PNP logic connection, internal electrical connections on boards.
The Multipole Island can be connected by means of a Sub-D adapter.
In this way a Multipole Island can be inserted as expansion in the subnet of the Fieldbus version.

VERSIONS: FIELDBUS WITH CPU MODULE AND EXPANSION FIELDBUS
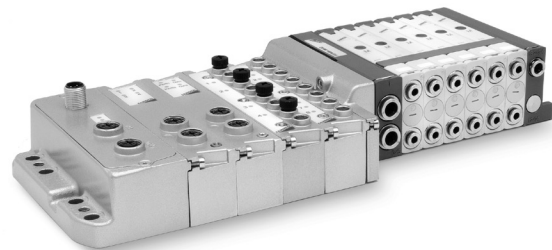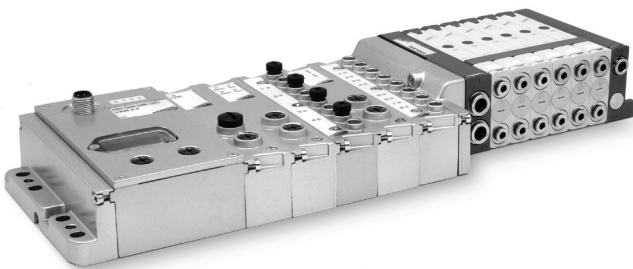
Thanks to the CX multi-serial node and a specific direct interface module with the pneumatic part of the island, Series F can be interfaced with the PROFIBUS-DP, DeviceNet, CANopen, PROFINET, EtherCAT, EtherNet/IP serial protocols. The Fieldbus version with CPU module follows the same configuration rules of the Multipole island and can be equipped with different electrical modules like digital/analog inputs/outputs of 0-10 V and 4-20 mA, as well as with Initial subnet modules.

It is possible to insert Initial Subnet Modules in the version with CPU module. These Modules enable to create a subnet with tree structure or in series. On the subnet you can connect Expansion Islands. These expansions have the same possibilities to use the different electric modules, like digital and analog inputs and outputs and further Initial Subnet Modules. Also with this version the same rules as the CPU module and Multipole apply.

INTERCHANGEABLE CONNECTIONS

Thanks to a fixing clip the cartridge fittings can be substituted with another one according to the size of the tube that has to be connected: Ø4, Ø6 and Ø8 for solenoid valves and Ø8, Ø10 for supply and exhaust plates.
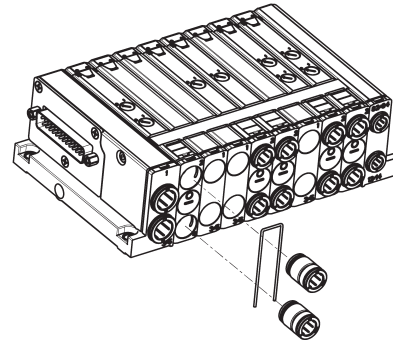
TYPE OF BOARDS ON INTERMEDIATE PLATES

The solenoid valves Mod. M are equipped with an electrical board using a single signal. This enables to take full advantage of the characteristic of the Sub-D connector being able to connect up to 24 monostable valves.
To avoid that, in case of a change in the valve island, the addresses of the electrical coils positioned after the modification would change too, for example by replacing a monostable valve with a bistable one, the version with Cod. D is available and corresponds to a monostable valve equipped with a board that occupies two electrical signals.

The free position Cod. L is also available in the Z and W versions.

Cod. L: free position, no electrical signals are used
Cod. Z: free position with board
         with 1 electrical signal (not used)
Cod. W: free position with board
          with 2 electrical signals (not used)
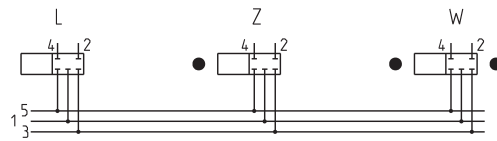
Cod. M: 5/2-way monostable valve with board
         with 1 electrical signal
Cod. D: 5/2-way monostable valve with board
         with 2 electrical signals (one is not used)

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CONTROL
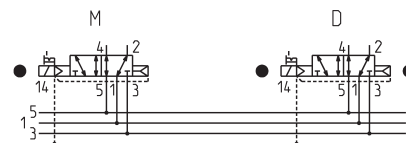
HOW TO MODIFY THE VALVE ISLAND (example)

In order to integrate or modify the valve island, it is enough to loosen the tie-rods, separate the valve function that has to be replaced and turn it so that it can be taken off.
Tie-rods can be supplied with even positions from 2 to 24 (see the following pages).
A single position joint bolt is supplied in case of a valve island with odd positions (see the following pages).
This operation can be performed on both versions with integrated serial node or with expansion module.
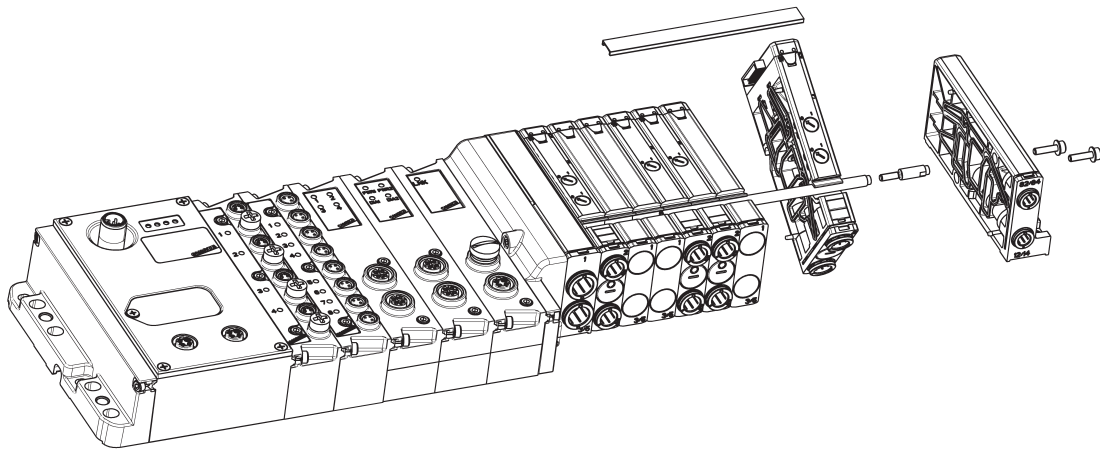
MULTIPOLE version - COMPONENTS
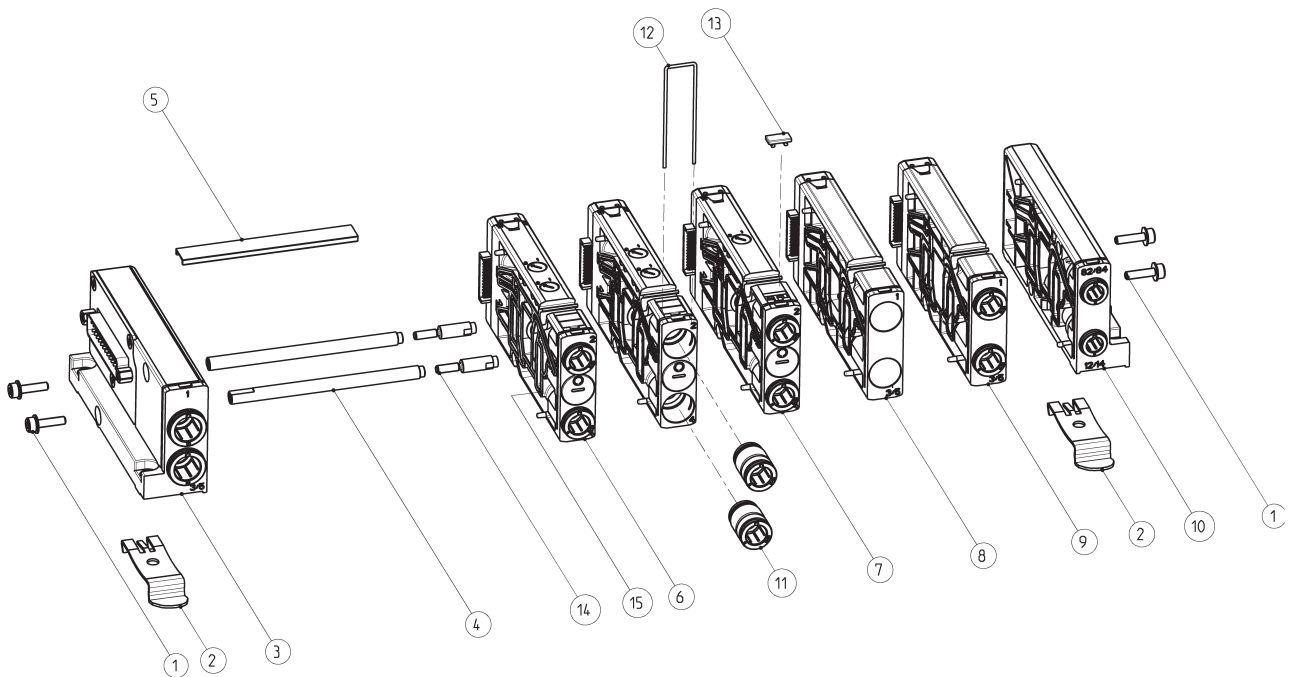
LIST OF COMPONENTS

1	Grip screws with built-in washer
2	Bracket for the DIN rail connection
3	Left terminal
4	Tie-rods
5	Tie-rod plastic cover
6	Bistable solenoid valve
7	Monostable solenoid valve
8	Intermediate plate for free position
9	Intermediate plate for pressure zones with supplementary inlet and exhaust
10	Right terminal
11	Interchangeable cartdrige fittings
12	Fixing clip for the cartdrige fittings
13	Identification plates
14	Joint bolt for odd positions
15	Interface seal that cannot be lost

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INDIVIDUAL FIELDBUS version and EXPANSION - COMPONENTS
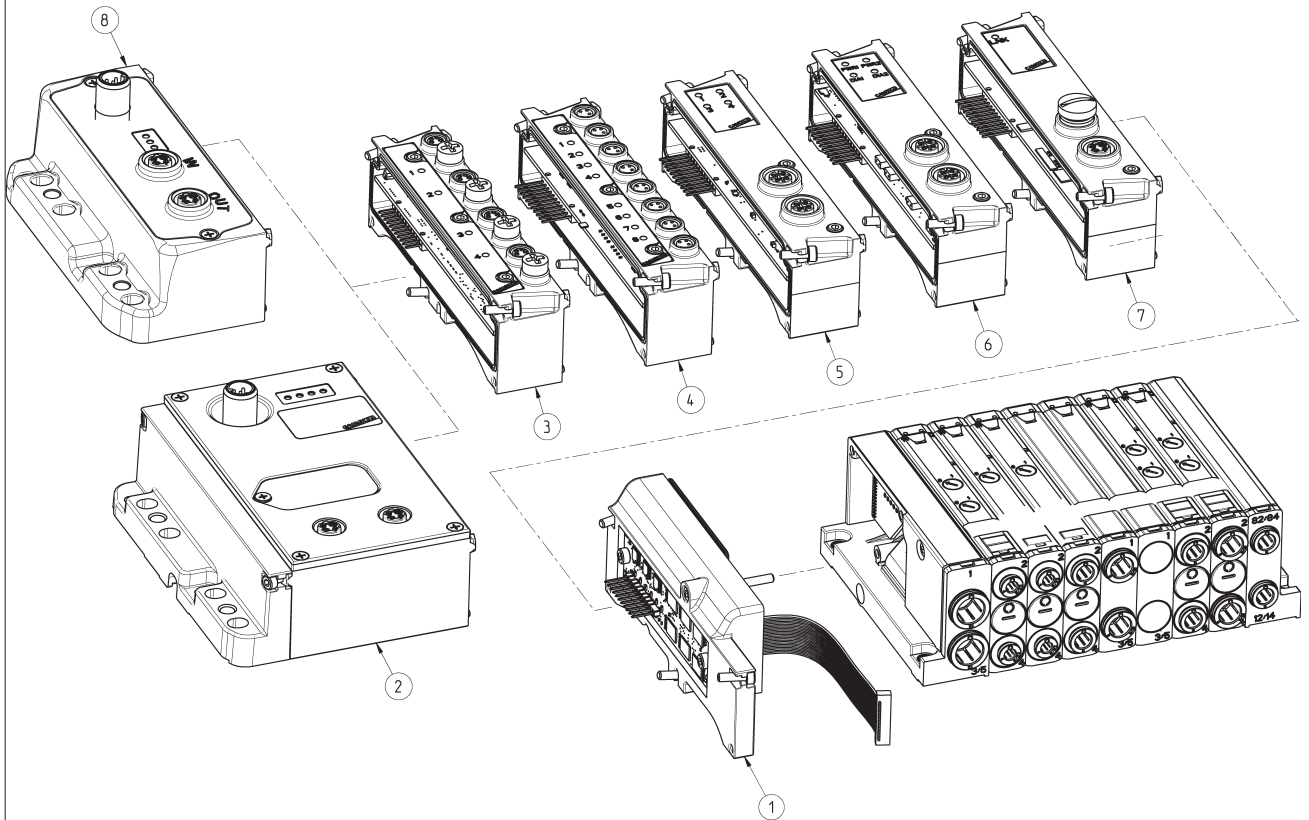
LIST OF COMPONENTS	
1	Direct interface with CX
2	CPU Series CX
3	4 digital Inputs module
4	8 digital Inputs module
5	4 digital Outputs module
6	Analog I/O module
7	Initial subnet module
8	Expansion module

AVAILABLE FUNCTIONS - SOLENOID VALVES SYMBOLS for FP..R - manual override WITH push&turn device
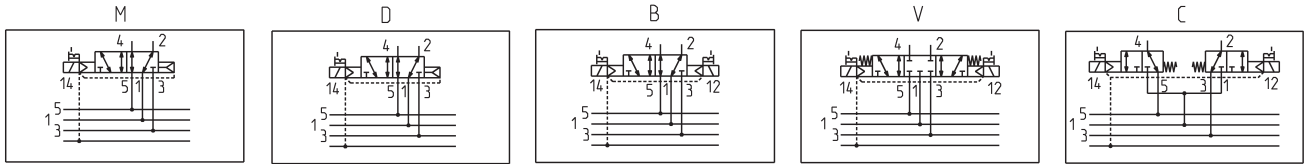
M = 5/2, monostable

D = 5/2, monostable with bistable board

B = 5/2, bistable

V = 5/3, Centres Closed
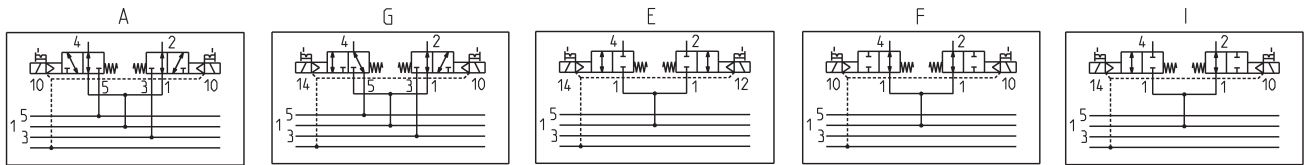
C = 2x3/2 NC

A = 2x3/2 NO

G = 1x3/2 NC +1x3/2 NO

E = 2x2/2 NC

F = 2x2/2 NO

I = 1x2/2 NC + 1x2/2 NO
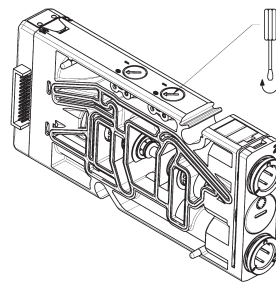
Manual override, version R :
pressure actuation control with PUSH & TURN device.

AVAILABLE FUNCTIONS - SOLENOID VALVES SYMBOLS for FP..P - manual override WITHOUT push&turn device
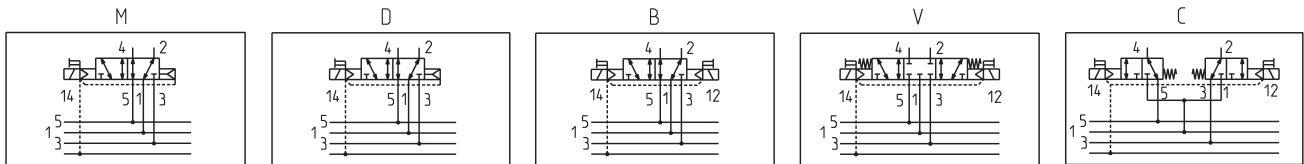
M = 5/2, monostable

D = 5/2, monostable with bistable board

B = 5/2, bistable

V = 5/3, Centres Closed
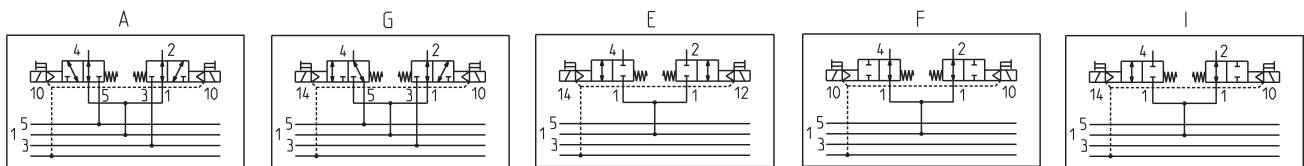
C = 2x3/2 NC

A = 2x3/2 NO

G = 1x3/2 NC +1x3/2 NO

E = 2x2/2 NC

F = 2x2/2 NO

I = 1x2/2 NC + 1x2/2 NO
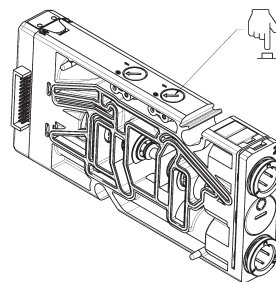
Manual override, version P :
pressure actuation control without PUSH & TURN device (PUSH only).

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AVAILABLE FUNCTIONS - INTERMEDIATE AND TERMINAL PLATES

Example of valve island with differentiated pressures and exhausts.

DRAWING LEGEND:
A = internal servo-pilot
B = external servo-pilot
X = supplementary supply and exhaust
K = supplementary supply, separated exhaust
U = separated supply, supplementary exhaust
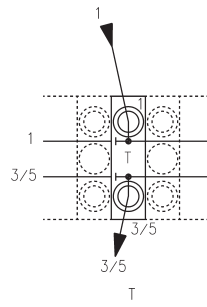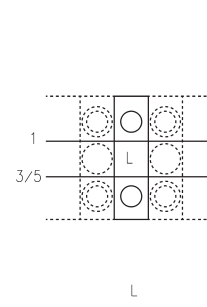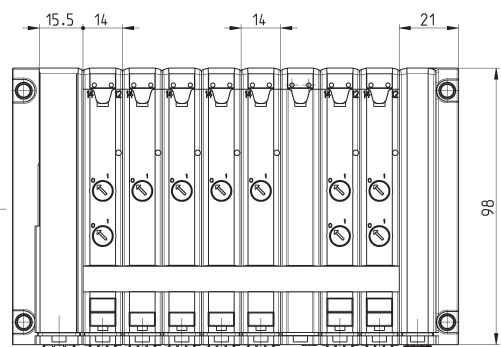T = separated supply and exhaust
L = free position
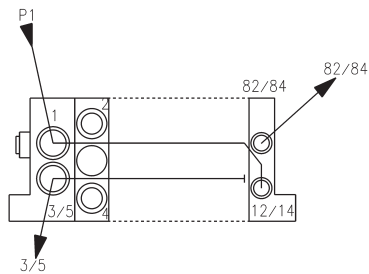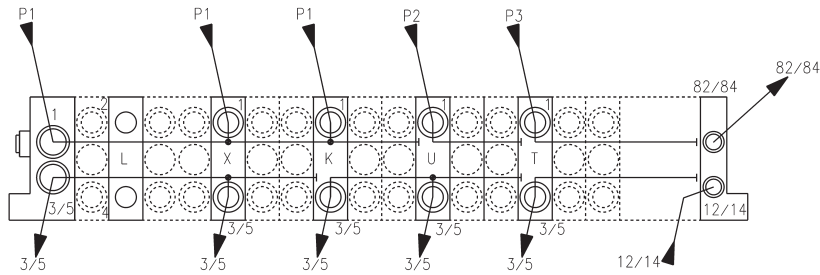
2

CONTROL

MULTIPOLE version - DIMENSIONS of size 12mm

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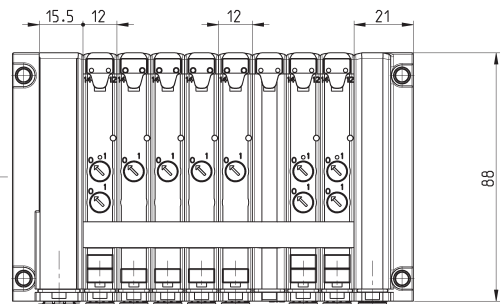2/3.35.14
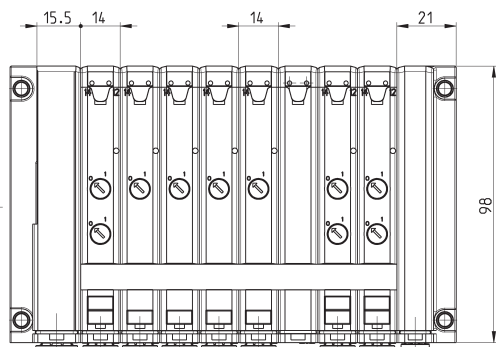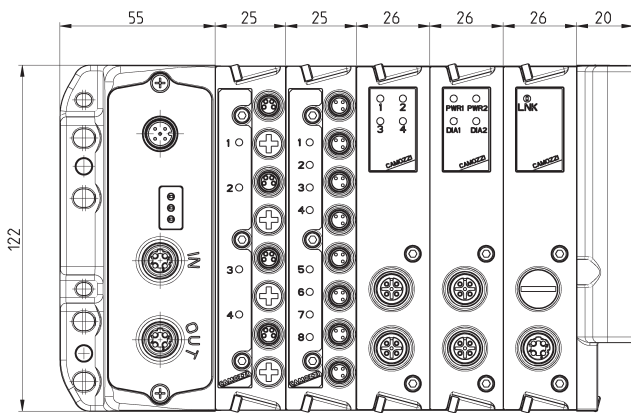39

2

CONTROL
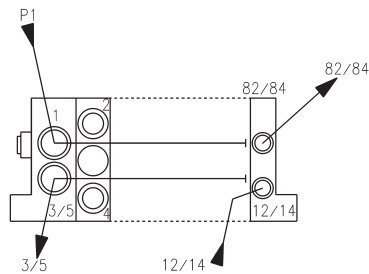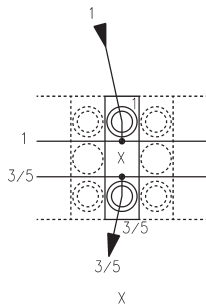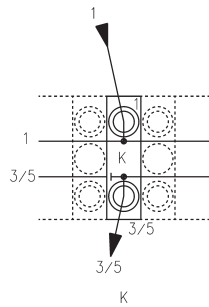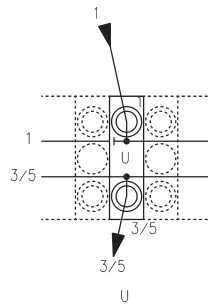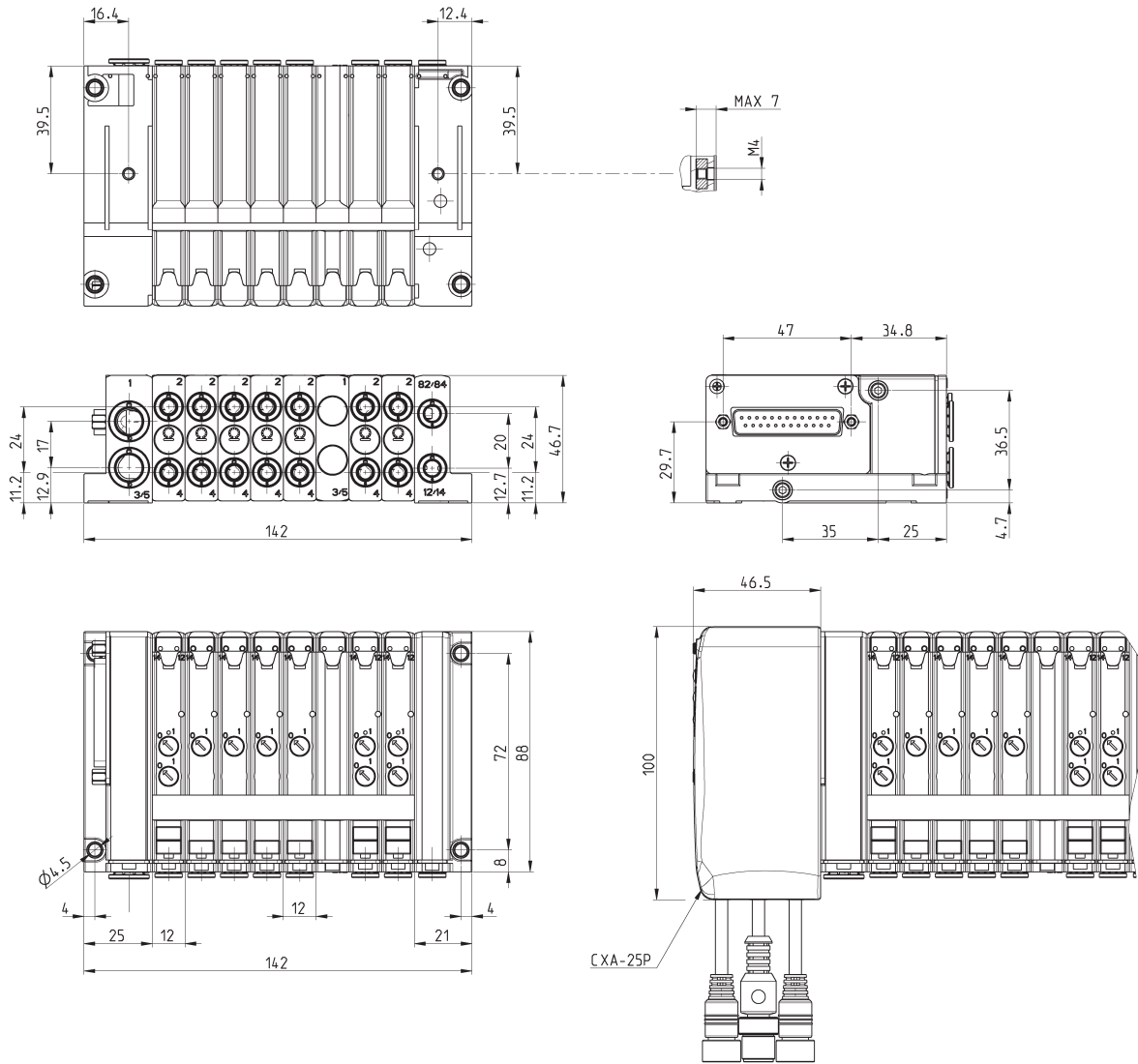
MULTIPOLE version - DIMENSIONS of size 14mm
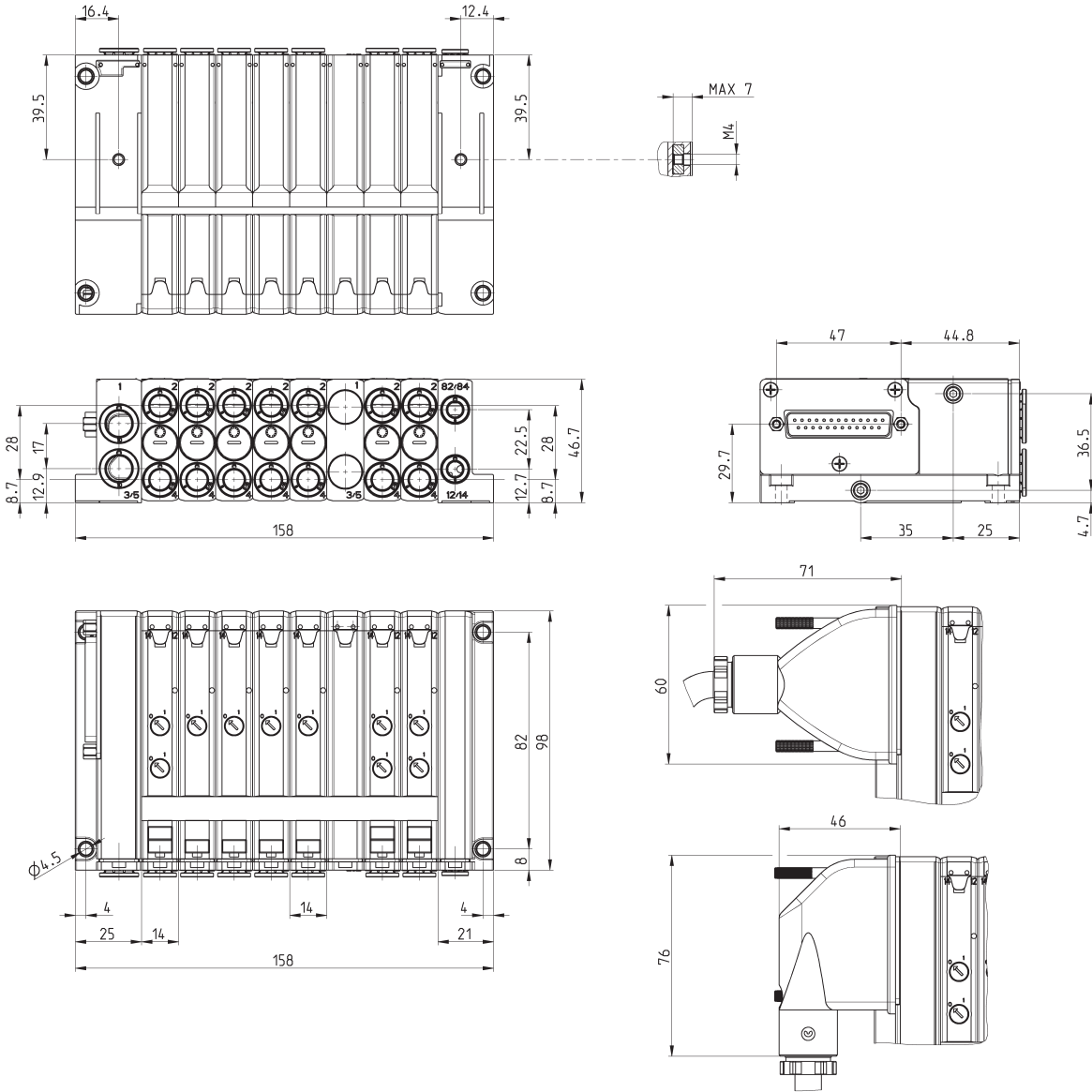
INDIVIDUAL FIELDBUS version - DIMENSIONS
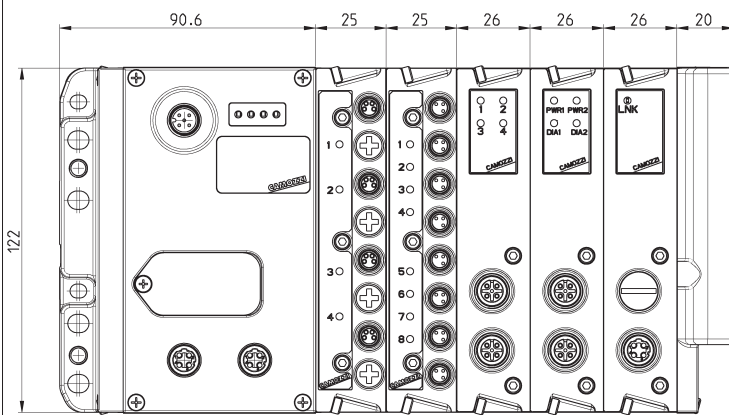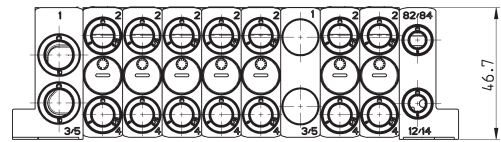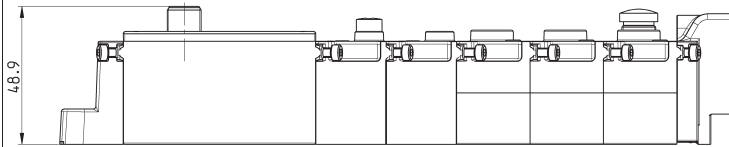
FP..	01	B	A	Q	C	S
	02				D	
	03				E	
	04				R	
	05				T	
	06				U	
					V	
					Z	
					K	
					Y	

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EXPANSION of the FIELDBUS version - DIMENSIONS
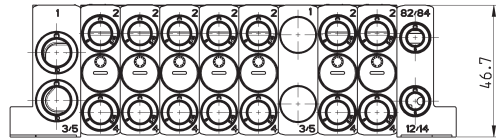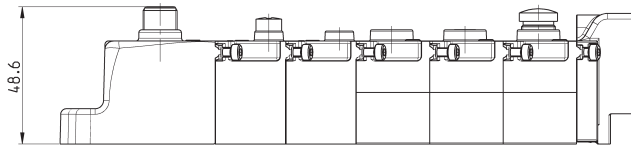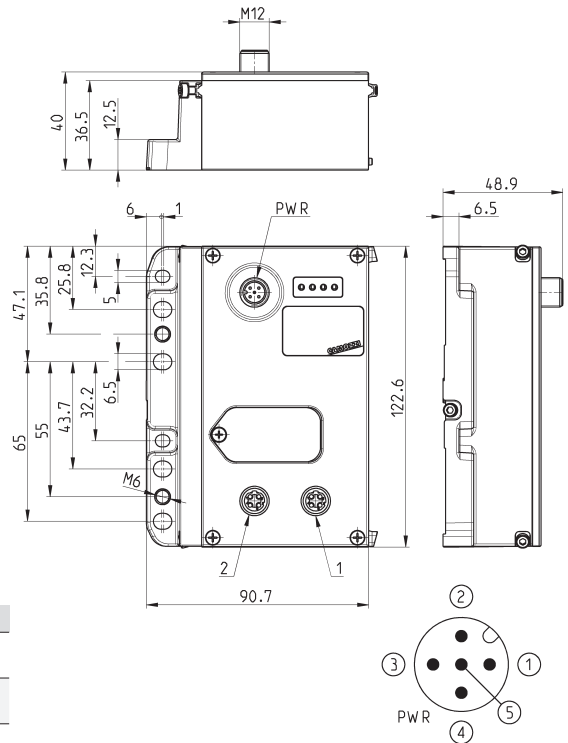
FP..　99　B　A　Q　C　S
D
E
R
T
U
V
Z
K
Y
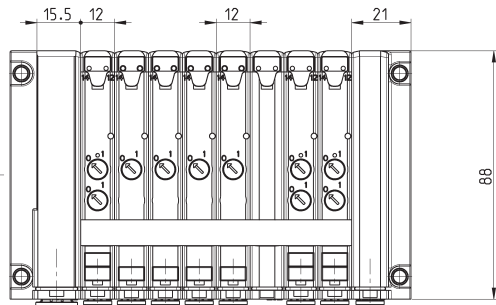
CPU Module - pin configuration

Mod.	Coding reference	Fieldbus Protocol	2	1	Bus-IN connector	Bus-OUT connector
CX01-0-0	01	PROFIBUS	Bus-IN	Bus-OUT	M12 B 5 pin male	M12 B 5 pin female
CX02-0-0	02	DeviceNet	Bus-IN	Bus-OUT	M12 A 5 pin male	M12 A 5 pin female
CX03-0-0	03	CANopen	Bus-IN	Bus-OUT	M12 A 5 pin male	M12 A 5 pin female
CX04-0-0	04	EtherNet/IP	Bus-OUT	Bus-IN	M12 D 5 pin female	M12 D 5 pin female
CX05-0-0	05	EtherCAT	Bus-OUT	Bus-IN	M12 D 5 pin female	M12 D 5 pin female
CX06-0-0	06	PROFINET	Bus-OUT	Bus-IN	M12 D 5 pin female	M12 D 5 pin female

Expansion Module - pin configuration

Note: to connect the Expansion with the subnet, we recommend the use of cables Mod. CS-SB04HB-... or CS-SC04HB-...
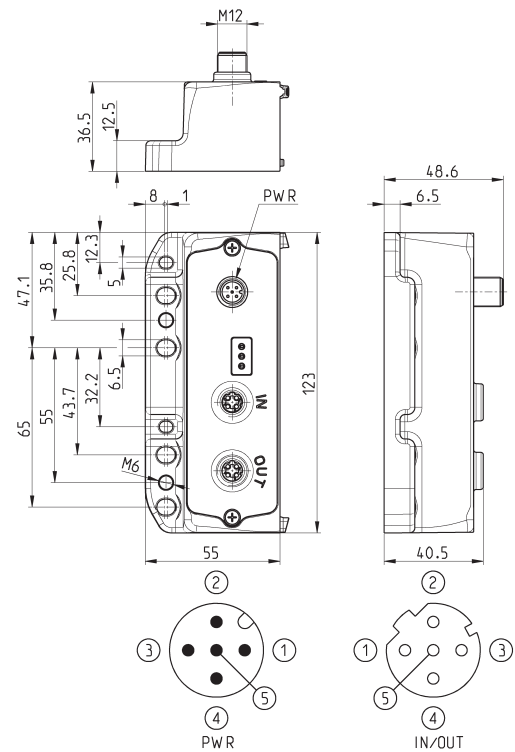
Mod.	Coding reference	Fieldbus Protocol	Bus-IN and Bus-OUT connector
CX99-0-0	99	Subnet expansion	M12 D 5 pin female

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CPU Module - Characteristics

It is a slave node of the main PROFIBUS, CANopen, DeviceNet, EtherNet/IP, EtherCAT, PROFINET network and the Master module of the subnet. All modules provided can be connected only on the right side of the CPU module, like the digital/analog inputs/outputs, direct interface modules for the valve islands (Series F, HN and 3) and the initial module of the subnet. It has its own M12 A 4 pin male connection to supply the modules connected, distinguishing both logic supply and power supply. Two M12 connections for Bus-IN and Bus-OUT of the main network, which M12 connection will take over the relative specifications according to the choosen protocol. The addressing is performed by means of the Rotary Switch for the protocols with this feature, while for Ethernet protocols addressing is performed by means of the protocol itself. Leds indicate the working state. A maximum number of 1024 inputs and 1024 outputs can be managed.
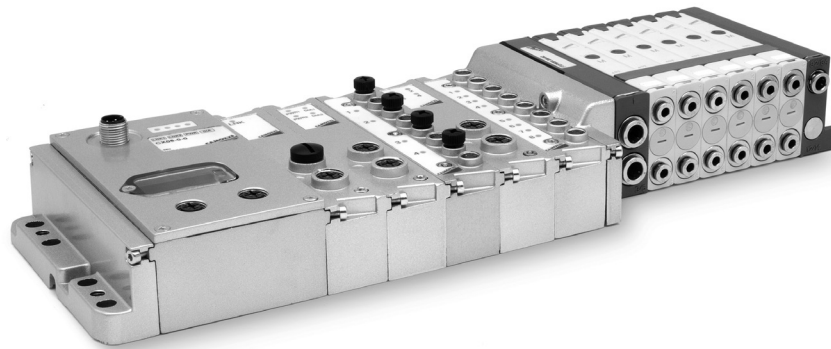

Expansion Module - Characteristics

At its right side, different modules can be connected like the digital/analog inputs/outputs, the direct interface modules for the valve islands (Series F, HN and 3) and the initial module of the subnet to re-amplify it or to create new branches. It has its own M12 A 4 pin male connection to supply the devices connected, distinguishing both logic supply and power supply. It has two M12 D 5 pin female connections for Bus-IN and Bus-OUT connection of the subnet. Leds indicate the working state. The valve island equipped with the Expansion Module can be used only in presence of a subnet.

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CONTROL
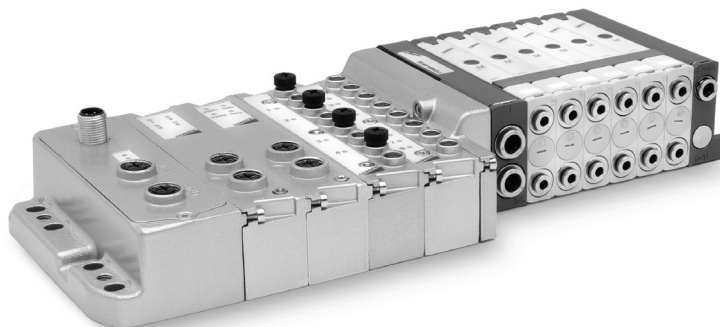
Initial subnet module Mod. ME3-0000-SL

This module can be connected only in presence of a CPU or Expansion module and can be mixed with other either digital or analog Input and Output devices.
Every subnet can have an extension of maximum 100 metres, with a maximum of 8 interruptions. Up to maximum 5 initial modules can be connected, one aside another or along the subnet in order to create a tree structure, in series or both, in order to optimize the length of the cables and the topology of the subnet in different applications. The module is equipped with the Bus-OUT connection only of subnet type M12 D 5 pin female.
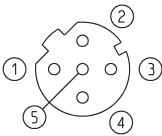
| Mod.	Coding reference	Bus-OUT connection	Max number of modules for subnet	Max extension of subnet per module
ME3-0000-SL	S	M12D 5 pin female	5	100 m

Sub-D adaptor module 25 pin Mod. CXA-25P

It is an Expansion module of the subnet and can be connected to all valve islands with Sub-D 25 pin connection. It can manage up to a maximum of 24 Output. It has its own M12 A 4 pin male connection for the supply of the valves connected, distinguishing both logic supply and power supply and two M12 D 5 pin female connections for the Bus-IN and Bus-OUT of the subnet. The subnet can have a length of maximum 100 metres. The power of a single Output is 3 W to 24 V DC. Thanks to the PWM technique it is possible to set a power reduction to only maintain operation.
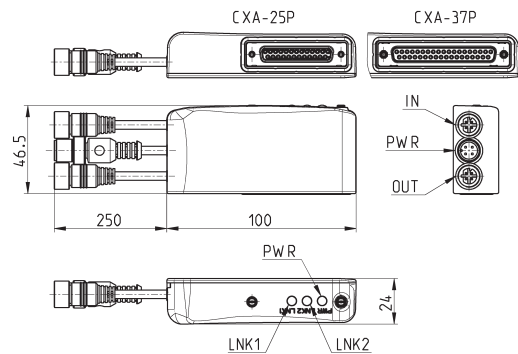
Led 1 = Yellow LNK1
Led 2 = Yellow LNK2
Led 3 = Green PWR,
supply present and OK
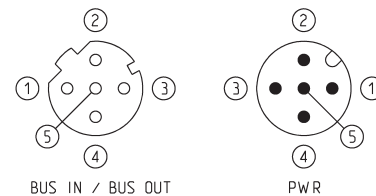
Mod.	Interface	Digital Outs	Bus-IN connection	Bus-OUT connection	PWR connection	Supply	Power for every Output
CXA-25P	Sub-D 25 pin	24	M12D 5 pin female	M12D 5 pin female	M12A 4 pin male	24 V DC	3 W

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Digital input Module Mod. ME3-0800-DC and ME3-0400-DC

The Digital input module can be connected only in presence of a CPU or Expansion module and can be mixed with other either digital or analog Input and Output devices and with the initial module of the subnet.
It has 8 or 4 M8 3 pin connections.
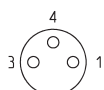
Mod.	Coding reference	Number of digital inputs	Connection	Number of connectors	Dimensions	Signalling	Sensor supply	Overvoltage protection	Absorption	Type of signal	Protection class	Operating temperature	Weight
ME3-0800-DC	A	8	M8 3 pin female	8	122 x 25 mm	1 yellow led for each input	24 V DC	400 mA for 4 sensors	10 mA	PNP	IP65	0 ÷ 50°C	110 g
ME3-0400-DC	B	4	M8 3 pin female	4	122 x 25 mm	1 yellow led for each input	24 V DC	400 mA for 4 sensors	10 mA	PNP	IP65	0 ÷ 50°C	110 g

Analog input/output module Mod. ME3-****-AL

The analog input/output module can be connected only in presence of a CPU or Expansion module and can be mixed with other either digital or analog Input and Output devices and with the initial module of the subnet. It has two M12 A 5 pin female connections and it can be configured as 2 analog Outputs or 2 Inputs or 1 Input + 1 Output. Every analog output or input has a 12 bit resolution for both inputs and outputs available in the versions from 0-10 V DC and from 4-20mA.
The refreshment time of the analog devices is submitted to the delay of the subnet and therefore to its topology. An average delay is less than 6 ms, to which the delay of the main network managed by the PLC has to be added.
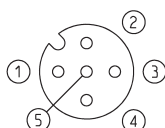
Mod.	Coding reference	Number of analog inputs	Number of analog outputs	Connection
ME3-C000-AL	C	2 inputs 4-20 mA	-	2x M12 A 5 pin female
ME3-D000-AL	D	2 inputs 0-10 V	-	2x M12 A 5 pin female
ME3-E000-AL	E	1 input 4-20 mA + 1 input 0-10 V	-	2x M12 A 5 pin female
ME3-00U0-AL	U	-	1 output 4-20 mA + 1 output 0-10 V	2x M12 A 5 pin female
ME3-00R0-AL	R	-	2 outputs 4-20 mA	2x M12 A 5 pin female
ME3-00T0-AL	T	-	2 outputs 0-10 V	2x M12 A 5 pin female
ME3-00Z0-AL	Z	1 input 4-20 mA	1 output 4-20 mA	2x M12 A 5 pin female
ME3-00K0-AL	K	1 input 0-10 V	1 output 0-10 V	2x M12 A 5 pin female
ME3-00V0-AL	V	1 input 0-10 V	1 output 4-20 mA	2x M12 A 5 pin female
ME3-00Y0-AL	Y	1 input 4-20 mA	1 output 0-10 V	2x M12 A 5 pin female

Digital power output module Mod. ME3-0004-DL

The digital output module can be connected only in presence of a CPU or Expansion module and can be mixed with other either digital or analog Input and Output devices and with the initial module of the subnet. It has two M12 A 5 pin female connections, each connection can manage 2 digital outputs and can provide a maximum of 10 W to 24 V DC. The device is useful to pilot a bistable valve or two monostable valves for each connector, or to activate the electric coils or other electric devices with maximum absorption of 10 W to 24 V DC. Connecting two outputs to one electric device only and activating them simultaneously, it is possible to provide maximum 20 W to 24 V DC.
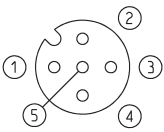
Mod.	Coding reference	Number of digital outputs	Connection	Number of connectors	Dimensions	Signalling	Sensor supply	Max power for M12 connector	Max power for digital output	Type of signal	Protection class	Operating temperature	Weight
ME3-0004-DL	Q	4	M12 A 5 pin female	2	122 x 25 mm	1 yellow led for each output	24 V DC	20 W	10 W	PNP	IP65	0 ÷ 50°C	100 g

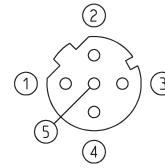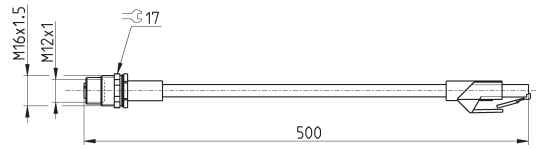## Electric interface module for Fieldbus version
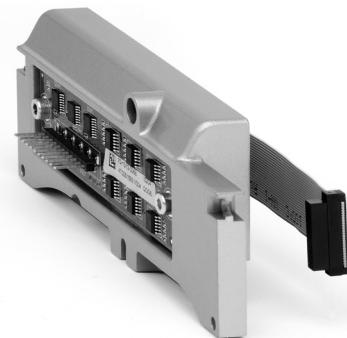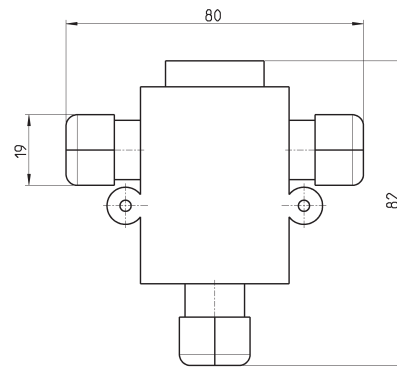
Mod.
ME3-00F0-DI

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	0.5

Profibus-DP data line tee

Mod.
CS-AA03EC

CANopen / DeviceNet data line tee
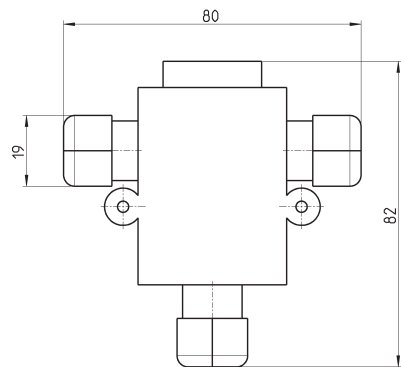
CS-AA05EC

M12 male terminating resistor

For PROFIBUS, CANopen, DeviceNet
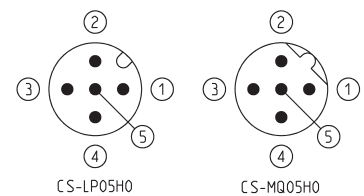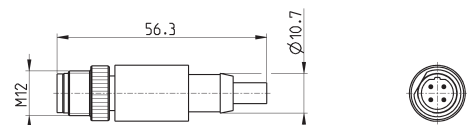
Mod.	description	type of connector	connection	Protocol
CS-MQ05H0	moulded terminating resistor	straight	M12 B 4 pin male	PROFIBUS
CS-LP05H0	moulded terminating resistor	straight	M12 A 5 pin male	CANOpen / DeviceNet

CS-LP05H0

CS-MQ05H0

Subnet terminating resistor
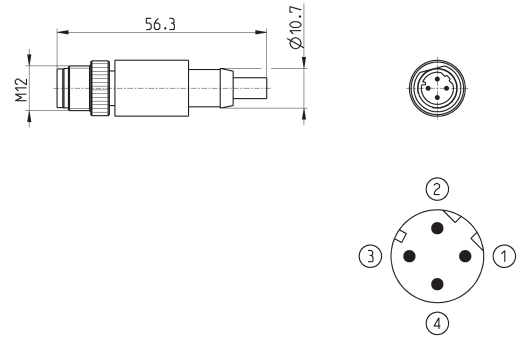
Mod.	description	type of connector	connection	Protocol
CS-SU04H0	moulded terminating resistor	straight	M12 D 4 pin	subnet

Straight connector for power supply
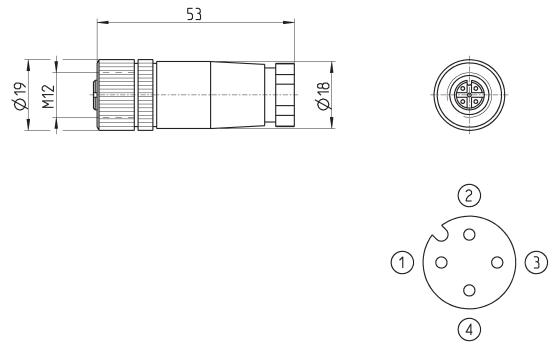
Mod.	description	type of connector	connection	cable length (m)
CS-LF04HB	for wiring	straight	M12 A 4 pin female	-

Angular connector for power supply
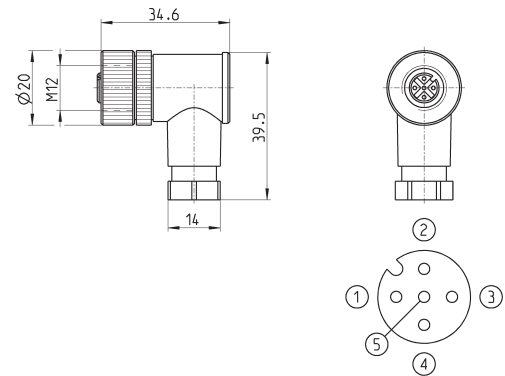
Mod.	description	type of connector	connection	cable length (m)
CS-LR04HB	for wiring	90°	M12 A 4 pin female	-

Straight female M12 connectors for Bus-IN
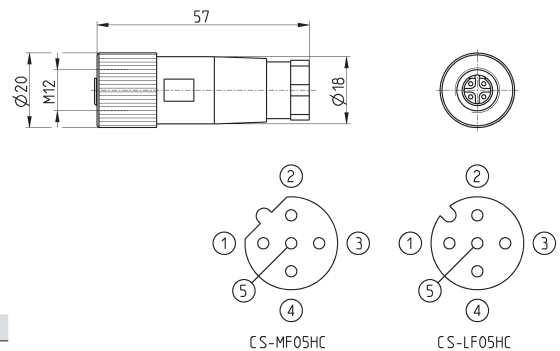
CS-MF05HC   CS-LF05HC

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

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CONTROL

Angular 90° female M12 connectors for Bus-IN
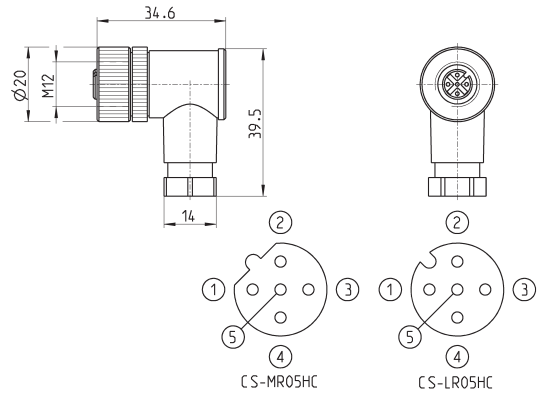
CS-MR05HC   CS-LR05HC

Mod.	description	type of connector	connection	Protocol
CS-LR05HC	for wiring	90°	M12 A 5 pin female	CANopen / DeviceNet
CS-MR05HC	for wiring	90°	M12 B 5 pin female	PROFIBUS

Straight male M12 connectors for Bus-OUT
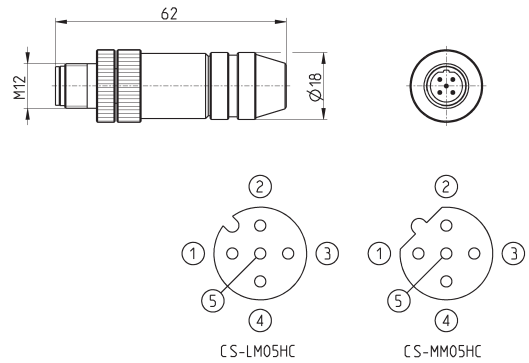
CS-LM05HC   CS-MM05HC
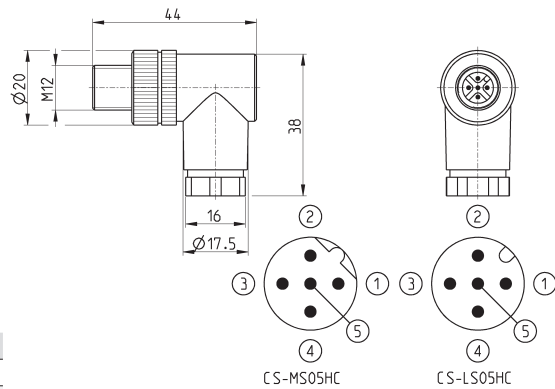
Mod.	description	type of connector	connection	Protocol
CS-LM05HC	for metal wiring	straight	M12 A 5 pin male	CANopen / DeviceNet
CS-MM05HC	for metal wiring	straight	M12 B 5 pin male	PROFIBUS

Angular 90° male M12 connectors for Bus-OUT

The Mod. CS-LS05HC can also be used for the connection of the digital output modules and of the analog input and output modules.

CS-MS05HC   CS-LS05HC

Mod.	description	type of connector	connection	Protocol
CS-LS05HC	for wiring	90°	M12 A 5 pin male	CANopen / DeviceNet
CS-MS05HC	for wiring	90°	M12 B 5 pin male	PROFIBUS

5 pin male straight M12 DUO connector

For the connection of the digital output modules and analog input/output modules.
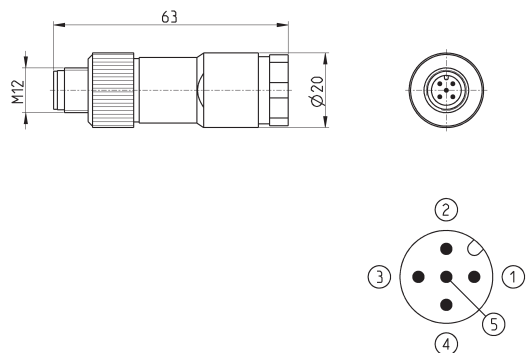
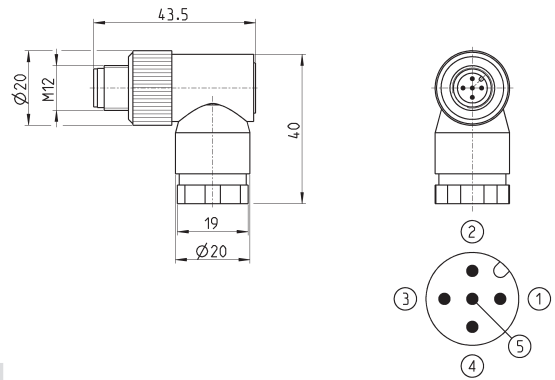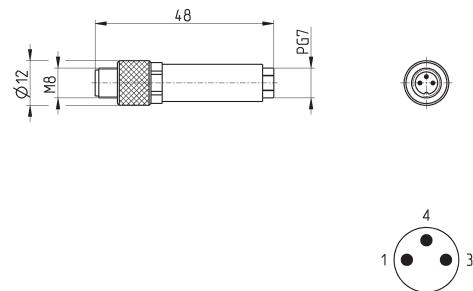| Mod.	description	type of connector	connection	cable length (m)
CS-LD05HF	for wiring	straight	M12 A 5 pin male	-

5 pin male angular M12 DUO connector

For the connection of the digital output modules
ME3-0004-DL

Mod.	description	type of connector	connection	cable length (m)
CS-LH05HF	for wiring	90°	M12 A 5 pin male	-

3 pin male M8 wiring connector for digital input modules

Mod.	description	type of connector	connection	cable length (m)
CS-DM03HB	for wiring	straight	M8 3 pin male	-

Male wiring connector for Bus-IN and Bus-OUT

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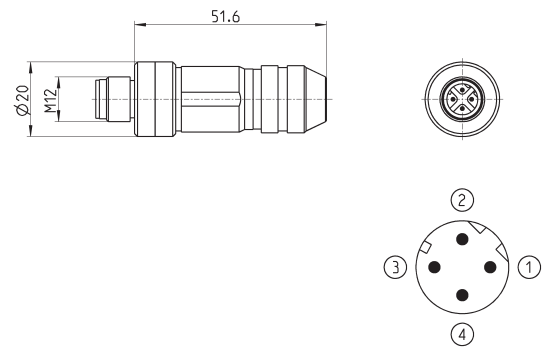
Mod.	description	type of connector	connection	cable length (m)
CS-SM04H0	for metal wiring	straight	M12 D 4 pin	-

Extension with M8 connector, 3 pin male / female

Non shielded

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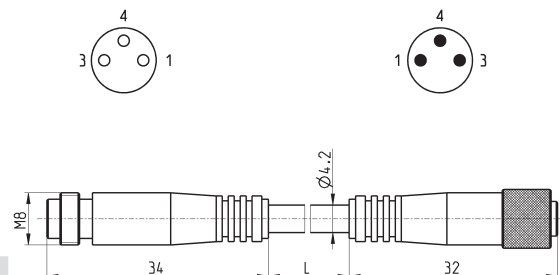
Mod.	description	type of connector	connection	L [cable length] (m)
CS-DW03HB-C250	moulded cable	straight	M8 3 pin male / female	2.5
CS-DW03HB-C500	moulded cable	straight	M8 3 pin male / female	5

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CONTROL

Straight Sub-D 25 pin female connector with axial cable

Protection class IP65
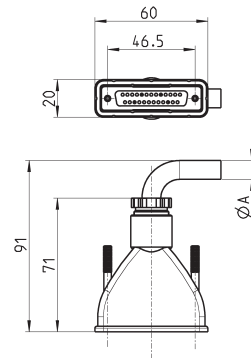
Mod.	⌀A	PIN	cable length (m)
G3X-3	7.7	15	3
G3X-5	7.7	15	5
G3X-10	7.7	15	10
G3X-15	7.7	15	15
G3X-20	7.7	15	20
G3X-25	7.7	15	25
G4X-3	9	25	3
G4X-5	9	25	5
G4X-10	9	25	10
G4X-15	9	25	15
G4X-20	9	25	20
G4X-25	9	25	25

Right angle Sub-D 25 pin female connector with axial cable

Protection class IP65
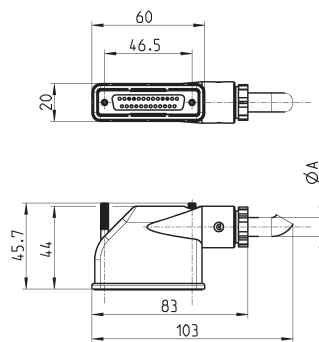
Mod.	⌀A	PIN	cable length (m)
G3X1-3	7.7	15	3
G3X1-5	7.7	15	5
G3X1-10	7.7	15	10
G3X1-15	7.7	15	15
G3X1-20	7.7	15	20
G3X1-25	7.7	15	25
G4X1-3	10	25	3
G4X1-5	10	25	5
G4X1-10	10	25	10
G4X1-15	10	25	15
G4X1-20	10	25	20
G4X1-25	10	25	25

2

Cables with straight connectors

For PROFINET, EtherCAT, EtherNet/IP and for the subnet
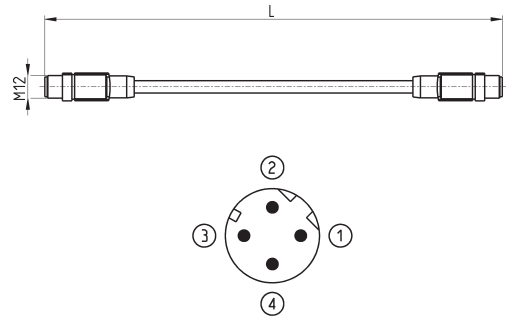
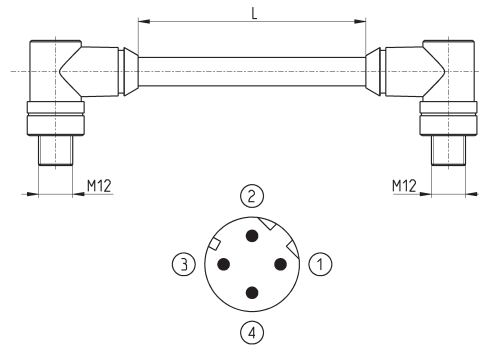| Mod.	description	type of connector	connection	L [cable length] (m)
CS-SB04HB-D100	moulded cable	straight	2x M12 D 4 pin male	1
CS-SB04HB-D500	moulded cable	straight	2x M12 D 4 pin male	5
CS-SB04HB-DA00	moulded cable	straight	2x M12 D 4 pin male	10
CS-SB04HB-DD00	moulded cable	straight	2x M12 D 4 pin male	15
CS-SB04HB-DG00	moulded cable	straight	2x M12 D 4 pin male	20
CS-SB04HB-DJ00	moulded cable	straight	2x M12 D 4 pin male	25

Cables with angular 90° connectors

For PROFINET, EtherCAT, EtherNet/IP and for the subnet

Mod.	description	type of connector	connection	L [cable length] (m)
CS-SC04HB-D100	moulded cable	90°	2x M12 D 4 pin male	1
CS-SC04HB-D500	moulded cable	90°	2x M12 D 4 pin male	5
CS-SC04HB-DA00	moulded cable	90°	2x M12 D 4 pin male	10
CS-SC04HB-DD00	moulded cable	90°	2x M12 D 4 pin male	15
CS-SC04HB-DG00	moulded cable	90°	2x M12 D 4 pin male	20
CS-SC04HB-DJ00	moulded cable	90°	2x M12 D 4 pin male	25

M8 and M12 connector cover caps

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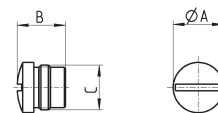
Mod.	A	B	C [Connection]
CS-DFTP	10	11	M8
CS-LFTP	13.5	13	M12

Mounting brackets for DIN rail

DIN EN 50022 (mm 7,5 x 35 - width 1)
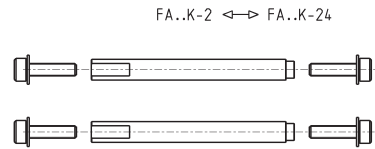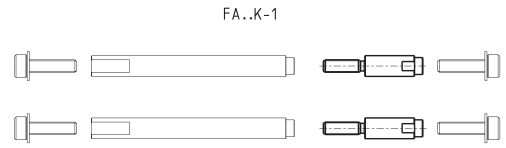
Supplied with:
2x plates
2x screws M4x6 UNI 5931

Mod.
PCF-E520

Products designed for industrial applications.
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CONTROL
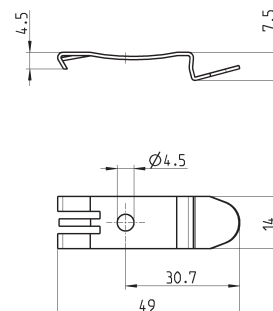
CODING EXAMPLES of SINGLE VALVE (spare part) and TERMINALS (accessories)

CODING EXAMPLE OF A SINGLE SOLENOID VALVE		CODING EXAMPLE OF INTERMEDIATE PLATES	
FP2V-MQR		**FP2V-WQ**	
F	Series	F	Series
P	Type: P = pneumatic	P	Type: P = pneumatic
2	Size: 1 = 12 mm 2 = 14 mm	2	Size: 1 = 12 mm 2 = 14 mm
V	Solenoid valve or additional plate	V	Solenoid valve or additional plate
-		-	
M	Type of function: M = 5/2 monostable D = 5/2 monostable with bistable board B = 5/2 bistable C = 2 x 3/2 NC A = 2 x 3/2 NO G = 3/2 NC + 3/2 NO E = 2 x 2/2 NC F = 2 x 2/2 NO I = 2/2 NC + 2/2 NO V = 5/3 CC	W	Type of function: L = free position W = free position with bistable board Z = free position with monostable board X = supplementary power supply and exhaust T = separated power supply and exhaust U = separated power supply and supplementary exhaust K = supplementary power supply and separated exhaust
Q	Cartridges for solenoid valves: Q = Ø4 R = Ø6 S = Ø8 (not for Size 1)	Q	Cartridges for plates: Q = Ø4 R = Ø6 S = Ø8 (not for Size 1) L = free position (no cartridges) W = free position with bistable board (no cartridges) Z = free position with monostable board (no cartridges)
R	Type of manual override: R = push and turn (bistable) P = pressure (monostable)		

| CODING EXAMPLE OF A LEFT TERMINAL		CODING EXAMPLE OF A RIGHT TERMINAL	
FA2T-S		**FA2T-AR**	
F	Series	F	Series
A	Accessory	A	Accessory
2	Size: 1 = 12 mm 2 = 14 mm	2	Size: 1 = 12 mm 2 = 14 mm
T	Type of accessory: T = terminal	T	Type of accessory: T = terminal
-		-	
S	Cartridges: = no cartridge S = Ø8 T = Ø10	A	Type of servo-pilot: A = internal B = external
		R	Cartridges: R = Ø6

Tie-rods for valves size 1 (12mm)

FA..K-1

FA..K-2 ⟷ FA..K-24

Mod.	Valve positions	NOTE
FA1K-2	2	*
FA1K-4	4	*
FA1K-6	6	*
FA1K-8	8	*
FA1K-10	10	*
FA1K-12	12	*
FA2K-12	14	*
FA1K-16	16	*
FA1K-18	18	*
FA1K-20	20	*
FA1K-22	22	*
FA1K-24	24	*
FA1K-1	-	**

* Tie-rod.
The supply includes
2 tie-rods and 4 screws.

** Joint bolt for odd positions.
The supply includes 2 joint bolts.

Tie-rods for valves size 2 (14mm)

FA..K-1

FA..K-2 ⟷ FA..K-24
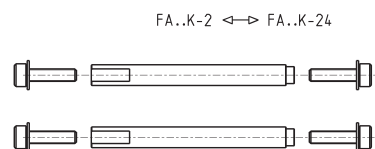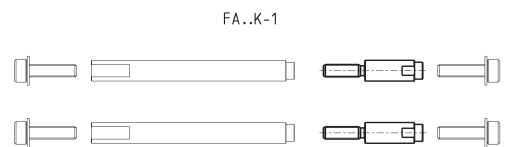
Mod.	Valve positions	NOTE
FA2K-2	2	*
FA2K-4	4	*
FA2K-6	6	*
FA2K-8	8	*
FA2K-10	10	*
FA2K-12	12	*
FA2K-14	14	*
FA2K-16	16	*
FA2K-18	18	*
FA2K-20	20	*
FA2K-22	22	*
FA2K-24	24	*
FA2K-1	-	**

* Tie-rod.
The supply includes
2 tie-rods and 4 screws.

** Joint bolt for odd positions.
The supply includes 2 joint bolts.

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CONTROL

Tie-rod plastic cover

When ordering the cover, specify the length,
measured in metres.

Mod.

LAMINA-EST-32

Interchangeable cartridges for valves/plates and for terminals

TABLE LEGEND:

✖ = compatible with
V F1 = solenoid valve or additional plate, size 1
Tdx F1 = right terminal, size 1
Tsx F1 = left terminal, size 1
V F2 = solenoid valve or additional plate, size 2
Tdx F2 = right terminal, size 2
Tsx F2 = left terminal, size 2

ØA
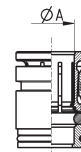
Mod.	ØA	V F1	Tdx F1	Tsx F1	V F2	Tdx F2	Tsx F2
6700 4-F1	4	✖					
6700 4-F2	4				✖		
6700 6-F1	6	✖	✖			✖	
6700 6-F2	6				✖		
6700 8-F1	8			✖			✖
6700 8-F2	8				✖		
6700 10-F1	10			✖			✖

Identification plates

The packaging contains
45 identification plates 9x5mm

Mod.

HP1/E