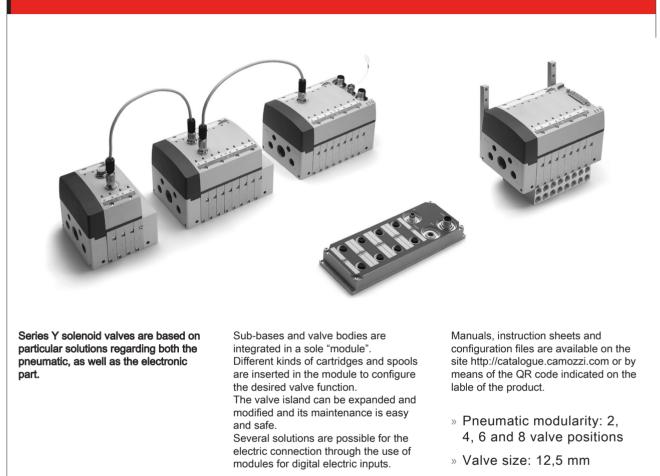
Series Y valve islands, Individual, Multipole and Fieldbus

Valve Island with integrated Pneumatics and Electronics. Available versions: Individual, Multipole, Fieldbus (Profibus-DP, DeviceNet, CANopen). Valve functions: 2x2/2; 2x3/2; 5/2; 5/3 CC



» Flow rate: 800 NI/min



GENERAL AND ELECTRICAL DATA

Enclosed in the package there is a label on which it is possible to write each individual coil number.

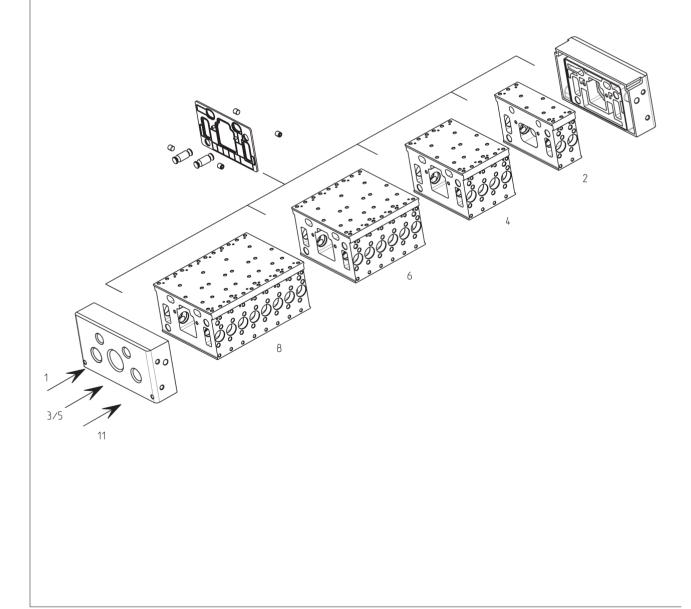
2

PNEUMATIC SECTION		
Valve construction	Spool with seals	
Valve functions	5/2 monostable and bistable 5/3 CC 2 x 2/2 NC 2 x 2/2 NO 1 x 2/2 NC + 1 x 2/2 NO 2 x 3/2 NC 2 x 3/2 NO	
Materials	1 x 3/2 NC + 1 x 3/2 NO Aluminium spool brass cartridge seals in NBR end covers and covers in technopolymer	
Connections	Outlets 2 and 4: G1/8 Inlets 1 and 11: G1/4 Pilot ports: 12/14 and respective exhaust 82/84 G1/8 Exhausts 3/5: G1/2	
Temperature	0 ÷ + 50°C	
Air specifications	Filtered compressed air, non lubricated, class 3.4.3 according to ISO 8573.1 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 3.4.3 according to ISO 8573.1 standard.	
Dimensions/size	12.5 mm	
Working pressure	-0.9 ÷ 10 bar (with external servo pilot supply)	
Pilot pressure	3 ÷ 7 bar	
Flow rate	800 NI/min	
INLETS SECTION		
Voltage	24 V ±10%	
Max current	350 mA	
Operating temperature	0°C ÷ +50°C	
Relative humidity	30-90% +25°C 30-50% +50°C	
Conform with standards	EN 61131-2 EN 61000-6-2 EN 61000-6-4	
Protection class	IP65	
Max. number of connected inlets	48	
Max. number of connected Inlet Modules	3	
Max. distance between init. mod. and last input or expansion mod.	50 m	
Max. cable length between sensor and input module	30 m	
ELECTRICAL SECTION		
Voltage	24V ±10%	
Max. absorption	1300mA continuous 1600 mA latch	
Operating temperature	0°C ÷ +50°C	
Continuous current	ED 100%	
Protection class	IP50 Individual version IP65 Multipole version PNP IP65 Fieldbus versions	
Baud rate	Profibus-Dp 12 Mbit/s EN 50170 DeviceNet 500 Kbit/s EN 50235 CAN open 500 Kbit/s EN 50235	
Maximum number of nodes	Profibus-Dp 32/127 DeviceNet 64 CAN open 127	
Maximum number of expansions per node	15	
Max. length of internal Fieldbus	50 m	
Relative humidity	30-90% +25°C 30-50% +50°C	
Conform with standards	EN 61326-1 EN 61010-1	
Max. number of solenoids connected/activated at the same time	32	

HOW TO COMPOSE THE VALVE ISLAND (EXAMPLE)

- one or more pneumatic modules with either 2, 4, 6 or 8 valve positions incorporating the sub-base with two separated channels for supply and exhaust, and the seat for the valves. It is possible to join the different modules together with pins and fixing screws, thus increasing the number of valve positions;

- two terminal plates (right and left) on which it is possible to connect pressure inlets and exhausts;
- seals among the various elements;
- cartridges and spools which reproduce the different valve functions (further information on the following pages)
- one or more covers which integrate electronics and pilots distributing signals to valves (further information on the following pages)



CONTROL

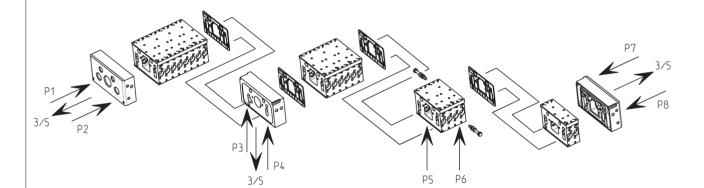
Plate for supplementary supply and exhaust

The two independent supplies allow the same valve to have different pressure values on outlets 2 and 4.

In this way a higher pressure can be used for the working operations and a lower pressure for the repositioning of the actuators, reducing the costs for generating compressed air.

The modularity of 2, 4, 6 or 8 valve positions allows, through the specific seals, to subdivide the island in pressure/exhaust zones without loosing valve positions. Functions W or X can be used to supply the intermediate pressure zones of an island.

To avoid any possible problem during exhaust, the exhaust itself has been increased and it passes through on both sides.





CONTROL

Air specifications - filtering elements

To guarantee a proper air quality and to not compromise the functioning of the valves, we advise to adopt filtering elements according to class 3 of table DIN ISO 8573-1.



•	>>>		
		L	
MC202-FB0 P. max 15 bar 1. max 50° C F. max 25 µm	\$.	MOII	
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	0		
	-		
	11		

Filter models:

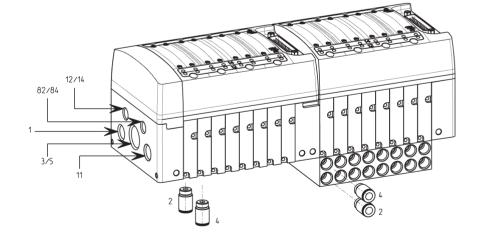
AIR QUAI	LITY CLASS ACCORDING TO STANDARD DIN ISO 8573-1	
Class	Solid bodies Max. dimension of the particles	Water contents de
1	0,1 µ	-70°C

Class	Solid bodies Max. dimension of the particles	Water contents dew-point	Oil quantity max. concentration mg/m ³
1	0,1 µ	-70°C	0,01
2	1μ	-40°C	0,1
3	5 μ	-20°C	1
4	15 µ	+3°C	5
5	40 µ	+7°C	25

Connection by means of terminal plates

The connection to the compressed air source by means of terminal plates enables different types of connection. The fitting Mod. 6512 * (for dimensions see section 4/1.05) can be connected to inlets 2 and 4.

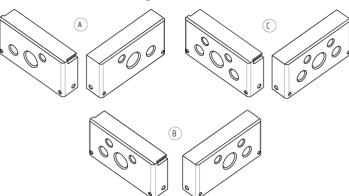
* It is possible to connect the following fittings, supplied with O-ring: 6512-4-1/8-M 6512-6-1/8-M 6512-8-1/8-M



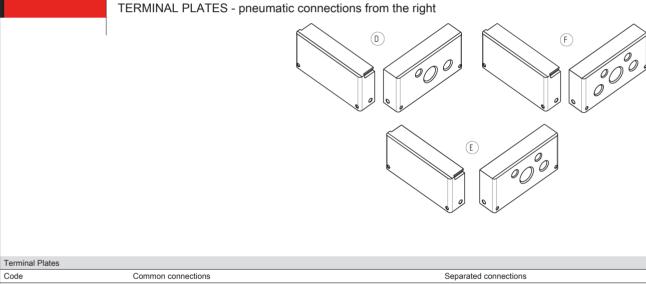
Supply (1-11)	Exhaust (3/5)	Servo-pilot supply (12/14)	Servo-pilot exhaust (82/84)	Inlets (2-4)
G1/4	G1/2	G1/8	G1/8	G1/8



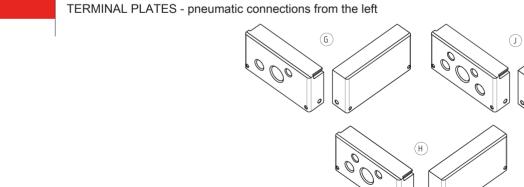
TERMINAL PLATES - pneumatic connections from left and right



Code Common connections Separated connections A 1 - 11 12/14 82/84 3/5 B 1 - 11 12/14 82/84 3/5	erminal Plates		
B 1 - 11 12/14 82/84 3/5	ode	Common connections	Separated connections
	۱.	1 - 11 12/14	82/84 3/5
	3	1 - 11	12/14 82/84 3/5
C - 1 - 11 12/14 82/84 3/5	;	-	1 - 11 12/14 82/84 3/5

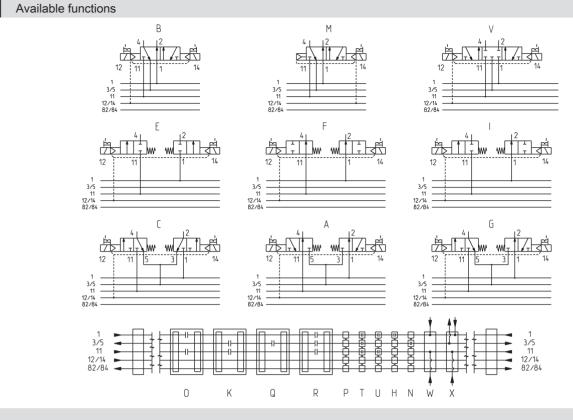


D 1 - 11 12/14	82/84 3/5
E 1-11	12/14 82/84 3/5
F -	1 - 11 12/14 82/84 3/5



Terminal Plates		
Code	Common connections	Separated connections
G	1 - 11 12/14	82/84 3/5
н	1 - 11	12/14 82/84 3/5
J	-	1 - 11 12/14 82/84 3/5





Code	Function	Actuation/return	Working pressure (bar)	Pilot pressure (bar)	Symbo
М	5/2 Monostable	solenoid/pneumatic spring	-0,9 ÷ 10	3 ÷ 7	М
в	5/2 Bistable	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	В
V	5/3 Centres Closed	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	V
I	2 x 2/2 (1 NO + 1 NC)	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	1
E	2 x 2/2 (NC)	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	E
F	2 x 2/2 (NO)	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	F
G	2 x 3/2 (1 NO + 1 NC)	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	G
С	2 x 3/2 (NC)	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	С
A	2 x 3/2 (NO)	solenoid/solenoid	-0,9 ÷ 10	3 ÷ 7	А
L	Free position	-	-	-	L
W	Additional supply from 2 and 4	-	-	-	W
Г	Diaphragm seal (module's separation)	-	-	-	Т
>	Through seal (module's separation)	-	-	-	Р
Γ/	Diaphragm seal (separation of both modules and covers)	-	-	-	Т
P/	Through seal (separation of both modules and covers)	-	-	-	Р
U	Diaphragm seal 3/5 open	-	-	-	U
н	Diaphragm seal 3/5 - 11 open	-	-	-	Н
N	Diaphragm seal 1 - 11 open	-	-	-	N
U/	Diaphragm seal 3/5 open (separation of both modules and covers)	-	-	-	U
к	Expansion module, 2 positions with 3/5 - 11 closed	-	-	-	К
२	Expansion module, 2 positions with 3/5 - 1 - 11 closed	-	-	-	R
C	Expansion module, 2 positions with 1-11 closed	-	-	-	0
Q	Expansion module, 2 positions with 3 - 5 closed	-	-	-	Q
x	Module for additional supply	-	-	-	Х

CONTROL

Cartridges and spools for the creation of valve functions

The different valve functions are obtained by inserting the cartridges and spools in the seats of the pneumatic module. These seats have been designed at right angles with respect to the terminal plates.

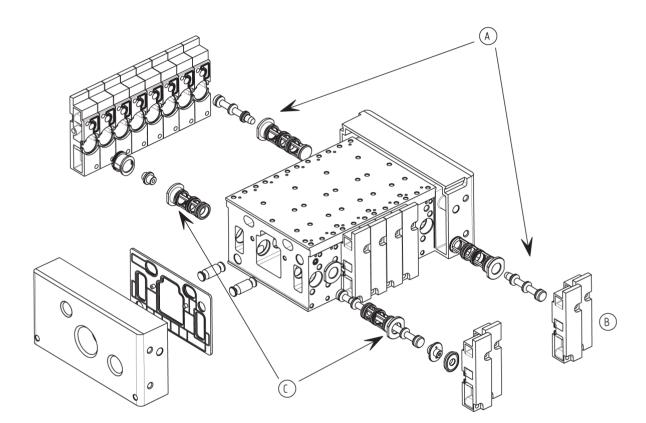
The shape of cartridges and spools depends on the valve function required.

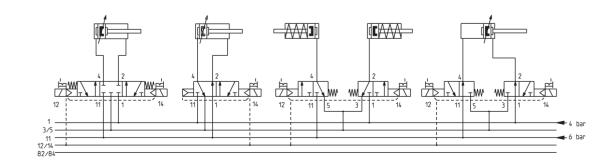
Example: (A) = Cartridge and spool for a 3/2-way function

(B) = End cover

(C) = Cartridge and spool for a 5/2-way function

The modification or maintenance of a valve position is obtained removing the end cover "B" and replacing both the cartridge and the spool. During modification/maintenance, the tubing for the pneumatic connection can stay connected to the island, thus simplifying and optimising the whole operation.





Valve Islands > 2016

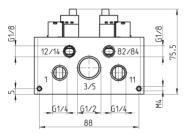


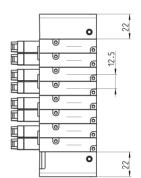
CONTROL

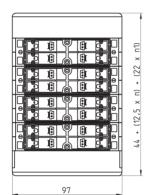
Individual version - dimensions

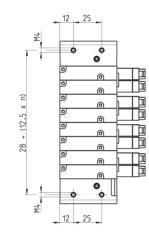
n = number of valves n1 = number of supplementary power supply modules (cod. X)

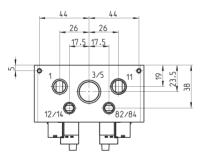














Covers

The Multipole and Fieldbus versions use covers for the pilot valves, which guarantee the IP65 protection class as well as the mechanical protection of internal parts. The covers combine:

- manual override in the monostable and bistable functions.
- A simple pressure is enough to obtain a monostable function,
- whereas the bistable function is obtained coupling a rotation. - LEDs for the voltage signalling on the coil
- diagnostic LEDs on Fieldbus versions
- ports for the electrical connectors

CONTROL > Series Y valve islands

- integrated electronic boards
- connection interface with the pilot valves
- outlet protection against overvoltage, reversed polarity and
- short circuit
- connections realized on printed circuit boards

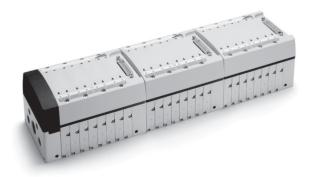


Covers - Multipole version

The Multipole cover is available in three sizes and allows the connection to valve islands with 4, 6 or 8 valve positions. Every position can be freely equipped with either monostable or bistable solenoid.

It is possible to join two or more valve islands placing a plate for intermediate supply, type "X", under every Sub-D plug. Pneumatic modules can be composed of 2, 4, 6 or 8 valve positions and separated by various seals.

A module for additional supply type "X" or a function "W" must be always inserted between two seals separating channels 1 and 11.



CONTROL

Valve Islands > 2016



CONTROL

Multipole version - dimensions A = 8 positions B = 6 positions C = 4 positions 61/8 <u>G</u>1/8 91.6 12/14 82/84 \bigcirc \bigcirc Å4 3/5 o Ś 12 _ 25 _ <u>G1/4</u> <u>G1/2</u> G1/4 ¥ • • 22 0 0 6 D)] þ 0 ø 12.5 loj ര ര 78 (C) 144 (A) 94 (C) 0 6 Ó 0 119 (B) 103 (B) <u>0</u> ы 128 (A) 0 6 loj ര 6 ত 0 б 0 0 б 0 0 22 Ó ¥ 97 12 25 44 44 26 _____26 17.5 17.5 5 19 23.5 38 0 3/5 0 11 1 3/5 ø \bigcirc \bigcirc \bigcirc 12/14 **O**_{82/84} 80.9 12/14 **O**_{82/84} 126.6 150.9 182.8 1 101.7 119.5

Covers - Fieldbus version

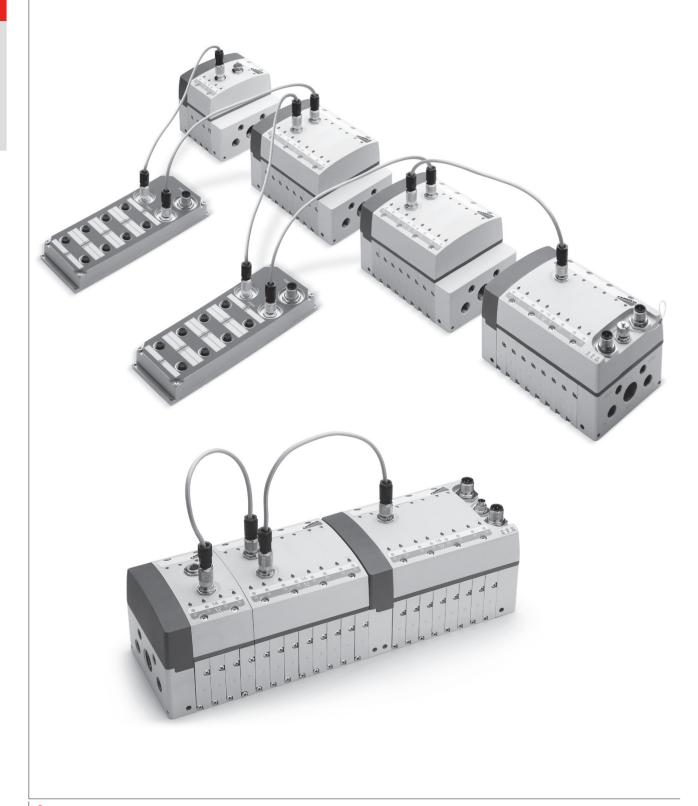
This version allows the direct connection to Profibus-Dp, DeviceNet, CANOpen. The main feature of this version is a starting module called "Initial module" to which the subfieldbus is connected for the management of the expansion modules. The Initial module can arrange up to 32 solenoids (outputs) and 48 inlets. To optimize the electronic part, a proper function allows the remoting of unused outlets on the expansion modules. It is thus possible to pilot 32 solenoids on 32 valve positions without loosing any output signal. Advantages:

- cost reduction thanks to a reduced number of initial modules that can be replaced by expansion modules;

- simplified code as the type of subbase is the same for bistable or monostable solenoid valves;

- saving of electrical signals that are not consumed by free positions and/or diaphragm seals;

- reduced dimensions, simplified connections and optimization of installation costs thanks to the covers modular structure which allows several islands to be joined together.



2

The initial module has always 8 positions.

It is only the initial module to which the Fieldbus and electrical supply (24V DC) is connected.

The coils addressing can be sequential or customized by a specific configuration software that can be downloaded from our website http://catalogue.camozzi.com/Downloads, as well as the configuration file.

Pneumatic modules, available with 2, 4, 6, or 8 valve positions, can be separated by proper seals and allow the creation of different pressure/exhaust zones.



Fieldbus Expansion Module - characteristics

Versions available: 2 valve positions 4 valve positions 8 valve positions

The expansion modules:

- communicate among themselves and with the initial module through the Cam.I.Net subfieldbus.

- can be easily added to enlarge the valve island, thus avoiding the use and costs of free positions;

- can be positioned up to 50 metres from initial module and subdivided into up to 15 groups.

The particular construction of the islands allows the in-line mounting of all the Expansion modules.

Pneumatic modules, available with 2, 4, 6, or 8 valve positions, can be separated by proper seals and allow the creation of different pressure/exhaust zones.





Electrical digital inputs module ME-1600-DL* - Characteristics

It allows the connection of 16 electrical input signals via 8 M12 DUO 5 poles connections. It is thus possible to connect 2 inputs for each connection. The input module can be positioned at any point of the Cam.I.Net. sub-fieldbus. 3 input modules at most can be connected to the initial module, for a total of 48 inputs.

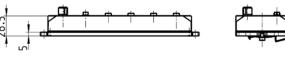
* not for the DeviceNet version

2

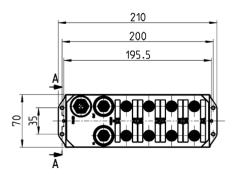


Digital Inputs Module ME-1600-DL* - dimensions

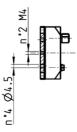
* not for the DeviceNet version



PCF-E520







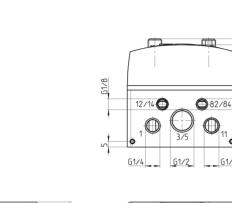
Valve Islands > 2016

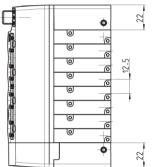
CONTROL > Series Y valve islands

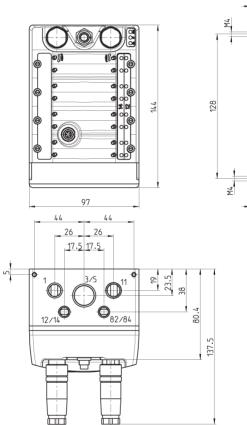


Fieldbus Initial Module - dimensions

Dimensions don't change according to the different Fieldbus versions (Profibus-DP, CANopen, DeviceNet).







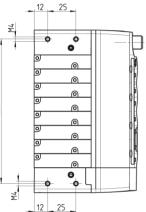
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G1/4

61/8

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91 95.9

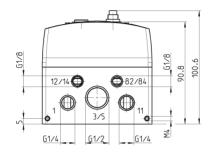


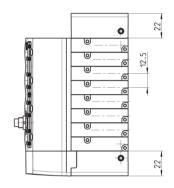


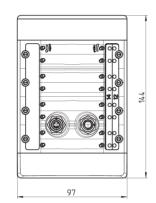


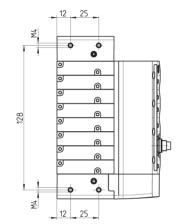
Fieldbus Expansion Module with 8 valve positions - dimensions

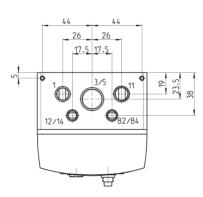




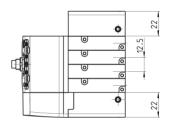


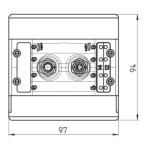












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82/84

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G1/4

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60

Fieldbus Expansion Module with 4 valve positions - dimensions

61/8

5

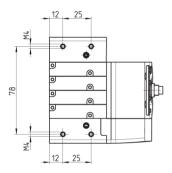
12/14

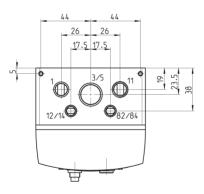
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<u>G1/4</u>

3/5

<u>G1/2</u>





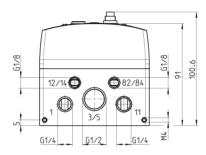
Products designed for industrial applications. General terms and conditions for sale are available on www.camozzi.com.

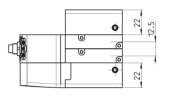


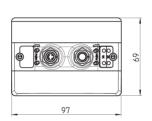
Fieldbus Expansion Module with 2 valve positions - dimensions

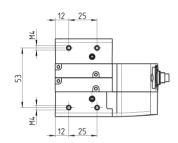


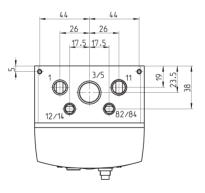
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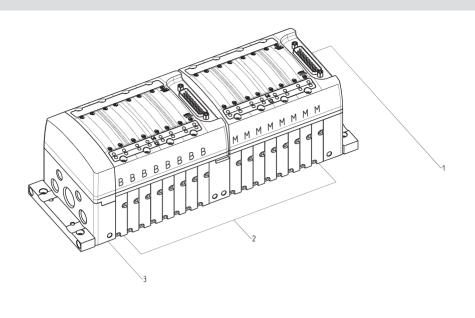








CO	n	NC
CO	וט	ING.



1 2 3 ... - 3

1	2	3
Y P 1 M -	8 M P X P 8 B	- [

) Code	Type of electrical connection	(2) Code	Type of valve	(3) Code	Type of terminal plates
к	Individual		-		-
м	Multipole (PNP)		-		-
Р	Profibus-Dp		-		-
D	DeviceNet		-		-
С	CANopen		-		-
Е	Expansion		-		-
	-	М	5/2 Monostable		-
	-	В	5/2 Bistable		-
	-	V	5/3 CC		-
	-	I	2 x 2/2 1 NO + 1 NC		-
	-	Е	2 x 2/2 NC		-
	-	F	2 x 2/2 NO		-
	-	G	2 x 3/2 1 NO + 1 NC		-
	-	C	2 x 3/2 NC		-
	-	А	2 x 3/2 NO		-
	-	L	Free position		-
	-	w	Additional supply module from 2 and 4		-
	-	Т	Diaphragm seal (modules separation)		-
	-	P	Through seal (modules separation)		-
	-	T/	Diaphragm seal (modules and cover separation)		-
	-	P/	Through seal (modules and cover separation)		-
	-	U	Diaphragm seal 3/5 opened		-
	-	Н	Diaphragm seal 3/5-11 opened		-
	-	N	Diaphragm seal 1-11 opened		-
	-	U/	Diaphragm seal 3/5 opened, modules and cover separ.		-
		<u>к</u>	Module with 2 positions and 3/5-11 closed		
		R	Module with 2 positions and 3/5-1-11 closed		-
	-	0	Module with 2 positions and 1-11 closed		-
		Q	Module with 2 positions and 3/5 closed		
		X	Additional supply module		
	-	~		A	in common 1/11 - 12/14 individual 82/84 - 3/
			-	B	in common 1/11 individual 12/14 - 82/84 - 3/
			-	c	individual 1/11 - 12/14 - 82/84 - 3/5
				D	in common 1/11 - 12/14 individual 82/84 - 3/3
				E	in common 1/11 individual 12/14 - 82/84 - 3/
				F	individual 1/11 - 12/14 - 82/84 - 3/5
				G	in common 1/11 - 12/14 - 82/84 - 3/5
			-	H	
			-	J	in common 1/11 individual 12/14 - 82/84 - 3/
	-		-		individual 1/11 - 12/14 - 82/84 - 3/5
	-		-	Z	modules without terminal plate

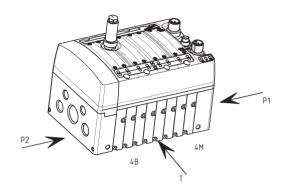


Coding example 1

Valve island with Profibus-DP connection made of: 4x solenoid valves type M 1x diaphragm seal Mod. T 4x solenoid valves type B Terminals with 1 and 11 in common on both sides and 12 /14 separated.

Code: YP1P-4MT4B-B

For the code composition see the coding table on page $2/3.10.19\,$



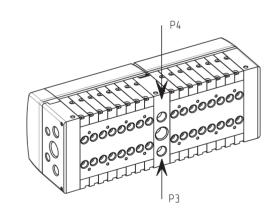
Coding example 2

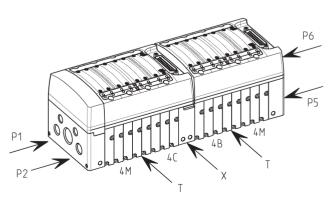
Valve island with Multipole connection made of:

- 4x solenoid valves type M
- 1x diaphragm seal Mod. T for the separation of pressure zones
- 4x solenoid valves type B
- 1x through-out seal Mod. P
- 1x intermediate additional supply module Mod. X
- 1x through-out seal Mod. P
- Terminals with individual connection
- 4x solenoid valves type C
- 1x diaphragm seal Mod. T for the separation of pressure zones 4x solenoid valves type ${\rm M}$

Code: YP1M-4MT4BPXP4CT4M-C

For the code composition see the coding table on page 2/3.10.19





2/3.45.20

106

CONTROL

Led 1 = Yellow LNK1

Led 2 = Yellow LNK2 Led 3 = Green PWR,

Mod.

CXA-25P

Interface Sub-D 25 pin

supply present and OK

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

single Output is 3 W to 24 V DC. Thanks to the PWM technique it is possible to set a power reduction to

of the subnet. The subnet can have a maximum

length of maximum 100 metres. The power of a

only maintain operation.

CXA-37P

• **************

IN

PWR

OUT

24

CXA-25P

•6

100

ø

LNK1

3

PWR

၀၀၀

3

LNK2

2

(4)

PWR

•

1

5)

TTO

- Constant

() (0 0 0

2

0

o

(4)

BUS IN / BUS OUT

250

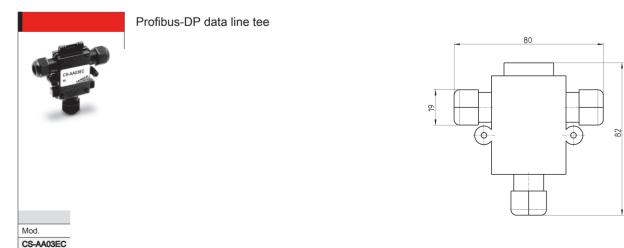
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Digital Outs	Bus-IN connection	Bus-OUT connection	PWR connection	Supply	Power for every Output

	25M-25F Sub	o-D adaptor			
	I			9 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
				Concentration of the back	
Mod. descrip	tion type of connector	connection	cable length (m)		
G2X-G2W moulded a		Sub-D 25 pin female - Male	-		



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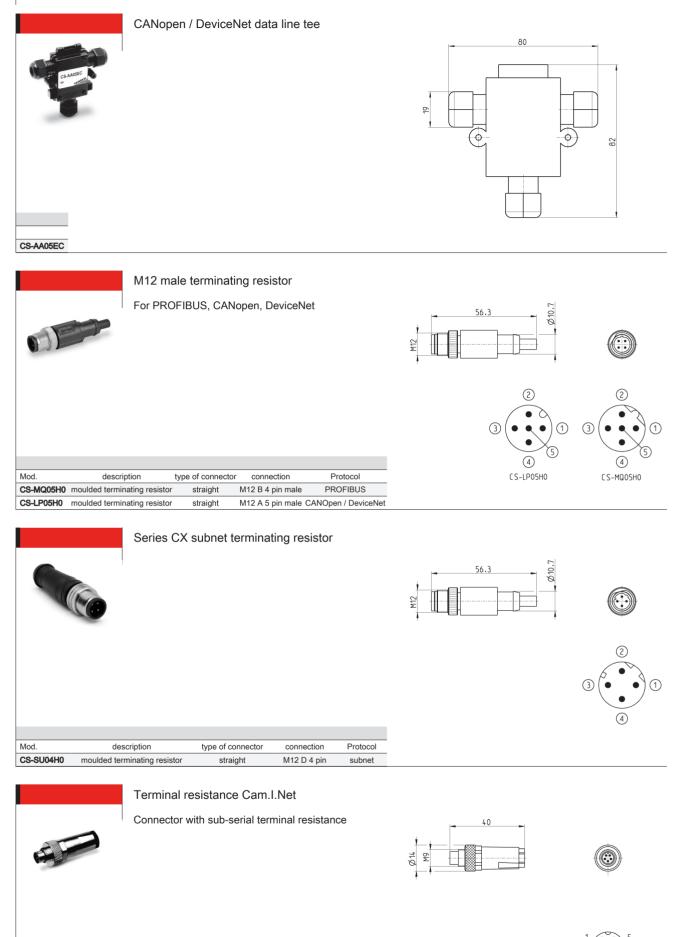




CONTROL

Mod. CS-FP05H0

2/3.45.22 108



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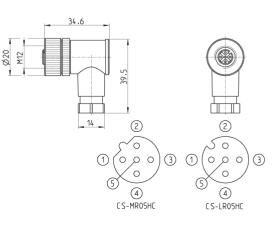
CONTROL

Straight connector for power supply 53 Ø19 M12 Ø18 (2) \cap 0 0 3 (1)(4) Mod. description type of connector connection cable length (m) CS-LF04HB for wiring straight M12 A 4 pin female Angular connector for power supply 34.6 Ø20 M12 S 39.5 ŧ. 14 2 0 5 1 0 Q 0 3 0 (5) (4) Mod. description type of connector connection cable length (m) CS-LR04HB 90° M12 A 4 pin female for wiring Straight female M12 connectors for Bus-IN 57 T Ø18 Ø20 M12 2 2 0 0 Ó ρ 3 3 0 0 0 0 0 0 (5) 4 4 CS-MF05HC C S-LF05HC

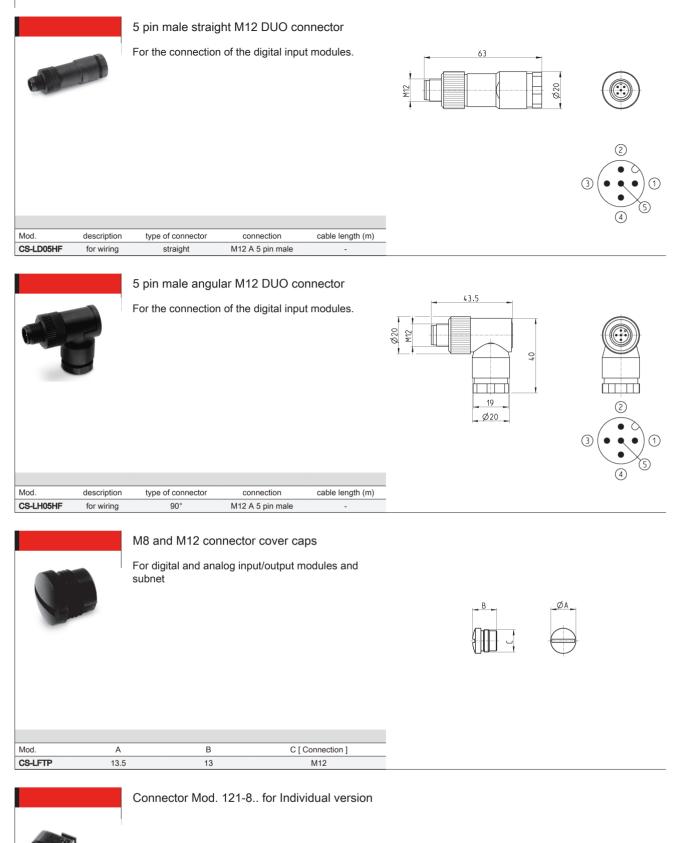
Mod.	description	type of connector	connection	Protocol
CS-LF05HC	for wiring	straight	M12 A 5 pin female	CANopen / DeviceNet
CS-MF05HC	for wiring	straight	M12 B 5 pin female	PROFIBUS

Angular 90° female M12 connectors for Bus-IN

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









Mod.	description	colour	L = cable length (mm)	cable holding
121-803	crimped cable	black	300	crimping
121-806	crimped cable	black	600	crimping
121-810	crimped cable	black	1000	crimping
121-830	crimped cable	black	3000	crimping

2/3.45.24 110

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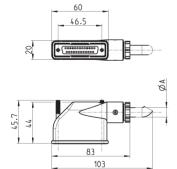
Mod.	A	PIN	cable length (m)
G3X-3	7.7	15	3
G3X-5	7.7	15	5
G3X-10	7.7	15	10
G3X-15	7.7	15	15
G3X-20	7.7	15	20
G3X-25	7.7	15	25
G4X-3	9	25	3
G4X-5	9	25	5
G4X-10	9	25	10
G4X-15	9	25	15
G4X-20	9	25	20
G4X-25	9	25	25

Protection class IP65

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

Straight Sub-D 25 pin female connector with axial cable

Protection class IP65



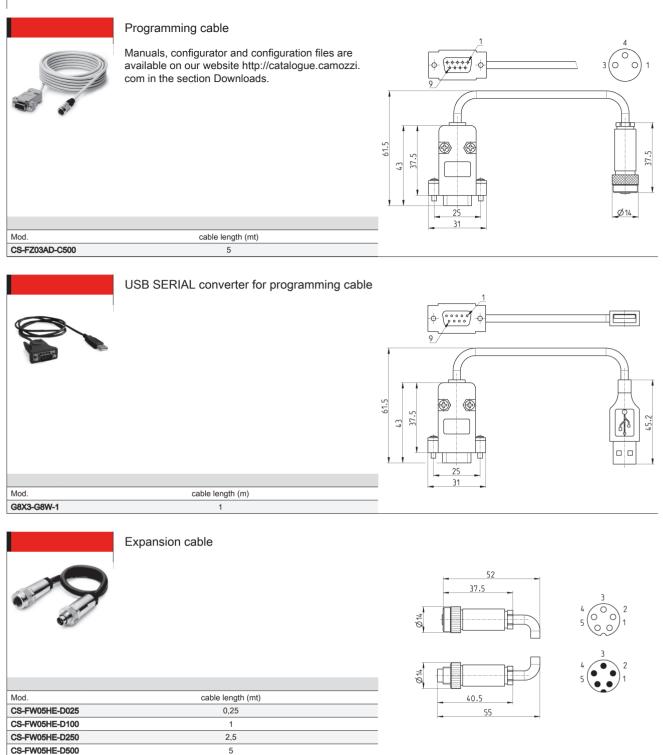
Mod.	A	PIN	cable length (m)
G3X1-3	7.7	15	3
G3X1-5	7.7	15	5
G3X1-10	7.7	15	10
G3X1-15	7.7	15	15
G3X1-20	7.7	15	20
G3X1-25	7.7	15	25
G4X1-3	10	25	3
G4X1-5	10	25	5
G4X1-10	10	25	10
G4X1-15	10	25	15
G4X1-20	10	25	20
G4X1-25	10	25	25

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CONTROL

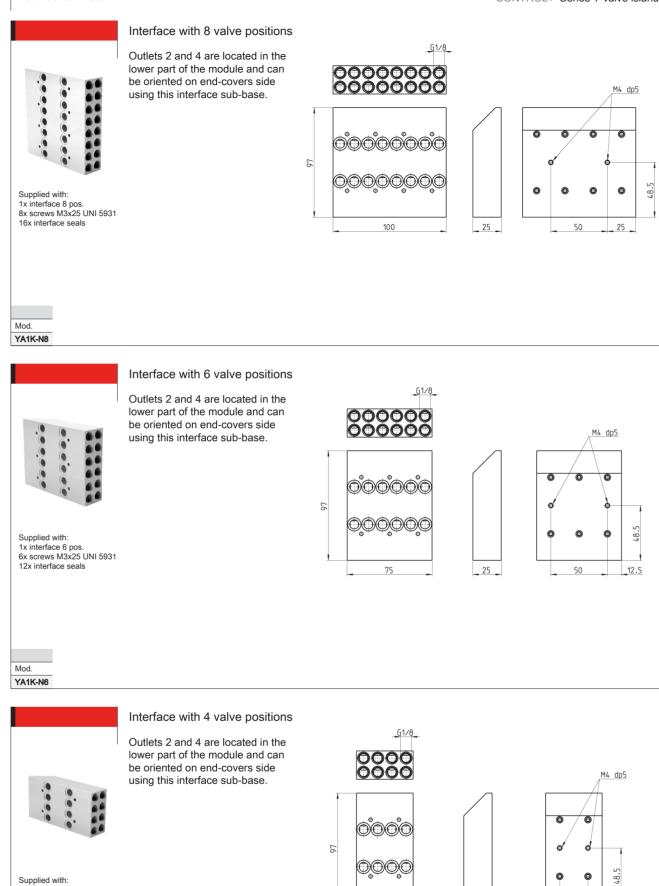


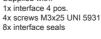
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CS-FW05HE-DA00



CONTROL





Mod. YA1K-N4

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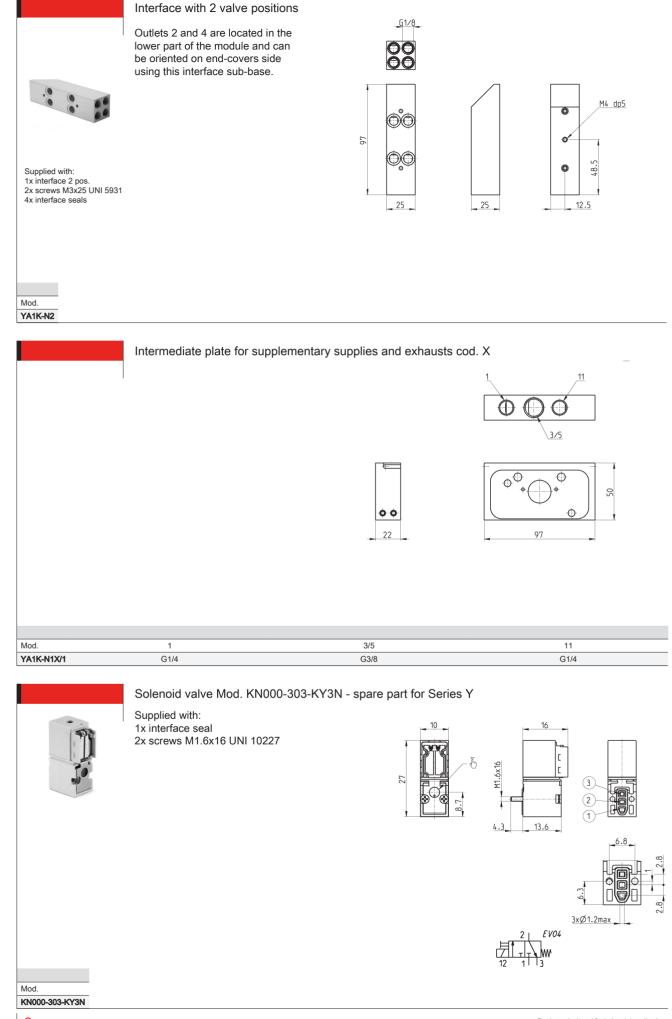
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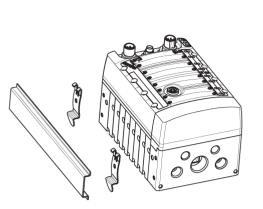
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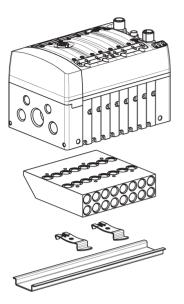


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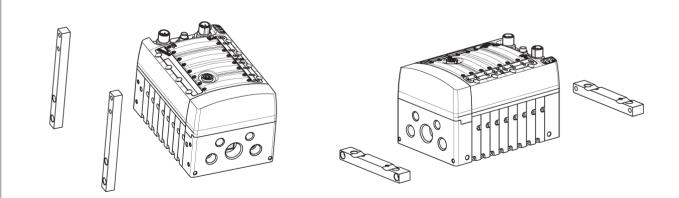








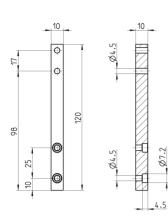
Wall mounting solutions







Vertical foot Supplied with: 2x vertical feet 2x screws M4x10 UNI 5931



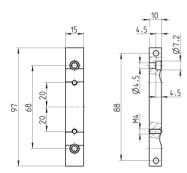
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Mod. YA1K-B2



Horizontal foot

Supplied with: 2x horizontal feet 2x screws M4x14 UNI 5931



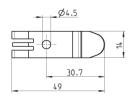
Mod. YA1K-B1

Mounting brackets for DIN rail

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

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





DIMENSIONS Mod. PCF-E520

2/3.45.30 116