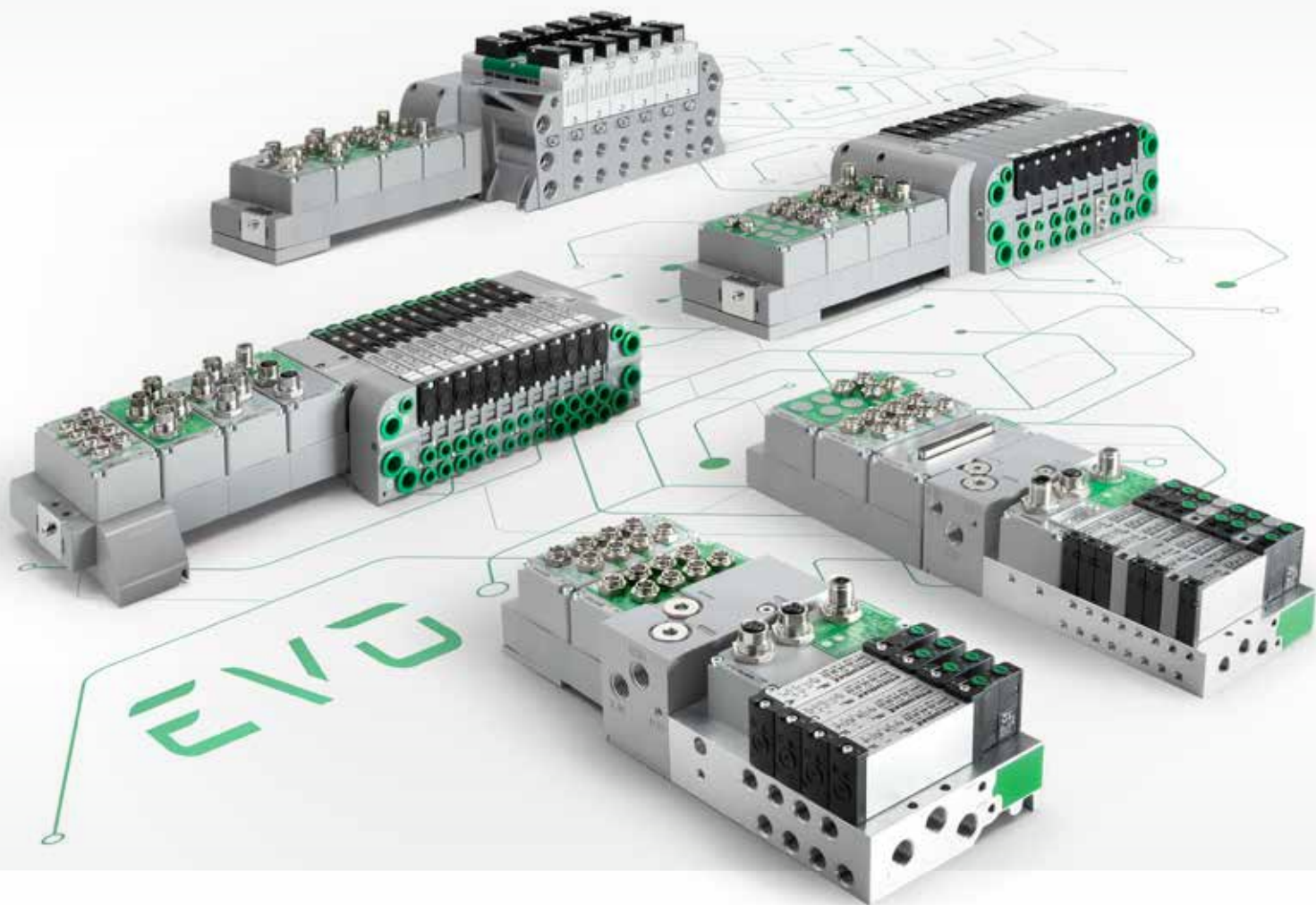




PNEUMAX



PNEUMAX SOLUTIONS FOR AUTOMATION CONTROL

EVO CATALOGUE

Pneumax solutions for automation control EVO Catalogue

Pneumax solenoid valves are available as the EVO version, coupled with multiprotocol modules/electronics from the PX range.





Pneumax Group

Smart Technologies and Human Competence

Founded in 1976, **Pneumax S.p.A.** is today one of the leading international manufacturers of components and systems for industrial automation. It is at the forefront of a Group comprised of **27 companies**, with **over 800 employees worldwide**.

Ongoing investment in research and development has allowed **Pneumax** to continually expand its range of standard products and customized solutions. The use of the most advanced production technologies guarantees maximum flexibility and certified quality according to international standards in different sectors.

The desire to provide the service and application skills has in turn led to the creation of 3 specific business units, dedicated to Industrial automation, process automation and the automotive sector.

International network

Through a network of subsidiaries and exclusive distributors, Pneumax is present in more than **50 countries** around the world, supporting customers in all phases of the supply process, from pre-sales application analysis to after-sales service.



3 TECHNOLOGIES



Pneumatic technology



Electric actuation



Fluid control



WE SPEAK EVO

A unique control system,
a wide range of solutions

All the Pneumax solenoid valves manifold are now available in the EVO version, integrating the **new multiprotocol module PX Series**, designed to manage and command pneumatic and electropneumatic components and to offer extreme flexibility by interfacing with the most common communication protocols.

2700 EVO Series

Optyma EVO Series



PX Series

3000 EVO Series

The PX Series synthesizes the 'control' concept Pneumax is offering: a unique solution that can be used as stand alone or integrated onto valves manifold

- **Modular system**
- **Easy to configure**
- **Multiprotocol**

Wide range of fieldbus protocols



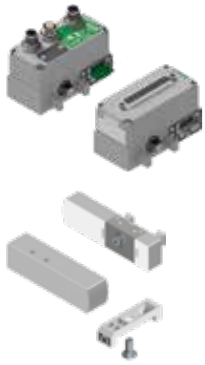


Index

Series EVO

Series PX

1



Configurator	2	Inputs and outputs modules	
Configuration examples	3	8 M8 & M12 digital inputs module kits	13
Accessories	4	8 M8 & M12 digital outputs module kits	14
Module assembly instructions	5	32 digital inputs & outputs module kits (37 pin SUB-D connector)	15
Serial systems			
CANopen® protocol node kit	6	Analogue inputs module kit M8	16
PROFIBUS DP protocol node kit	7	Analogue outputs module kit M8	17
EtherNet/IP protocol node kit	8	Pt100 inputs module kit	18
EtherCAT® protocol node kit	9	Additional modules	
PROFINET IO RT protocol node kit	10	Additional power supply module kit	19
CC-Link IE Field Basic protocol node kit	11	Signal management	
IO-Link protocol interface kit	12	Connectors	
			21

Series 3000 EVO

22



Series 3000 EVO - STAND ALONE (10 mm)			
Configurator	24	Serial systems	
Solenoid valves (self feeding)	25	CANopen® protocol node	59
Solenoid valves (external feeding)	27	PROFIBUS DP protocol node	60
Series 3000 EVO - STAND ALONE (15,5 mm)			
Solenoid valves (self feeding)	29	EtherNet/IP protocol node	61
Solenoid valves (external feeding)	31	EtherCAT® protocol node	62
Accessories	33	PROFINET IO RT protocol node	63
Installation specifications - (10 mm)	35	CC-Link IE Field Basic protocol node	64
Installation specifications - (15,5 mm)	37	IO-Link protocol interface	65
Series 3000 EVO - MANIFOLD (10 mm)			
Configurator	40	Inputs and outputs modules	
Configuration examples	43	8 M8 & M12 digital inputs module kits	66
Solenoid valves	44	8 M8 & M12 digital outputs module kits	67
Series 3000 EVO - MANIFOLD (15,5 mm)			
Solenoid valves	46	32 digital inputs & outputs module kits (37 pin SUB-D connector)	68
Multi-pin connections	48	Analogue inputs module kit M8	69
Accessories	49	Analogue outputs module kit M8	70
Installation specifications - (10 mm)	53	Pt100 inputs module kit	71
Module assembly instructions - (10 mm)	55	Additional modules	
Installation specifications - (15,5 mm)	56	Additional power supply module kit	72
Module assembly instructions - (15,5 mm)	58	Signal management	
		Connectors	
			74

Series 2200 Optyma-S EVO

75



Configurator	76
Installation specifications	80
Solenoid valves	82
Left Endplate / Right Endplate	84
Modular bases (2 places)	85
Accessories	86
Proportional technology accessories	87
Accessories	92

Series 2500 Optyma-F EVO

96



Configurator	97
Installation specifications	100
Solenoid valves	102
Left Endplate / Right Endplate / Modular base	104
Accessories	105

Series 2500 Optyma-T EVO

109



Configurator	110
Installation specifications	113
Solenoid valves	115
Left Endplate / Right Endplate / Modular base	117
Accessories	118

Series 2700 EVO

123



Configurator	124
Installation specifications	128
Module assembly instructions	130
Solenoid valves	131
Monitored solenoid valves	134
Solenoid valves for progressive start	137
Left Endplate / Right Endplate / Modular base	138
Accessories	139

EVO Electronics

144



Multi-pin module	145
Serial systems	
CANopen® protocol node kit	146
PROFIBUS DP protocol node kit	147
EtherNet/IP protocol node kit	148
EtherCAT® protocol node kit	149
PROFINET IO RT protocol node kit	150
CC-Link IE Field Basic protocol node kit	151
IO-Link protocol interface kit	152
Inputs and outputs modules	
8 M8 & M12 digital inputs module kits	153
8 M8 & M12 digital outputs module kits	154
32 digital inputs & outputs module kits (37 pin SUB-D connector)	155
Analogue inputs module kit M8	156
Analogue outputs module kit M8	157
Pt100 inputs module kit	158
Additional modules	
Additional power supply module kit	159
Connectors	160
Cables	161



SERIES PX MODULAR ELECTRONIC SYSTEM

- Maximum flexibility
- Digital and analogue I/O modules
- Stand alone solution connectable via SUB-D cable to all manifolds
- Manufactured in technopolymer
- Wide range of communication protocols



FLEXIBILITY IN A COMPACT SPACE

Series PX modular electronic system has been designed to offer control and acquisition hardware for pneumatic and electric devices; it supports the most diffused communication protocols and can be configured with I/O modules, both digital and analog.

Series PX in stand alone version can be connected to every solenoid valves battery by using SUB-D connector, on the other hand Series PX can be directly connected to the following Pneumax solenoid valves series:

- Optyma S
- Optyma F
- Optyma T
- 2700
- 3000

Technopolymer bodies and sub-base and compact design has been studied to optimise room taken by the whole system, they make Serie PX extremely light and guarantee maximum flexibility.

The ability to quickly and easily configure the system, the range of modules and accessories available meet at the best the specific application needs of many industrial sectors.

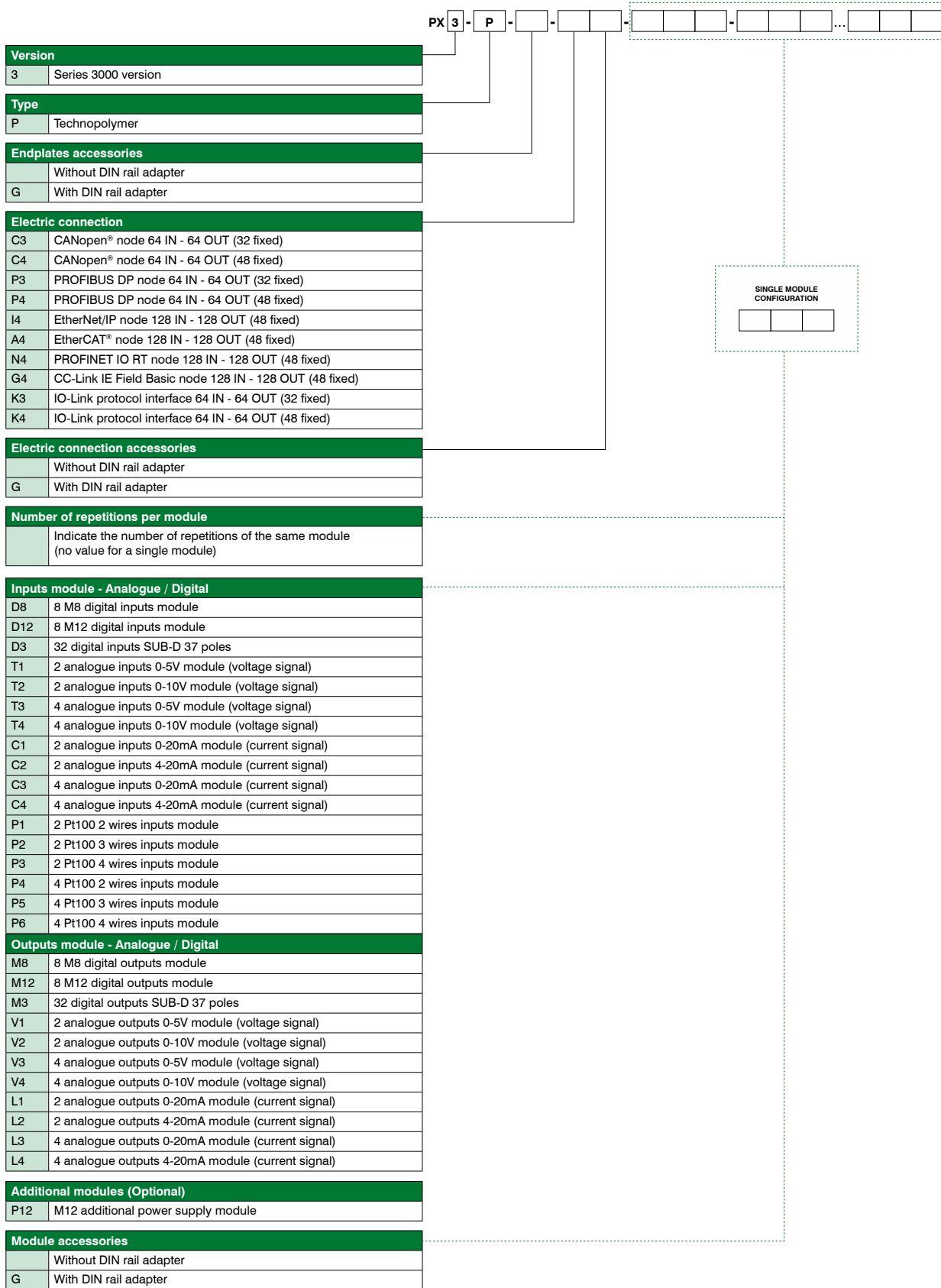
Configurable on Cadenas platform





Configurator

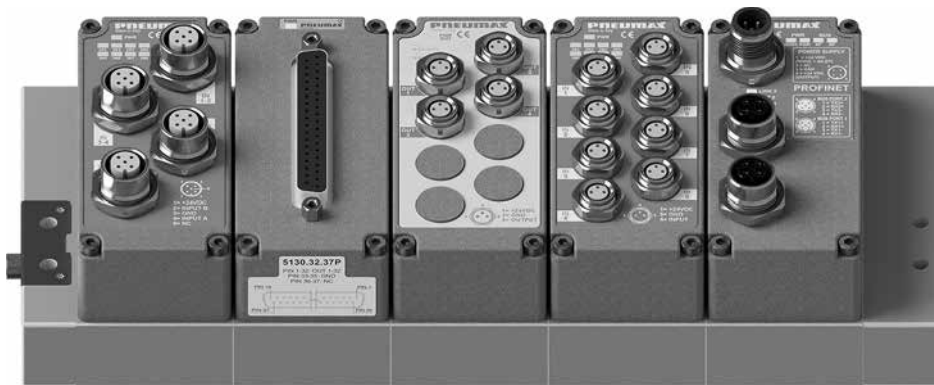
Configurator



Refer to the current limits indicated in the pages relating to the nodes / IO-Link interface

1
AIR DISTRIBUTION

Configuration examples



Example shown: PX3-P-N4-D8-V4-M3-D12

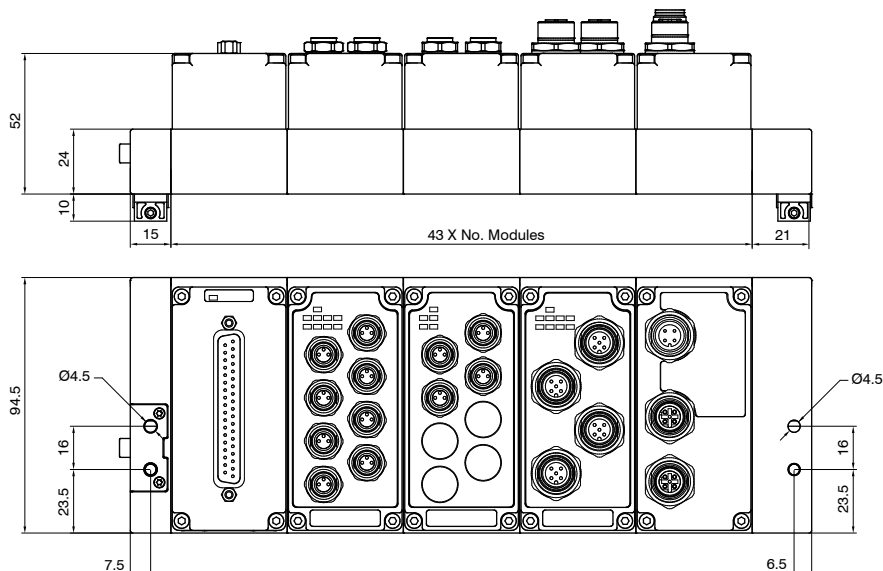
Multiprotocol module with PROFINET IO RT protocol node, M8 digital input module, M8 analogue output module, 37 pin (SUB-D) digital output module and M12 digital input module.



Example shown: PX3-P-G-A4-3D8-2M12

Multiprotocol module with EtherCAT® protocol node, 3 M8 digital input modules and 2 M12 digital output modules; also includes DIN rail adaptors.

Overall dimensions

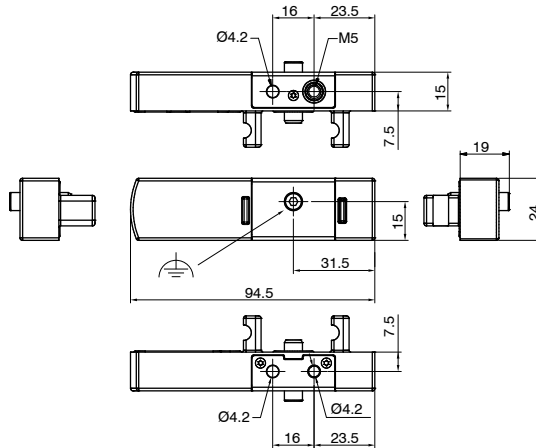


▶ Left endplate kit

Coding: 3100.KT.00



Weight 52 g

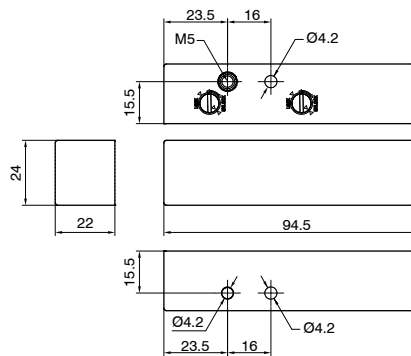


▶ Right endplate kit

Coding: 3100.KT.03



Weight 51 g

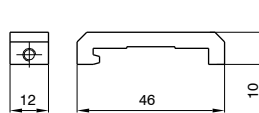


▶ DIN rail adapter

Coding: 3100.16



Weight 12 g



▶ Cable complete with connector, male 37 poles, IP65

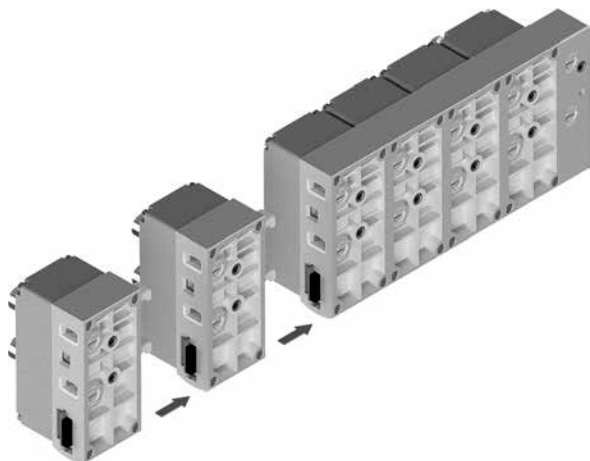
Coding: 2400.37.M.L.C



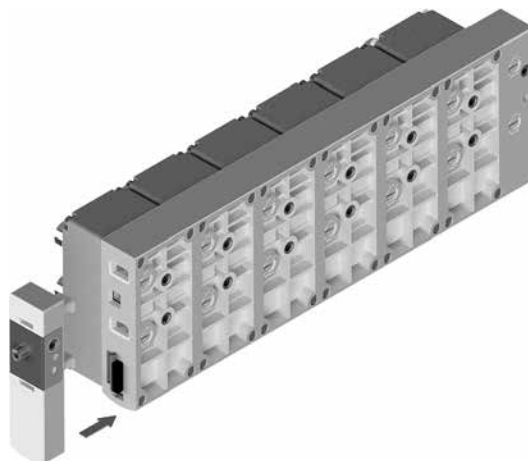
	CABLE LENGTH
●	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	CONNECTOR
●	10 = In line
●	90 = 90° Angle

1
AIR DISTRIBUTION

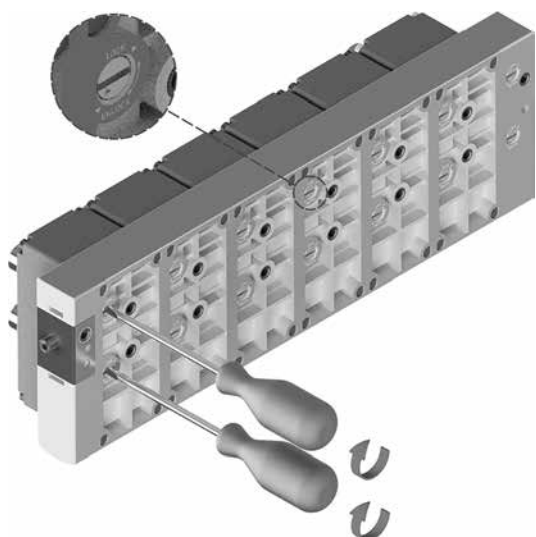
1. Assemble the required modules starting with 3100.KT.03 right endplate kit.



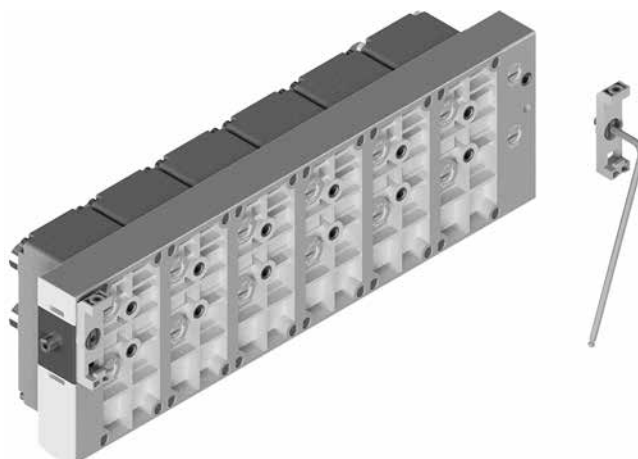
2. Complete the assembly with the 3100.KT.00 left endplate kit.



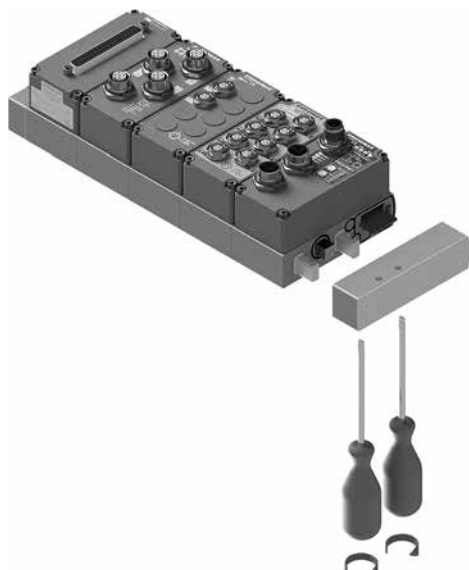
3. To lock: rotate anticlockwise (in the direction of the LOCK print on the case).
To unlock: rotate clockwise (in the direction of the UNLOCK print on the case).
The same procedure shall be used to add or remove any module.



4. If required, assemble the DIN rail adapter using a 3 mm allen key.

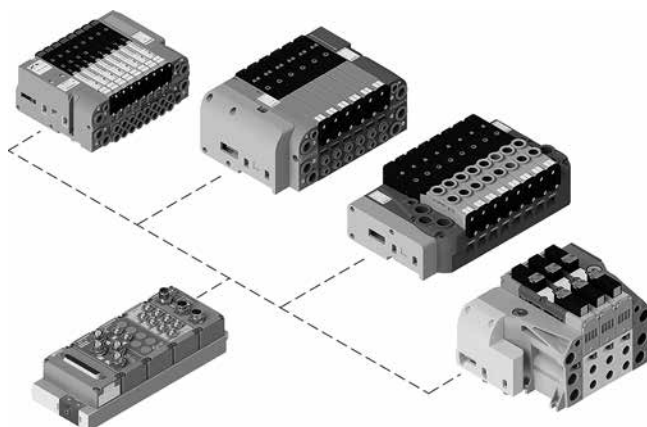


A. For integration with a manifold it is necessary to remove the 3100.KT.03 right endplate kit.



B. Series PX modular electronic system can be integrated with the following valve manifold series:

- Optyma S
- Optyma F
- Optyma T
- 2700



The Series 3000 manifolds already integrates with the PX Series modules with dedicated fixing options.
Please refer to www.pneumaxspa.com for more details.

1
AIR DISTRIBUTION

CANopen® protocol node kit

CANopen® node manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Connection to CANopen® fieldbus is made via two M12, male and female, 5 pins, type A circular connectors, in parallel between them; connectors pinout is compliant to CiA Draft recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed and address, as well as termination resistor activation are set via DIP-switches.

CANopen® node is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24\text{ V DC out}} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

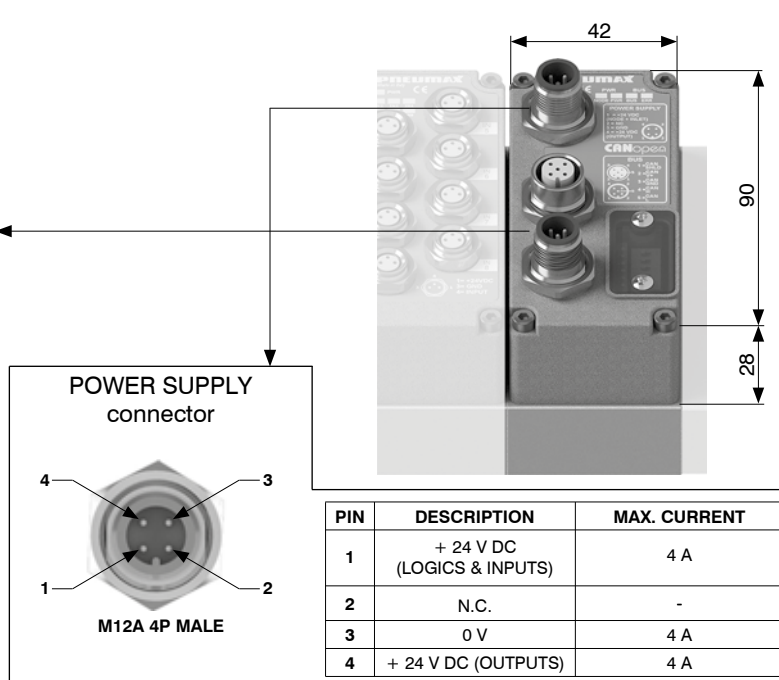
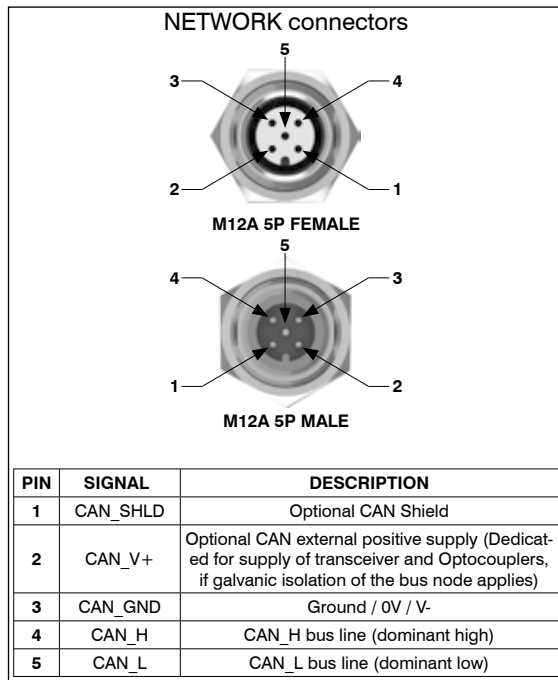
$$I_{24\text{ V DC out}} + I_{24\text{ V DC in}} < 4A$$

Where:

$$I_{24\text{ V DC in}} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

Scheme / Overall dimensions and I/O layout



Coding: K5530.64.VCO

VERSION
V 32 = 32 output bits available for valve connections 48 = 48 output bits available for valve connections



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



1 AIR DISTRIBUTION

Technical characteristics

Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)	
Case	Reinforced technopolymer	
Power supply	Voltage	+ 24 VDC ± 10%
	Node only current consumption on + 24 VDC inputs	40 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 5 pins male-female connectors type A (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses possible numbers	From 1 to 63
	Maximum nodes number in network	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green / red status LED
Configuration file	Available from our web site http://www.pneumaxspa.com	
Protection degree	IP65 when assembled	
Temperature °C	-5 ... +50	

PROFIBUS DP protocol node kit

PROFIBUS DP node manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Connection to PROFIBUS DP fieldbus is made via two M12, male and female, 5 pins, type B circular connectors, in parallel between them; connectors pinout is PROFIBUS Interconnection Technology specifications compliant (Version 1.1, August 2001).

Address as well as termination resistor activation are set via DIP-switches.

PROFIBUS DP node is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Coding: K5330.64. PB

VERSION	
	32 = 32 output bits available for valve connections
	48 = 48 output bits available for valve connections



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24VDC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24VDC\ out} + I_{24VDC\ in} < 4A$$

Where:

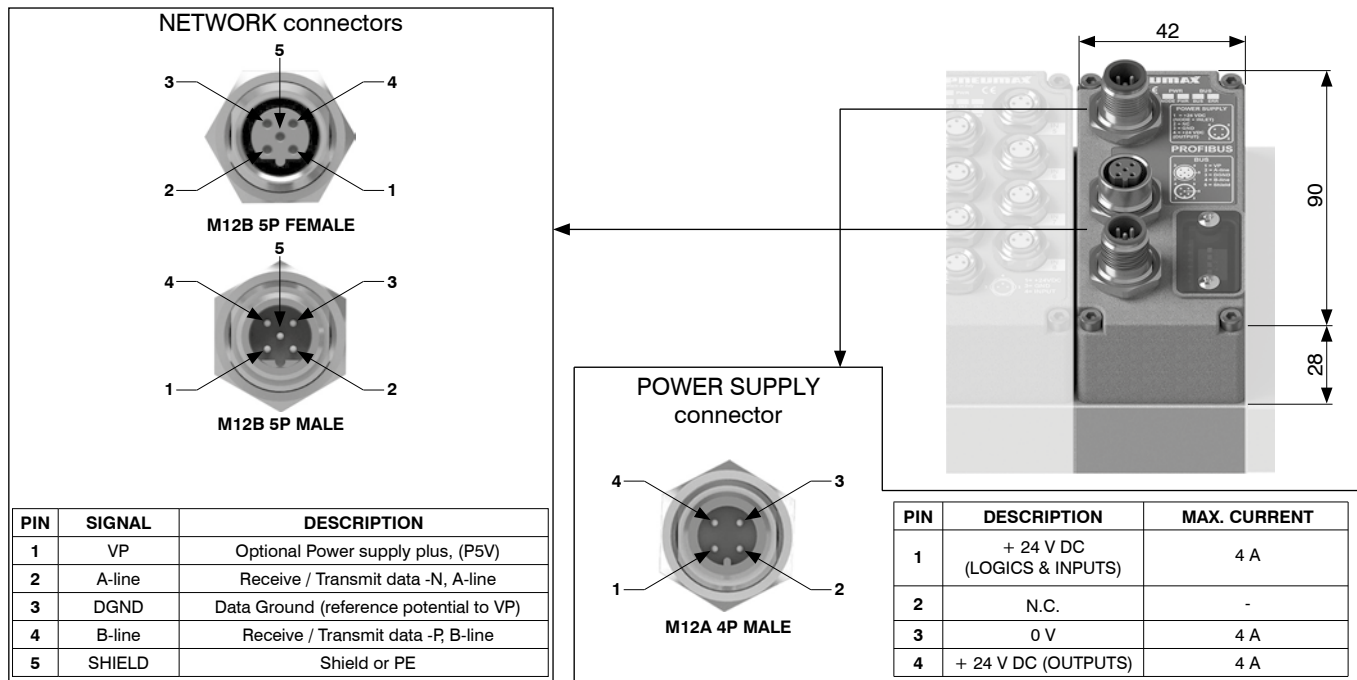
$$I_{24VDC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Specifications		PROFIBUS DP
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	70 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 5 pins male-female connectors type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses possible numbers	From 1 to 99
	Maximum nodes number in network	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
Configuration file		Green / red status LED
Protection degree		Available from our web site http://www.pneumaxspa.com
Temperature °C		IP65 when assembled
		-5 ... +50

EtherNet/IP protocol node kit

EtherNet/IP node manages 128 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.

Code K5730.128.48EI provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.

Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48EI

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24\text{ V DC out}} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

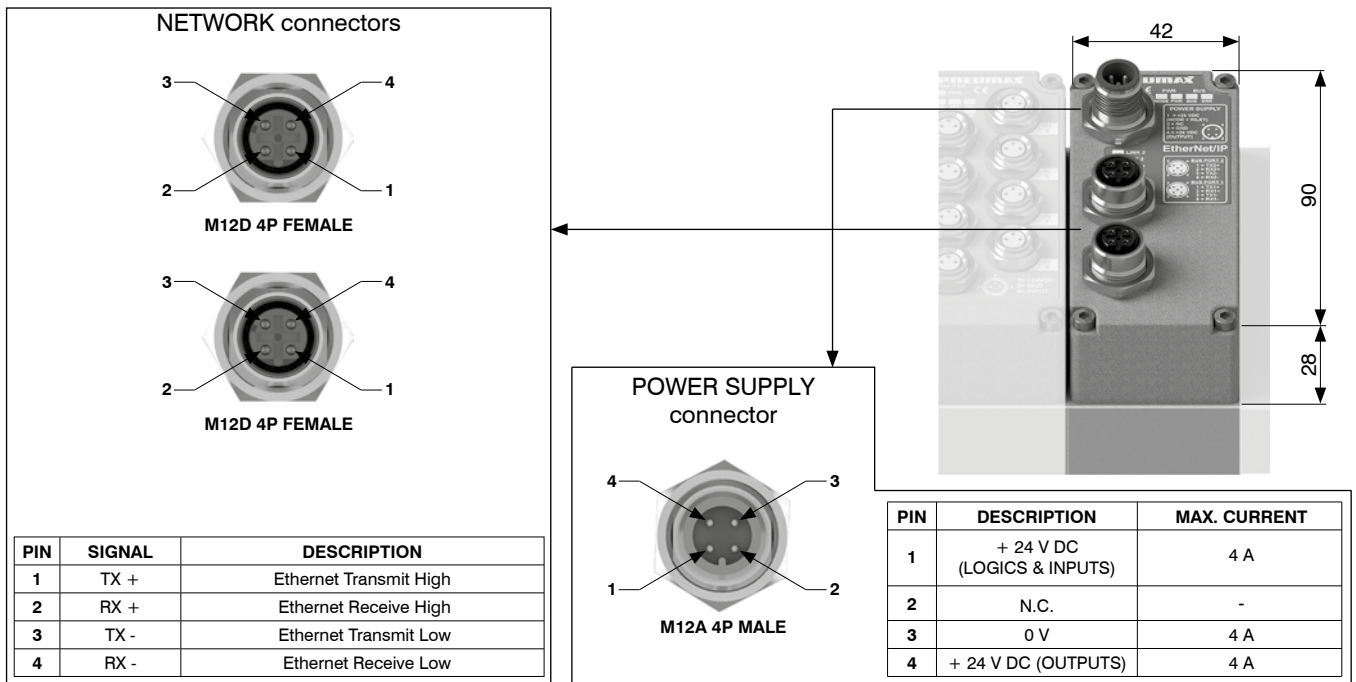
$$I_{24\text{ V DC out}} + I_{24\text{ V DC in}} < 4A$$

Where:

$$I_{24\text{ V DC in}} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

Scheme / Overall dimensions and I/O layout



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



1
AIR DISTRIBUTION



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

EtherCAT® protocol node kit

EtherCAT® node manages 128 inputs and outputs.
Accessory modules can be connected in whatever order and configuration.
Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.
Code K5730.128.48EC provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.
Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48EC



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200°Optyma S°	36 mA
2500°Optyma F°	54 mA
2500°Optyma T°	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24V\ DC\ out} + I_{24V\ DC\ in} < 4A$$

Where:

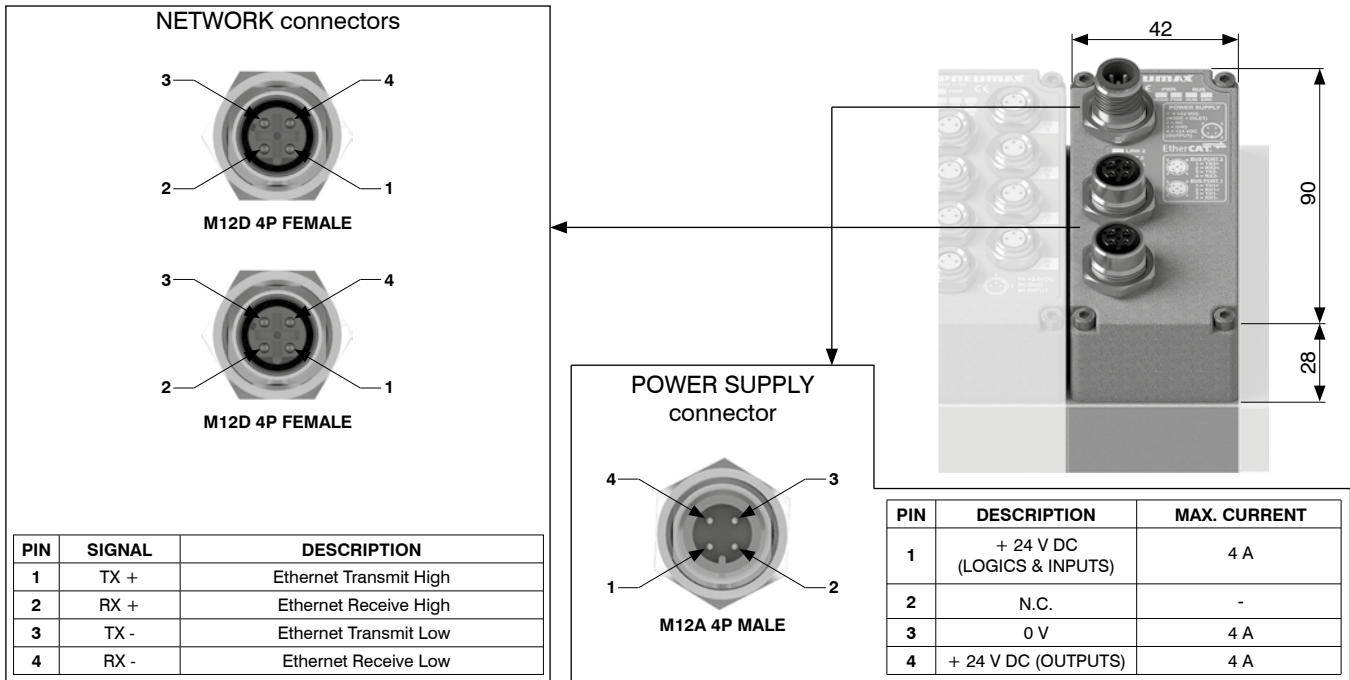
$$I_{24V\ DC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics

Technical characteristics		Reinforced technopolymer
Case		+ 24 V DC ± 10%
Power supply	Voltage	65 mA
	Node only current consumption on + 24 V DC inputs	Green LED PWR NODE / Green LED PWR OUT
Communication	Power supply diagnosis	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Connection	100 Mbit/s
	Baud rate	100 m
	Maximum distance between 2 nodes	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

PROFINET IO RT protocol node kit

PROFINET IO RT node manages 128 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.

Code K5730.128.48PN provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.

Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48PN

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24\text{ V DC out}} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 *Optyma S*	36 mA
2500 *Optyma F*	54 mA
2500 *Optyma T*	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24\text{ V DC out}} + I_{24\text{ V DC in}} < 4A$$

Where:

$$I_{24\text{ V DC in}} = \sum_{i=1}^n I_{in,i}$$

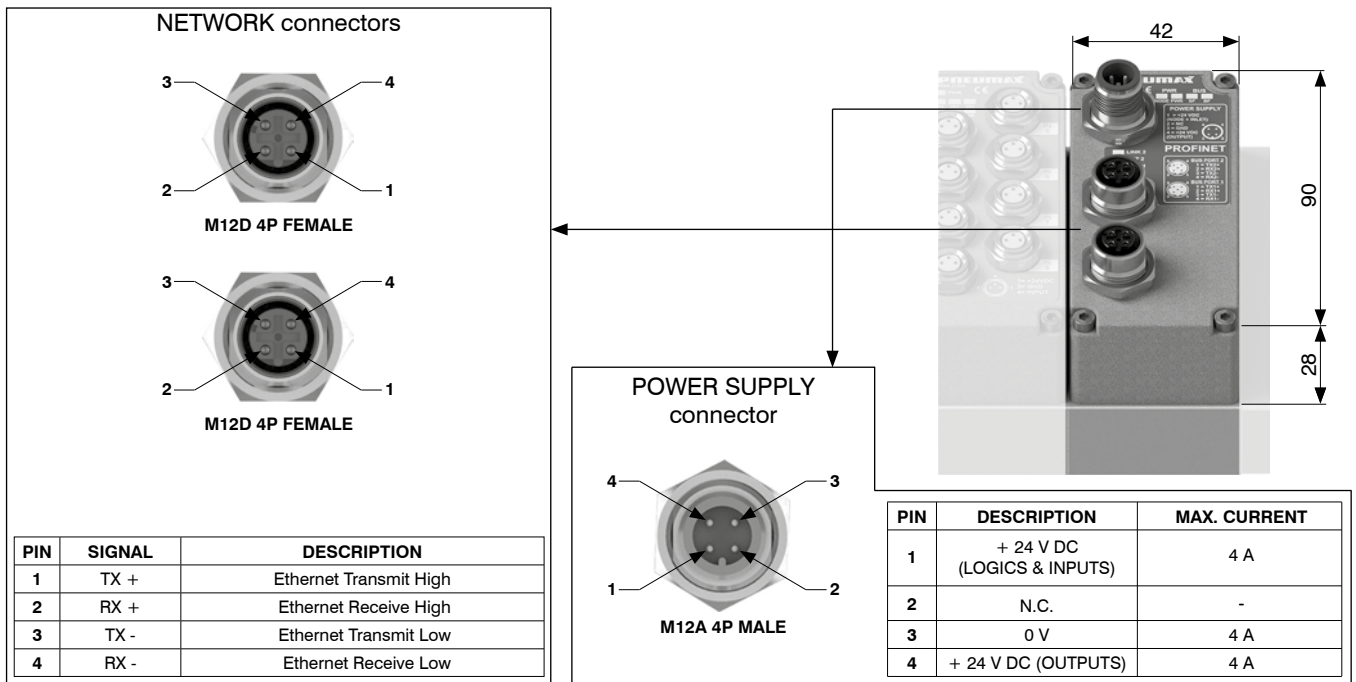
n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



Scheme / Overall dimensions and I/O layout



Technical characteristics

Case	Reinforced technopolymer	
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file	Available from our web site http://www.pneumaxspa.com	
Protection degree	IP65 when assembled	
Temperature °C	-5 ... +50	

CC-Link IE Field Basic protocol node kit

CC-Link IE Field Basic node manages 128 inputs and outputs. Accessory modules can be connected in whatever order and configuration. Network connection is made via 2 M12 female, type D, 4 pins, circular connectors. Code K5730.128.48CL provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node. Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48CL



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24V\ DC\ out} + I_{24V\ DC\ in} < 4A$$

Where:

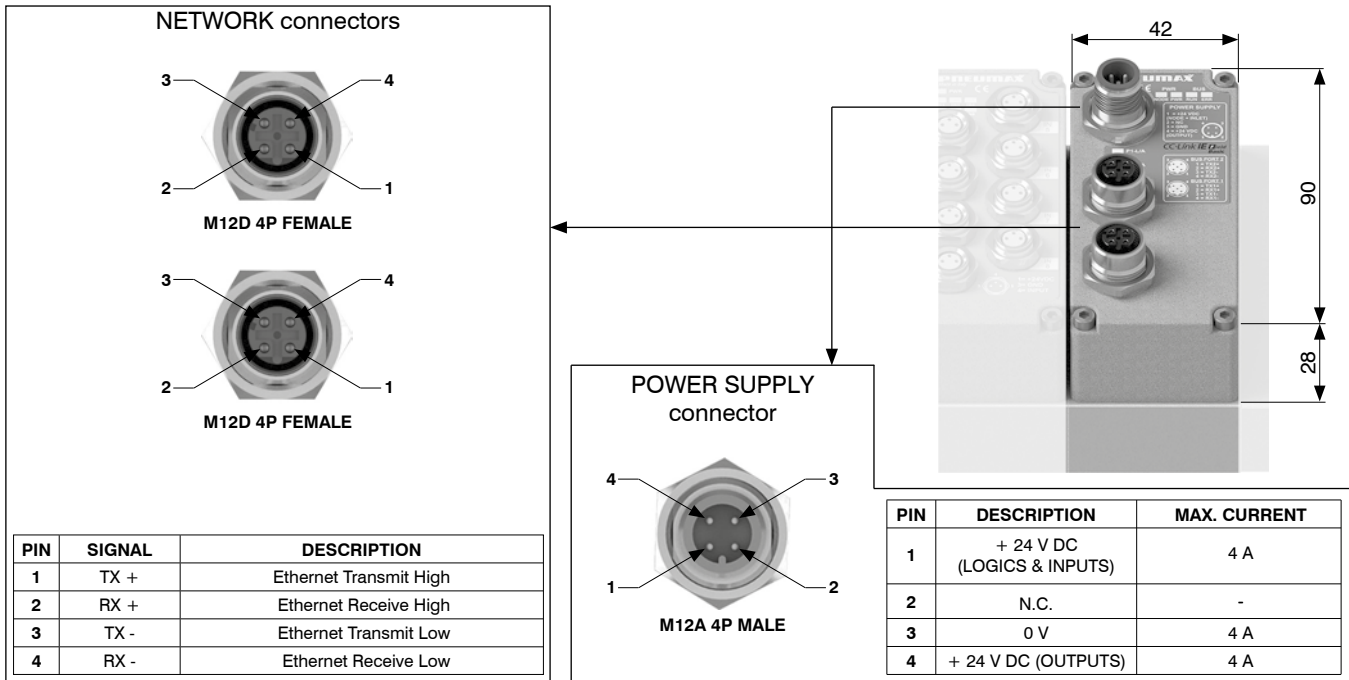
$$I_{24V\ DC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 Green LED and 1 red status LED + 2 link and activity LEDs ¹
Configuration file	Available from our web site http://www.pneumaxspa.com	
Protection degree	IP65 when assembled	
Temperature °C	-5 ... +50	

AIR DISTRIBUTION

1

IO-Link protocol interface kit

IO-Link interface manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Electric power supply and IO-Link connection to the Master are made via M12, male, 5 pins, type A, circular connector, "CLASS B", according to IO-Link specifications.

Electric rails L+/L- supply interface only, while P24/N24 rails supply additional modules and solenoid valves.

Either power supplies are galvanically isolated in the IO-Link interfaces.

IO-Link interface is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by pin 2 and pin 5 (P24 / N24).

To compute the maximum current on the P24 / N24 supply, please use the following formula::

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

= maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

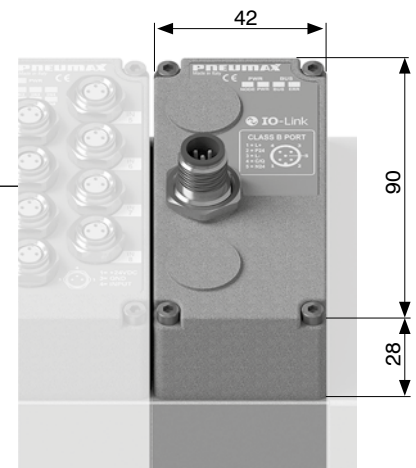
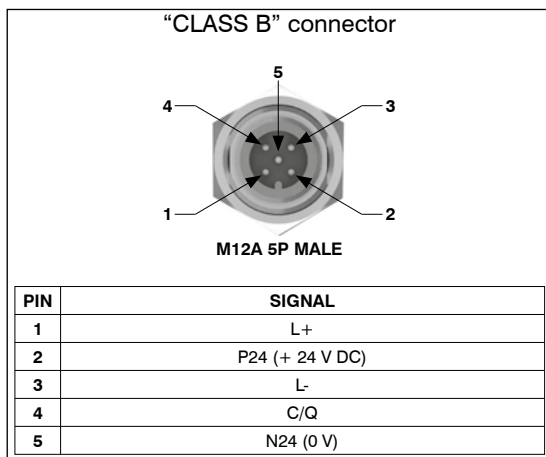
Coding: K5830.64.VIK

VERSION
V 32 = 32 output bits available for valve connections
48 = 48 output bits available for valve connections



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Specifications		IO-Link Specification v1.1
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC +/- 10%
	Interface current consumption on + 24 VDC (L+ / L-)	25 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	"Class B" port
	Communication speed	38.4 kbaud/s
	Maximum distance from Master	20 m
	Bus diagnosis	Green / red status LED
	Vendor ID / Device ID	1257 (hex 0x04E9) / 3000 (hex 0x0BB8)
Configurations file IO-DD		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

8 digital inputs module kit M8

M8 digital inputs module provides 8 M8, 3 pins, female connectors.

Inputs have PNP logic, + 24 V DC \pm 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

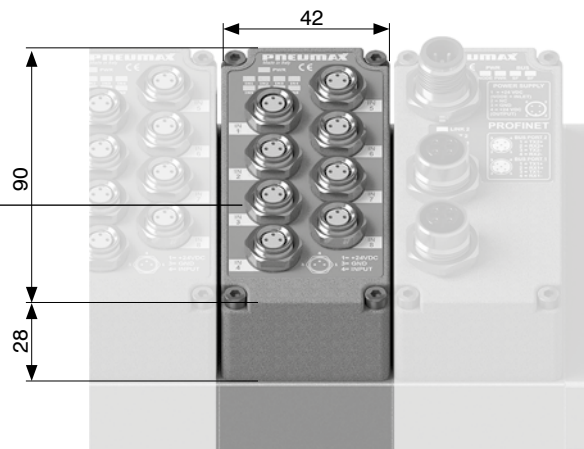
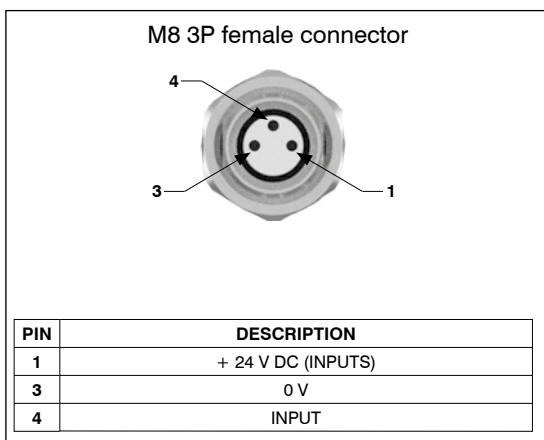
Coding: K5230.08.M8



1 AIR DISTRIBUTION

Technical characteristics	
Maximum current per module	300 mA
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3 k Ω
Maximum cable length	< 30 m
Input data allocation	8 bit
INPUTS + 24 V DC current consumption of the module only	5 mA

Scheme / Overall dimensions and I/O layout



8 digital inputs module kit M12

M12 digital inputs module provides 4 M12, 5 pins, female connectors.

Inputs have PNP logic, + 24 V DC \pm 10%.

Every connector takes two input channels.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

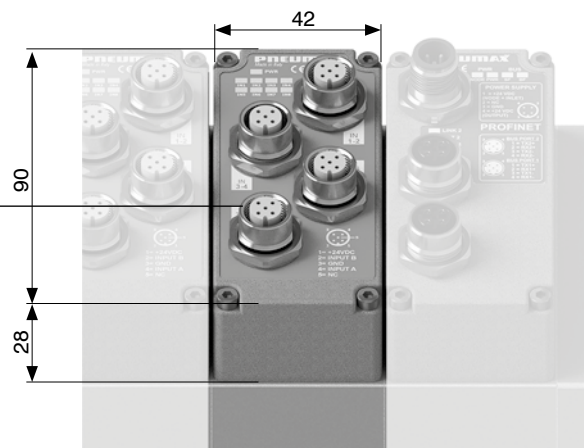
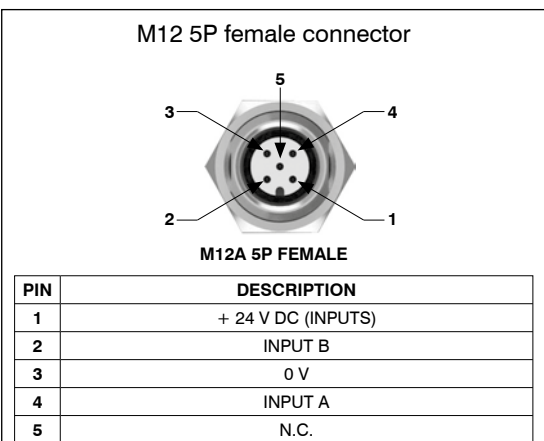
Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.08.M12



Technical characteristics	
Maximum current per module	300 mA
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3k Ω
Maximum cable length	< 30 m
Input data allocation	8 bit
INPUTS + 24 V DC current consumption of the module only	5 mA

Scheme / Overall dimensions and I/O layout



8 digital outputs module kit M8

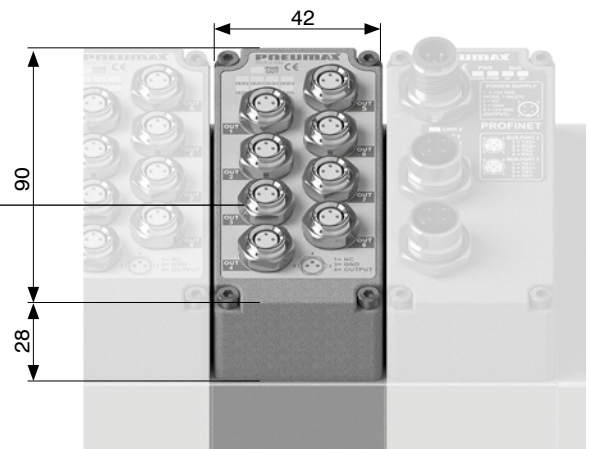
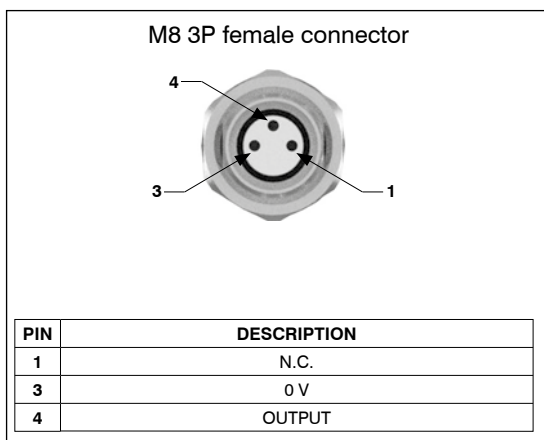
M8 digital inputs module provides 8 M8, 3 pins, female connectors.
Outputs have PNP logic, + 24 V DC \pm 10%.
Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.
Power supply presence is displayed by "PWR OUT" green LED light-on.
Each output has a LED indicator associated which lights up when output's signal status is high.

Coding: K5130.08.M8



Technical characteristics	
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	8 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout



1

AIR DISTRIBUTION

8 digital outputs module kit M12

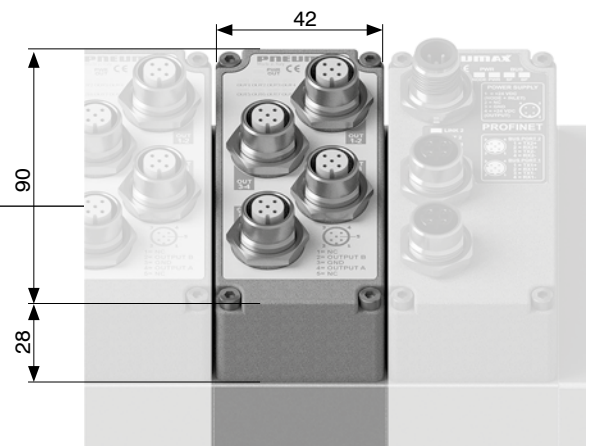
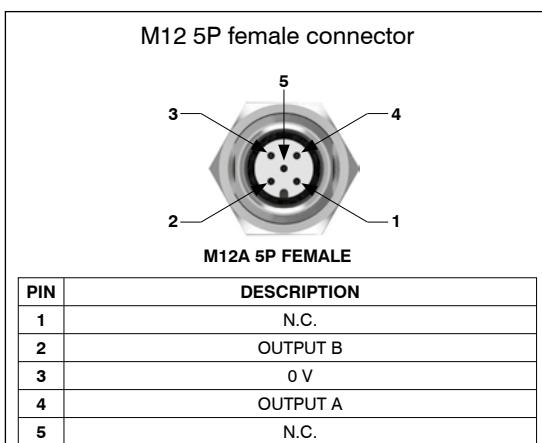
M12 digital inputs module provides 4 M12, 5 pins, female connectors.
Outputs have PNP logic, + 24 V DC \pm 10%.
Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.
Power supply presence is displayed by "PWR OUT" green LED light-on.
Each output has a LED indicator associated which lights up when output's signal status is high.

Coding: K5130.08.M12



Technical characteristics	
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	8 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout





1 AIR DISTRIBUTION

32 digital inputs module kit (37 pins SUB-D connector)

The module provides a SUB-D 37 pins female connector.

Inputs have PNP logic, + 24 V DC ± 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

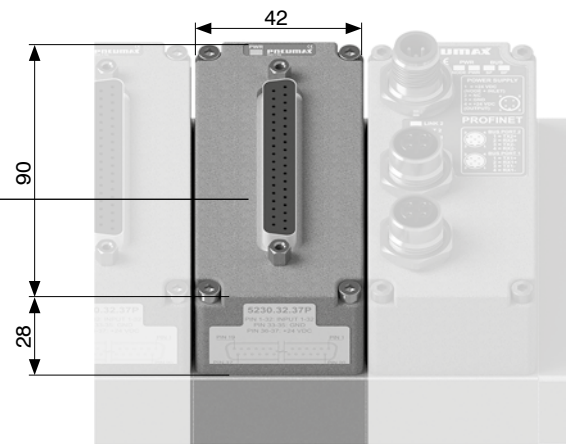
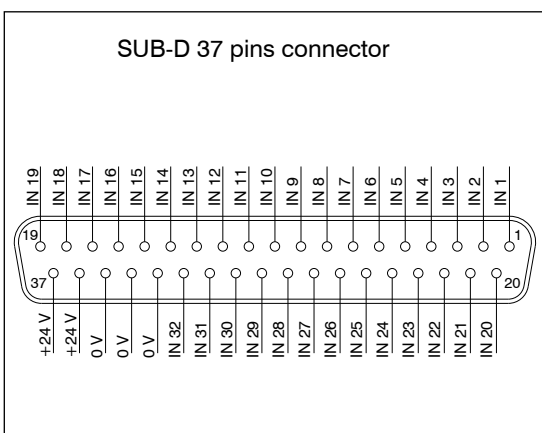
Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.32.37P



Technical characteristics	
Maximum current per module	1 A
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3 kΩ
Maximum cable length	< 30 m
Input data allocation	32 bit
INPUTS + 24 V DC current consumption of the module only	10 mA

Scheme / Overall dimensions and I/O layout



32 digital outputs module kit (37 pins SUB-D connector)

The module provides a SUB-D 37 pins female connector.

Outputs have PNP logic, + 24 V DC ± 10%.

Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

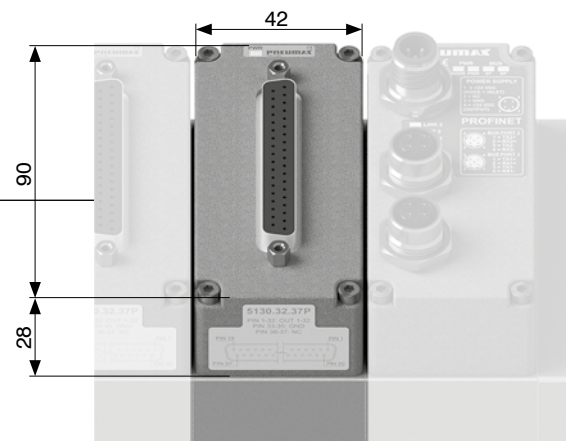
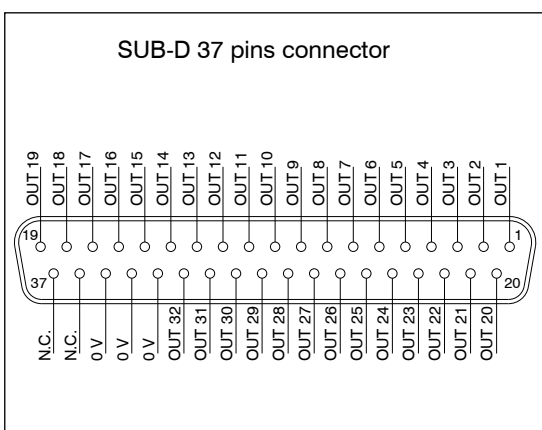
Power supply presence is displayed by "PWR OUT" green LED light-on.

Coding: K5130.32.37P



Technical characteristics	
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	32 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout



Analogue inputs module kit M8

M8 analogue inputs module converts analogue signals into digital signals and transfers acquired data to field bus, via network node.

Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230. **CS**

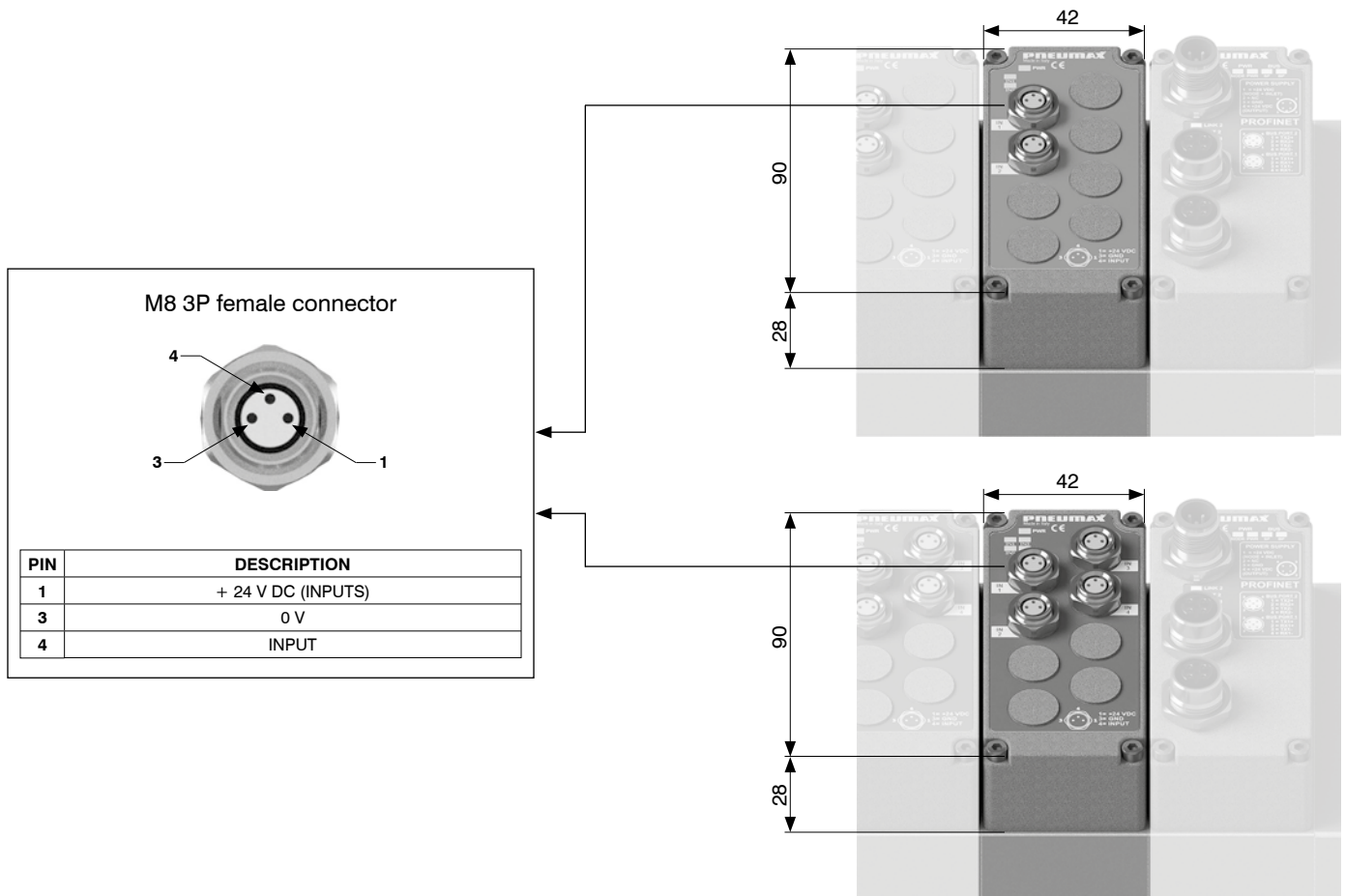
	CHANNELS
C	2 = 2 channels 4 = 4 channels
	SIGNAL
S	T.00 = VOLTAGE (0-10 V) T.01 = VOLTAGE (0-5 V) C.00 = CURRENT (4-20 mA) C.01 = CURRENT (0-20 mA)

Technical characteristics	
Protection (pin 1)	Overcurrent (auto-resettable fuse)
Input impedance (voltage inputs)	33 kΩ
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Input data allocation	16 bit per channel
Diagnostic LED	Input signal overcurrent or overvoltage
Accuracy	0,3% F.S.
Overall maximum current 2 channels (pin 1)	300 mA
Overall maximum current 4 channels (pin 1)	750 mA (375 mA for each pair of channels)
INPUTS + 24 V DC current consumption of the module only	15 mA



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Analogue outputs module kit M8

M8 analogue outputs module converts output data, received from field bus via network node, into analogue signal. Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

Coding: K5130.

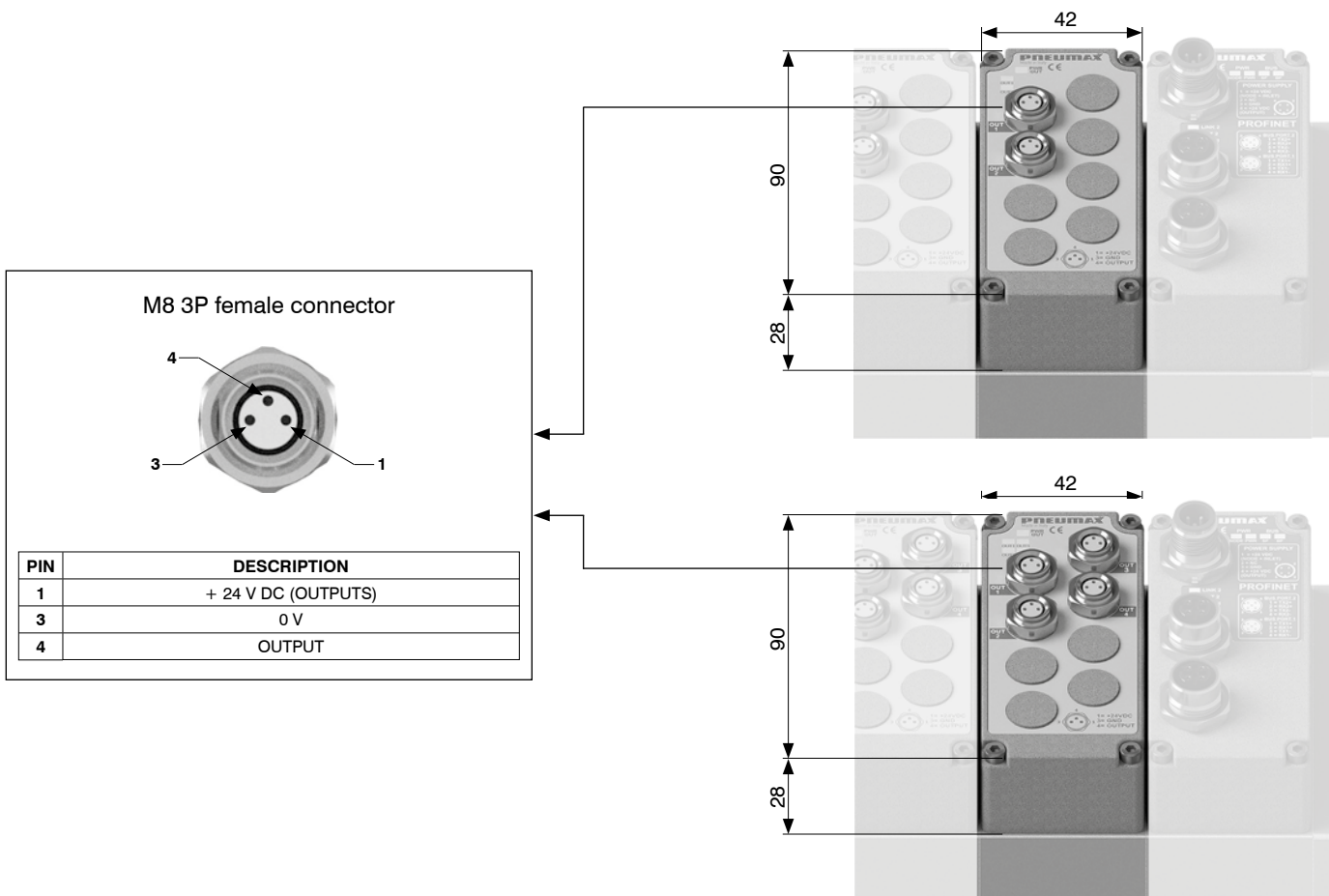
	CHANNELS
C	2 = 2 channels 4 = 4 channels
	SIGNAL
T.00	= VOLTAGE (0-10 V)
T.01	= VOLTAGE (0-5 V)
C.00	= CURRENT (4-20 mA)
C.01	= CURRENT (0-20 mA)



AIR DISTRIBUTION

Technical characteristics	
Protection (pin 1)	Overcurrent (auto-resettable fuse)
Protection (pin 4)	Overcurrent (auto-resettable fuse)
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Output data allocation	16 bit per channel
Diagnostic LED	Output signal overcurrent
Accuracy	0,3% F.S.
Overall maximum current 2 channels (pin 1)	300 mA
Overall maximum current 4 channels (pin 1)	750 mA (375 mA for each pair of channels)
INPUTS + 24 V DC current consumption of the module only	15 mA
OUTPUTS + 24 V DC current consumption of the module only (2 channels)	35 mA
OUTPUTS + 24 V DC current consumption of the module only (4 channels)	70 mA

Scheme / Overall dimensions and I/O layout



Pt100 inputs module kit

Pt100 inputs module digitizes signals from Pt100 probes and transfers acquired data to field bus, via network node.
It is possible to connect two, three or four wires probes.
Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.CP.0^T

CHANNELS	
C	2 = 2 channels 4 = 4 channels
TYPE	
T	0 = Pt100 2 wires 1 = Pt100 3 wires 2 = Pt100 4 wires

Technical characteristics	
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Input data allocation	16 bit per channel
Diagnostic LED	Probe presence Temperature out of range
Accuracy	±0,2°C
Probe temperature range	-100°C ... +300°C
INPUTS + 24 V DC current consumption of the module only (2 channels)	25 mA
INPUTS + 24 V DC current consumption of the module only (4 channels)	35 mA

Conversion formula (°C)

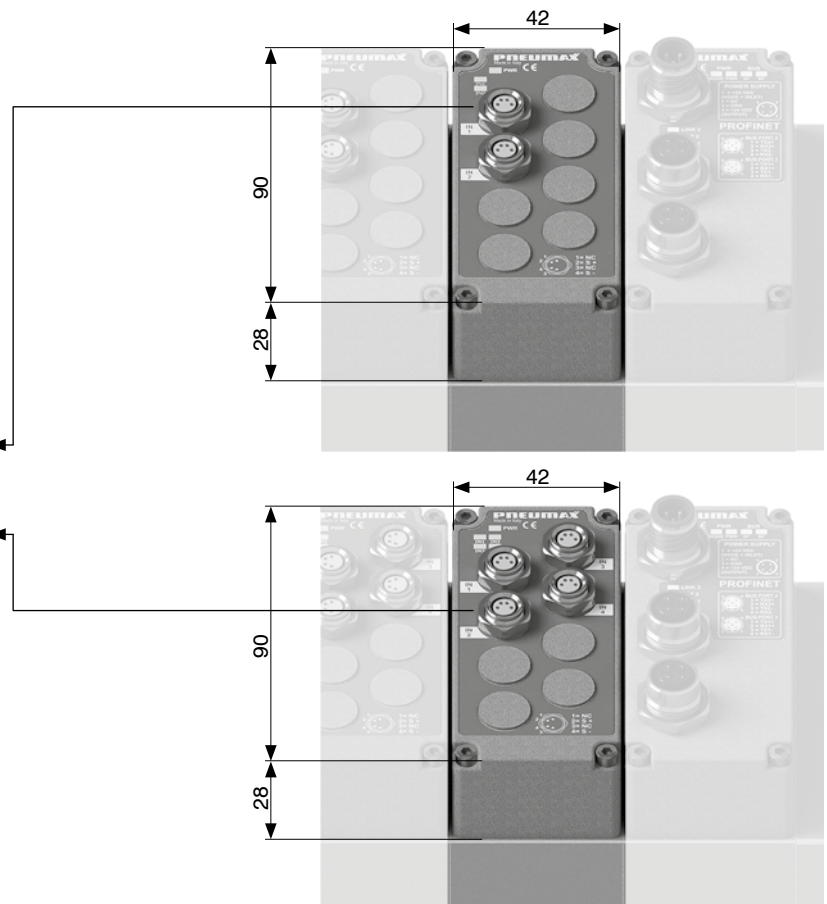
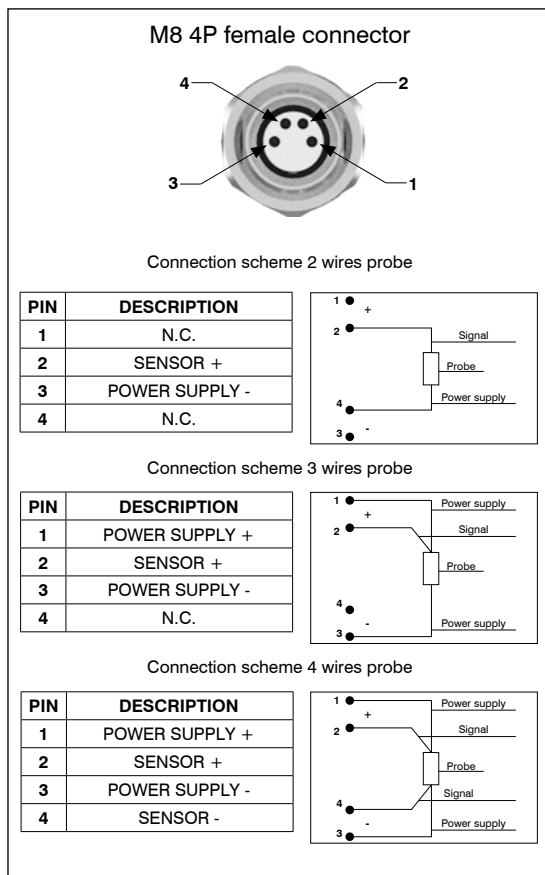
$$\text{Temperature (°C)} = \left(\frac{\text{Points}}{4095} \times 400 \right) - 100$$



1

AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Additional power supply module kit

Additional power supply module supplies additional electric power for downstream optional modules, where "downstream" means farther from serial node, **resetting the current limits of the network node / IO-Link interface.**

Electric connection of the module to external power supply unit occurs via an M12 4 pins type A male connector.

M12 connector has two different pins to power up logics and inputs (Pin 1) and outputs (Pin 4).

Presence of each power supply rail is indicated by corresponding green LED.

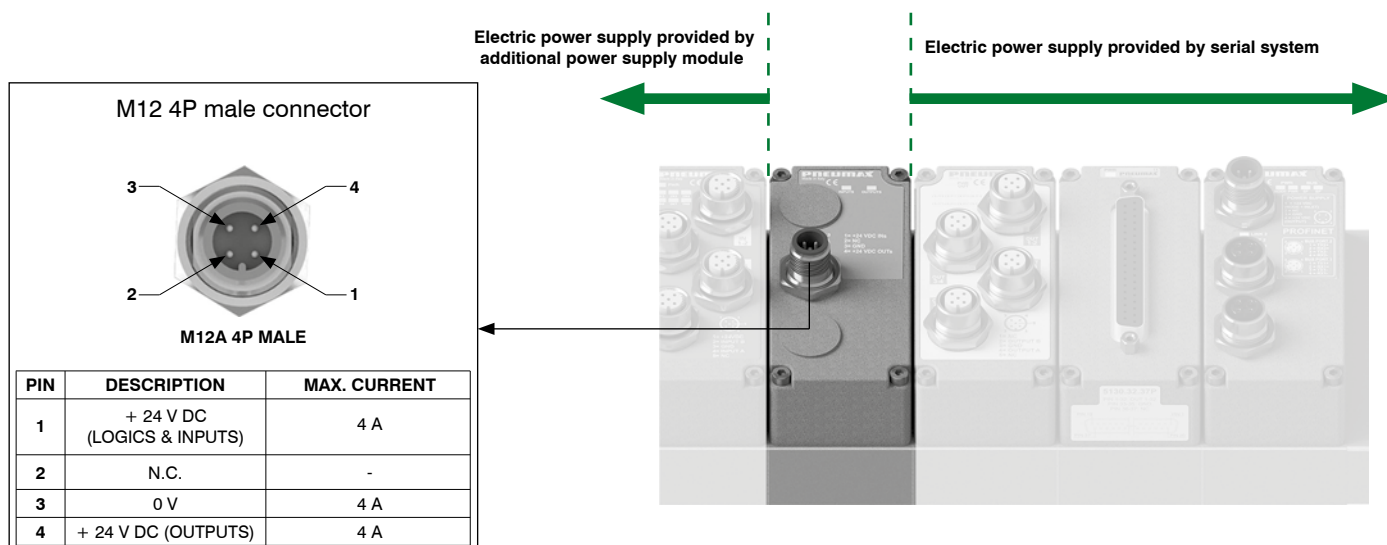
When using IO-Link interface, the additional power supply module is useful for separating the module power supplies of input from the output modules placed downstream.

Coding: K5030.M12



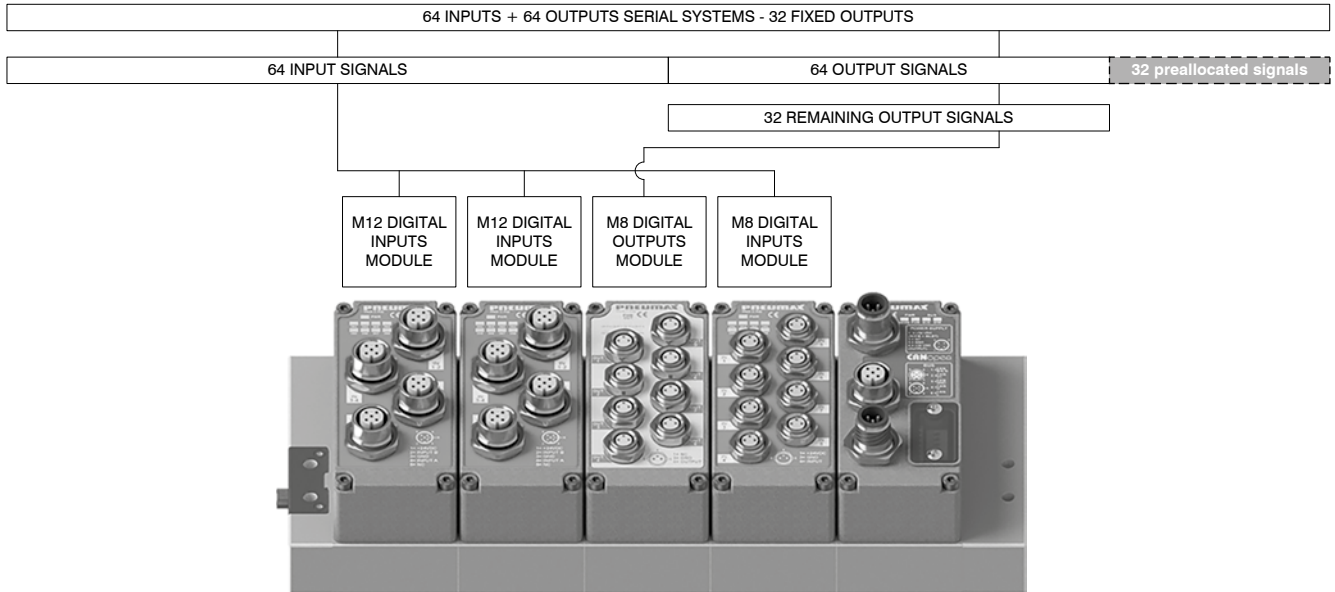
1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout

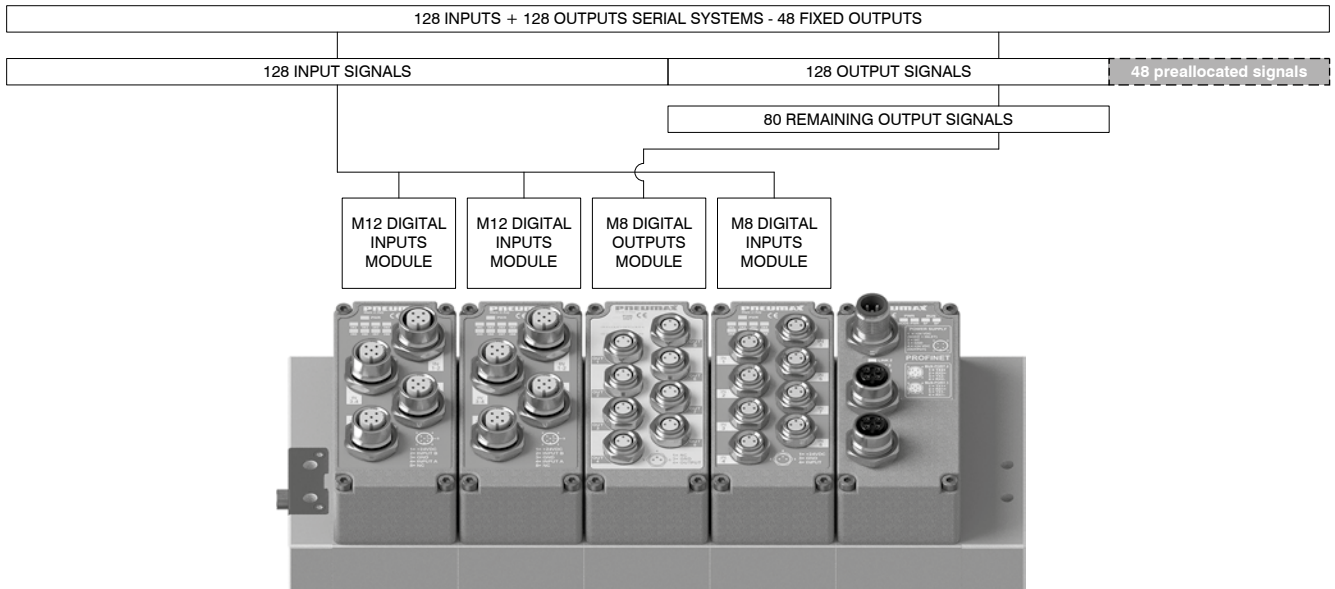


Signal management

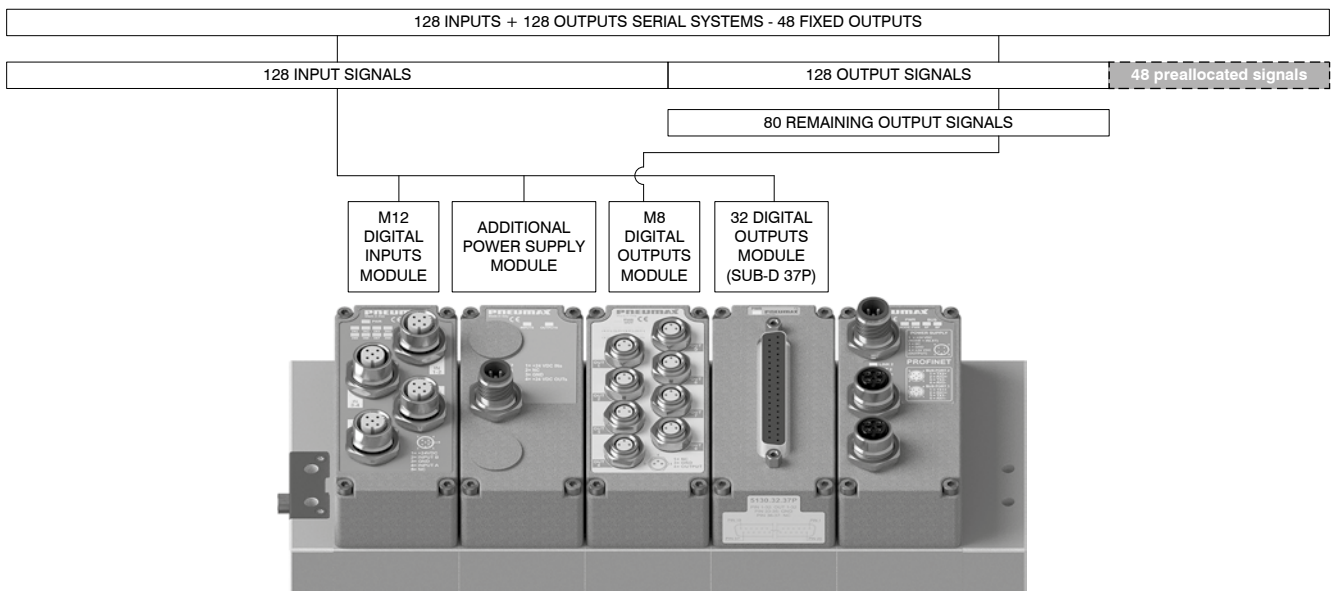
64 INPUT + 64 OUTPUT serial systems - 32 fixed OUTPUT (Ex. PROFIBUS DP and CANopen®)



128 INPUT + 128 OUTPUT serial systems - 48 fixed OUTPUT (Ex. EtherNet/IP - EtherCAT® - PROFINET IO RT)



128 INPUT + 128 OUTPUT serial systems - 48 fixed OUTPUT (Ex. EtherNet/IP - EtherCAT® - PROFINET IO RT)

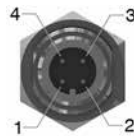


1
AIR DISTRIBUTION

POWER SUPPLY connectors

Straight connector M12A 4P female

Coding: 5312A.F04.00



Upper view slave connector

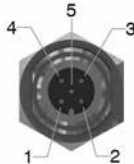
PIN	DESCRIPTION
1	+ 24 V DC (LOGICS AND INPUTS)
2	N.C.
3	0V
4	+ 24 V DC (OUTPUTS)

Power supply socket

NETWORK connectors

Straight connector M12A 5P female

Coding: 5312A.F05.00



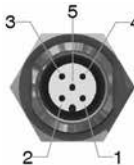
Upper view slave connector

PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

Socket for bus CANopen® and IO-Link

Straight connector M12A 5P male

Coding: 5312A.M05.00



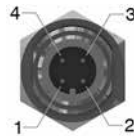
Upper view slave connector

PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

Plug for bus CANopen®

Straight connector M12D 4P male

Coding: 5312D.M04.00



Upper view slave connector

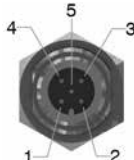
PIN	SIGNAL	DESCRIPTION
1	TX+	EtherNet Transmit High
2	RX+	EtherNet Receive High
3	TX-	EtherNet Transmit Low
4	RX-	EtherNet Receive Low

Plug for bus EtherCAT®, PROFINET IO RT and EtherNet/IP

Trademarks: EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

Straight connector M12B 5P female

Coding: 5312B.F05.00



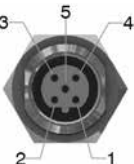
Upper view slave connector

PIN	DESCRIPTION
1	Power Supply
2	A-Line
3	DGND
4	B-Line
5	SHIELD

Socket for bus PROFIBUS DP

Straight connector M12B 5P male

Coding: 5312B.M05.00



Upper view slave connector

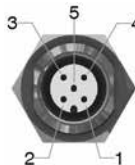
PIN	DESCRIPTION
1	Power Supply
2	A-Line
3	DGND
4	B-Line
5	SHIELD

Socket for bus PROFIBUS DP

INPUTS connectors

Straight connector M12A 5P male

Coding: 5312A.M05.00



PIN	DESCRIPTION
1	+ 24 VDC
2	INPUT B
3	0V
4	INPUT A
5	N.C.

Upper view slave connector

Plug for inputs modules

Plugs

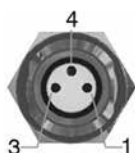
M12 plug

Coding: 5300.T12



Straight connector M8 3P male

Coding: 5308A.M03.00



PIN	DESCRIPTION
1	+ 24 VDC
4	INPUT
3	0V

Upper view slave connector

Plug for inputs modules

M8 plug

Coding: 5300.T08



1 AIR DISTRIBUTION

Series 3000 EVO




- Version 3100 (10 mm) and 3400 (15,5 mm)
- Nominal flow rate up to 200 NI/min (Version 3100)
- Nominal flow rate up to 600 NI/min (Version 3400)
- Stand alone or manifold mounted versions
- Valve replacement without disconnecting the tubes

Pneumax valves and solenoid valves are designed to guarantee versatility and maximum reliability in the control of integrated pneumatic circuits.

The Pneumax 3000 EVO series of solenoid valves is a very flexible solution that can be easily configured to optimize the efficiency of the whole system through a constant interface and communication with the machine.

The Pneumax 3000 EVO series is available in stand alone and manifold mounted versions.

- Available with a wide range of serial system protocols
- Wide range of accessories
- Available sub-base mounted or with M5 threaded ports (Version 3100) and G1/8" (Version 3400)
- Possibility to use different pressures along the manifold (including vacuum)
- Certified 

Both versions include a wide range of functions, capable of working with positive pressures up to 10 bar or vacuum.

The valves have aluminum bodies with integrated electrical connections, manual override and a LED that indicates when the valve is actuated. 3000 EVO series is another addition to the extensive range of solenoid valve systems designed for applications in very demanding industrial sectors such as assembly and robotics, packaging or automotive.

Construction characteristics

Body	Aluminium
Seals	NBR
Hydraulic piston seals	NBR
Springs	AISI 302 stainless steel
Operators	Technopolymer
Pistons	Aluminium / Technopolymer
Spools	Aluminium

Technical characteristics

Voltage	+ 24 V DC \pm 10%
Pilot consumption	1,3W nominal in energy saving mode 0,25W
Pilot working pressure [12-14]	from 2,5 to 7 bar max.
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP65
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

CANopen

PROFI
BUS

PROFI
NET

EtherCAT

EtherNet/IP

IO-Link

CC-Link IE
Basic



Series 3000 EVO - STAND ALONE



1
AIR DISTRIBUTION

The range of series 3000 EVO solenoid valves version 3100 (10mm) and 3400 (15,5mm), are available in STAND ALONE self feeding or external feeding versions and realised with M8 point to point and 90° H connection with an integrated snap-on fitting.

Main characteristics

10 and 15,5 mm size.
Multi-position sub-bases in different lengths.

Functions

- S.V. 5/2 Monostable Solenoid-Spring
- S.V. 5/2 Monostable Solenoid-Differential (only self feeding)
- S.V. 5/2 Bistable Solenoid-Solenoid
- S.V. 5/3 C.C. Solenoid-Solenoid
- S.V. 2x3/2 N.C.-N.C. (= 5/3 O.C.) Solenoid-Solenoid
- S.V. 2x3/2 N.O.-N.O. (= 5/3 P.C.) Solenoid-Solenoid
- S.V. 2x3/2 N.C.-N.O. Solenoid-Solenoid
- S.V. 2x3/2 N.O.-N.C. Solenoid-Solenoid

Solenoid valve ordering code

3 1 15.52.00 . 39 . 82

Size	
1	Version 3100 (10mm)
4	Version 3400 (15,5mm)

Function	
52.00	S.V. 5/2
53.31	S.V. 5/3
62.44	2x3/2 N.C.-N.C.
62.55	2x3/2 N.O.-N.O.
62.45	2x3/2 N.C.-N.O.
62.54	2x3/2 N.O.-N.C.

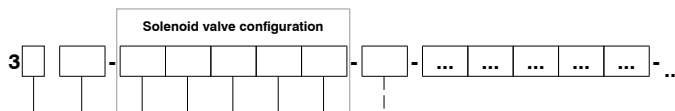
Valves type	
36	Solenoid-Differential self feeding
39	Solenoid-Spring self feeding
35	Solenoid-Solenoid self feeding
29	Solenoid-Spring external feeding
25	Solenoid-Solenoid external feeding

Connection	
02	H 90° SPEED-UP connector
82	M8 SPEED-UP connector

Example in the table: 3115.52.00.39.82: Solenoid valve size 10mm 5/2 solenoid-spring self feeding with M8 SPEED-UP connector



Configurator



Size	
1	Version 3100 (10mm)
4	Version 3400 (15,5mm)

Number of collector positions	
02	2 positions collector
03	3 positions collector
04	4 positions collector
05	5 positions collector
06	6 positions collector
07	7 positions collector
08	8 positions collector
09	9 positions collector
10	10 positions collector

Valve type	
A	S.V. 5/2 Solenoid-Spring
B	S.V. 5/2 Solenoid-Differential (only self feeding)
C	S.V. 5/2 Solenoid-Solenoid
E	S.V. 5/3 C.C. Solenoid-Solenoid
F	S.V. 2x3/2 N.C.-N.C. (=5/3 O.C.) Solenoid-Solenoid
G	S.V. 2x3/2 N.O.-N.O. (=5/3 P.C.) Solenoid-Solenoid
H	S.V. 2x3/2 N.C.-N.O. Solenoid-Solenoid
I	S.V. 2x3/2 N.O.-N.C. Solenoid-Solenoid

Power supply	
2	External feeding
3	Self feeding

Connector type	
H	H 90° SPEED-UP connector
M	M8 SPEED-UP connector

Voltage	
1	+ 24 V DC

Connections	
5	M5 - only for version 3100 (10 mm)
8	G1/8" - only for version 3400 (15,5 mm)

Accessories (optional)	
T	Free valve space plug

Accessories (optional)		no valve position occupied on the manifold
0X0	Diaphragm plug on conduit 1	
00Y	Diaphragm plug on conduit 3	
Z00	Diaphragm plug on conduit 5	
0XY	Diaphragm plugs on conduits 1 and 3	
ZX0	Diaphragm plugs on conduits 5 and 1	
Z0Y	Diaphragm plugs on conduits 5 and 3	
ZXY	Diaphragm plugs on conduits 5, 1 and 3	

Example in the table : 3104-C2M15-T-0X0-A3M15-F3M15

Four position manifold Version 3100 (10mm) composed of:

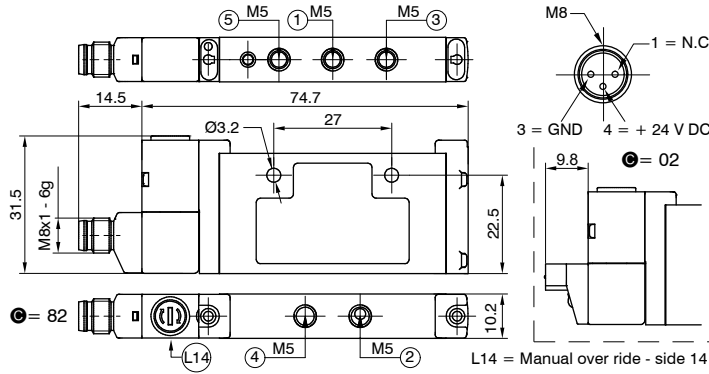
- Solenoid valve 5/2 solenoid-solenoid external feeding, + 24 V DC
- Free valve space plug
- Diaphragm plug on pipe 1
- Solenoid valve 5/2 solenoid-spring self feeding, + 24 V DC
- Solenoid valve 2x3/2 N.C.-N.C. (=5/3 O.C.) solenoid-solenoid, + 24 V DC

1
AIR DISTRIBUTION



Solenoid valves manifold
Series 3000 EVO - STAND ALONE (10 mm)

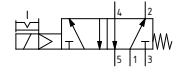
Solenoid-Spring (Self feeding)



Coding: 3115.52.00.39.Ⓢ

ELECTRICAL CONNECTION	
Ⓢ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

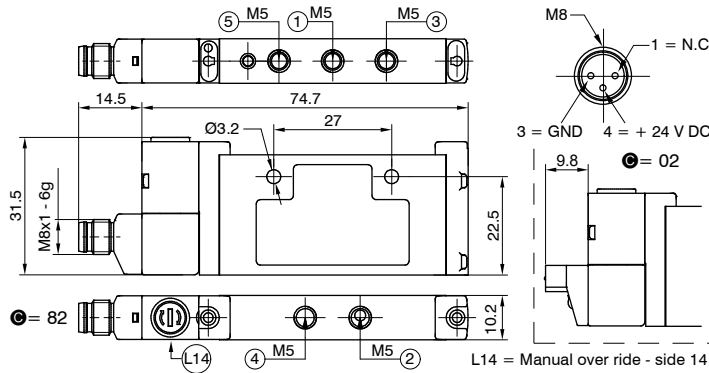
Weight 49 g
SHORT FUNCTION CODE "A"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	2.5 ... 7
Temperature °C	-5 ... +50

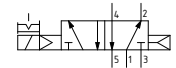
Solenoid-Differential (Self feeding)



Coding: 3115.52.00.36.Ⓢ

ELECTRICAL CONNECTION	
Ⓢ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

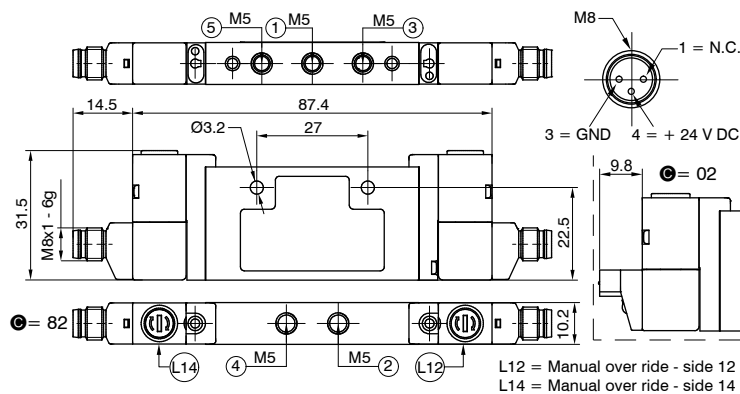
Weight 49 g
SHORT FUNCTION CODE "B"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	15
Working pressure (bar)	2.5 ... 7
Temperature °C	-5 ... +50

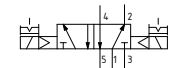
Solenoid-Solenoid (Self feeding)



Coding: 3115.52.00.35.Ⓢ

ELECTRICAL CONNECTION	
Ⓢ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

Weight 59 g
SHORT FUNCTION CODE "C"

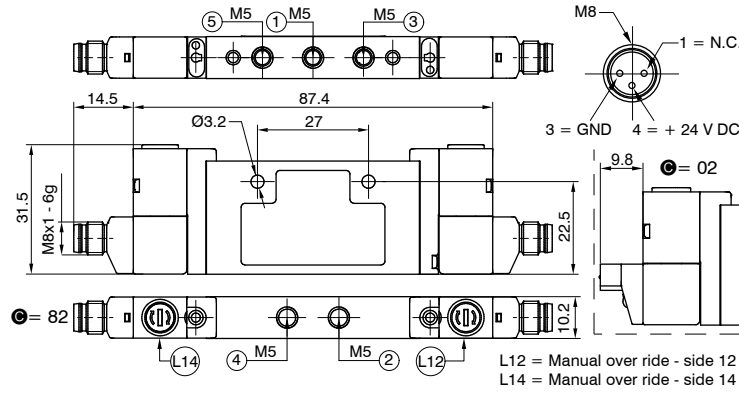


Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	2.5 ... 7
Temperature °C	-5 ... +50

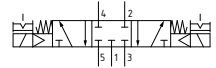
Solenoid-Solenoid 5/3 (Closed centres) (Self feeding)

Coding: 3115.53.31.35.Ⓒ



ELECTRICAL CONNECTION	
02	= H 90° SPEED-UP connector + 24 V DC
82	= M8 SPEED-UP connector + 24 V DC

Weight 59 g
SHORT FUNCTION CODE "E"

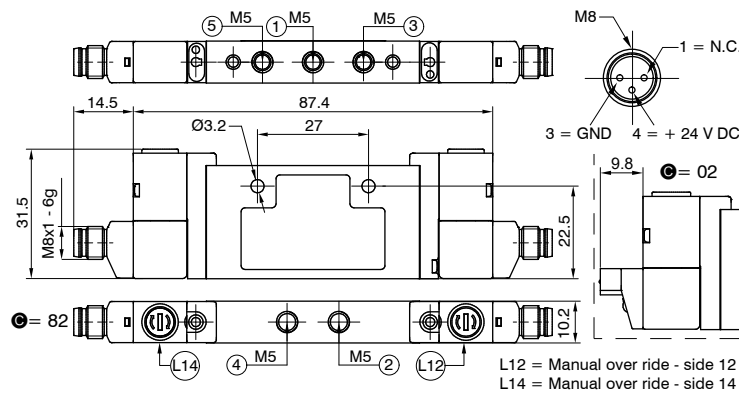


Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

Solenoid-Solenoid 2x3/2 (Self feeding)

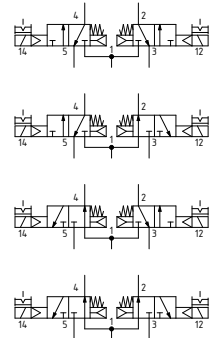
Coding: 3115.62.F.35.Ⓒ



FUNCTION	
44	= N.C.-N.C. (5/3 Open centres)
45	= N.C.-N.O.
54	= N.O.-N.C.
55	= N.O.-N.O. (5/3 Pressured centres)

ELECTRICAL CONNECTION	
02	= H 90° SPEED-UP connector + 24 V DC
82	= M8 SPEED-UP connector + 24 V DC

Weight 59,4 g
SHORT FUNCTION CODE:
N.C.-N.C. (5/3 Open centres) = "F"
N.O.-N.O. (5/3 Pressured centres) = "G"
N.C.-N.O. = "H"
N.O.-N.C. = "I"



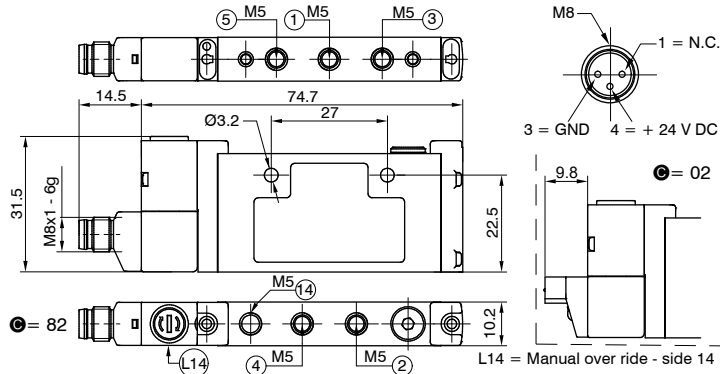
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	15
Working pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50



Solenoid valves manifold
Series 3000 EVO - STAND ALONE (10 mm)

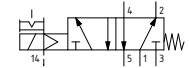
Solenoid-Spring (External feeding)



Coding: 3115.52.00.29.Ⓢ

ELECTRICAL CONNECTION	
Ⓢ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

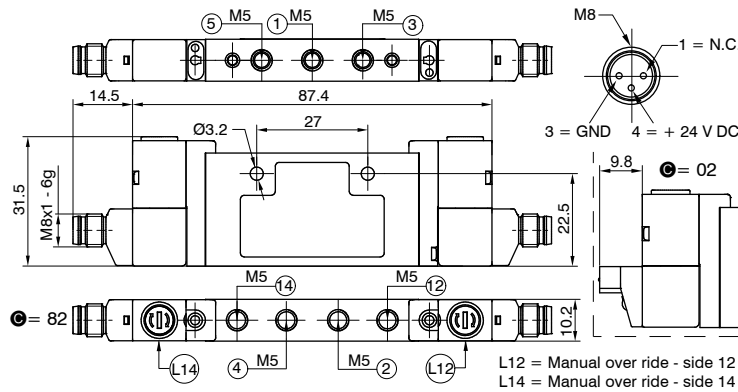
Weight 49 g
SHORT FUNCTION CODE "A"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

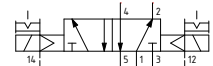
Solenoid-Solenoid (External feeding)



Coding: 3115.52.00.25.Ⓢ

ELECTRICAL CONNECTION	
Ⓢ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

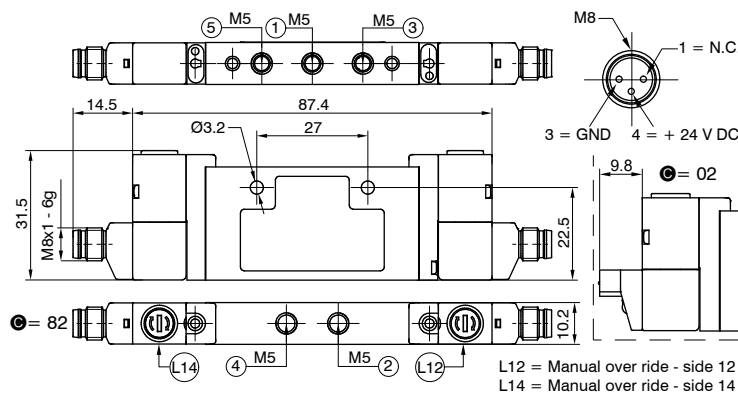
Weight 59 g
SHORT FUNCTION CODE "C"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	160
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	10
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

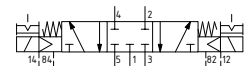
Solenoid-Solenoid 5/3 (Closed centres) (External feeding)



Coding: 3115.53.31.25.Ⓢ

ELECTRICAL CONNECTION	
Ⓢ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

Weight 59 g
SHORT FUNCTION CODE "E"



Technical characteristics

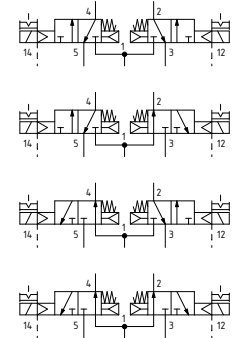
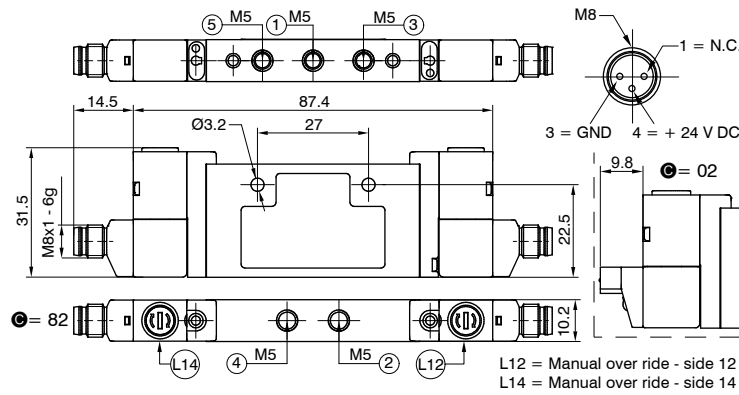
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

Solenoid-Solenoid 2x3/2 (External feeding)

Coding: 3115.62.F.25.C

FUNCTION	
44	= N.C.-N.C. (5/3 Open centres)
F	45 = N.C.-N.O.
F	54 = N.O.-N.C.
55	= N.O.-N.O. (5/3 Pressured centres)
ELECTRICAL CONNECTION	
C	02 = H 90° SPEED-UP connector + 24 V DC
	82 = M8 SPEED-UP connector + 24 V DC

Weight 59,4 g
SHORT FUNCTION CODE:
N.C.-N.C. (5/3 Open centres) = "F"
N.O.-N.O. (5/3 Pressured centres) = "G"
N.C.-N.O. = "H"
N.O.-N.C. = "I"



Technical characteristics

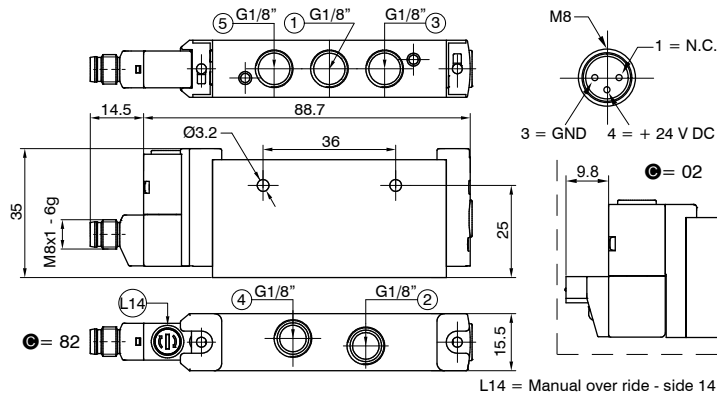
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	15
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	$\geq 3 + (0.2 \times \text{Inlet pressure})$
Temperature °C	-5 ... +50

1 AIR DISTRIBUTION



Solenoid valves manifold
Series 3000 EVO - STAND ALONE (15,5 mm)

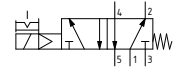
Solenoid-Spring (Self feeding)



Coding: 3415.52.00.39.Ⓒ

ELECTRICAL CONNECTION	
Ⓒ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

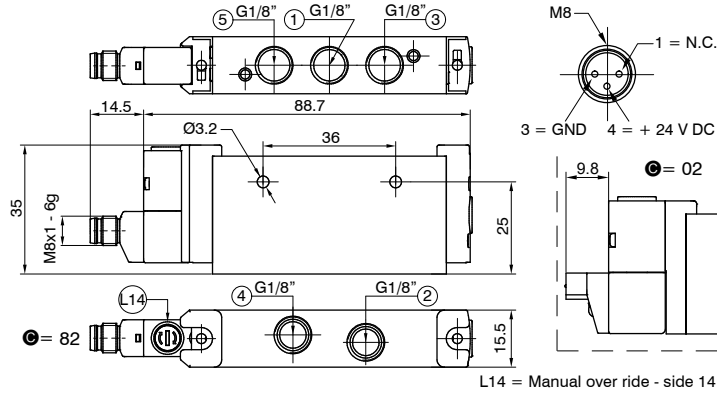
Weight 90 g
SHORT FUNCTION CODE "A"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	2.5 ... 7
Temperature °C	-5 ... +50

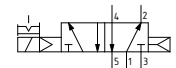
Solenoid-Differential (Self feeding)



Coding: 3415.52.00.36.Ⓒ

ELECTRICAL CONNECTION	
Ⓒ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

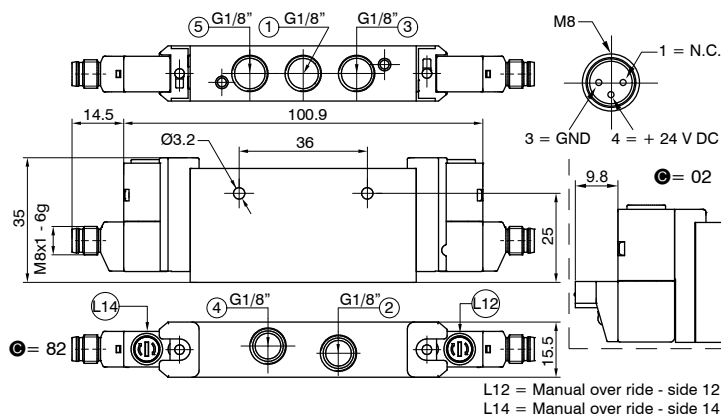
Weight 90 g
SHORT FUNCTION CODE "B"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	15
Working pressure (bar)	2.5 ... 7
Temperature °C	-5 ... +50

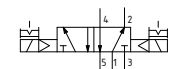
Solenoid-Solenoid (Self feeding)



Coding: 3415.52.00.35.Ⓒ

ELECTRICAL CONNECTION	
Ⓒ	02 = H 90° SPEED-UP connector + 24 VDC
	82 = M8 SPEED-UP connector + 24 VDC

Weight 100 g
SHORT FUNCTION CODE "C"

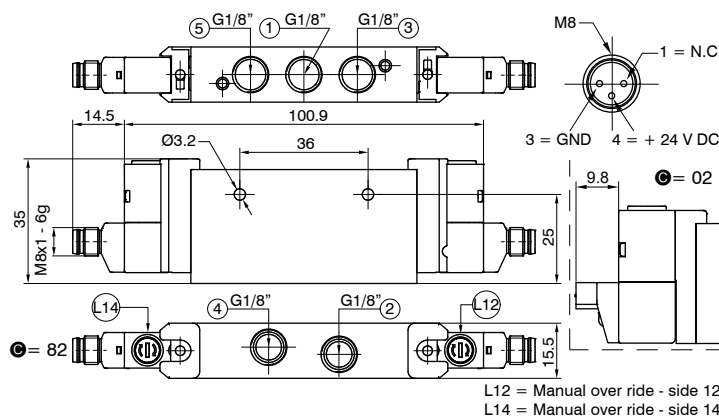


Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	10
Working pressure (bar)	2.5 ... 7
Temperature °C	-5 ... +50

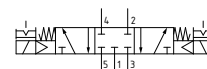
Solenoid-Solenoid 5/3 (Closed centres) (Self feeding)

Coding: 3415.53.31.35. **C**



ELECTRICAL CONNECTION	
02	= H 90° SPEED-UP connector + 24 V DC
82	= M8 SPEED-UP connector + 24 V DC

Weight 100 g
SHORT FUNCTION CODE "E"

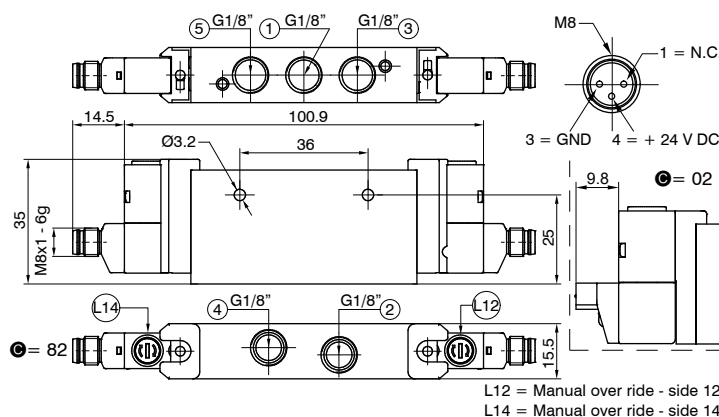


Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	500
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

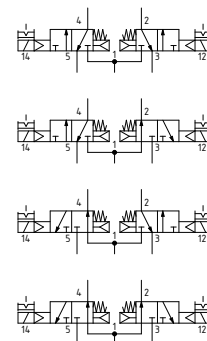
Solenoid-Solenoid 2x3/2 (Self feeding)

Coding: 3415.62. **F**.35. **C**



FUNCTION	
44	= N.C.-N.C. (5/3 Open centres)
45	= N.C.-N.O.
54	= N.O.-N.C.
55	= N.O.-N.O. (5/3 Pressured centres)
ELECTRICAL CONNECTION	
02	= H 90° SPEED-UP connector + 24 V DC
82	= M8 SPEED-UP connector + 24 V DC

Weight 100 g
SHORT FUNCTION CODE:
N.C.-N.C. (5/3 Open centres) = "F"
N.O.-N.O. (5/3 Pressured centres) = "G"
N.C.-N.O. = "H"
N.O.-N.C. = "I"



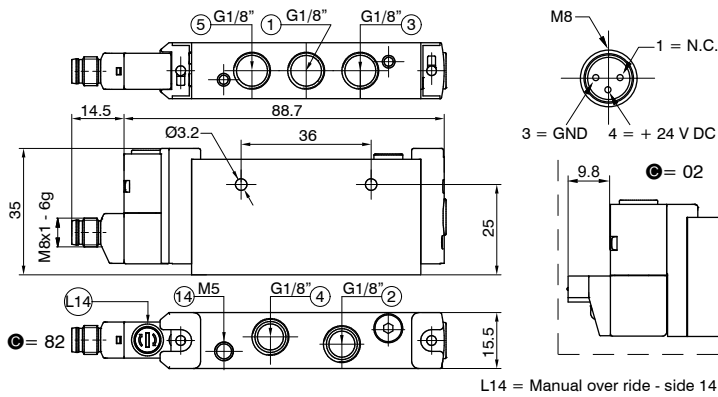
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	500
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	15
Working pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50



Solenoid valves manifold
Series 3000 EVO - STAND ALONE (15,5 mm)

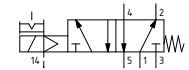
Solenoid-Spring (External feeding)



Coding: 3415.52.00.29.Ⓒ

ELECTRICAL CONNECTION	
Ⓒ	02 = H 90° SPEED-UP connector + 24 V DC
	82 = M8 SPEED-UP connector + 24 V DC

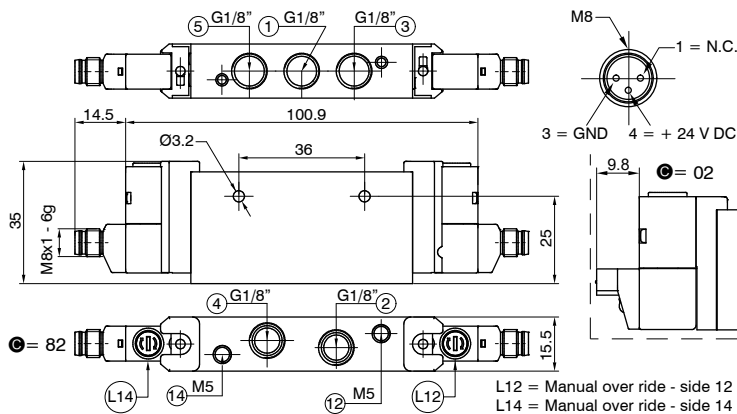
Weight 90 g
SHORT FUNCTION CODE "A"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

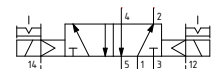
Solenoid-Solenoid (External feeding)



Coding: 3415.52.00.25.Ⓒ

ELECTRICAL CONNECTION	
Ⓒ	02 = H 90° SPEED-UP connector + 24 V DC
	82 = M8 SPEED-UP connector + 24 V DC

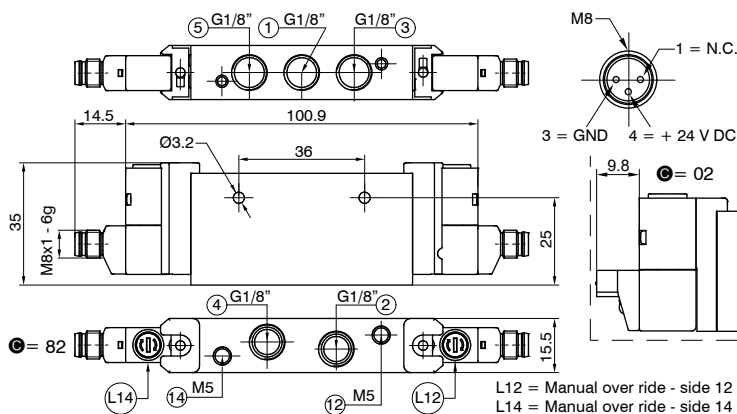
Weight 100 g
SHORT FUNCTION CODE "C"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	10
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

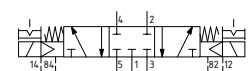
Solenoid-Solenoid 5/3 (Closed centres) (External feeding)



Coding: 3415.53.31.25.Ⓒ

ELECTRICAL CONNECTION	
Ⓒ	02 = H 90° SPEED-UP connector + 24 V DC
	82 = M8 SPEED-UP connector + 24 V DC

Weight 100 g
SHORT FUNCTION CODE "E"



Technical characteristics

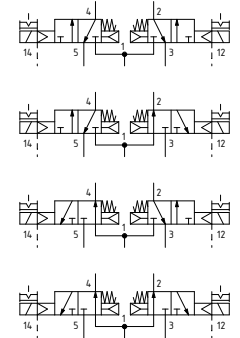
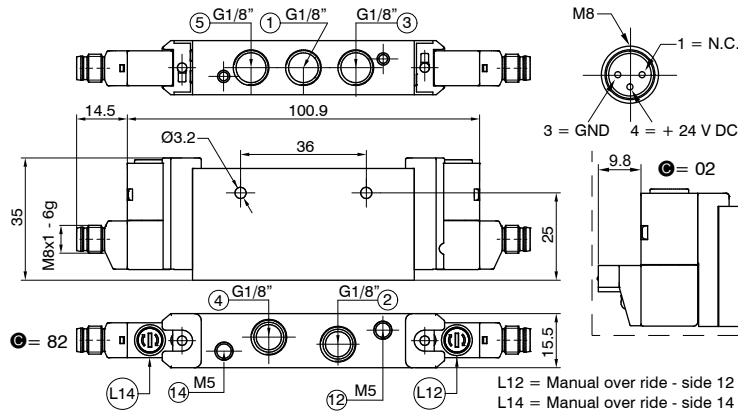
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	500
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

Solenoid-Solenoid 2x3/2 (External feeding)

Coding: 3415.62.F.25.C

FUNCTION	
44	= N.C.-N.C. (5/3 Open centres)
45	= N.C.-N.O.
F	54 = N.O.-N.C.
55	= N.O.-N.O. (5/3 Pressured centres)
ELECTRICAL CONNECTION	
02	= H 90° SPEED-UP connector + 24 V DC
C	82 = M8 SPEED-UP connector + 24 VDC

Weight 100 g
SHORT FUNCTION CODE:
N.C.-N.C. (5/3 Open centres) = "F"
N.O.-N.O. (5/3 Pressured centres) = "G"
N.C.-N.O. = "H"
N.O.-N.C. = "I"



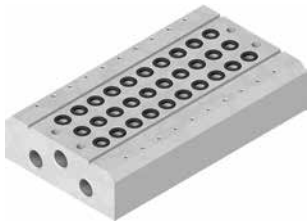
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	500
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	15
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	$\geq 3 + (0.2 \times \text{Inlet pressure})$
Temperature °C	-5 ... +50

1
AIR DISTRIBUTION



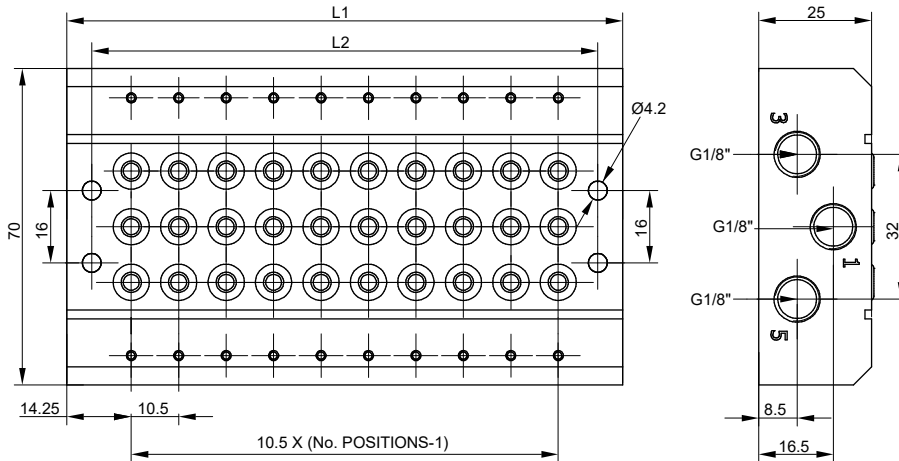
Manifold



Coding: 3115.N

NO. POSITIONS	
02	= No. 2 positions
03	= No. 3 positions
04	= No. 4 positions
05	= No. 5 positions
06	= No. 6 positions
07	= No. 7 positions
08	= No. 8 positions
09	= No. 9 positions
10	= No. 10 positions

Weight "see table"



	No. POSITIONS									
	2	3	4	5	6	7	8	9	10	
L1	39	49,5	60	70,5	81	91,5	102	112,5	123	
L2	29	39,5	50	60,5	71	81,5	92	102,5	113	
Weight (g)	150	200	250	300	350	400	450	500	550	

Assembling kit

Coding: 3115.KV

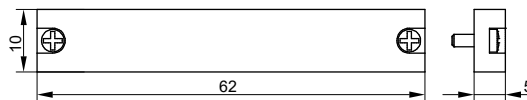
Weight 2 g



Closing plate

Coding: 3115.00

Weight 10 g



Diaphragm plug

Coding: 3130.17

Weight 1,5 g



1 AIR DISTRIBUTION

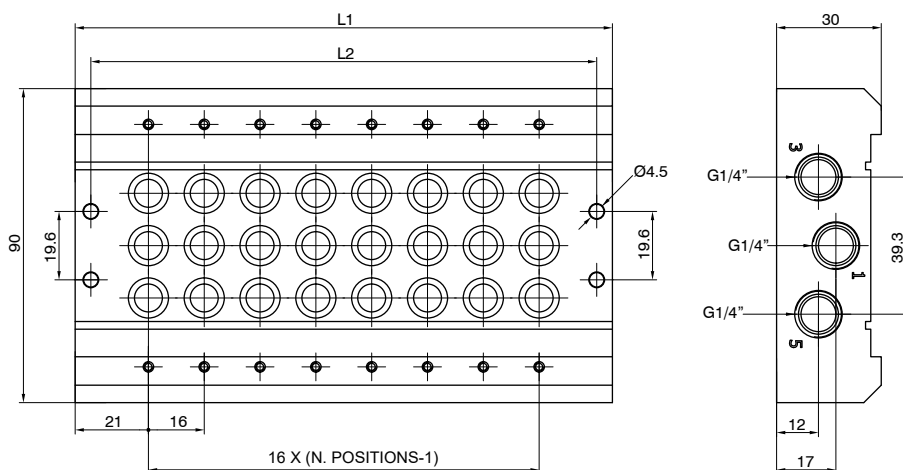
Manifold



Coding: 3415.N

NO. POSITIONS	
02	No. 2 positions
03	No. 3 positions
04	No. 4 positions
05	No. 5 positions
06	No. 6 positions
07	No. 7 positions
08	No. 8 positions
09	No. 9 positions
10	No. 10 positions

Weight "see table"



	N. POSITIONS									
	2	3	4	5	6	7	8	9	10	
L1	58	74	90	106	122	138	154	170	186	
L2	49	65	81	97	113	129	145	161	177	
Weight (g)	350	440	530	620	710	800	890	980	1070	

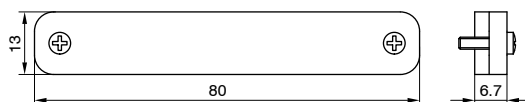
Assembling kit



Coding: 3415.KV

Weight 3 g

Closing plate



Coding: 3415.00

Weight 25 g

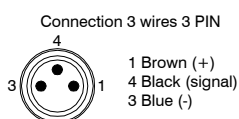
Diaphragm plug



Coding: 3430.17

Weight 3 g

M8 connector with 3 wires cable



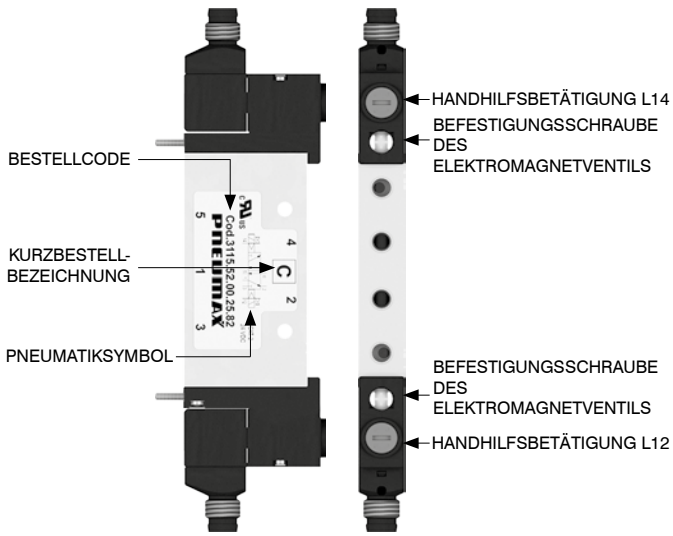
Coding: MCH.L

CABLE LENGTH	
1	2,5 meters
2	5 meters
3	10 meters

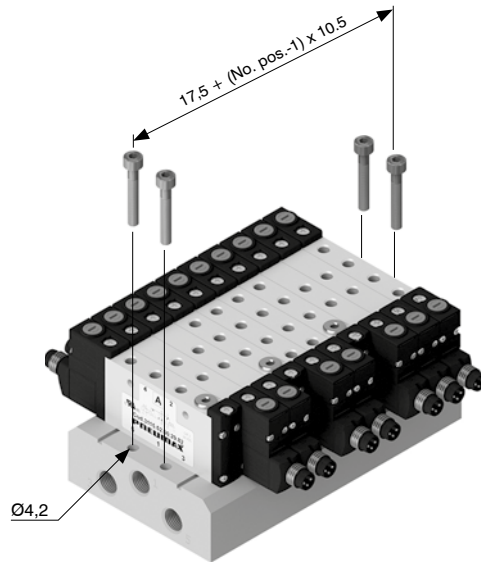
PUR Ø2,6 mm 3x0,15 mm²



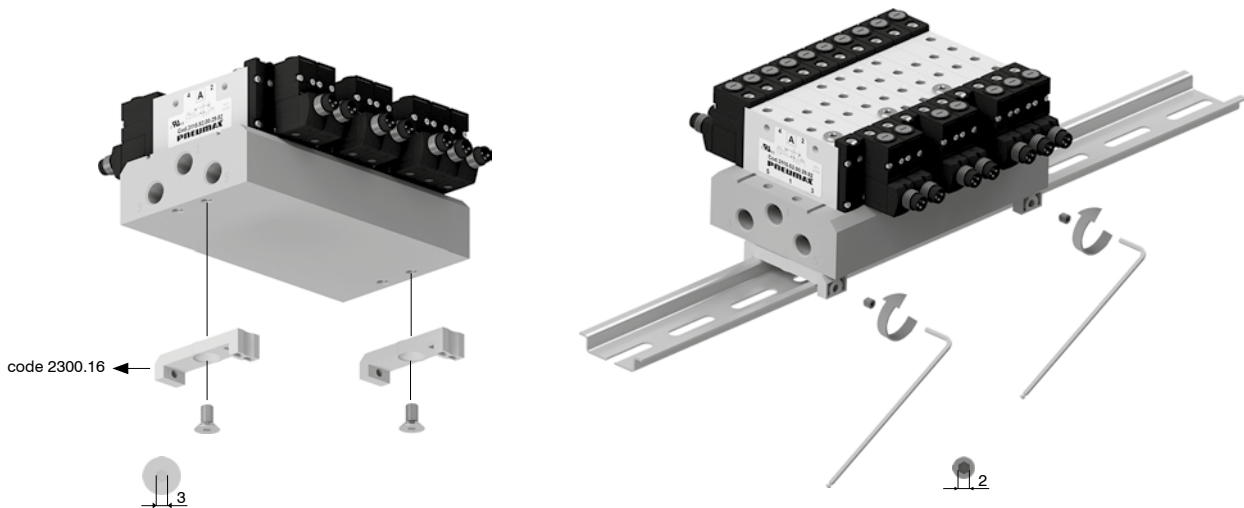
Solenoid valve description



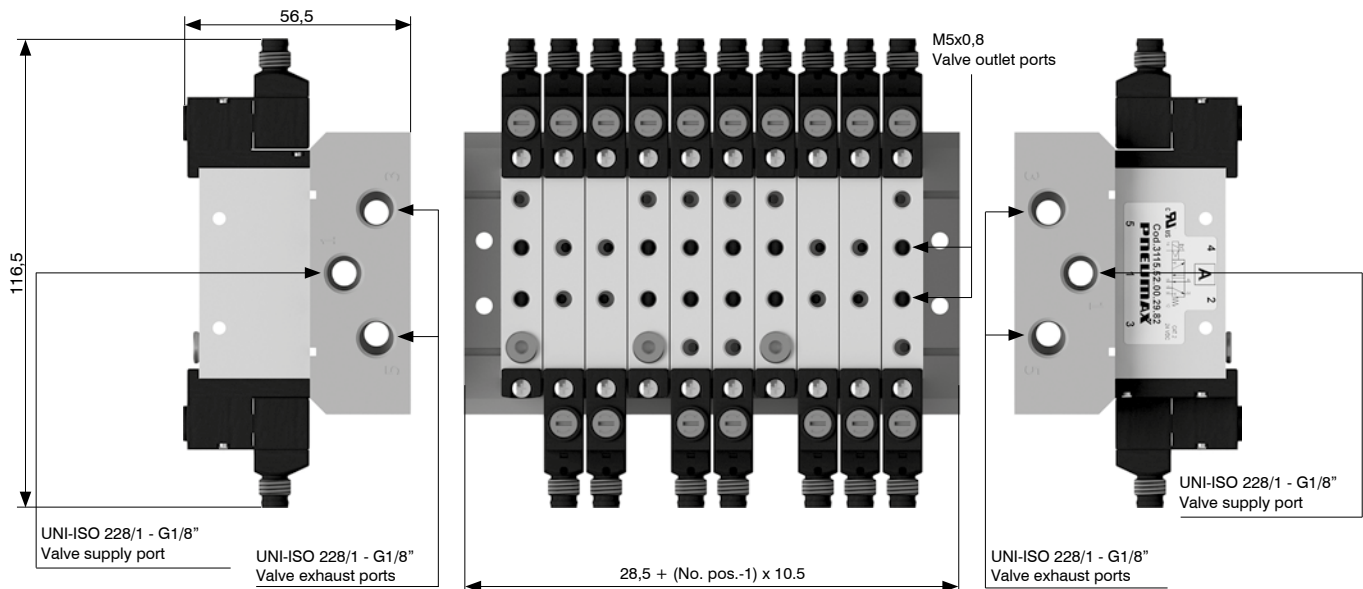
From the top



DIN rail fixing

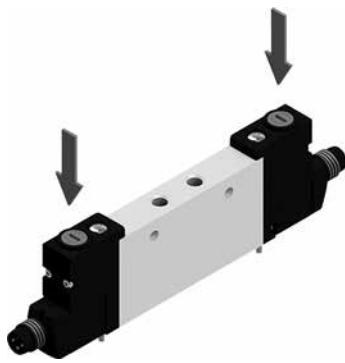


Supply ports and maximum possible size according to valves used

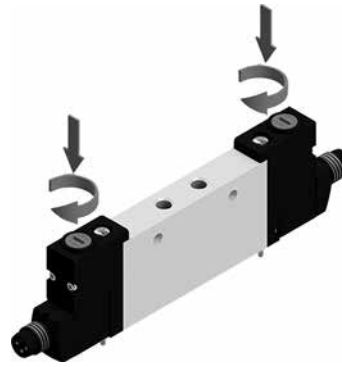


AIR DISTRIBUTION

Manual override actuation



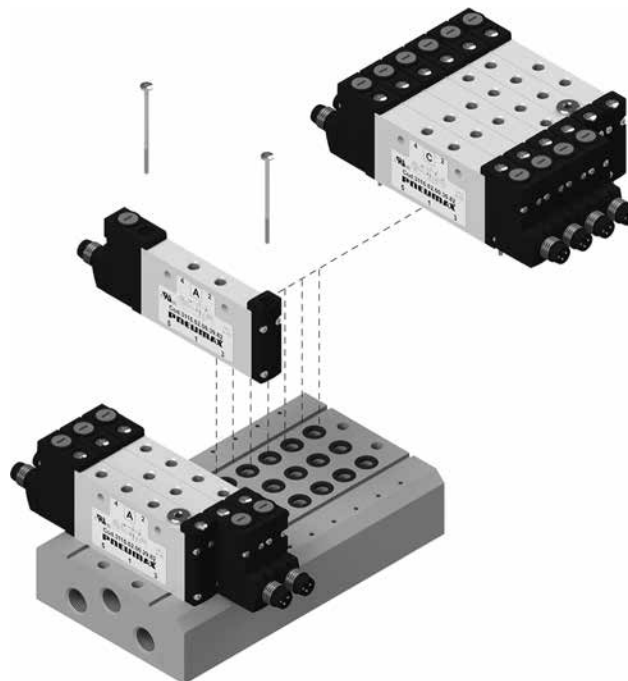
Instable function:
Push to actuate
(when released it moves back to the original position)



Bistable function:
Push and turn to get the bistable function

Note: we recommend the manual override is returned to it's original position when not in use

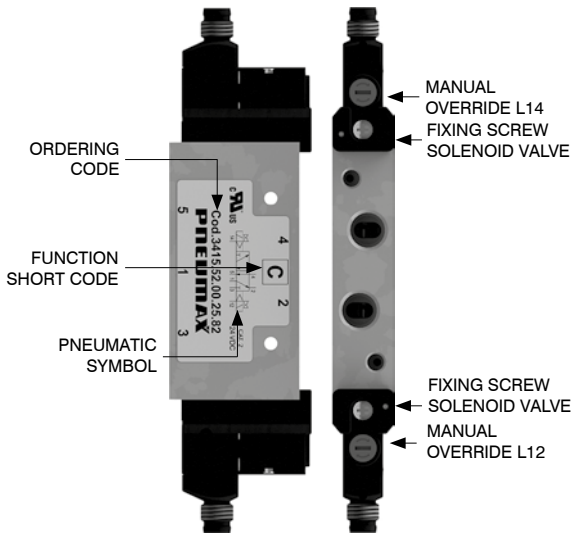
Solenoid valves installation



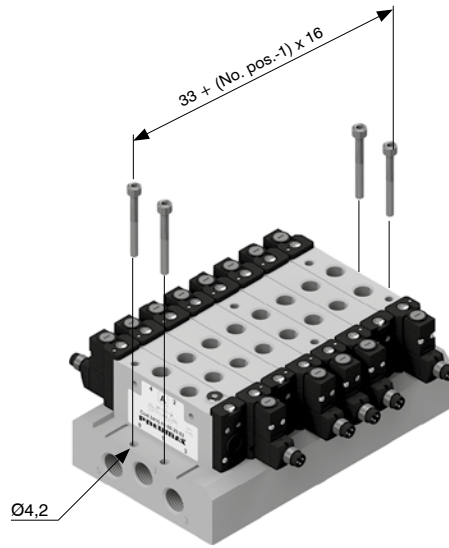
Maximum fixing torque for fittings: 0,2 Nm



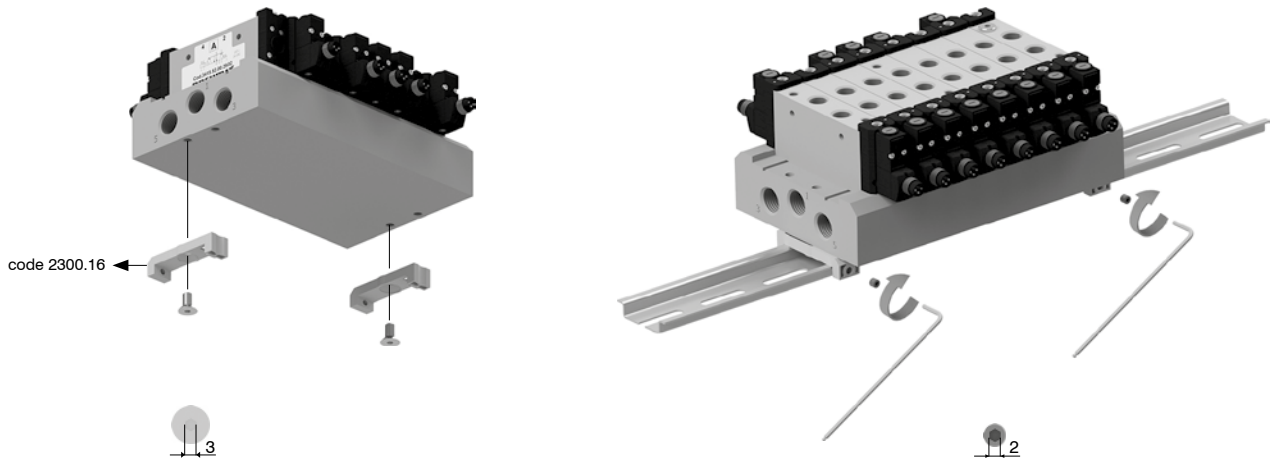
Solenoid valve description



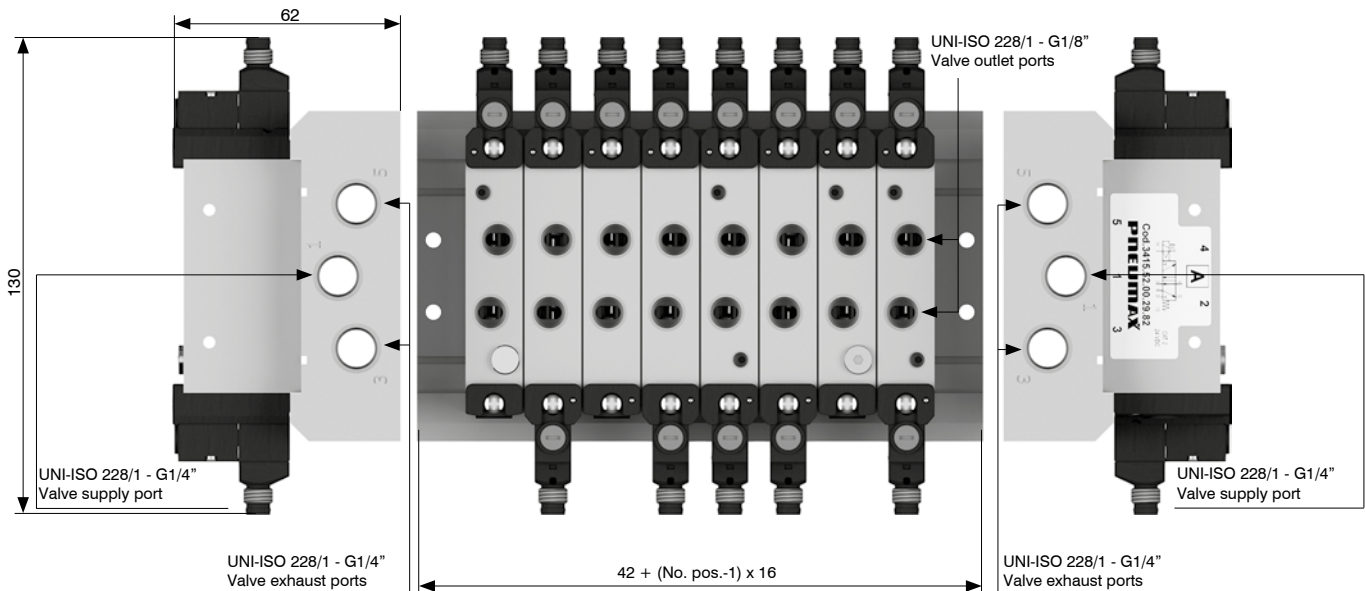
From the top



DIN rail fixing

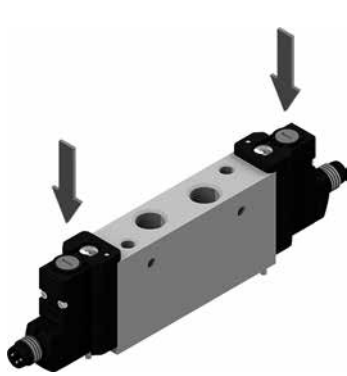


Supply ports and maximum possible size according to valves used

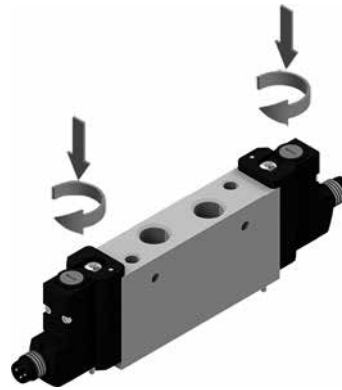


AIR DISTRIBUTION

Manual override actuation



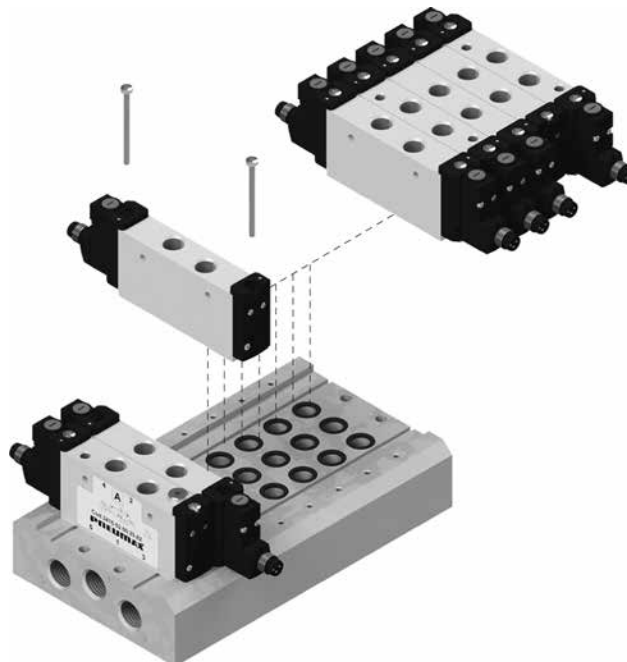
Instable function:
Push to actuate
(when released it moves back to the original position)



Bistable function:
Push and turn to get the bistable function

Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation



Maximum fixing torque for fittings: 0,2 Nm



Series 3000 EVO - MANIFOLD



The range of solenoid valves to be assembled in pre-configured manifold, is available in multi-pin and serial versions, with a vast choice of connectors and analogue and digital input and output accessories.

The compact and clean design of both the valve body and the manifold, each one produced in aluminum, allows their use in applications requiring space optimization and weight reduction without sacrificing reliability and the prerogatives of aluminum.

The multi-pin connection version is available in three different types of connections:

- SUB-D 25 poles equipped with 24 outputs and configurable in different lengths up to 12 bistable valve positions on the manifold
- SUB-D 37 poles equipped with 32 outputs and configurable in different lengths up to 16 bistable valve positions on the manifold
- SUB-D 44 poles HD equipped with 40 outputs and configurable in different lengths up to 20 bistable valve positions on the manifold

Every one of these options covers the wide range of application requirements and provides electronic management by default capable of energy saving on individual coils and managing PNP and NPN connections automatically without any difference in installation for the end user.

Precisely in order to guarantee maximum integration versatility in different machines and applications, the 3000 EVO series valves in the serial version are designed to interface with all main communication protocols: CANopen®, PROFIBUS DP, EtherNet/IP, EtherCAT®, PROFINET IO RT, CC-Link IE Field Basic and IO-Link.

Each implemented protocol has been provided to guarantee the best expandability and inputs/outputs management.

In particular it has been provided protocols to manage up to 64 inputs and 64 outputs (PROFIBUS DP, CANopen® and IO-Link) and other protocols to manage up to 128 inputs and 128 outputs (EtherCAT®, EtherNet/IP, CC-Link IE Field Basic and PROFINET IO RT).

Taking advantage of the output signals it is possible to connect components to manage, for example, proportional pressure regulator or to control other solenoid valves.

The 3000 EVO series allows the use of modules dedicated to managing input signals up to the maximum number of inputs manageable by the specific serial node used.

Input modules with different interfaces and different technologies have been provided: modules with eight digital inputs with M8 or M12 connection, analogue or voltage input modules with M8 connection interface and others.

One of the strengths of this system is the possibility to freely configure the series of input and output modules, giving the advantage of installation flexibility.

Main characteristics

10 and 15,5 mm size.

Multi-position sub-bases in different lengths.

Integrated and optimized electrical connection system.

Functions

S.V. 5/2 Monostable Solenoid-Spring

S.V. 5/2 Monostable Solenoid-Differential

S.V. 5/2 Bistable Solenoid-Solenoid

S.V. 5/3 C.C. Solenoid-Solenoid

S.V. 2x3/2 N.C.-N.C. (= 5/3 O.C.) Solenoid-Solenoid

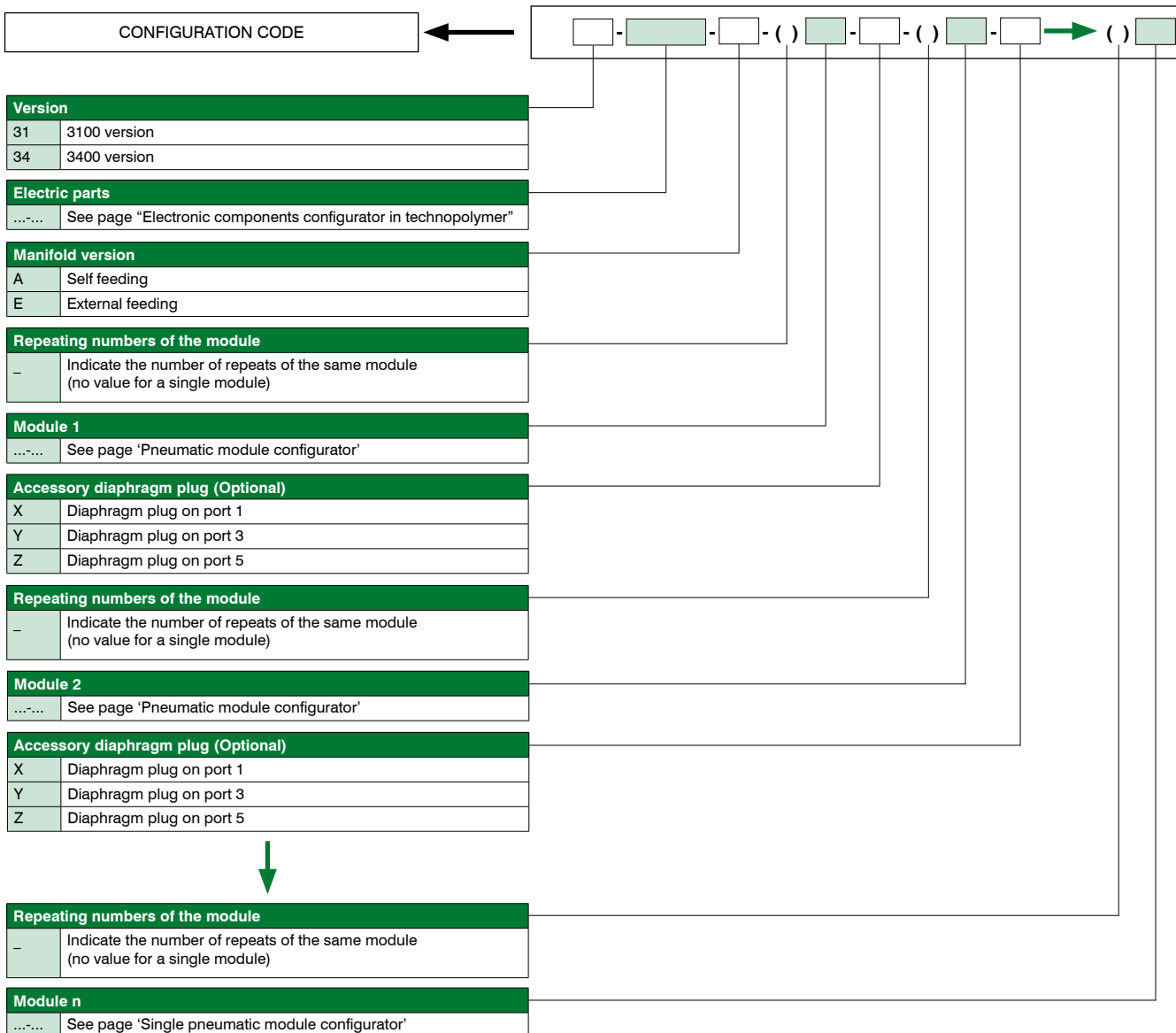
S.V. 2x3/2 N.O.-N.O. (= 5/3 P.C.) Solenoid-Solenoid

S.V. 2x3/2 N.C.-N.O. Solenoid-Solenoid

S.V. 2x3/2 N.O.-N.C. Solenoid-Solenoid



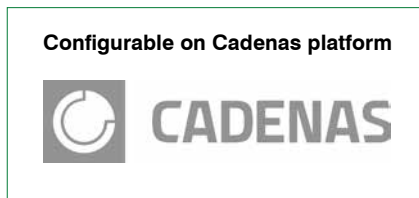
Rules and configuration scheme



1
AIR DISTRIBUTION

Check the number of available solenoid valve positions

Number of available solenoid valve positions (standard)							
4	6	8	10	12	16	20	24



Note:

When composing the configuration, always bear in mind that the maximum number of electrical signals available is:

- 48 if a serial node or IO-Link interface is used.
- 40 if a 44-pole multi-pin is used.
- 32 if a 37-pole multi-pin module is used.
- 24 if a 25-pole multi-pin module is used.

Each position on the manifold occupies two electrical signals; if a monostable valve is used, an electrical signal is lost.

However, this makes it possible to replace the monostable valve with a bistable valve in the same position.

Diaphragm plugs are used to interrupt ports 1, 3 and 5 of the sub-base.

If it is necessary to interrupt more than one port at the same time, put the letters that identify their position in sequence (e.g.: if it is necessary to intercept the ports 3 and 5 you must put the letters YZ).

If one or more ports must be interrupted more than once, the addition of the intermediate supply/discharge module is necessary.



Electronic components configurator in technopolymer

AIR DISTRIBUTION

1

Type	
P	Technopolymer

Multi-pin electrical connection	
MP	2 Multi-pin, PNP 24 V DC 25 poles
	3 Multi-pin, PNP 24 V DC 37 poles
	4 Multi-pin, PNP 24 V DC 44 poles

Electrical connection	
C3	CANopen® node 64 IN - 64 OUT (32 fixed)
C4	CANopen® node 64 IN - 64 OUT (48 fixed)
P3	PROFIBUS DP node 64 IN - 64 OUT (32 fixed)
P4	PROFIBUS DP node 64 IN - 64 OUT (48 fixed)
I4	EtherNet/IP node 128 IN - 128 OUT (48 fixed)
A4	EtherCAT® node 128 IN - 128 OUT (48 fixed)
N4	PROFINET IO RT node 128 IN - 128 OUT (48 fixed)
G4	CC-Link IE Field Basic node 128 IN - 128 OUT (48 fixed)
K3	IO-Link interface 64 IN - 64 OUT (32 fixed)
K4	IO-Link interface 64 IN - 64 OUT (48 fixed)

Manifold accessories (2 pieces)	
	Without DIN rail fixing
G	With DIN rail fixing

Repeating numbers of the module	
	Indicate the number of repeats of the same module (no value for a single module)

Inputs module - Analog / Digital (EXCLUDED WITH MP)	
D8	8 M8 digital inputs module
D12	8 M12 digital inputs module
D3	32 digital inputs SUB-D 37 poles
T1	2 analogue inputs 0-5V module (voltage signal)
T2	2 analogue inputs 0-10V module (voltage signal)
T3	4 analogue inputs 0-5V module (voltage signal)
T4	4 analogue inputs 0-10V module (voltage signal)
C1	2 analogue inputs 0-20mA module (current signal)
C2	2 analogue inputs 4-20mA module (current signal)
C3	4 analogue inputs 0-20mA module (current signal)
C4	4 analogue inputs 4-20mA module (current signal)
P1	2 Pt100 2 wires inputs module
P2	2 Pt100 3 wires inputs module
P3	2 Pt100 4 wires inputs module
P4	4 Pt100 2 wires inputs module
P5	4 Pt100 3 wires inputs module
P6	4 Pt100 4 wires inputs module

Outputs module - Analog / Digital	
M8	8 M8 digital outputs module
M12	8 M12 digital outputs module
M3	32 digital outputs SUB-D 37 poles
V1	2 analogue outputs 0-5V module (voltage signal)
V2	2 analogue outputs 0-10V module (voltage signal)
V3	4 analogue outputs 0-5V module (voltage signal)
V4	4 analogue outputs 0-10V module (voltage signal)
L1	2 analogue outputs 0-20mA module (current signal)
L2	2 analogue outputs 4-20mA module (current signal)
L3	4 analogue outputs 0-20mA module (current signal)
L4	4 analogue outputs 4-20mA module (current signal)

Additional modules (Optional)	
P12	M12 additional power supply module

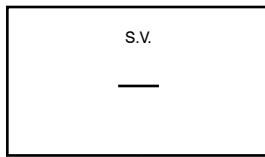
Module accessories	
	Without DIN rail fixing
G	With DIN rail fixing

SINGLE ELECTRIC MODULE CONFIGURATION

Refer to the current limits indicated in the pages relating to the nodes / IO-Link interface

Modules configuration

Module configurator



Valve type	
A	S.V. 5/2 SOLENOID-SPRING
B	S.V. 5/2 SOLENOID-DIFFERENTIAL
C	S.V. 5/2 SOLENOID-SOLENOID
E	S.V. 5/3 CC SOLENOID-SOLENOID
F	S.V. 2x3/2 NC-NC (5/3 O.C.) SOLENOID-SOLENOID
G	S.V. 2x3/2 NO-NO (5/3 P.C.) SOLENOID-SOLENOID
H	S.V. 2x3/2 NC-NO SOLENOID-SOLENOID
I	S.V. 2x3/2 NO-NC SOLENOID-SOLENOID
T	Plug

Module configurator



Module type	
W	Intermediate Inlet/Exhaust module



N°2 valve seats occupied in the 3100 version

1

AIR DISTRIBUTION

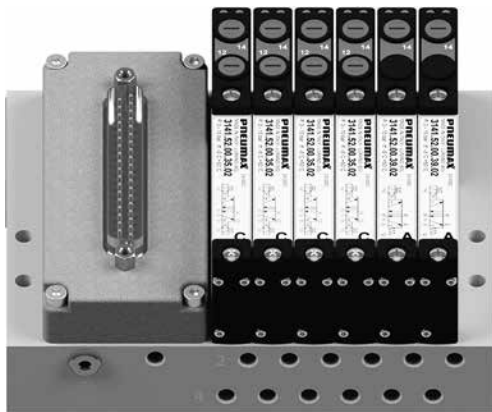
Configuration example of complete group:

- Version 3400 (34)
- Technopolymer PX3 serial system (P-N4-D8-M8)
- Manifold in external supply version (E)
- Solenoid valves 5/2 Solenoid-Spring (A)
- Solenoid valves 5/2 Solenoid-Solenoid (C)
- Solenoid valves 2X3/2 NC-NC Solenoid-Solenoid (F)
- Solenoid valves 2X3/2 NC-NC Solenoid-Solenoid (F)

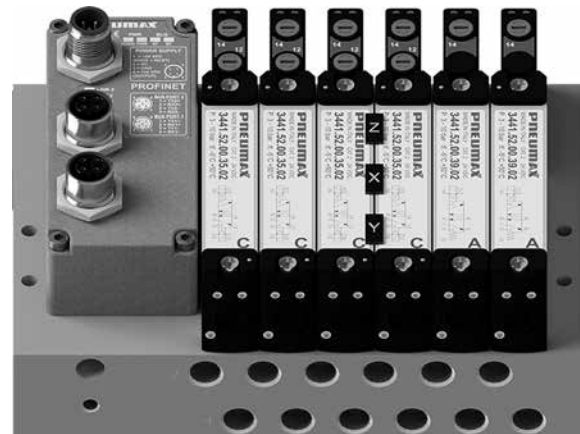


34-P-N4-D8-M8-E-A-C-(2)F

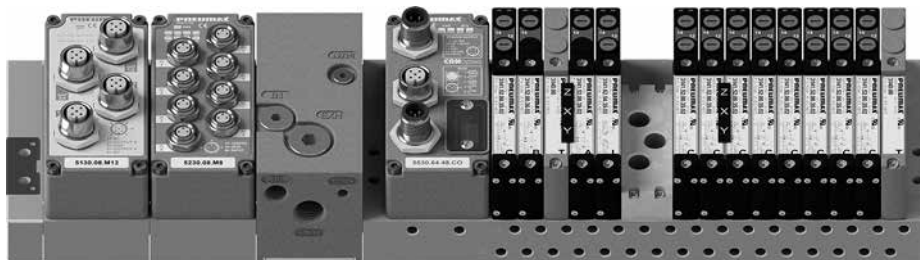
Configuration examples



Example shown: 31-P-MP3-E-(4)C-(2)A
Manifold with external feeding, multi-pin 37 poles connection and solenoid valves.



Example shown: 34-P-N4-E-(3)C-XYZ-C-(2)A
Manifold with external feeding, serial node, solenoid valves and diaphragm plugs.



Example shown: 31-P-C4-D8-M12-E-C-B-T-XYZ-A-I-W-(2)C-XYZ-(6)C-T
Manifold with external feeding, serial node, M8 input module, M12 output module; solenoid valves, multi-position diaphragm plugs, additional power supply module.



Example shown: 31-P-C4-(2)D8-M12-A-C-B-(2)I-(2)T
Self feeding manifold with serial node, M8 input module, M12 output module, solenoid valves.

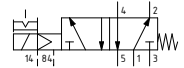
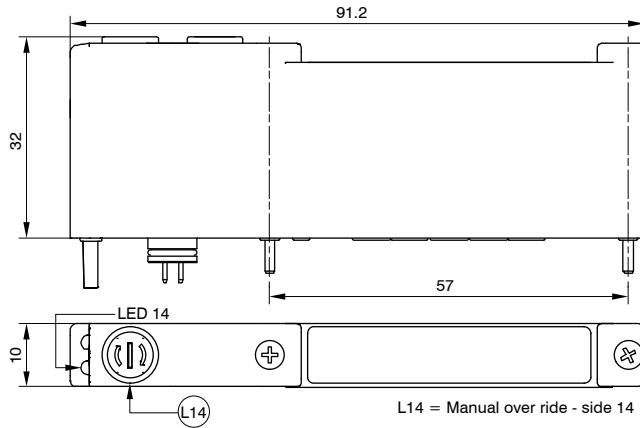
1 AIR DISTRIBUTION

Solenoid-Spring

Coding: 3141.52.00.39.ⓐ

ⓐ	ELECTRICAL CONNECTION
	02 = + 24 V DC

Weight 55,7 g
SHORT FUNCTION CODE "A"



Technical characteristics

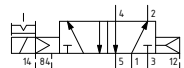
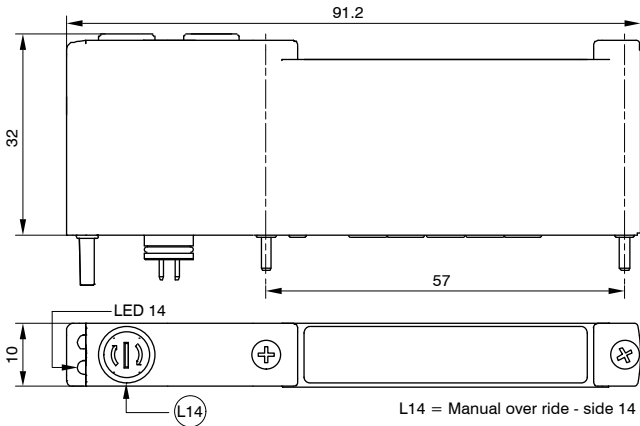
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	200
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

Solenoid-Differential

Coding: 3141.52.00.36.ⓐ

ⓐ	ELECTRICAL CONNECTION
	02 = + 24 V DC

Weight 55,7 g
SHORT FUNCTION CODE "B"



Technical characteristics

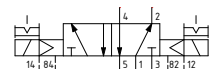
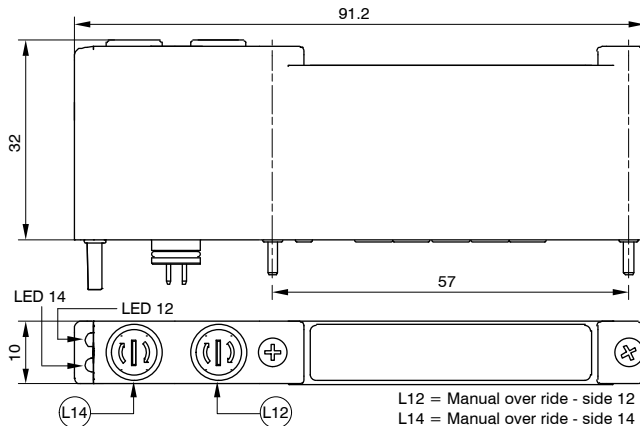
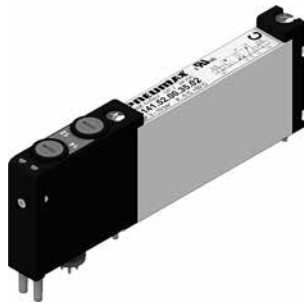
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	200
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

Solenoid-Solenoid

Coding: 3141.52.00.35.ⓐ

ⓐ	ELECTRICAL CONNECTION
	02 = + 24 V DC

Weight 55,7 g
SHORT FUNCTION CODE "C"



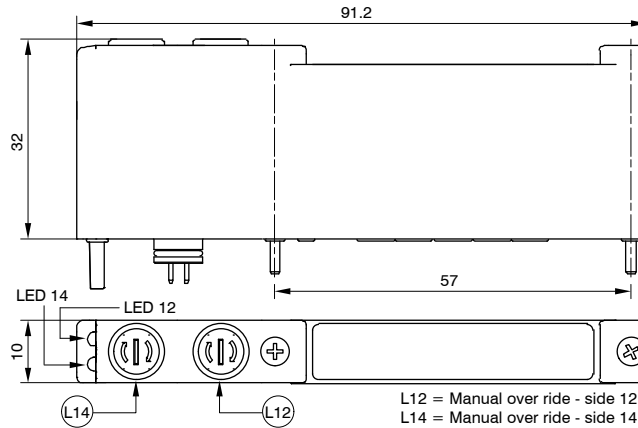
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	200
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	10
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50



1 AIR DISTRIBUTION

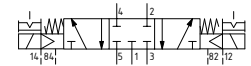
Solenoid-Solenoid 5/3 (Closed centres)



Coding: 3141.53.31.35.ⓐ

ⓐ	ELECTRICAL CONNECTION
	02 = + 24 V DC

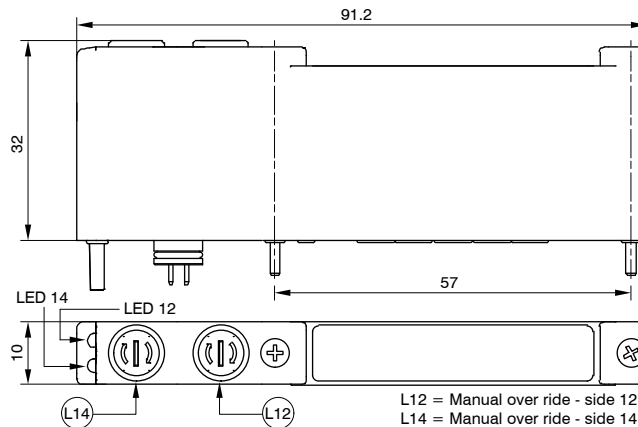
Weight 60,3 g
SHORT FUNCTION CODE "E"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	170
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

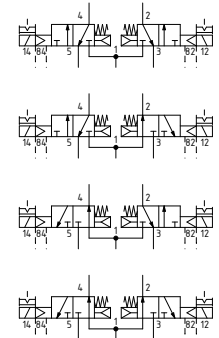
Solenoid-Solenoid 2x3/2



Coding: 3141.62.F.35.ⓐ

ⓐ	FUNCTION
	44 = N.C.-N.C. (5/3 Open centres)
	45 = N.C.-N.O.
	54 = N.O.-N.C.
ⓐ	55 = N.O.-N.O. (5/3 Pressured centres)
	ELECTRICAL CONNECTION
	02 = + 24 V DC

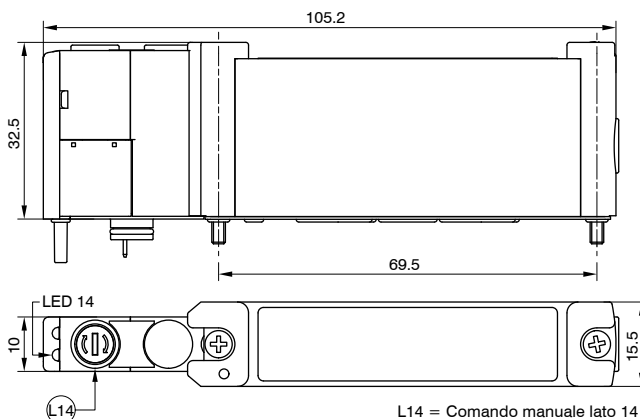
Weight 60,7 g
SHORT FUNCTION CODE:
N.C.-N.C. (5/3 Open centres) = "F"
N.O.-N.O. (5/3 Pressured centres) = "G"
N.C.-N.O. = "H"
N.O.-N.C. = "I"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	170
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	15
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	$\geq 3 + (02 \times \text{Inlet pressure})$
Temperature °C	-5 ... +50

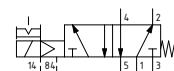
Solenoid-Spring



Coding: 3441.52.00.39.Ⓒ

Ⓒ	ELECTRICAL CONNECTION
	02 = + 24 V DC

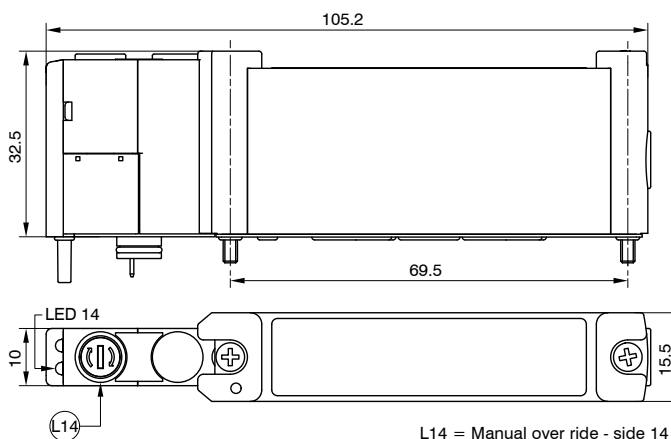
Weight 92 g
SHORT FUNCTION CODE "A"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

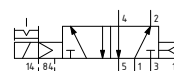
Solenoid-Differential



Coding: 3441.52.00.36.Ⓒ

Ⓒ	ELECTRICAL CONNECTION
	02 = + 24 V DC

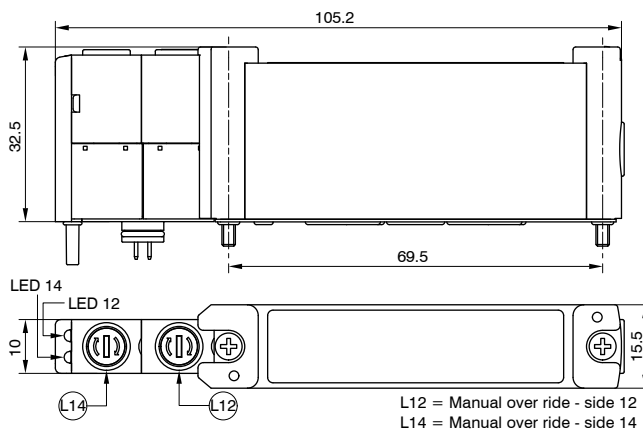
Weight 92 g
SHORT FUNCTION CODE "B"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

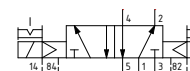
Solenoid-Solenoid



Coding: 3441.52.00.35.Ⓒ

Ⓒ	ELECTRICAL CONNECTION
	02 = + 24 V DC

Weight 99 g
SHORT FUNCTION CODE "C"



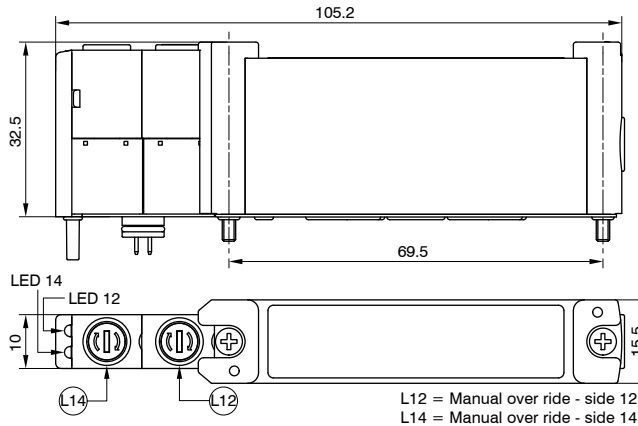
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	600
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	10
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50



Solenoid valves manifold
Series 3000 EVO - MANIFOLD (15,5 mm)

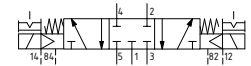
Solenoid-Solenoid 5/3 (Closed centres)



Coding: 3441.53.31.35.ⓐ

ⓐ	ELECTRICAL CONNECTION
	02 = + 24 V DC

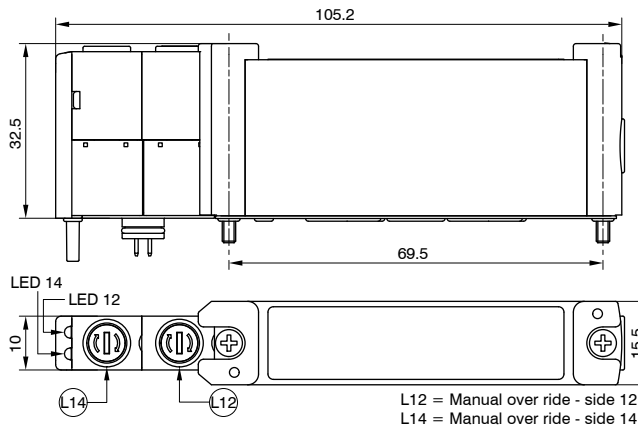
Weight 99 g
SHORT FUNCTION CODE "E"



Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	500
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

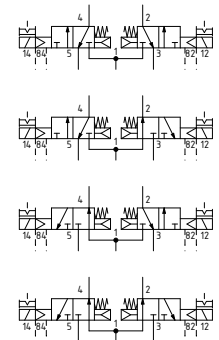
Solenoid-Solenoid 2x3/2



Coding: 3441.62.F.35.ⓑ

ⓑ	FUNCTION
	44 = N.C.-N.C. (5/3 Open centres)
	45 = N.C.-N.O.
	54 = N.O.-N.C.
ⓑ	55 = N.O.-N.O. (5/3 Pressured centres)
	ELECTRICAL CONNECTION
	02 = + 24 V DC

Weight 99 g
SHORT FUNCTION CODE:
N.C.-N.C. (5/3 Open centres) = "F"
N.O.-N.O. (5/3 Pressured centres) = "G"
N.C.-N.O. = "H"
N.O.-N.C. = "I"



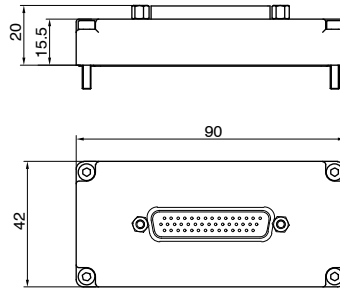
Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	500
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	20
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	$\geq 3 + (0.2 \times \text{Inlet pressure})$
Temperature °C	-5 ... +50

Multi-pin module

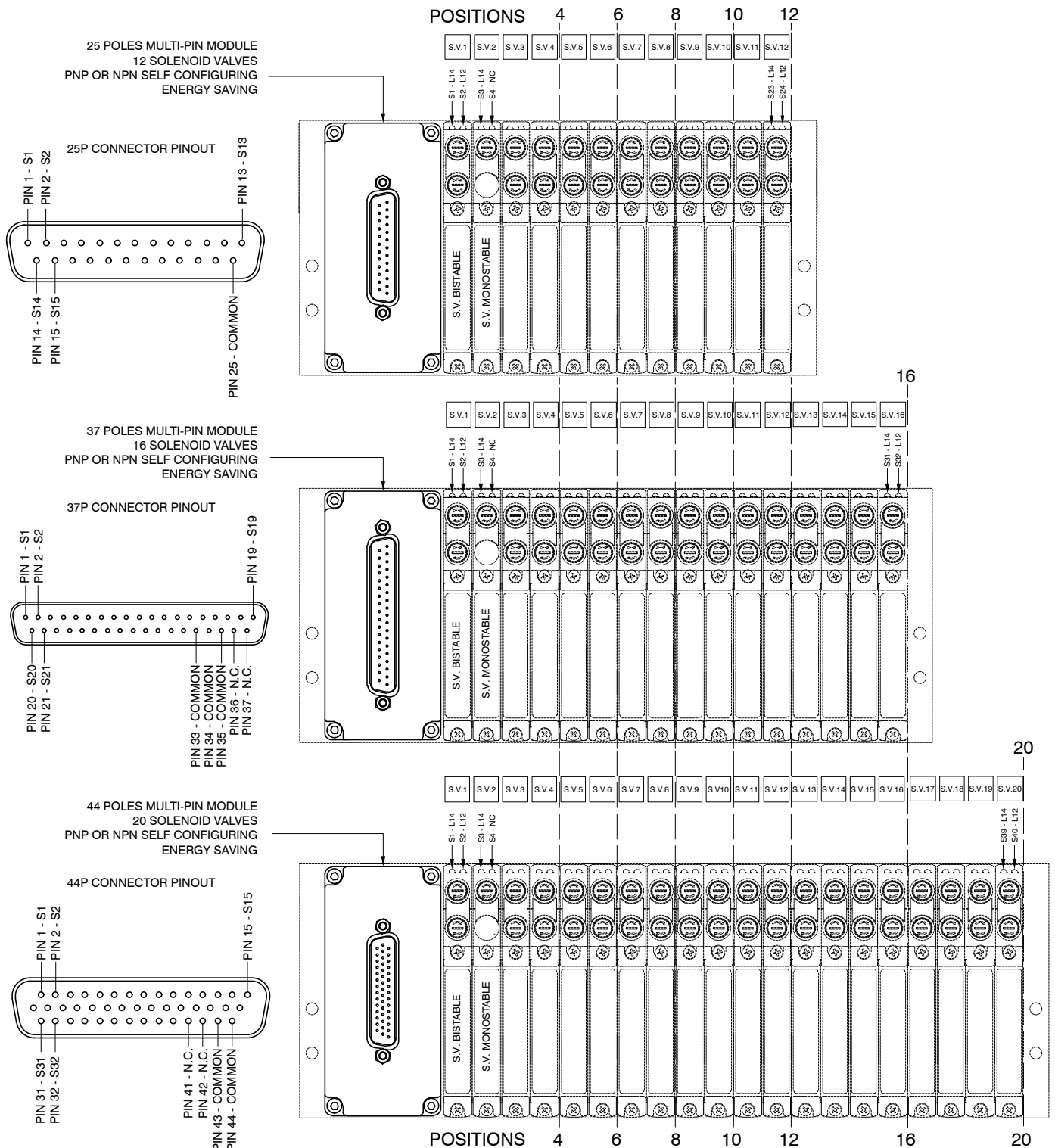
Coding: 3140.00.Ⓢ

ELECTRICAL CONNECTION	
Ⓢ	25P = Connectors 25 poles
Ⓢ	37P = Connector 37 poles
Ⓢ	44P = Connector 44 poles



Technical characteristics			
Coding example	3140.00.25P (25 poles)	3140.00.37P (37 poles)	3140.00.44P (44 poles)
Weight (g)	47,4	51,3	49,1
Temperature °C		-5 ... +50	

Multi-pin connections linking scheme



1
AIR DISTRIBUTION

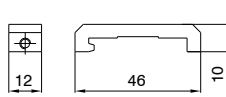


AIR DISTRIBUTION

DIN rail adapter

Coding: 3100.16

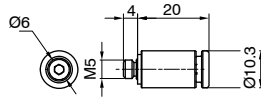
Weight 12 g



Fitting M5 Ø6

Coding: RDR560

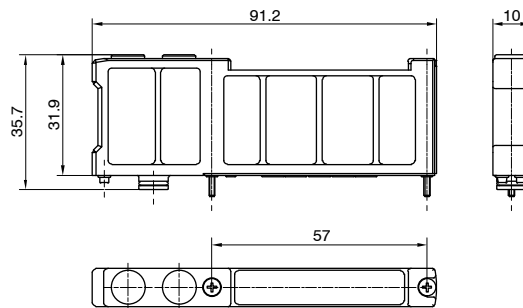
Weight 7 g



Free valve space plug

Coding: 3140.00

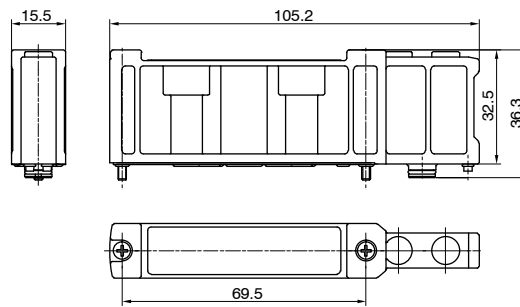
Weight 21 g



Free valve space plug

Coding: 3440.00

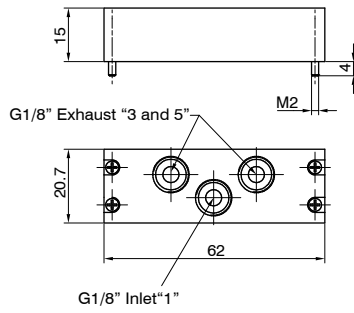
Weight 38 g



Inlet/Exhaust module

Coding: 3140.10

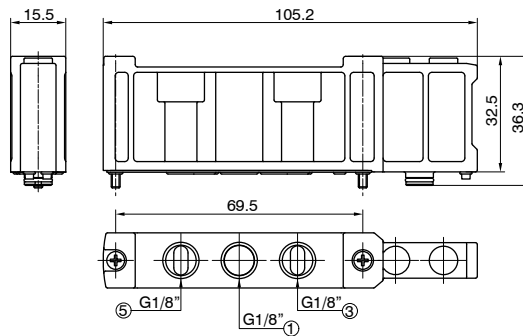
Weight 50 g



Inlet/Exhaust module

Coding: 3440.10

Weight 37 g



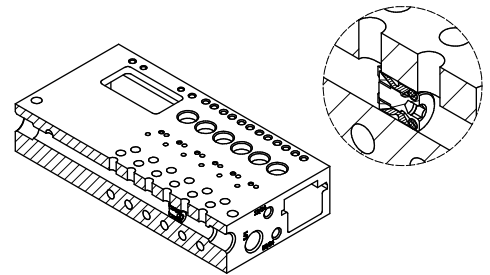
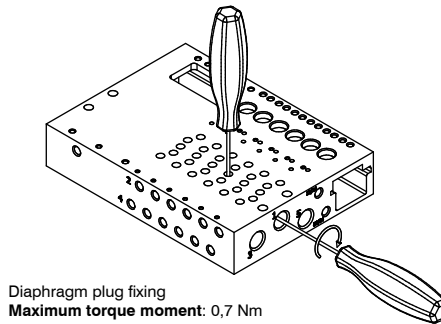
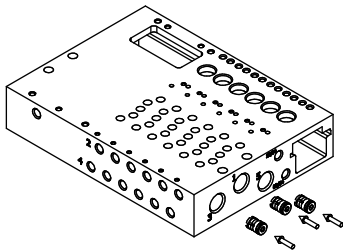
Diaphragm plug

Coding: 3130.17

Weight 1.5 g



Diaphragm plug installation



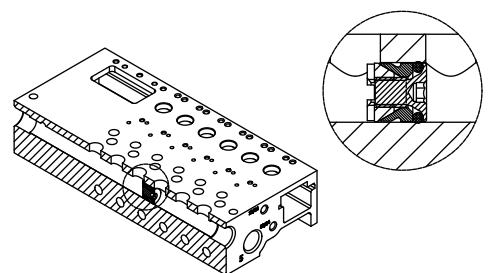
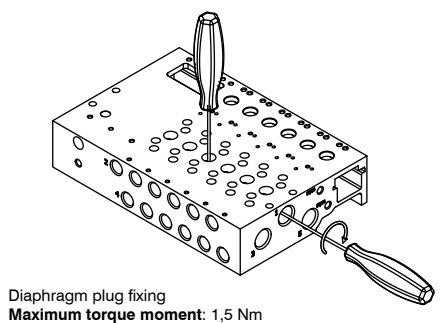
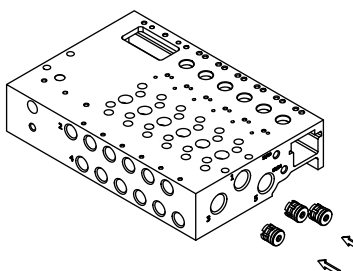
Diaphragm plug

Coding: 3430.17

Weight 3 g

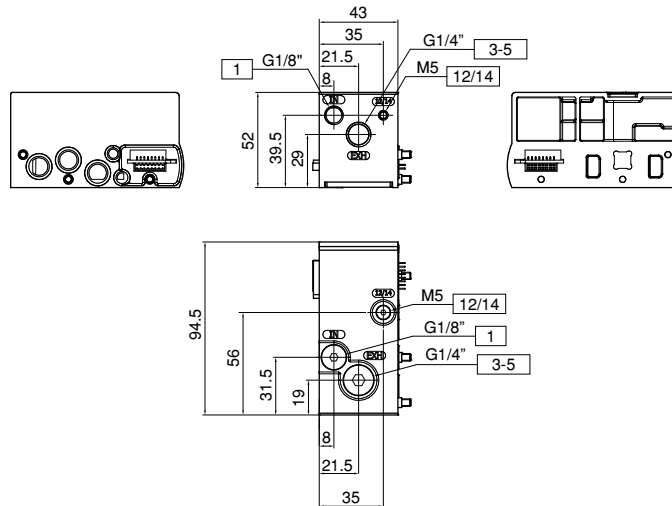


Diaphragm plug installation



AIR DISTRIBUTION

▶ **Module adapter kit**

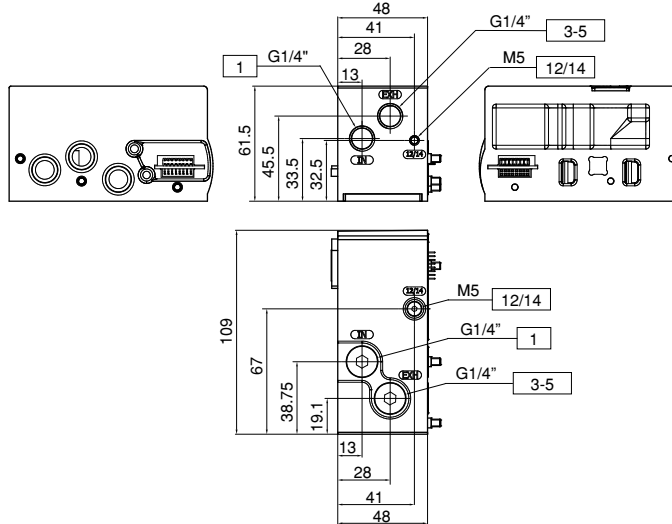


Coding: 3100.KA.▼

VERSION	
▼	02 = External feeding
	12 = Self feeding

Weight 354 g

▶ **Module adapter kit**

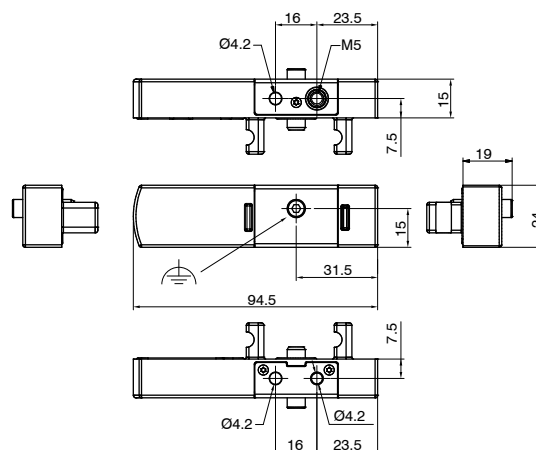


Coding: 3400.KA.▼

VERSION	
▼	02 = External feeding
	12 = Self feeding

Weight 566 g

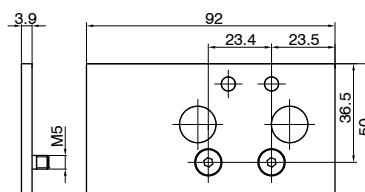
▶ **Left endplate kit**



Coding: 3100.KT.00

Weight 52 g

▶ **Offset compensation plate**

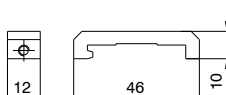


Coding: 3400.PO

Weight 46 g

DIN rail adapter

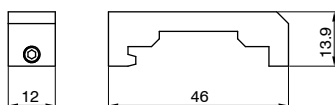
Coding: 3400.16



Weight 12 g

DIN rail extension adapter

Coding: 3400.16P



Weight 15 g

Note: For use if an additional DIN rail mount is required, assembled on a single I/O module.

Cable complete with connector, 25 Poles IP65

Coding: 2300.25.**L.C**



	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	CONNECTOR
C	10 = In line
	90 = 90° Angle

Cable complete with connector, 37 Poles IP65

Coding: 2400.37.**L.C**



	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	CONNECTOR
C	10 = In line
	90 = 90° Angle

Cable complete with connector, 44 Poles IP65

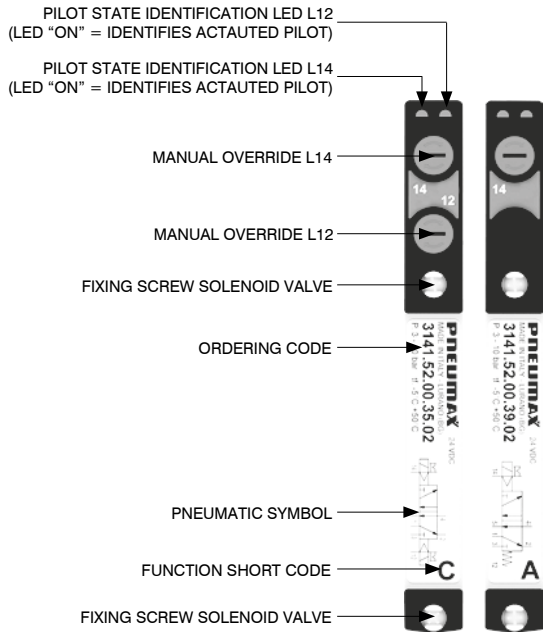
Coding: 2300.44.**L.C**



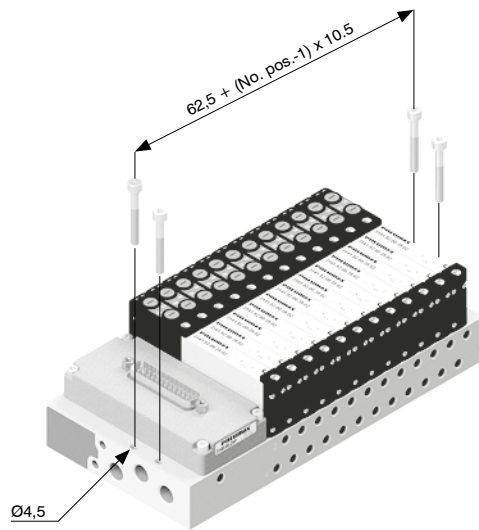
	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	CONNECTOR
C	10 = In line
	90 = 90° Angle



Solenoid valve description

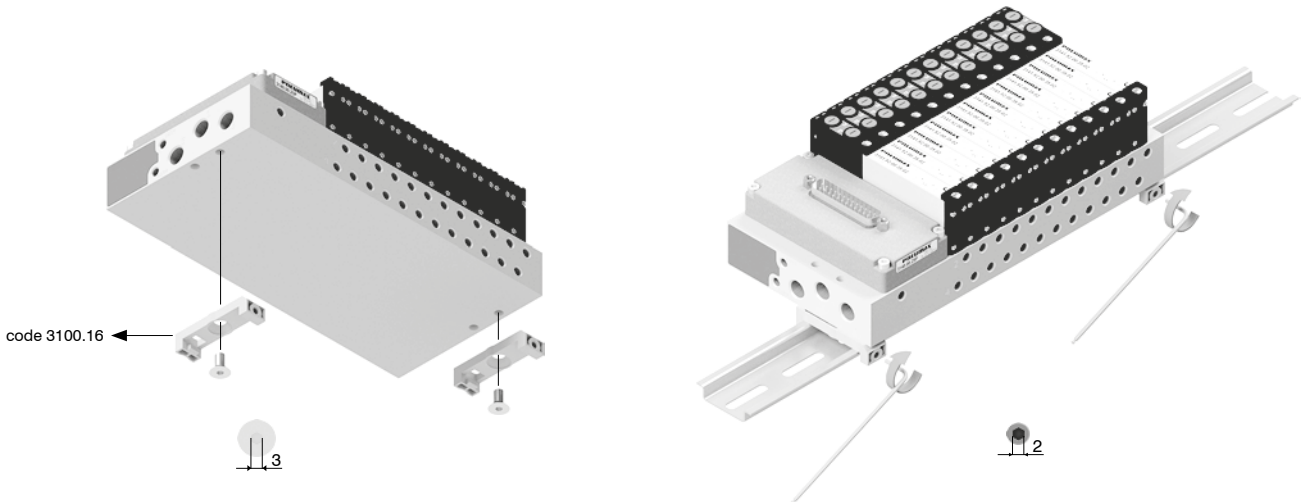


From the top

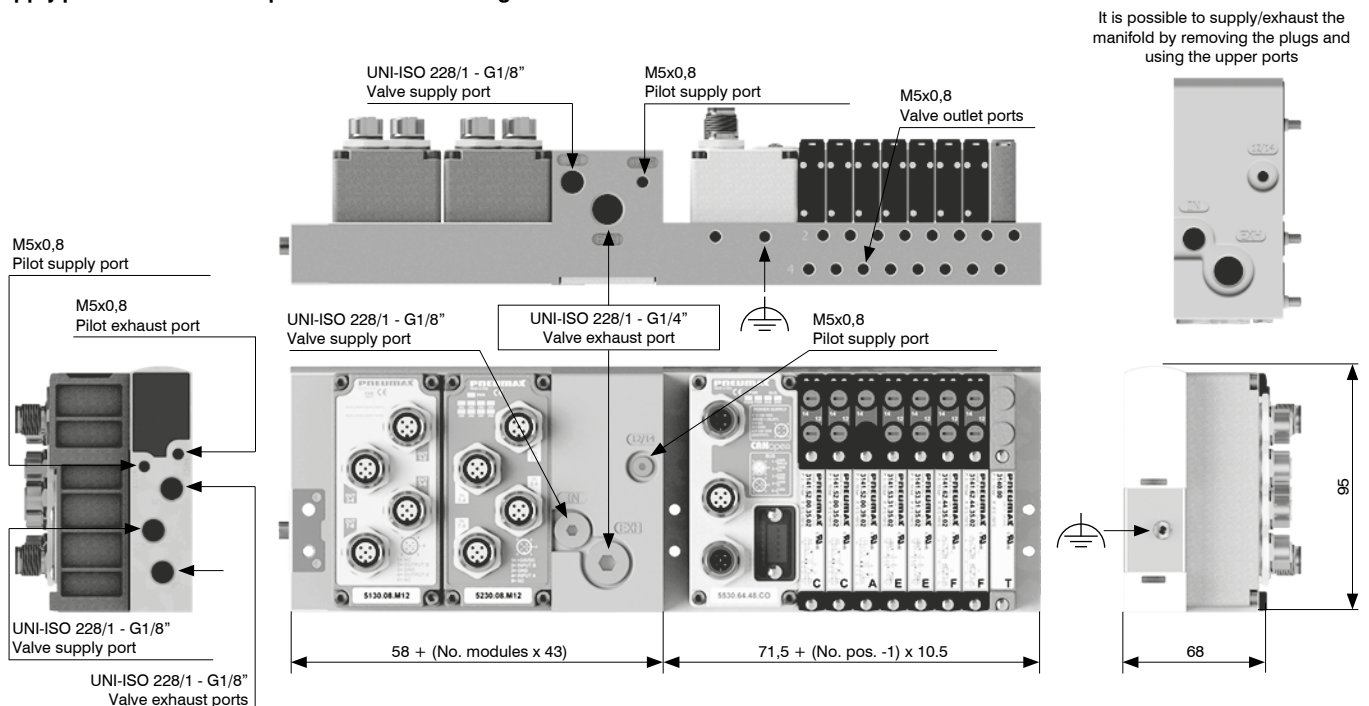


1
AIR DISTRIBUTION

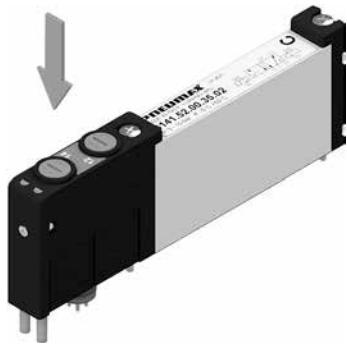
DIN rail fixing



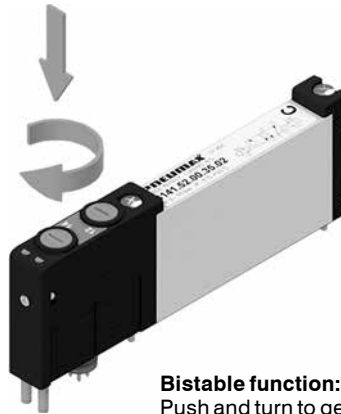
Supply ports and maximum possible size according to valves used



Manual override actuation



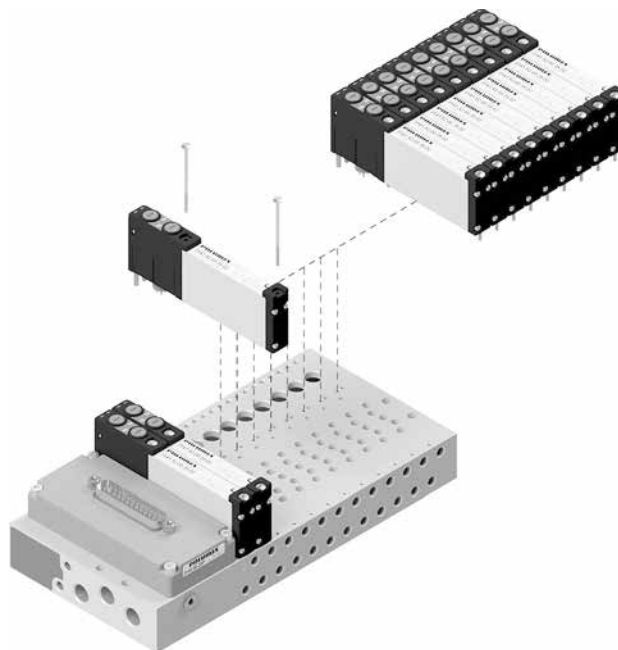
Instable function:
Push to actuate
(when released it moves back to the original position)



Bistable function:
Push and turn to get the bistable function

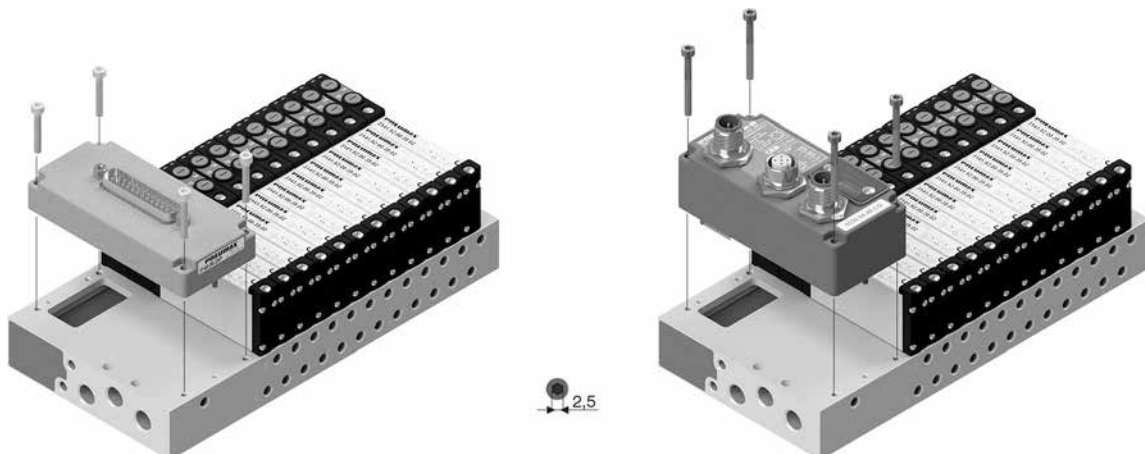
Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation

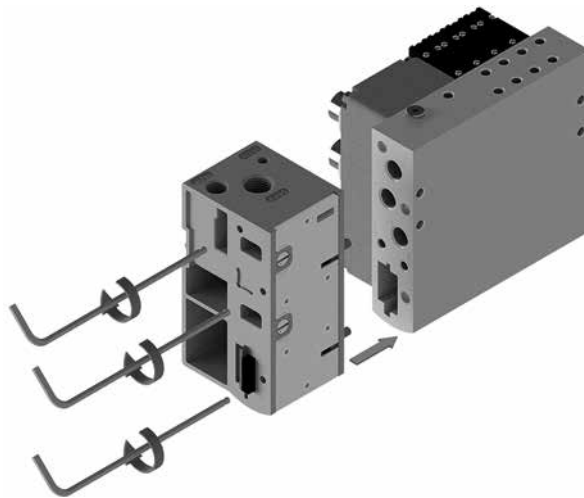


Maximum fixing torque for fittings: 0,2 Nm

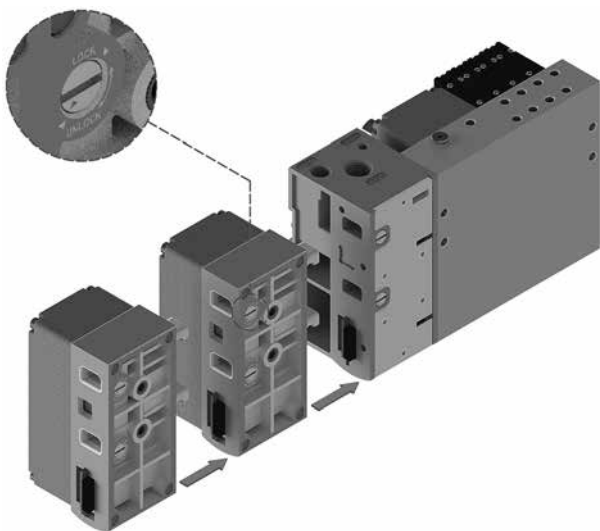
Serial systems and multi-pin modules installation



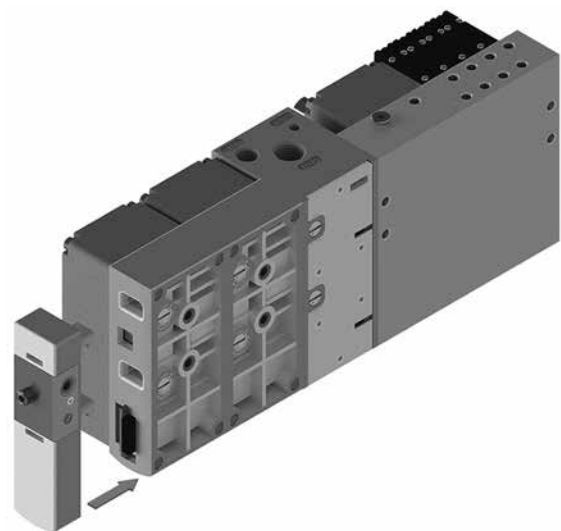
1. Fix the dedicated adapter (code 3100.KA.00) to the manifold.



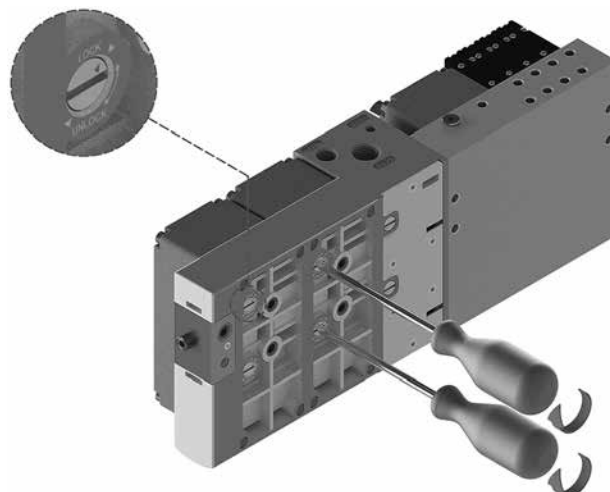
2. Assemble the required modules.



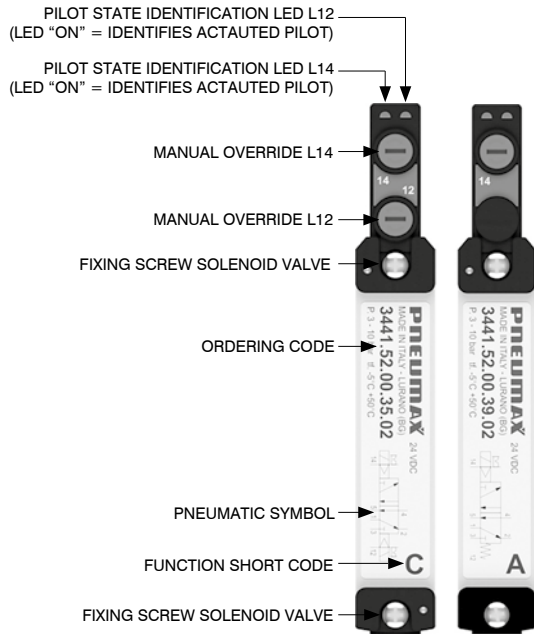
3. Complete the assembly with the 3100.KT.00 left endplate kit.



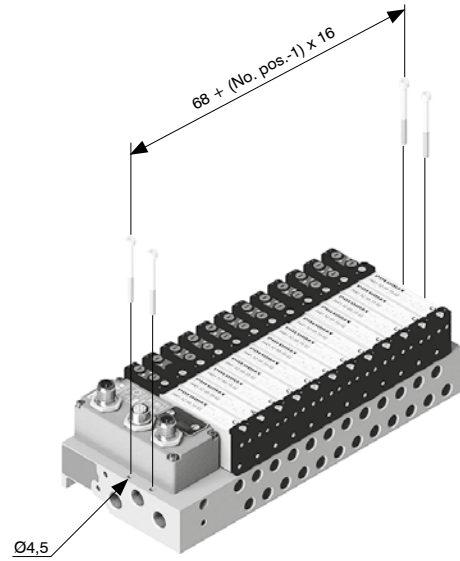
4. To lock: rotate anticlockwise (in the direction of the LOCK print on the case).
To unlock: rotate clockwise (in the direction of the UNLOCK print on the case).
The same procedure shall be used to add or remove any module.



Solenoid valve description

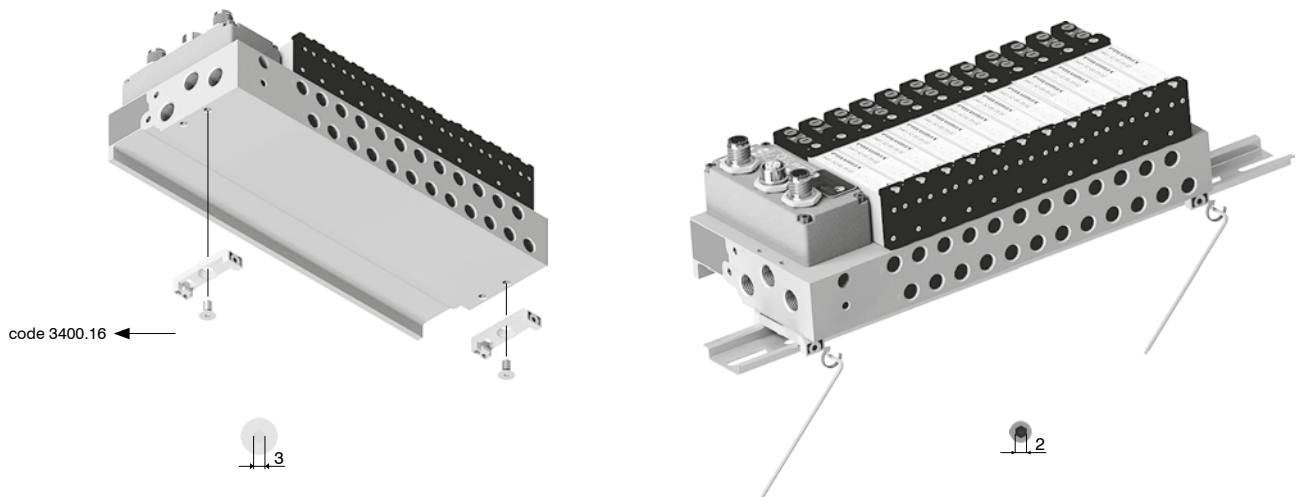


From the top



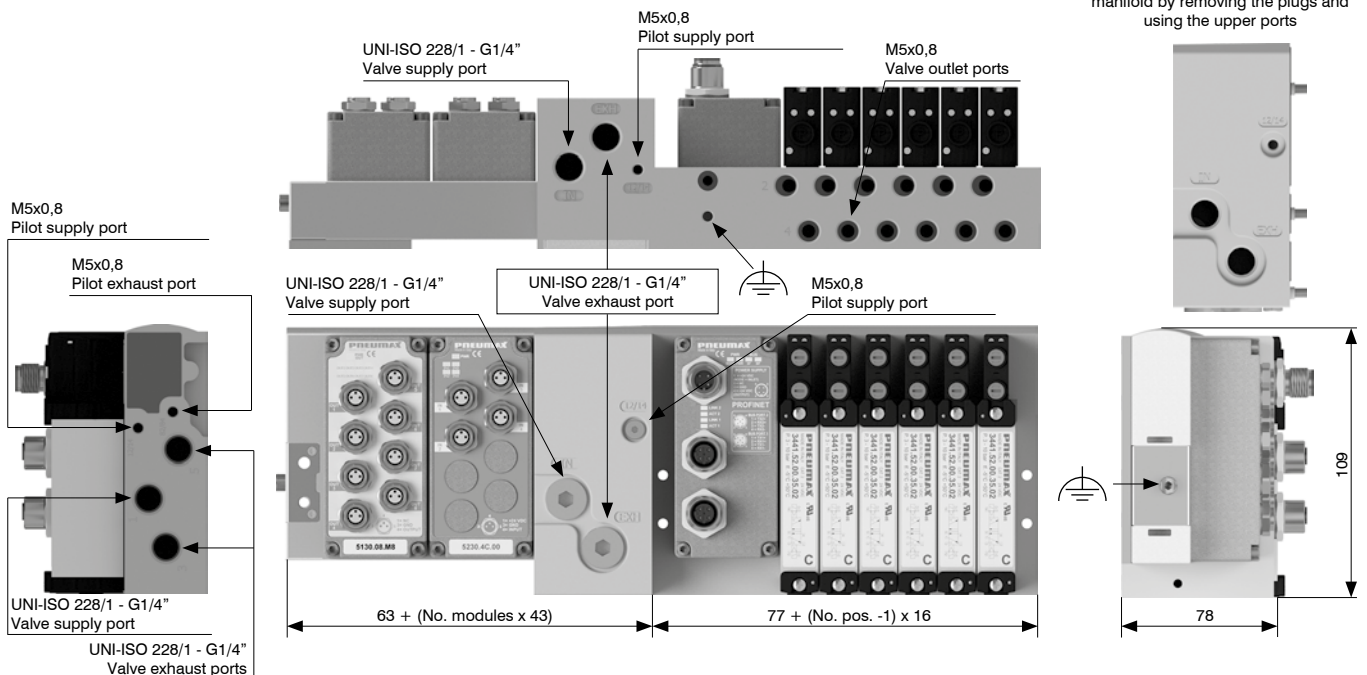
1
AIR DISTRIBUTION

DIN rail fixing



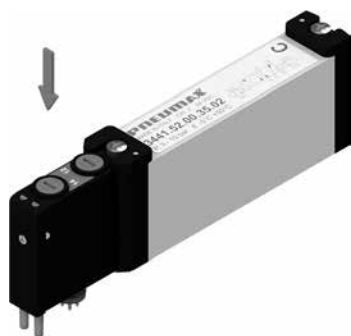
Supply ports and maximum possible size according to valves used

It is possible to supply/exhaust the manifold by removing the plugs and using the upper ports





Manual override actuation



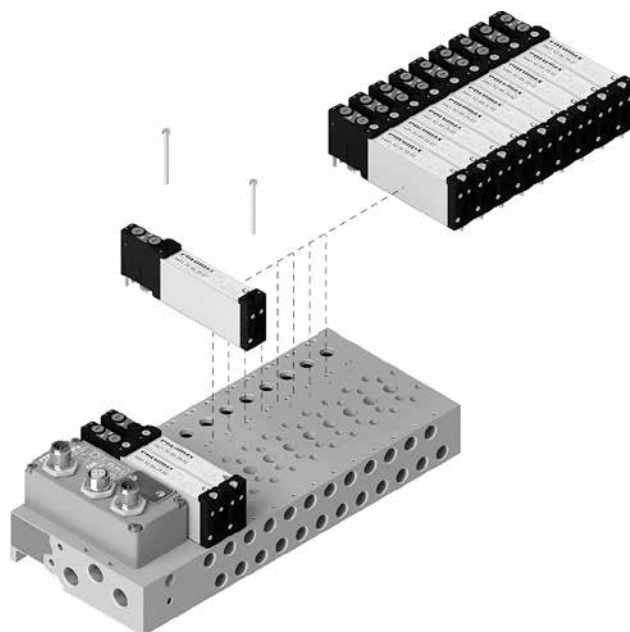
Instable function:
 Push to actuate
 (when released it moves back to the original position)



Bistable function:
 Push and turn to get the bistable function

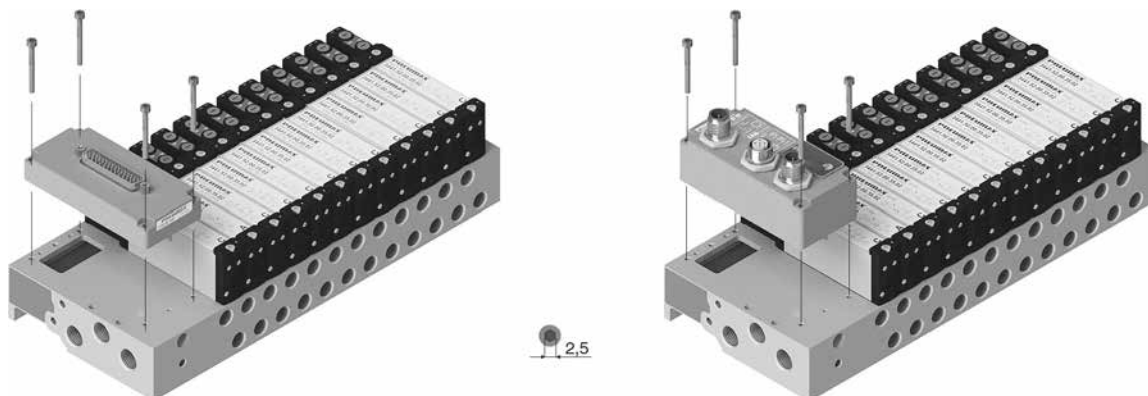
Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation



Maximum fixing torque for fittings: 0,2 Nm

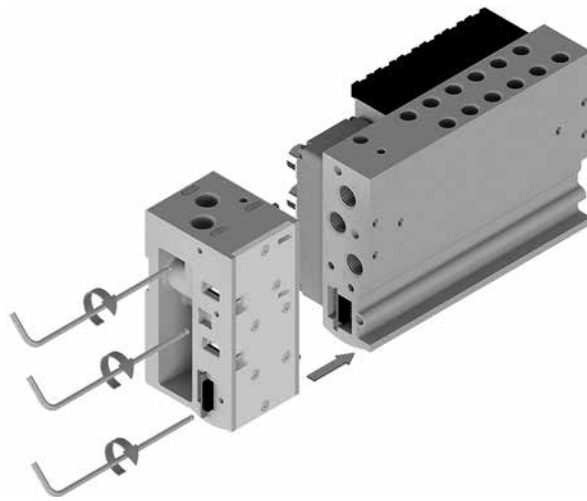
Serial systems and multi-pin modules installation



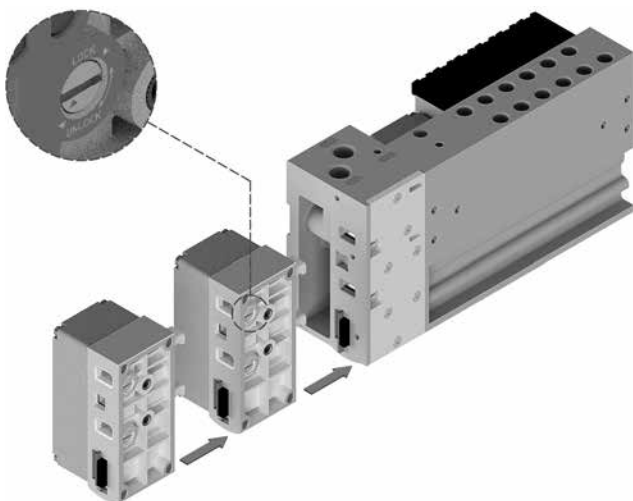
2,5

1 AIR DISTRIBUTION

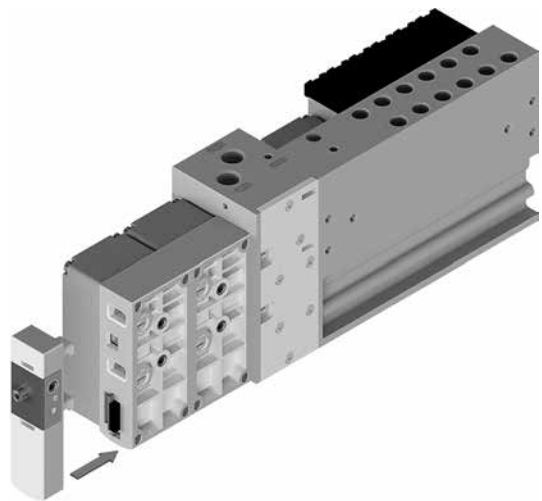
1. Fix the dedicated adapter (code 3100.KA.00) to the manifold.



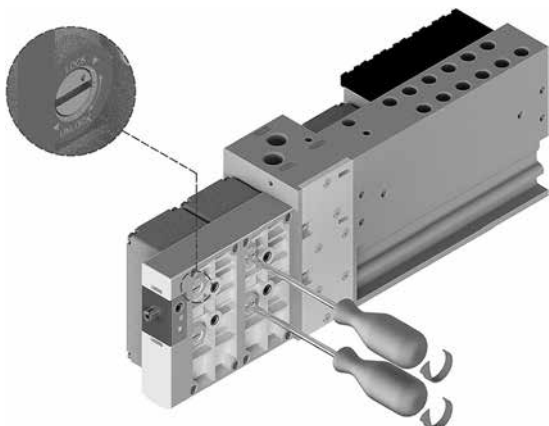
2. Assemble the required modules.



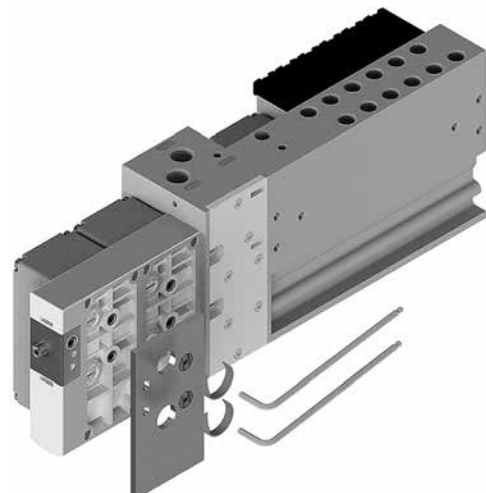
3. Complete the assembly with the 3100.KT.00 left endplate kit.



4. To lock: rotate anticlockwise (in the direction of the LOCK print on the case).
To unlock: rotate clockwise (in the direction of the UNLOCK print on the case).
The same procedure shall be used to add or remove any module.



5. Fix the offset compensation plate 3400.P0 to the last single module.





CANopen® protocol node

CANopen® node manages 64 inputs and outputs.
Accessory modules can be connected in whatever order and configuration.
Connection to CANopen® fieldbus is made via two M12, male and female, 5 pins, type A circular connectors, in parallel between them; connectors pinout is compliant to CiA Draft recommendation 303-1 (V. 1.3 : 30 December 2004).
Transmission speed and address, as well as termination resistor activation are set via DIP-switches.
CANopen® node is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.
Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.
Remaining outputs can be used to control the modules.
Byte allocation to additional modules is fully automatic.

Coding: 5530.64.VCO

VERSION
32 = 32 output bits available for valve connections
48 = 48 output bits available for valve connections



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
3000	36 mA

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24V\ DC\ out} + I_{24V\ DC\ in} < 4A$$

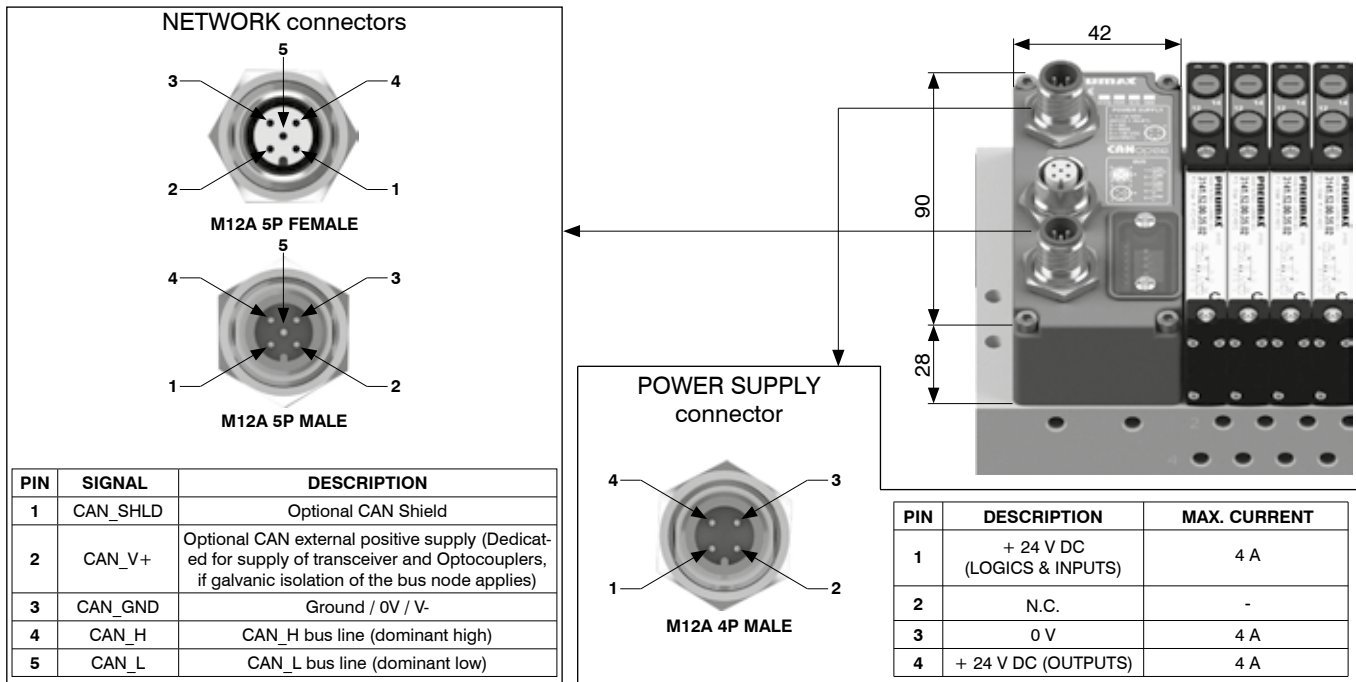
Where:

$$I_{24V\ DC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics

Specifications		CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 VDC inputs	40 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 5 pins male-female connectors type A (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses possible numbers	From 1 to 63
	Maximum nodes number in network	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
Configuration file		Green / red status LED
Protection degree		Available from our web site http://www.pneumaxspa.com
Temperature °C		IP65 when assembled -5 ... +50

PROFIBUS DP protocol node

PROFIBUS DP node manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Connection to PROFIBUS DP fieldbus is made via two M12, male and female, 5 pins, type B circular connectors, in parallel between them; connectors pinout is PROFIBUS Interconnection Technology specifications compliant (Version 1.1, August 2001).

Address as well as termination resistor activation are set via DIP-switches.

PROFIBUS DP node is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Coding: 5330.64. **VPB**

VERSION	
VP	32 = 32 output bits available for valve connections
	48 = 48 output bits available for valve connections



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24VDC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
3000	36 mA

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24VDC\ out} + I_{24VDC\ in} < 4A$$

Where:

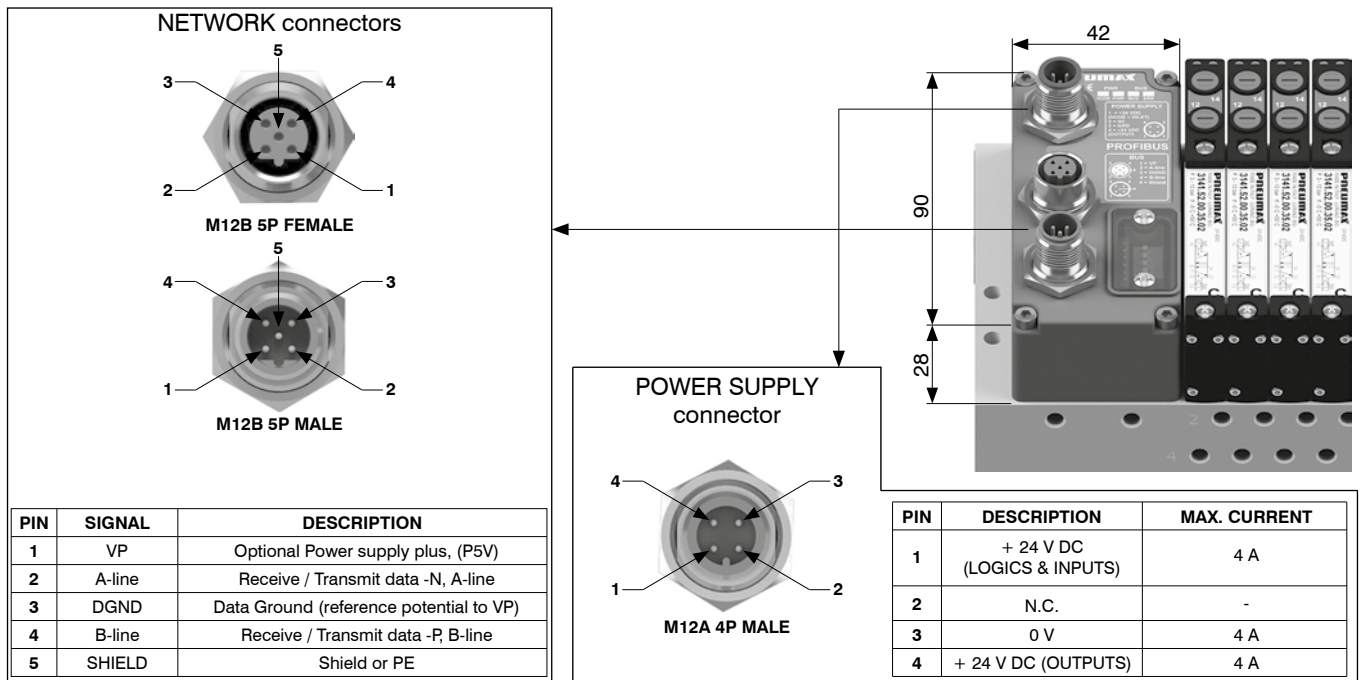
$$I_{24VDC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



Scheme / Overall dimensions and I/O layout



Technical characteristics

Specifications		PROFIBUS DP
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 VDC ± 10%
	Node only current consumption on + 24 VDC inputs	70 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 5 pins male-female connectors type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses possible numbers	From 1 to 99
	Maximum nodes number in network	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
	Bus diagnosis	Green / red status LED
Configuration file	Available from our web site http://www.pneumaxspa.com	
Protection degree	IP65 when assembled	
Temperature °C	-5 ... +50	

EtherNet/IP protocol node

EtherNet/IP node manages 128 inputs and outputs.
Accessory modules can be connected in whatever order and configuration.
Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.
Code 5730.128.48EI provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.
Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: 5730.128.48EI



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m \cdot i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
3000	36 mA

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24V\ DC\ out} + I_{24V\ DC\ in} < 4A$$

Where:

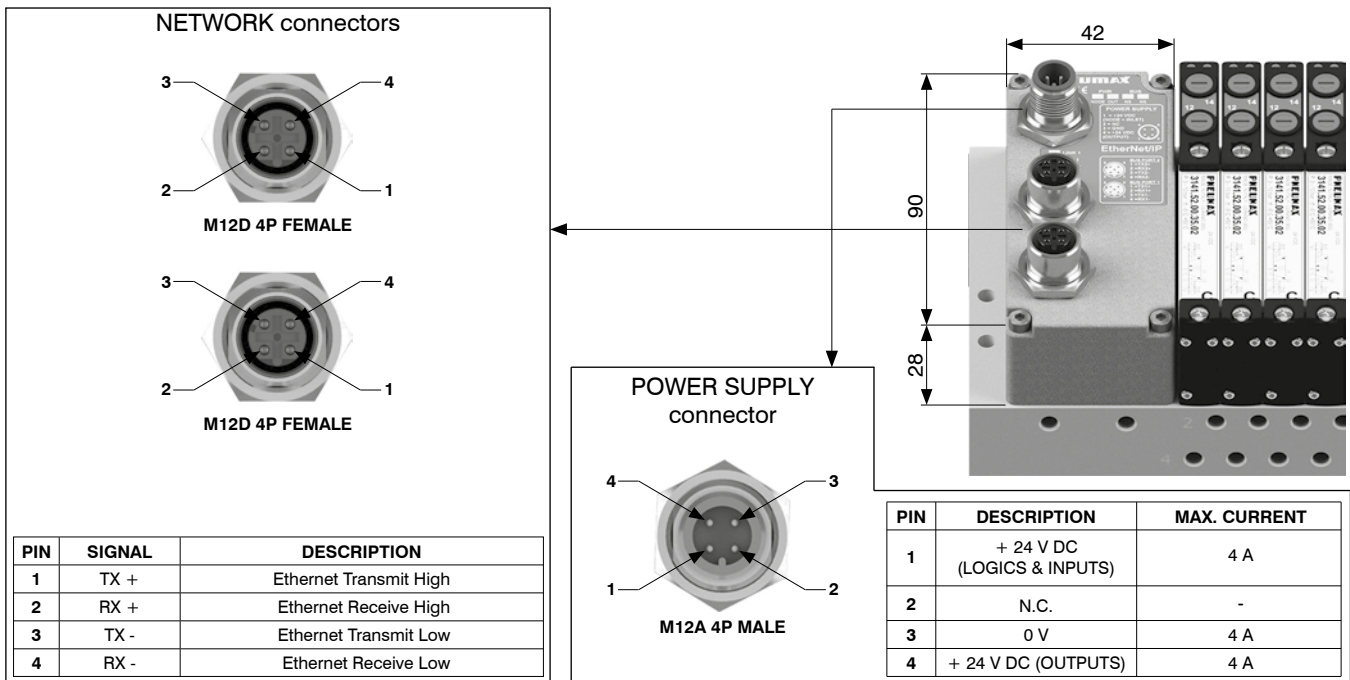
$$I_{24V\ DC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

EtherCAT® protocol node

EtherCAT® node manages 128 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.

Code 5730.128.48EC provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.

Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: 5730.128.48EC

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24VDC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
3000	36 mA

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24VDC\ out} + I_{24VDC\ in} < 4A$$

Where:

$$I_{24VDC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

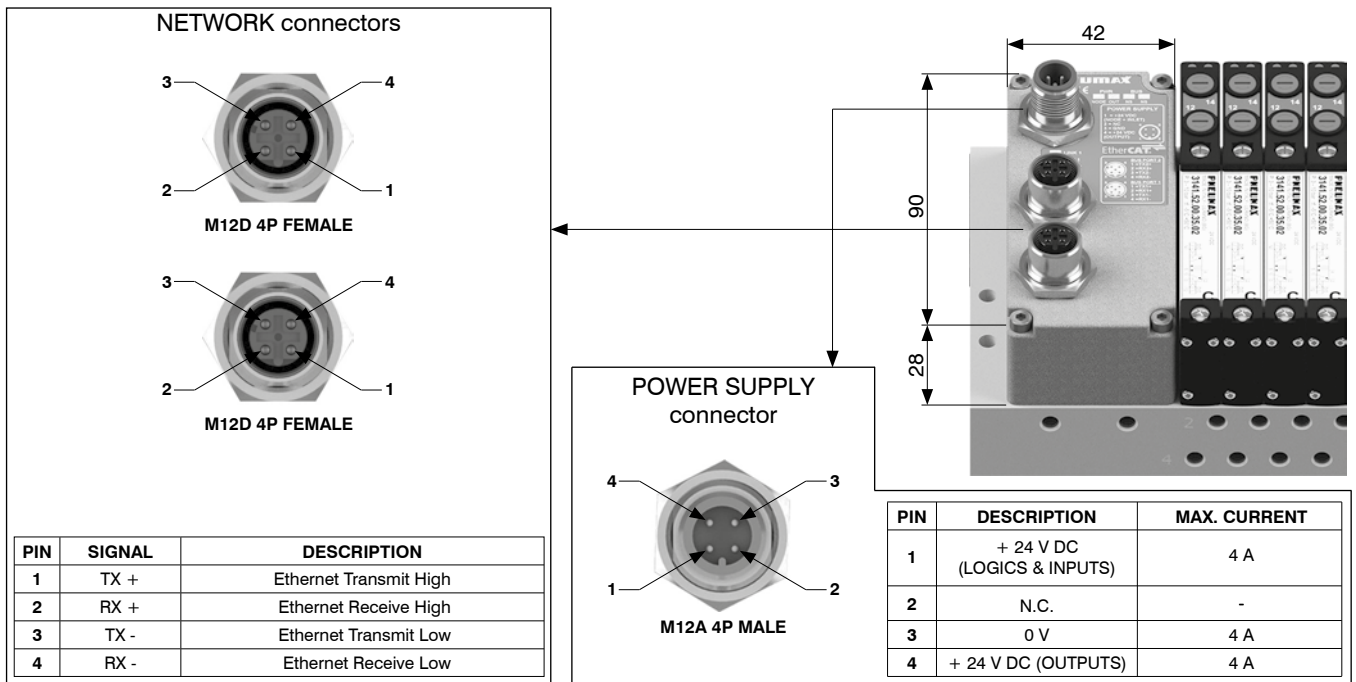


In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 VDC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

PROFINET IO RT protocol node

PROFINET IO RT node manages 128 inputs and outputs.
Accessory modules can be connected in whatever order and configuration.
Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.
Code 5730.128.48PN provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.
Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: 5730.128.48PN



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m \cdot i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_EV
3000	36 mA

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 VDC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 VDC must not exceed 4 A.

$$I_{24V\ DC\ out} + I_{24V\ DC\ in} < 4A$$

Where:

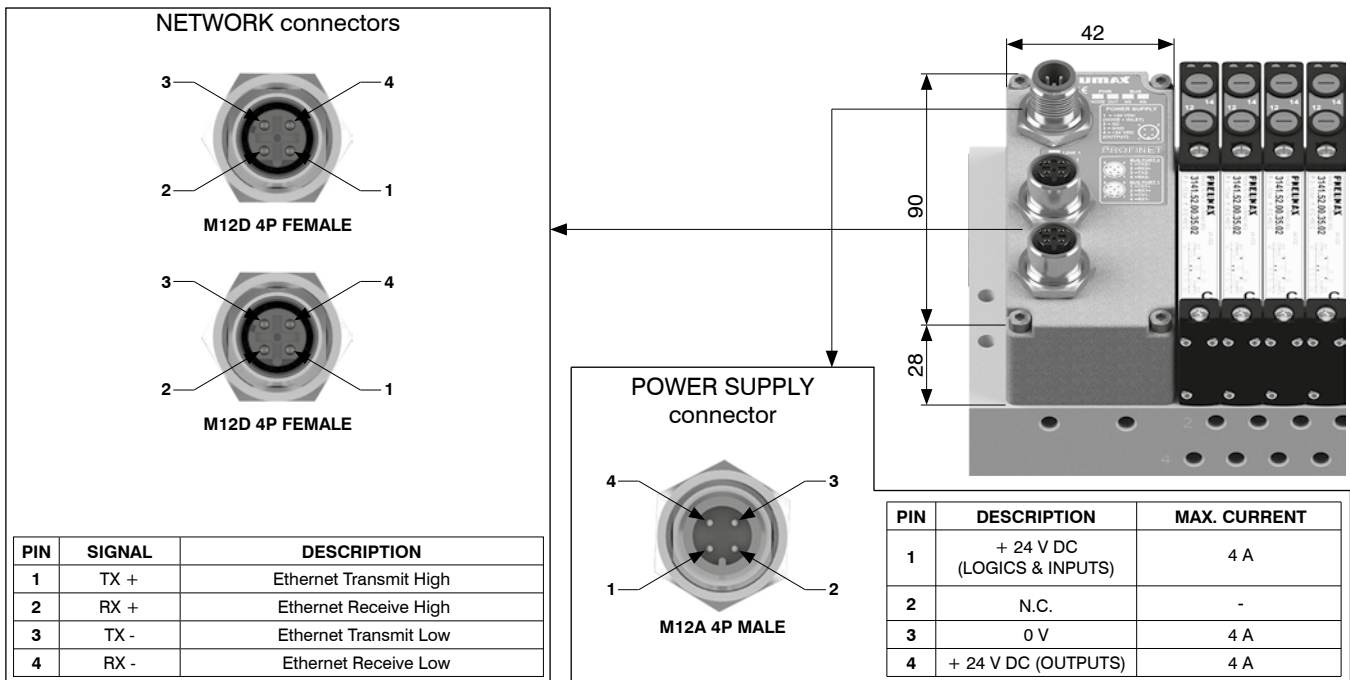
$$I_{24V\ DC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 VDC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

AIR DISTRIBUTION 1

CC-Link IE Field Basic protocol node

CC-Link IE Field Basic node manages 128 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.

Code 5730.128.48CL provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.

Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: 5730.128.48CL

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24VDC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
3000	36 mA

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24VDC\ out} + I_{24VDC\ in} < 4A$$

Where:

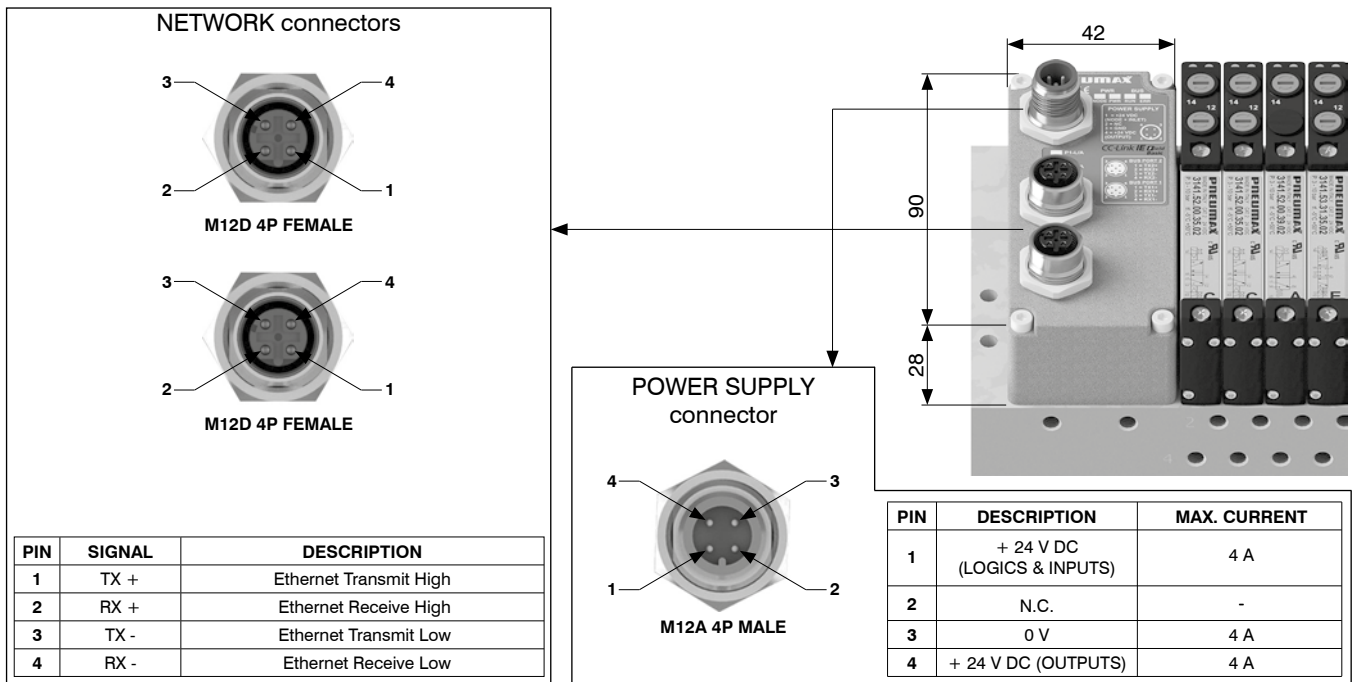
$$I_{24VDC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 Green LED and 1 red status LED + 2 link and activity LEDs'
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50



IO-Link protocol interface

IO-Link interface manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Electric power supply and IO-Link connection to the Master are made via M12, male, 5 pins, type A, circular connector, "CLASS B", according to IO-Link specifications.

Electric rails L+/L- supply interface only, while P24/N24 rails supply additional modules and solenoid valves.

Either power supplies are galvanically isolated in the IO-Link interfaces.

IO-Link interface is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Coding: 5830.64.VIK

VERSION	
32	32 output bits available for valve connections
48	48 output bits available for valve connections



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by pin 2 and pin 5 (P24 / N24).

To compute the maximum current on the P24 / N24 supply, please use the following formula::

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m \cdot i_{EV}$$

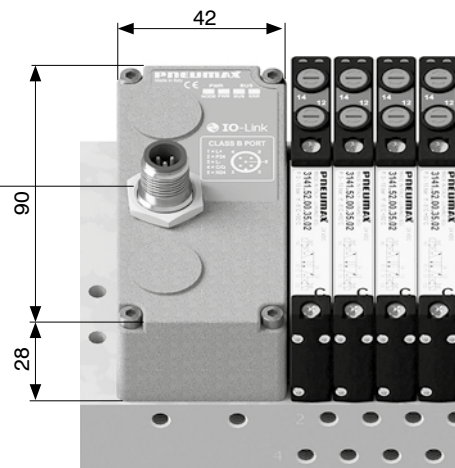
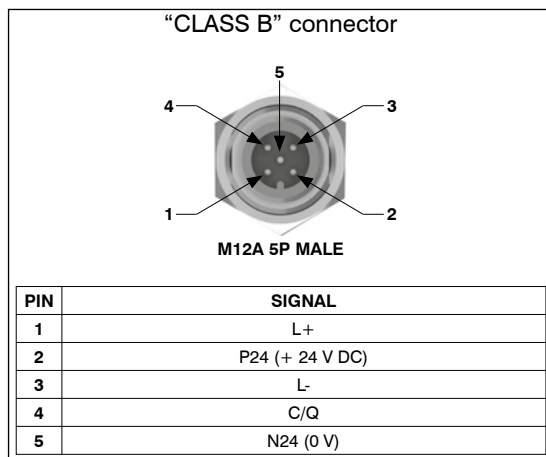
n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_EV
3000	36 mA

= maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

! In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Specifications	IO-Link Specification v1.1	
Case	Reinforced technopolymer	
Power supply	Voltage	+ 24 V DC +/- 10%
	Interface current consumption on + 24 V DC (L+ / L-)	25 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	"Class B" port
	Communication speed	38.4 kbaud/s
	Maximum distance from Master	20 m
	Bus diagnosis	Green / red status LED
	Vendor ID / Device ID	1257 (hex 0x04E9) / 3000 (hex 0x0BB8)
Configurations file IODD	Available from our web site http://www.pneumaxspa.com	
Protection degree	IP65 when assembled	
Temperature °C	-5 ... +50	

8 digital inputs module kit M8

M8 digital inputs module provides 8 M8, 3 pins, female connectors.

Inputs have PNP logic, + 24 V DC \pm 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

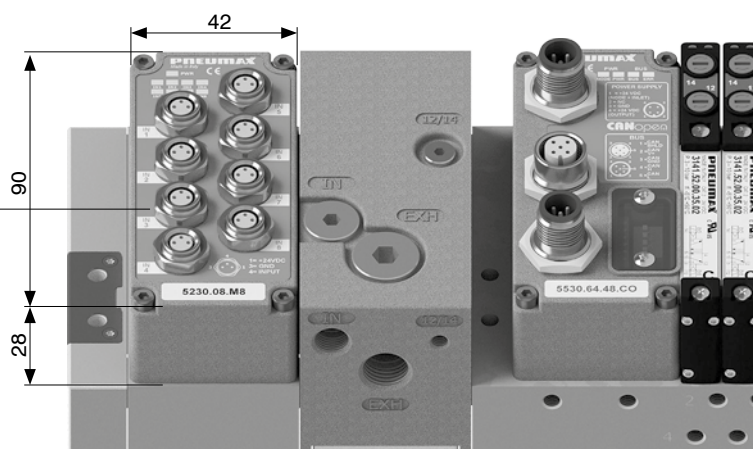
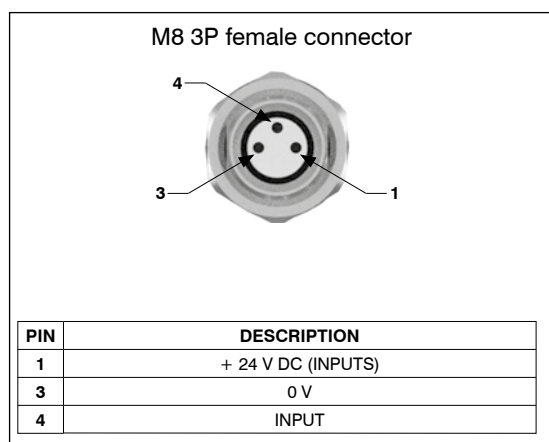
Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.08.M8



Technical characteristics	
Maximum current per module	300 mA
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3 k Ω
Maximum cable length	< 30 m
Input data allocation	8 bit
INPUTS + 24 V DC current consumption of the module only	5 mA

Scheme / Overall dimensions and I/O layout



1
AIR DISTRIBUTION

8 digital inputs module kit M12

M12 digital inputs module provides 4 M12, 5 pins, female connectors.

Inputs have PNP logic, + 24 V DC \pm 10%.

Every connector takes two input channels.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

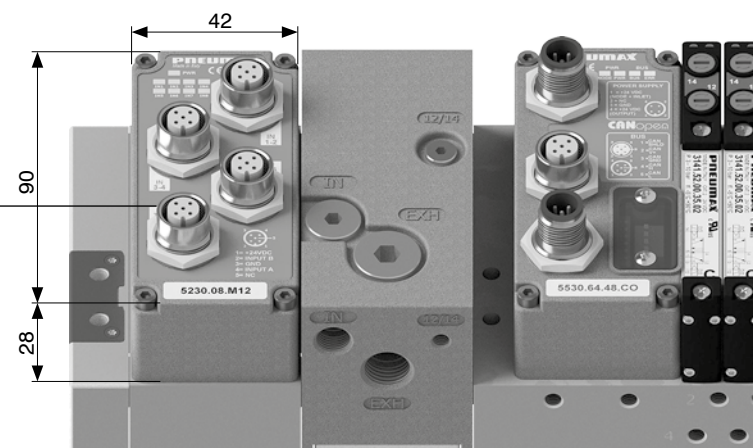
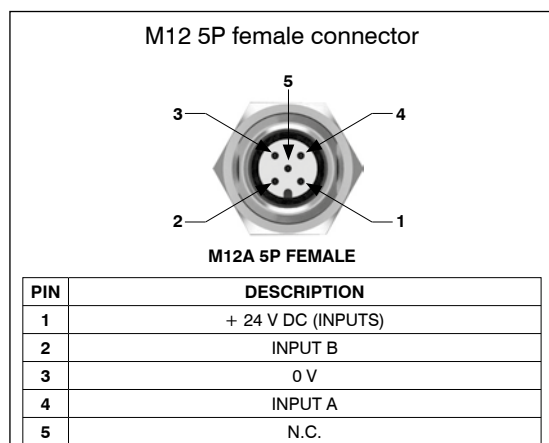
Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.08.M12



Technical characteristics	
Maximum current per module	300 mA
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3k Ω
Maximum cable length	< 30 m
Input data allocation	8 bit
INPUTS + 24 V DC current consumption of the module only	5 mA

Scheme / Overall dimensions and I/O layout



8 digital outputs module kit M8

M8 digital inputs module provides 8 M8, 3 pins, female connectors.

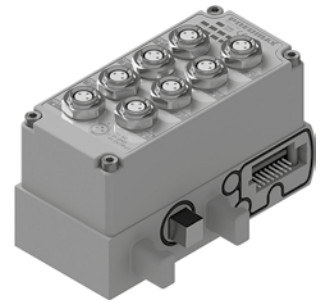
Outputs have PNP logic, + 24 V DC \pm 10%.

Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

Power supply presence is displayed by "PWR OUT" green LED light-on.

Each output has a LED indicator associated which lights up when output's signal status is high.

Coding: K5130.08.M8

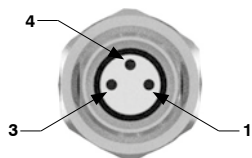


Technical characteristics

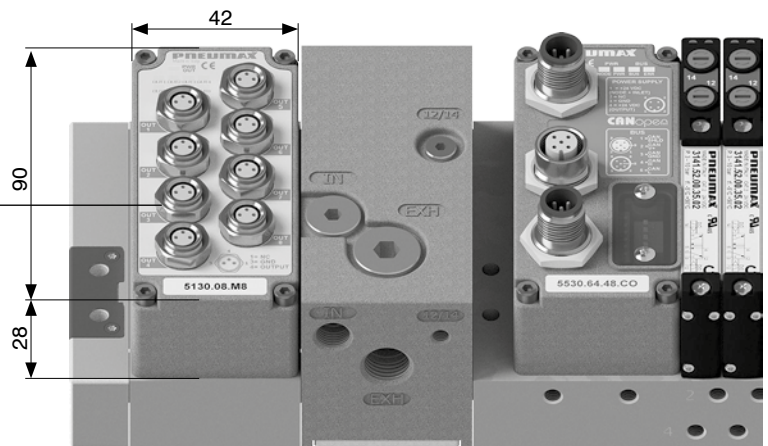
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	8 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout

M8 3P female connector



PIN	DESCRIPTION
1	N.C.
3	0 V
4	OUTPUT



8 digital outputs module kit M12

M12 digital inputs module provides 4 M12, 5 pins, female connectors.

Outputs have PNP logic, + 24 V DC \pm 10%.

Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

Power supply presence is displayed by "PWR OUT" green LED light-on.

Each output has a LED indicator associated which lights up when output's signal status is high.

Coding: K5130.08.M12

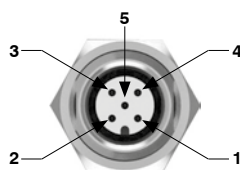


Technical characteristics

Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	8 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

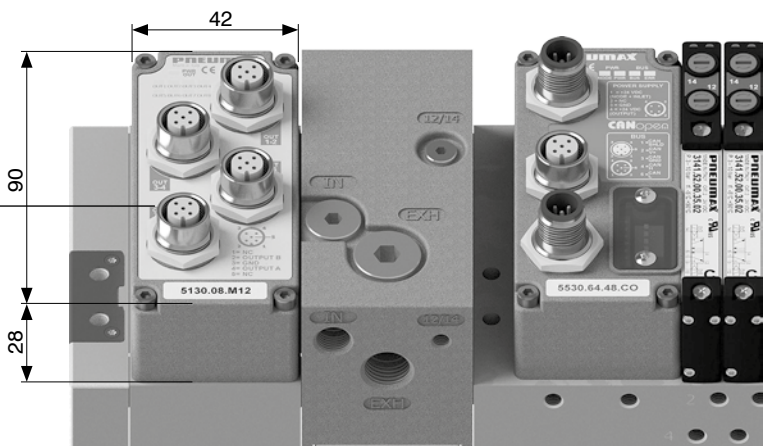
Scheme / Overall dimensions and I/O layout

M12 5P female connector



M12A 5P FEMALE

PIN	DESCRIPTION
1	N.C.
2	OUTPUT B
3	0 V
4	OUTPUT A
5	N.C.



32 digital inputs module kit (37 pins SUB-D connector)

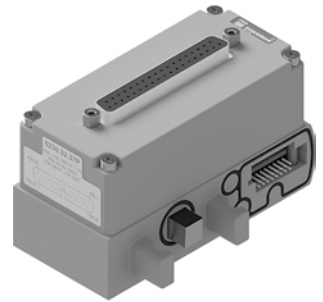
The module provides a SUB-D 37 pins female connector.

Inputs have PNP logic, + 24 V DC \pm 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

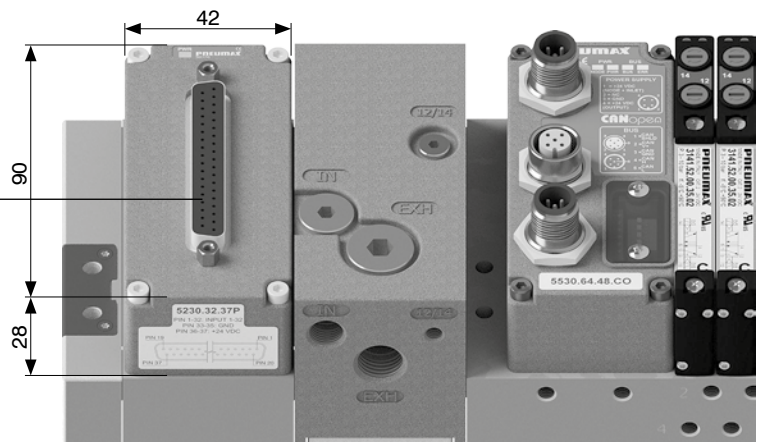
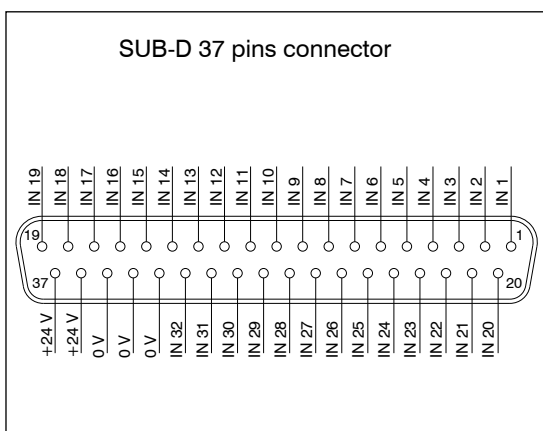
Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.32.37P



Technical characteristics	
Maximum current per module	1 A
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3 k Ω
Maximum cable length	< 30 m
Input data allocation	32 bit
INPUTS + 24 V DC current consumption of the module only	10 mA

Scheme / Overall dimensions and I/O layout



1
AIR DISTRIBUTION

32 digital outputs module kit (37 pins SUB-D connector)

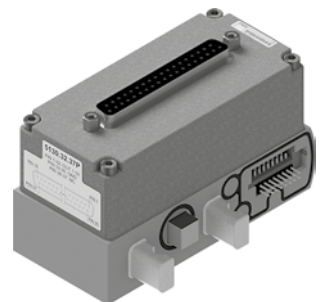
The module provides a SUB-D 37 pins female connector.

Outputs have PNP logic, + 24 V DC \pm 10%.

Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

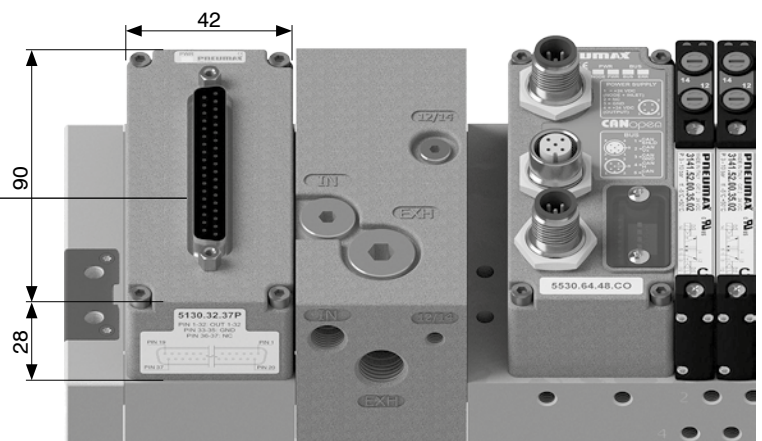
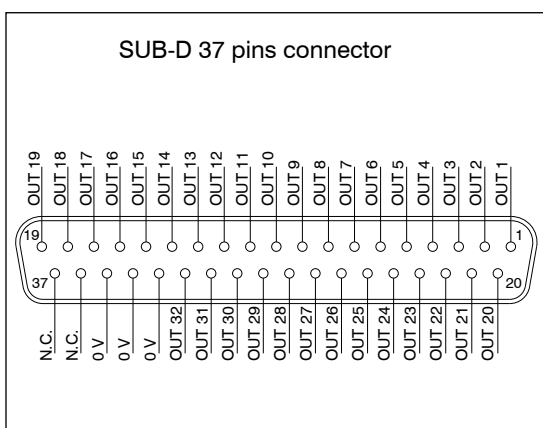
Power supply presence is displayed by "PWR OUT" green LED light-on.

Coding: K5130.32.37P



Technical characteristics	
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	32 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout



Analogue inputs module kit M8

M8 analogue inputs module converts analogue signals into digital signals and transfers acquired data to field bus, via network node.

Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.

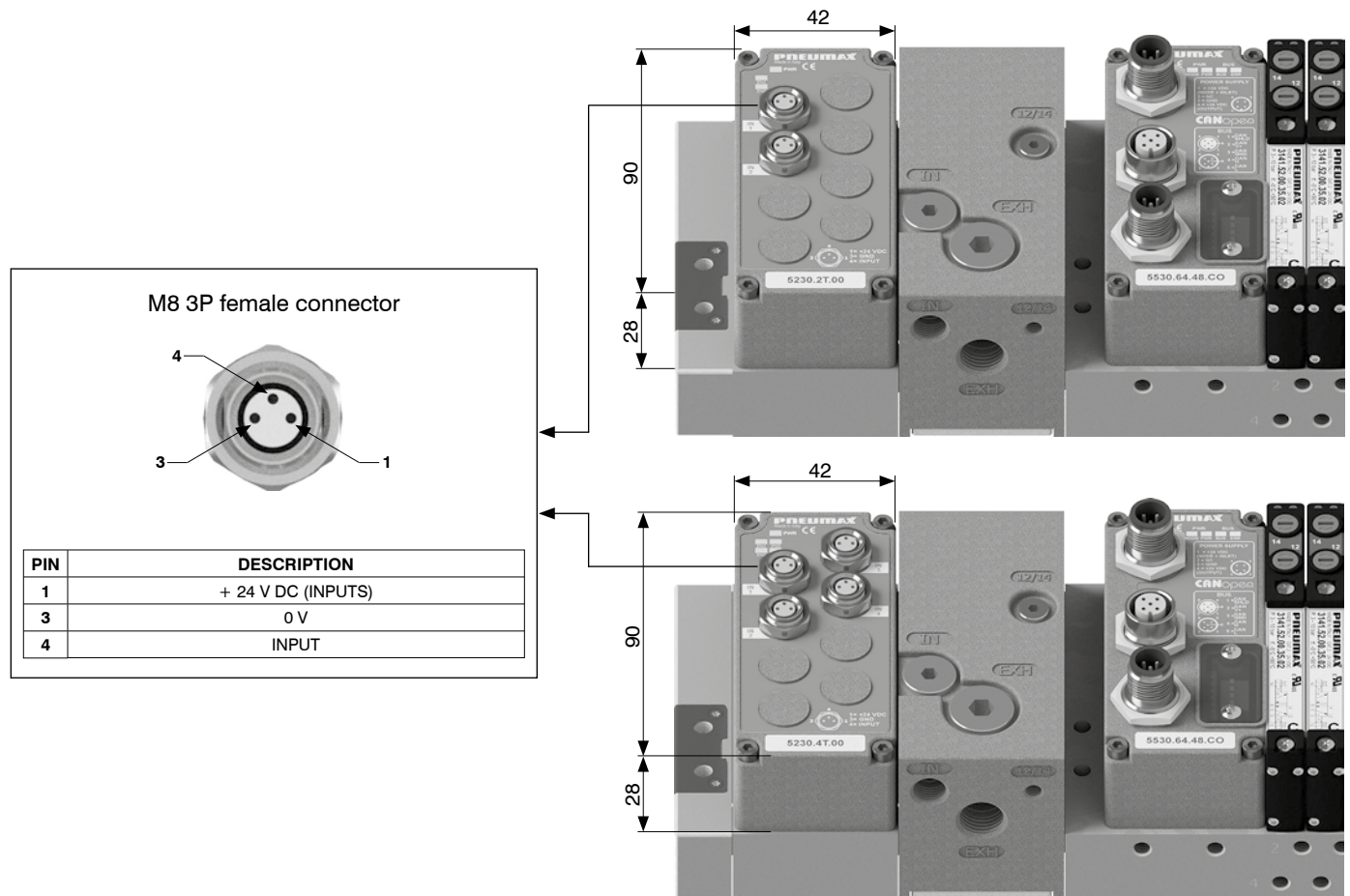
CHANNELS	
2 = 2 channels	
4 = 4 channels	
SIGNAL	
T.00 = VOLTAGE (0-10 V)	
T.01 = VOLTAGE (0-5 V)	
C.00 = CURRENT (4-20 mA)	
C.01 = CURRENT (0-20 mA)	



1 AIR DISTRIBUTION

Technical characteristics	
Protection (pin 1)	Overcurrent (auto-resettable fuse)
Input impedance (voltage inputs)	33 kΩ
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Input data allocation	16 bit per channel
Diagnostic LED	Input signal overcurrent or overvoltage
Accuracy	0,3% F.S.
Overall maximum current 2 channels (pin 1)	300 mA
Overall maximum current 4 channels (pin 1)	750 mA (375 mA for each pair of channels)
INPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout



Analogue outputs module kit M8

M8 analogue outputs module converts output data, received from field bus via network node, into analogue signal. Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

Coding: K5130.CS

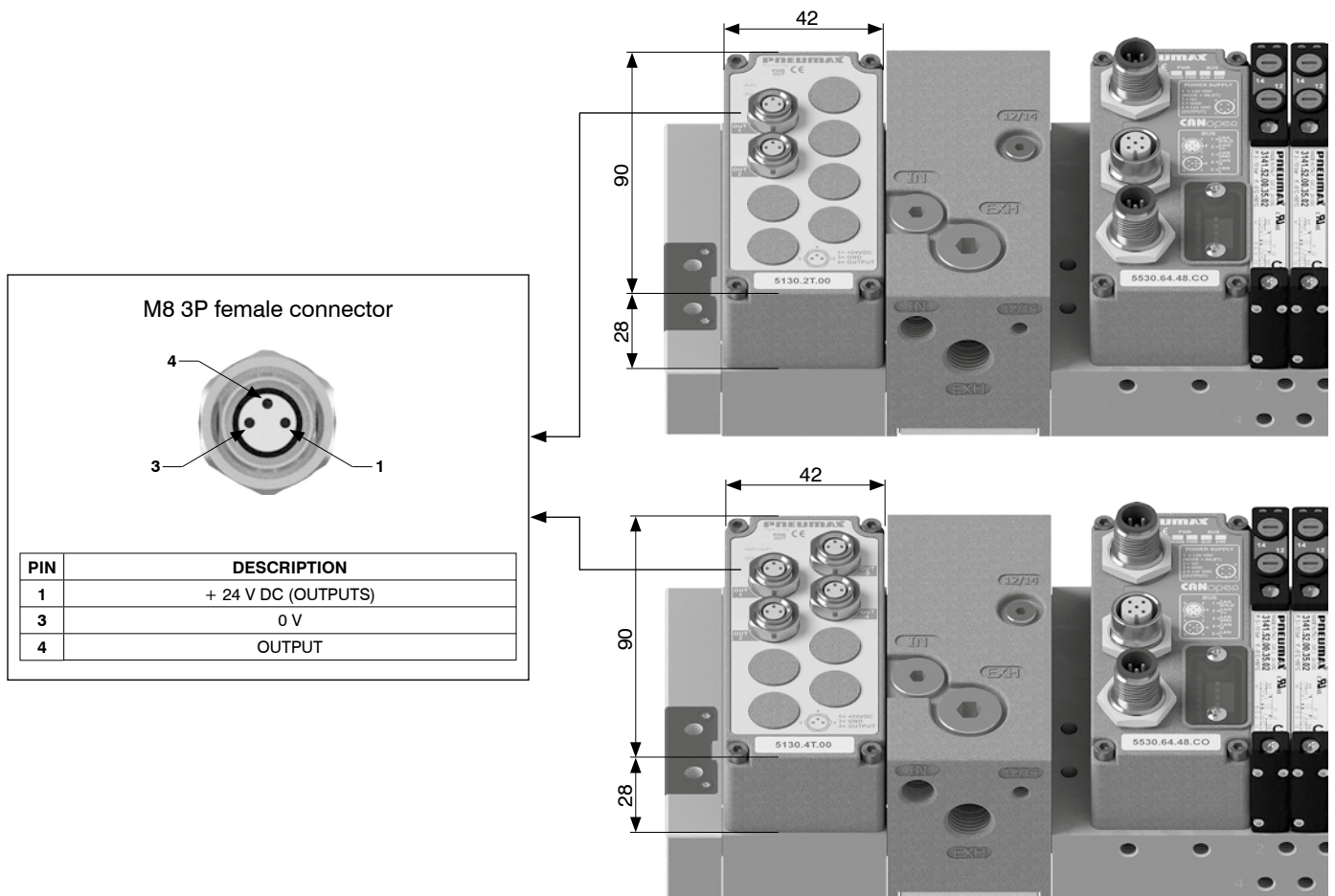
	CHANNELS
C	2 = 2 channels 4 = 4 channels
	SIGNAL
T.00	= VOLTAGE (0-10 V)
T.01	= VOLTAGE (0-5 V)
C.00	= CURRENT (4-20 mA)
C.01	= CURRENT (0-20 mA)

Technical characteristics	
Protection (pin 1)	Overcurrent (auto-resettable fuse)
Protection (pin 4)	Overcurrent (auto-resettable fuse)
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Output data allocation	16 bit per channel
Diagnostic LED	Output signal overcurrent
Accuracy	0,3% F.S.
Overall maximum current 2 channels (pin 1)	1 A
Overall maximum current 4 channels (pin 1)	2 A (1 A for each pair of channels)
INPUTS + 24 V DC current consumption of the module only	15 mA
OUTPUTS + 24 V DC current consumption of the module only (2 channels)	35 mA
OUTPUTS + 24 V DC current consumption of the module only (4 channels)	70 mA



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout





Pt100 inputs module kit

Pt100 inputs module digitizes signals from Pt100 probes and transfers acquired data to field bus, via network node. It is possible to connect two, three or four wires probes. Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230. **C**P.0**T**

	CHANNELS
C	2 = 2 channels 4 = 4 channels
	TYPE
T	0 = Pt100 2 wires 1 = Pt100 3 wires 2 = Pt100 4 wires



1 AIR DISTRIBUTION

Technical characteristics	
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Input data allocation	16 bit per channel
Diagnostic LED	Probe presence Temperature out of range
Accuracy	±0,2°C
Probe temperature range	-100°C... +300°C
INPUTS + 24 V DC current consumption of the module only (2 channels)	25 mA
INPUTS + 24 V DC current consumption of the module only (4 channels)	35 mA

Conversion formula (°C)

$$\text{Temperature (°C)} = \left(\frac{\text{Points}}{4095} \times 400 \right) - 100$$

Scheme / Overall dimensions and I/O layout

M8 4P female connector

Connection scheme 2 wires probe

PIN	DESCRIPTION
1	N.C.
2	SENSOR +
3	POWER SUPPLY -
4	N.C.

Connection scheme 3 wires probe

PIN	DESCRIPTION
1	POWER SUPPLY +
2	SENSOR +
3	POWER SUPPLY -
4	N.C.

Connection scheme 4 wires probe

PIN	DESCRIPTION
1	POWER SUPPLY +
2	SENSOR +
3	POWER SUPPLY -
4	SENSOR -



Additional power supply module kit

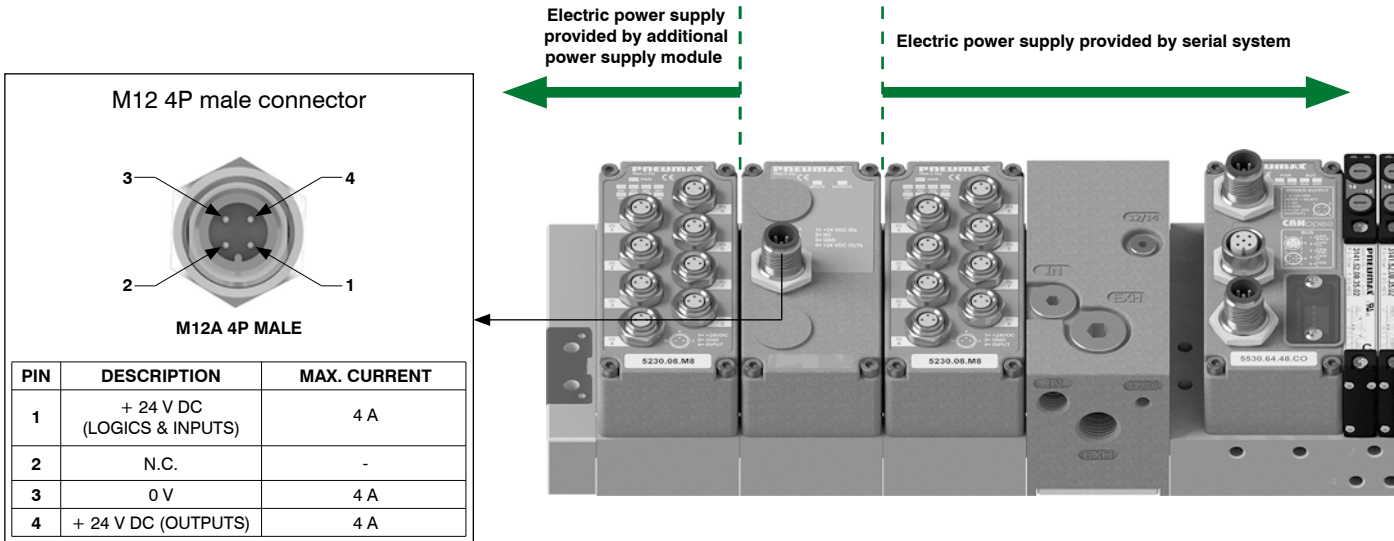
Additional power supply module supplies additional electric power for downstream optional modules, where "downstream" means farther from serial node, **resetting the current limits of the network node / IO-Link interface.**
 Electric connection of the module to external power supply unit occurs via an M12 4 pins type A male connector.
 M12 connector has two different pins to power up logics and inputs (Pin 1) and outputs (Pin 4).
 Presence of each power supply rail is indicated by corresponding green LED.
 When using IO-Link interface, the additional power supply module is useful for separating the module power supplies of input from the output modules placed downstream.

Coding: K5030.M12



1
AIR DISTRIBUTION

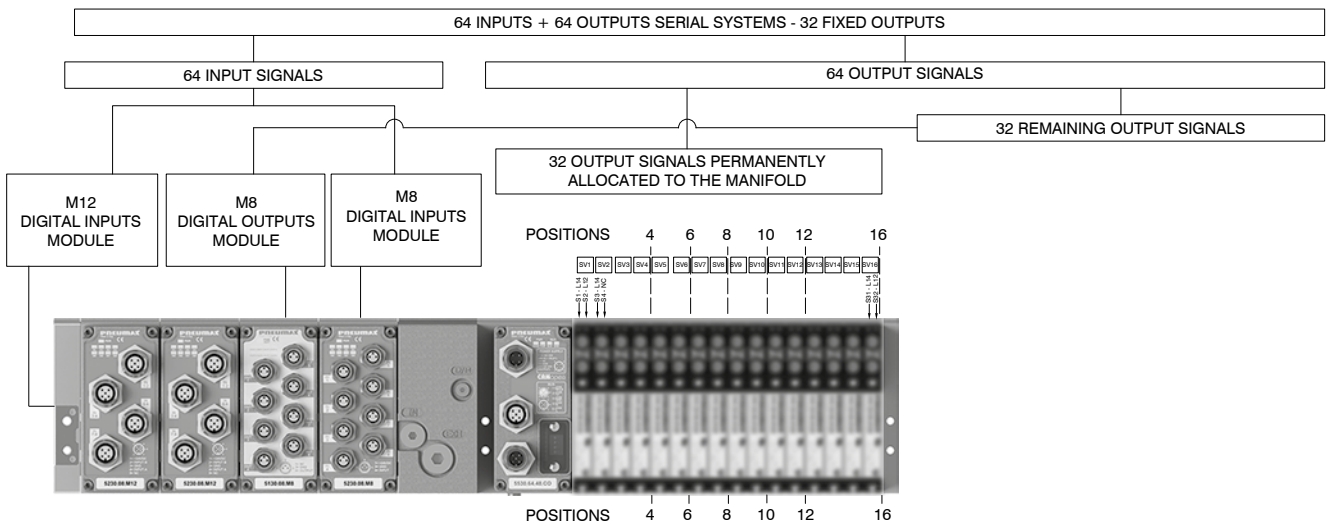
Scheme / Overall dimensions and I/O layout



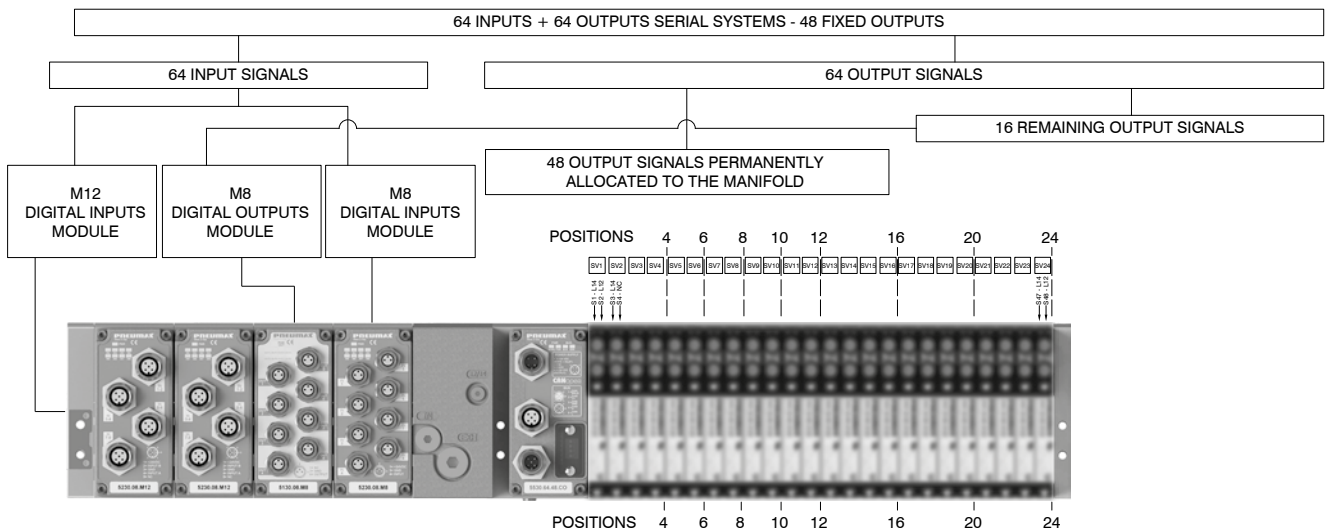


Signal management

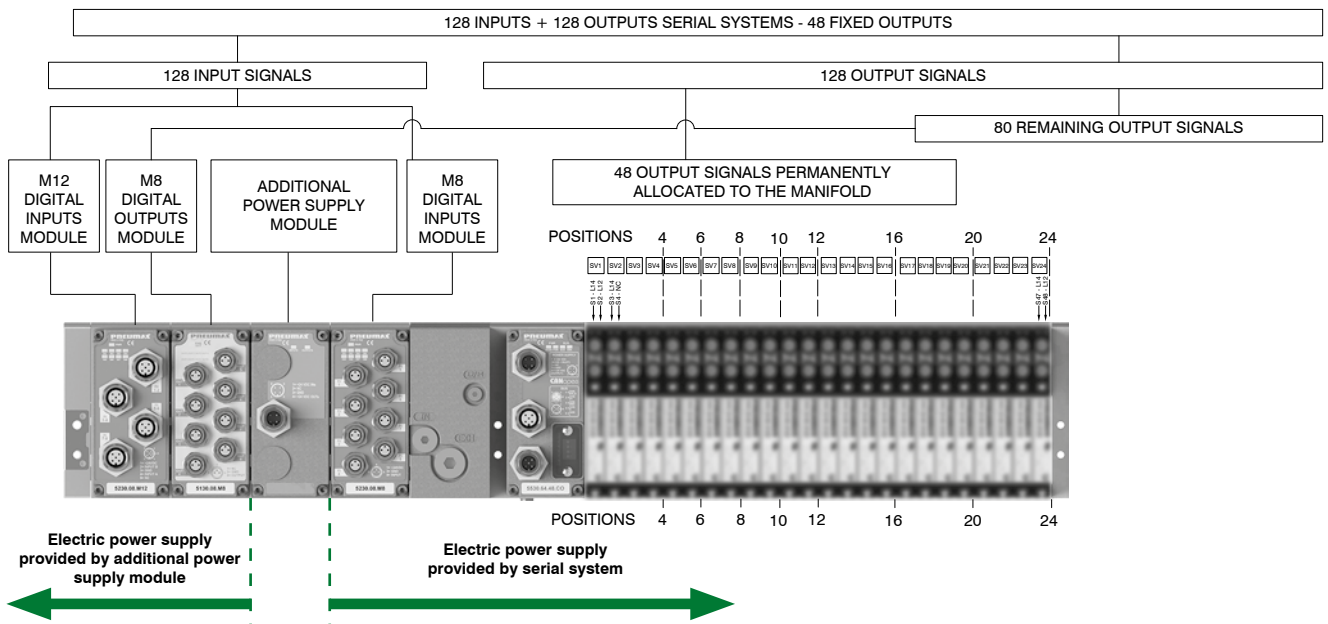
64 INPUT + 64 OUTPUT serial systems - 32 fixed OUTPUT (Ex. PROFIBUS DP and CANopen®)



64 INPUT + 64 OUTPUT serial systems - 48 fixed OUTPUT (Ex. PROFIBUS DP and CANopen®)



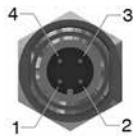
128 INPUT + 128 OUTPUT serial systems - 48 fixed OUTPUT (Ex. EtherNet/IP - EtherCAT® - PROFINET IO RT)



1 AIR DISTRIBUTION

POWER SUPPLY connectors

Straight connector M12A 4P female



Upper view slave connector

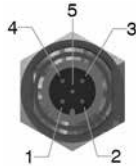
PIN	DESCRIPTION
1	+ 24 V DC (LOGICS AND INPUTS)
2	N.C.
3	0 V
4	+ 24 V DC (OUTPUTS)

Coding: 5312A.F04.00

Power supply socket

NETWORK connectors

Straight connector M12A 5P female



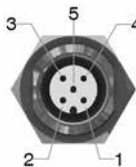
Upper view slave connector

PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

Coding: 5312A.F05.00

Socket for bus CANopen® and IO-Link

Straight connector M12A 5P male



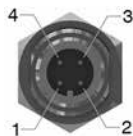
Upper view slave connector

PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

Coding: 5312A.M05.00

Plug for bus CANopen®

Straight connector M12D 4P male



Upper view slave connector

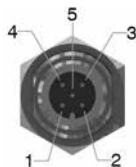
PIN	SIGNAL	DESCRIPTION
1	TX+	EtherNet Transmit High
2	RX+	EtherNet Receive High
3	TX-	EtherNet Transmit Low
4	RX-	EtherNet Receive Low

Coding: 5312D.M04.00

Plug for bus EtherCAT®, PROFINET IO RT and EtherNet/IP

Trademarks: EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

Straight connector M12B 5P female



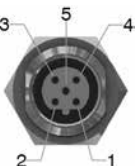
Upper view slave connector

PIN	DESCRIPTION
1	Power Supply
2	A-Line
3	DGND
4	B-Line
5	SHIELD

Coding: 5312B.F05.00

Socket for bus PROFIBUS DP

Straight connector M12B 5P male



Upper view slave connector

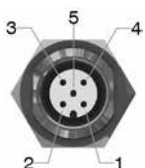
PIN	DESCRIPTION
1	Power Supply
2	A-Line
3	DGND
4	B-Line
5	SHIELD

Coding: 5312B.M05.00

Socket for bus PROFIBUS DP

INPUTS connectors

Straight connector M12A 5P male



PIN	DESCRIPTION
1	+ 24 V DC
2	INPUT B
3	0 V
4	INPUT A
5	N.C.

Upper view slave connector

Coding: 5312A.M05.00

Plug for inputs modules

Plugs

M12 plug

Coding: 5300.T12



Straight connector M8 3P male



PIN	DESCRIPTION
1	+ 24 V DC
4	INPUT
3	0 V

Upper view slave connector

Coding: 5308A.M03.00

Plug for inputs modules

M8 plug

Coding: 5300.T08





Series 2200 Optyma-S EVO



1
AIR DISTRIBUTION

2200 SERIES Optyma-S EVO SOLENOID VALVES MANIFOLD

- **Increased flexibility**
- **Digital and analogue I/O modules**
- **Manufactured in technopolymer**
- **Wide range of communication protocols**



WE SPEAK EVO

The Optyma-S series becomes EVO and interfaces with the new PX series modular electronic system while still retaining all of its technical advantages. This is enriched with new features that further extend the flexibility of the product:

- Controls up to 48 electrical signals
- Manifold mounted proportional regulators
- Electro-pneumatic shut-off module

Construction characteristics

Body	Technopolymer
Seals	NBR
Hydraulic piston seals	NBR
Springs	Stainless Steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Stainless Steel

Technical characteristics

Voltage	+ 24 V DC \pm 10%
Pilot consumption	1,3W nominal in energy saving mode
Pilot working pressure (12-14)	from 2,5 to 7 bar max.
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP65
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous



Electronic components configurator in technopolymer

1 AIR DISTRIBUTION

Type	
P	Technopolymer

Multi-pin electrical connection	
MP	2 Multi-pin, PNP 24 V DC 25 poles
	3 Multi-pin, PNP 24 V DC 37 poles
	4 Multi-pin, PNP 24 V DC 44 poles
MN	2 Multi-pin, NPN 24 V DC 25 poles
	3 Multi-pin, NPN 24 V DC 37 poles
	4 Multi-pin, NPN 24 V DC 44 poles
MA	2 Multi-pin, 24 V AC 25 poles
	3 Multi-pin, 24 V AC 37 poles
	4 Multi-pin, 24 V AC 44 poles

Electrical connection	
C3	CANopen® node 64 IN - 64 OUT (32 fixed)
C4	CANopen® node 64 IN - 64 OUT (48 fixed)
P3	PROFIBUS DP node 64 IN - 64 OUT (32 fixed)
P4	PROFIBUS DP node 64 IN - 64 OUT (48 fixed)
I4	EtherNet/IP node 128 IN - 128 OUT (48 fixed)
A4	EtherCAT® node 128 IN - 128 OUT (48 fixed)
N4	PROFINET IO RT node 128 IN - 128 OUT (48 fixed)
G4	CC-Link IE Field Basic node 128 IN - 128 OUT (48 fixed)
K3	IO-Link interface 64 IN - 64 OUT (32 fixed)
K4	IO-Link interface 64 IN - 64 OUT (48 fixed)

Electrical connection accessories	
	Without DIN rail fixing
G	With DIN rail fixing

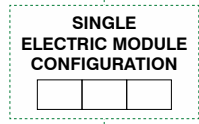
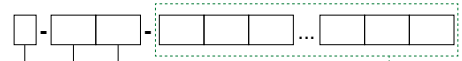
Repeating numbers of the module	
	Indicate the number of repeats of the same module (no value for a single module)

Inputs module - Analog / Digital (EXCLUDED WITH MP)	
D8	8 M8 digital inputs module
D12	8 M12 digital inputs module
D3	32 digital inputs SUB-D 37 poles
T1	2 analogue inputs 0-5V module (voltage signal)
T2	2 analogue inputs 0-10V module (voltage signal)
T3	4 analogue inputs 0-5V module (voltage signal)
T4	4 analogue inputs 0-10V module (voltage signal)
C1	2 analogue inputs 0-20mA module (current signal)
C2	2 analogue inputs 4-20mA module (current signal)
C3	4 analogue inputs 0-20mA module (current signal)
C4	4 analogue inputs 4-20mA module (current signal)
P1	2 Pt100 2 wires inputs module
P2	2 Pt100 3 wires inputs module
P3	2 Pt100 4 wires inputs module
P4	4 Pt100 2 wires inputs module
P5	4 Pt100 3 wires inputs module
P6	4 Pt100 4 wires inputs module

Outputs module - Analog / Digital	
M8	8 M8 digital outputs module
M12	8 M12 digital outputs module
M3	32 digital outputs SUB-D 37 poles
V1	2 analogue outputs 0-5V module (voltage signal)
V2	2 analogue outputs 0-10V module (voltage signal)
V3	4 analogue outputs 0-5V module (voltage signal)
V4	4 analogue outputs 0-10V module (voltage signal)
L1	2 analogue outputs 0-20mA module (current signal)
L2	2 analogue outputs 4-20mA module (current signal)
L3	4 analogue outputs 0-20mA module (current signal)
L4	4 analogue outputs 4-20mA module (current signal)

Additional modules (Optional)	
P12	M12 additional power supply module

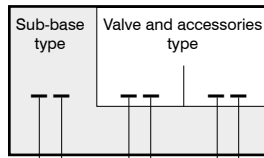
Module accessories	
	Without DIN rail fixing
G	With DIN rail fixing



Refer to the current limits indicated in the pages relating to the nodes / IO-Link interface

2 positions base module configurator

Module configurator



Base	
1	Ø10 Monostable base
2	Ø10 Bistable base
3	Ø4 Monostable base
4	Ø4 Bistable base
5	Ø6 Monostable base
6	Ø6 Bistable base
7	Ø8 Monostable base
8	Ø8 Bistable base

S.V. 2 Accessory (optional)	
5	Separated exhausts
6	Separated power supply

Base version (optional)	
	5-1-3 free (standard sub-base)
3	Intermediate Diaphragm plug on ports 1 and 5
4	Intermediate Diaphragm plug on ports 1 and 3
5	Intermediate Diaphragm plug on port 5
6	Intermediate Diaphragm plug on ports 1, 3, 5
7	Intermediate Diaphragm plug on port 1
8	Intermediate Diaphragm plug on ports 3 and 5
9	Intermediate Diaphragm plug on port 3

S.V. 1 Accessory (optional)	
5	Separated exhausts
6	Separated power supply

Solenoid valve position 1	
A	S.V. 5/2 SOLENOID-SPRING
B	S.V. 5/2 SOLENOID-DIFFERENTIAL
C	S.V. 5/2 SOLENOID-SOLENOID
E	S.V. 5/3 CC SOLENOID-SOLENOID
F	S.V. 2x3/2 NC-NC
G	S.V. 2x3/2 NO-NO
H	S.V. 2x3/2 NC-NO
I	S.V. 2x3/2 NO-NC
T	Plug

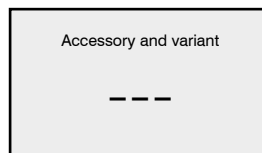
Solenoid valve position 2	
A	S.V. 5/2 SOL.-SPRING
B	S.V. 5/2 SOL.-DIF.
C	S.V. 5/2 SOL.-SOL.
E	S.V. 5/3 CC SOL.-SOL.
F	S.V. 2x3/2 NC-NC
G	S.V. 2x3/2 NO-NO
H	S.V. 2x3/2 NC-NO
I	S.V. 2x3/2 NO-NC
T	Plug

Note: with base Ø10 the solenoid valve must be the same as the one chosen as position 1

Note: version not available with Ø10 base

Accessory module configurator

Module configurator



Intermediate Inlet/Exhaust module with separate piloting		
K	A	12/14 through
	C	12/14 closed downstream

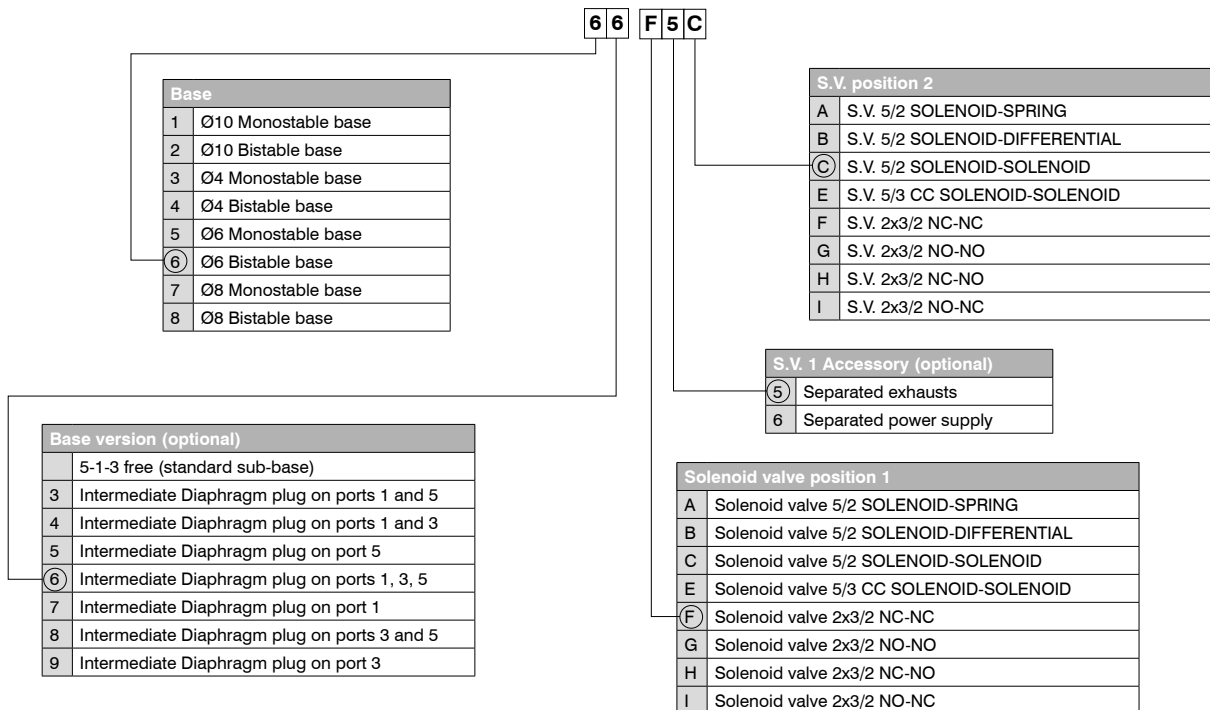
Intermediate electropneumatic shut-off module with separate piloting					
K	A	12/14 through	2	2 positions	M8 M8 Connector
			4	4 positions	
			6	6 positions	
			8	8 positions	
C	12/14 closed downstream	6	6 positions	M12 M12 Connector	
		8	8 positions		

Proportional regulator module (base + proportional)												
R	0	Exhaust closed	D	Standard proportional regulator	C	T	Current signal Voltage signal	/	1 5 9	0-1 bar pressure 0-5 bar pressure 0-9 bar pressure	-	Standard version
			N	Standard proportional regulator M12								
			SC	CANopen protocol								
			MC	CANopen M12 protocol								
			IB	IO-Link protocol								
			EC	EtherCAT protocol								
1	Ø10 Conveyed discharges	PN	Profinet protocol	/	/	9	0-9 bar pressure	A	Discharge circuit without power supply			

Configuration example of single pneumatic module:

Ø6 Bistable base, intermediate diaphragm on ports 1,3 and 5, 2x3/2 NC-NC Solenoid valve with individual power supply accessory, 5/2 Solenoid-Solenoid valve

1
AIR DISTRIBUTION

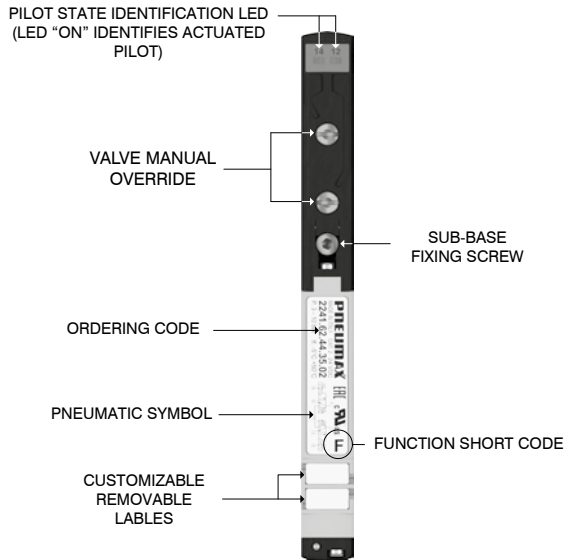


Configuration example of complete group:

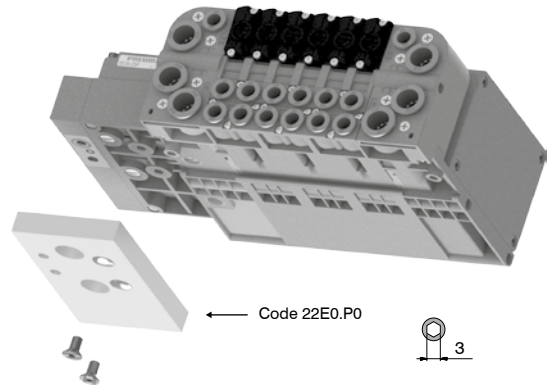
- Technopolymer PX3 serial system (P-I4-D12-M12-D8G)
- Left endplates - External feeding (E)
- Ø6 Bistable base with (6HF) Solenoid valve
- Ø6 Bistable base with (6IE) Solenoid valve
- Ø4 Monostable base with (3AA) Solenoid valve
- Ø4 Monostable base with (3BB) Solenoid valve
- Ø8 Bistable base with (8FI) Solenoid valve
- Ø8 Bistable base with (8HE) Solenoid valve
- Right endplate closed (U0)



SE-P-I4-D12-M12-D8G-E-6HF-6IE-3AA-3BB-8FI-8HE-U0

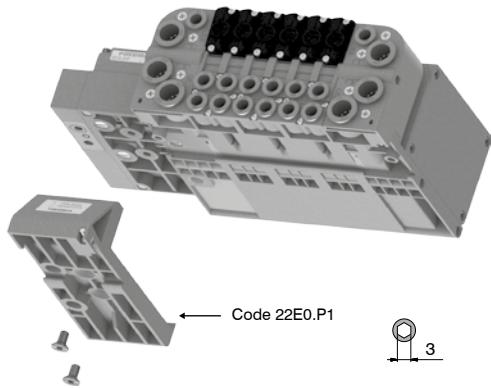


Offset compensation plate



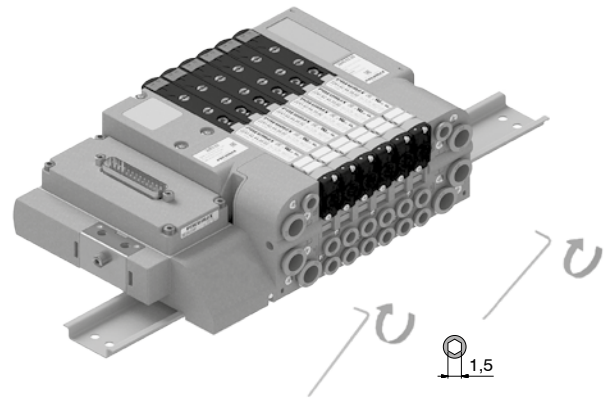
Attention: This accessory is supplied on the manifold unless otherwise stated. This is not compatible for DIN rail mounting.

DIN rail mounting support plate



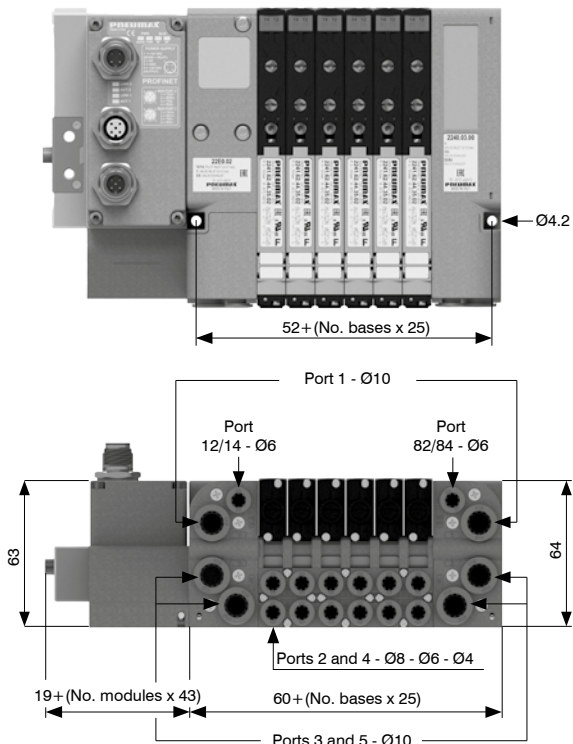
Attention: This must be included when creating the manifold configuration. Exclude the offset compensation plate.

DIN rail fixing

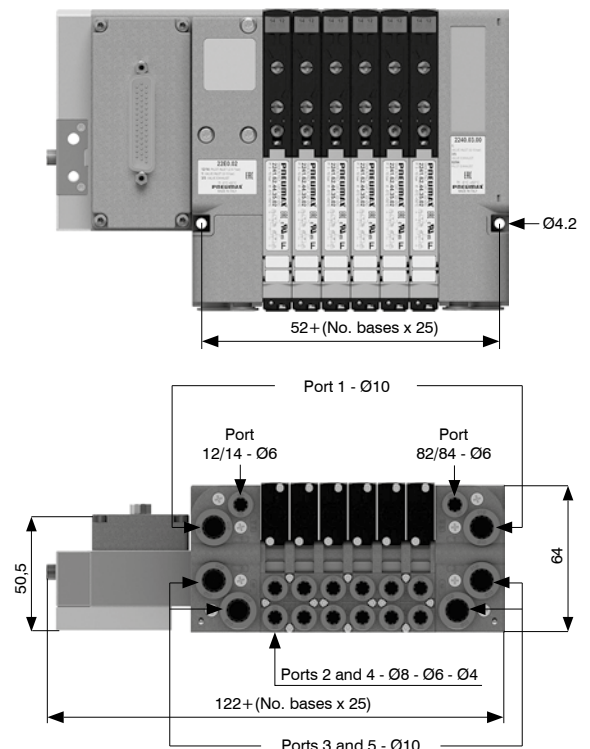


1
AIR DISTRIBUTION

Supply ports and maximum possible size according to valves used
Serial system node version



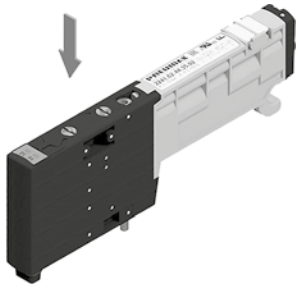
Multi-pin version



Manual override actuation

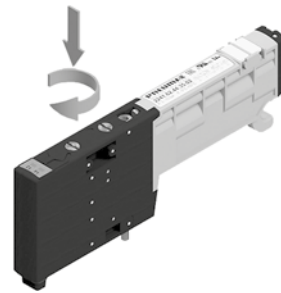
Instable function:

Push to actuate
(when released it moves back to the original position)



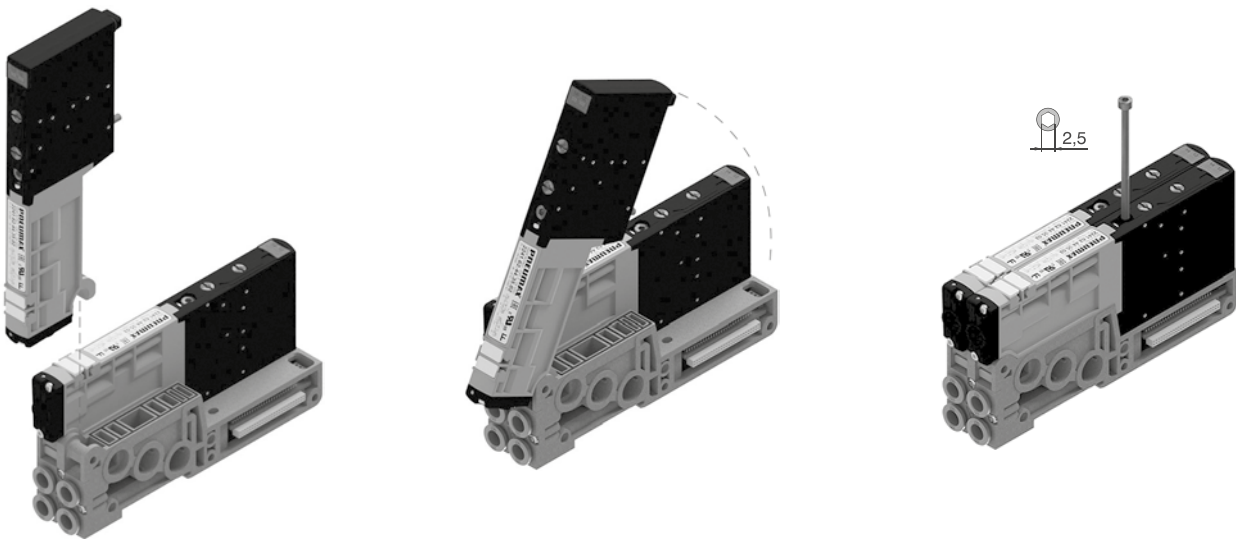
Bistable function:

Push and turn to get the bistable function



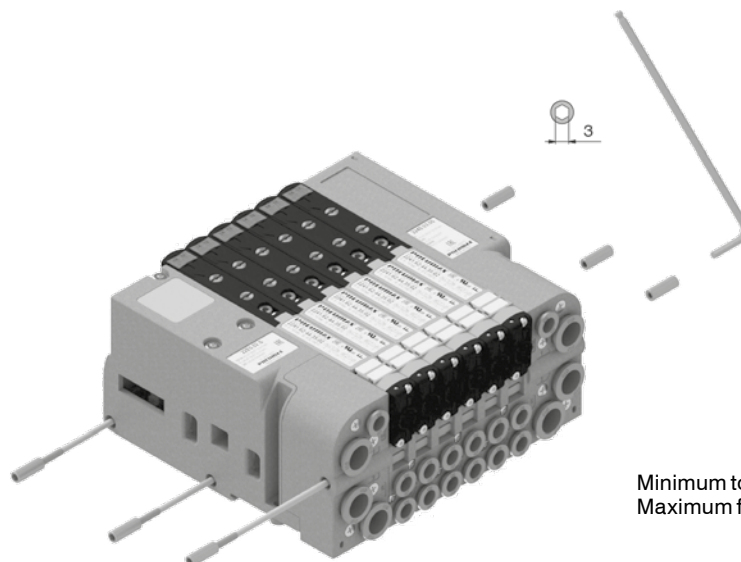
Note: we recommend the manual override is returned to its original position when not in use

Solenoid valves installation



Note: Torque moment 0,8 Nm

Sub-base assembly



Minimum torque moment: 2 Nm
Maximum fixing torque for fittings: 2,5 Nm

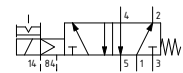
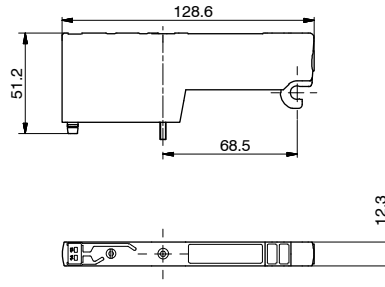
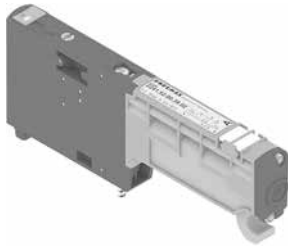
1 AIR DISTRIBUTION

Solenoid-Spring

Coding: 2241.52.00.39.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\phi 4$	140
	with modular base, tube $\phi 6$	300
	with modular base, tube $\phi 8$	400
	with modular base, tube $\phi 10$	900
Response time according to ISO 12238, activation time (ms)	15	
Response time according to ISO 12238, deactivation time (ms)	20	

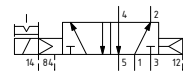
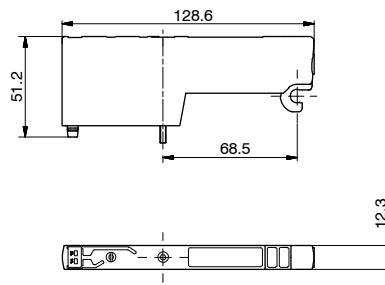
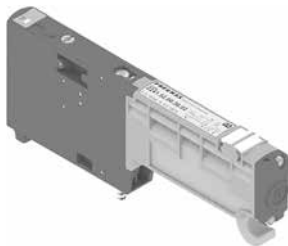
VOLTAGE	
02 = 24 VDC PNP	
12 = 24 VDC NPN	
05 = 24 VAC	
SHORT FUNCTION CODE "A" Weight 67 g	



Coding: 2241.52.00.36.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\phi 4$	140
	with modular base, tube $\phi 6$	400
	with modular base, tube $\phi 8$	550
	with modular base, tube $\phi 10$	850
Response time according to ISO 12238, activation time (ms)	20	
Response time according to ISO 12238, deactivation time (ms)	25	

VOLTAGE	
02 = 24 VDC PNP	
12 = 24 VDC NPN	
05 = 24 VAC	
SHORT FUNCTION CODE "B" Weight 67 g	

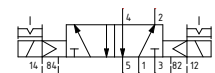
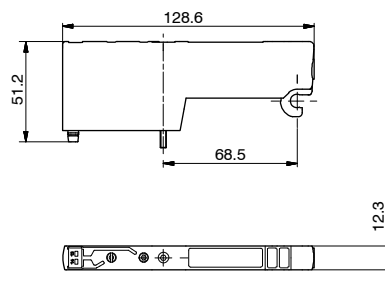
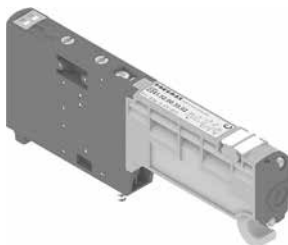


Solenoid-Solenoid

Coding: 2241.52.00.35.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\phi 4$	140
	with modular base, tube $\phi 6$	400
	with modular base, tube $\phi 8$	550
	with modular base, tube $\phi 10$	900
Response time according to ISO 12238, activation time (ms)	10	
Response time according to ISO 12238, deactivation time (ms)	10	

VOLTAGE	
02 = 24 VDC PNP	
12 = 24 VDC NPN	
05 = 24 VAC	
SHORT FUNCTION CODE "C" Weight 67 g	



Solenoid-Solenoid 5/3 (Closed centres)

Coding: 2241.53.31.35.

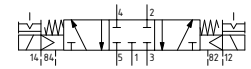
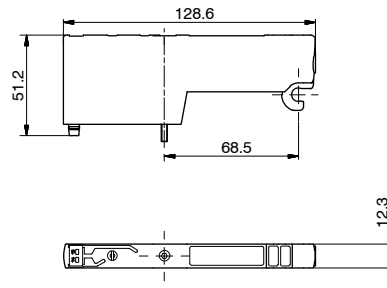
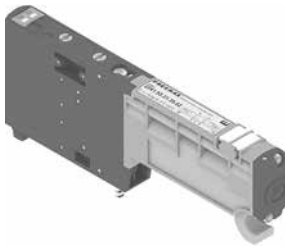
Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\varnothing 4$	140
	with modular base, tube $\varnothing 6$	300
	with modular base, tube $\varnothing 8$	400
	with modular base, tube $\varnothing 10$	600
Response time according to ISO 12238, activation time (ms)	15	
Response time according to ISO 12238, deactivation time (ms)	20	

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC

SHORT FUNCTION CODE "E"
Weight 83 g

1

AIR DISTRIBUTION



Solenoid-Solenoid 2x3/2

Coding: 2241.62. 35.

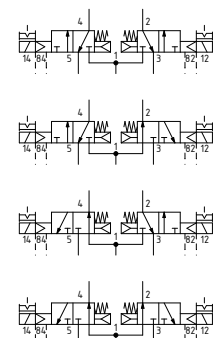
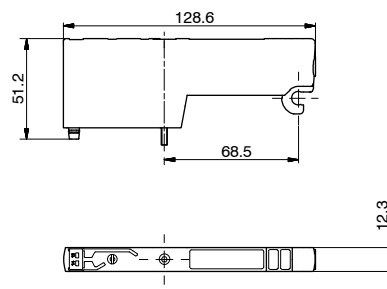
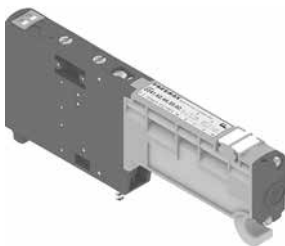
Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	$\geq 3 + (0,2 \times \text{inlet pressure})$	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\varnothing 4$	140
	with modular base, tube $\varnothing 6$	360
	with modular base, tube $\varnothing 8$	420
	with modular base, tube $\varnothing 10$	650
Response time according to ISO 12238, activation time (ms)	15	
Response time according to ISO 12238, deactivation time (ms)	25	

FUNCTION
44 = NC-NC (5/3 Open centres)
45 = NC-NO (normally closed-normally open)
54 = NO-NC (normally open-normally closed)
55 = NO-NO (5/3 Pressured centres)

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC

Example: If inlet pressure is set at 5 bar then pilot pressure must be at least $P_p = 3 + (0,2 \times 5) = 4$ bar

SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
N.O. - N.O. (5/3 Pressured centres) = "G"
N.C. - N.O. = "H"
N.O. - N.C. = "I"
Weight 75 g



Left Endplate

Coding: 22E0.●.S

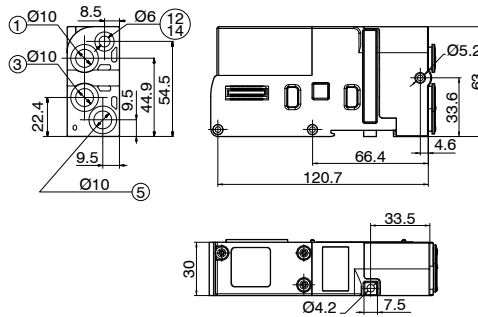
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 (External pilot base) 2,5-7 (Self-feeding base)
Pilot pressure (bar)	2,5 ... 7 (External pilot base)
Temperature °C	-5 ... +50

VERSION	
●	02 = External feeding
●	12 = Self-feeding



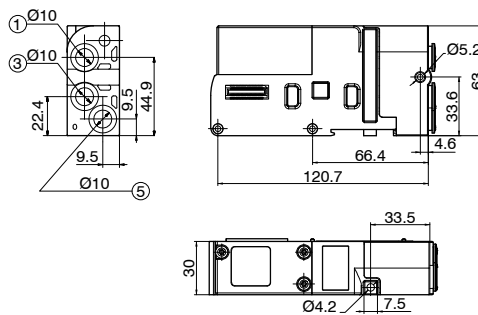
12/14 SEPARATED FROM PORT 1
Weight 199 g

22E0.02.02.S



12/14 CONNECTED TO PORT 1
Weight 199 g

22E0.12.12.S



Right Endplate

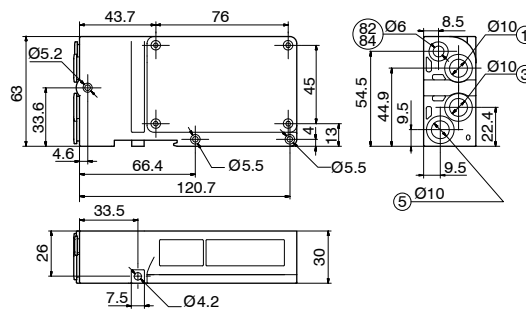
Coding: 2240.03.00

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50



PORT 82/84 = DO NOT PRESSURIZE, SOLENOID PILOTS
EXHAUST
Weight 148 g

2240.03.00

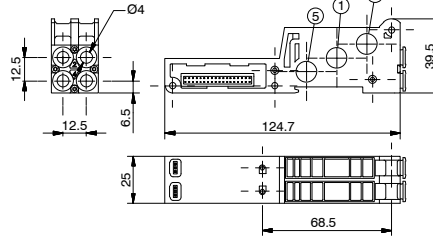


Modular base (2 places)

Coding: 22E **C** **F** **V**

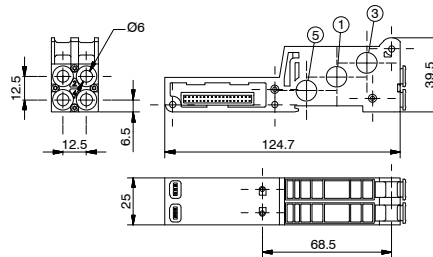
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

C	TUBE DIAMETER
	4 = Ø4
	6 = Ø6
F	FUNCTION
	01 = Opened ports
	03 = Ports 1-5 separated
	04 = Ports 1-3 separated
	05 = Ports 5 separated
	06 = Separated ports
	07 = Port 1 separated
	08 = Ports 3-5 separated
	09 = Ports 3 separated
V	VERSION
	M = for monostable S.V. B = for bistable S.V.



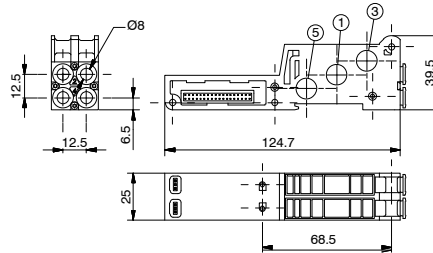
Weight 75 g

22E4 **C** **V**



Weight 75 g

22E6 **C** **V**



Weight 75 g

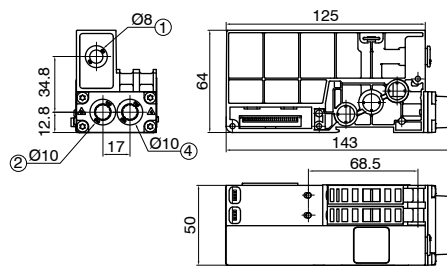
22E8 **C** **V**

High flow rate modular base (2 places)

Coding: 22E1.01 **V**

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

V	VERSION
	M = for monostable S.V. B = for bistable S.V.



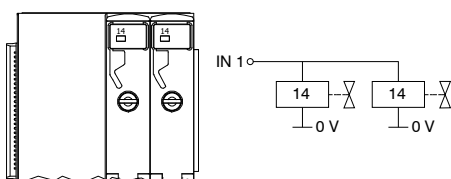
Weight 200 g

the two solenoid valves mounted on the high-flow base are pneumatically and electrically in parallel.

Attention: solenoid valves must be of the same type.

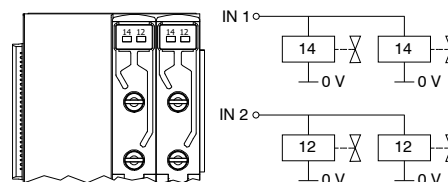
Attention: the additional supply is necessary to guarantee the declared flow values, the port (1), if not supplied, it must be plugged.

Monostable configuration



the monostable base consumes only one electrical signal and can only mount monostable solenoid valves.

Bistable configuration



the bistable base consumes two electrical signals and can mount both bistable and monostable solenoid valves; in the latter case one electrical signal will be lost.

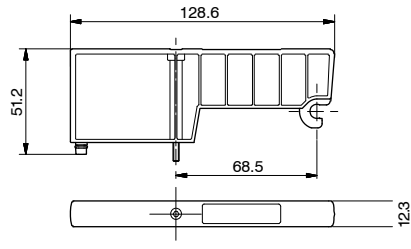
AIR DISTRIBUTION

1

Closing plate

Coding: 2240.00

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50



SHORT FUNCTION CODE "T"
Weight 30 g

Individual supply or exhaust module

Coding: 22E0.01.06

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 3... 7 (piloting 12/14)
Temperature °C	-5 ... +50

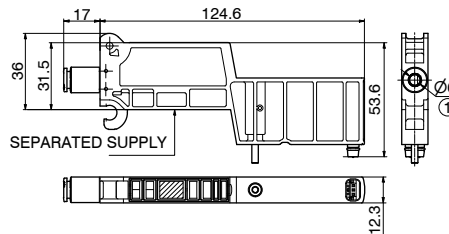
VERSION	
01	Port 1 separated
35	Ports 3-5 separated

The flow rate of the solenoid valve will be reduced compared to that shown in the general catalogue



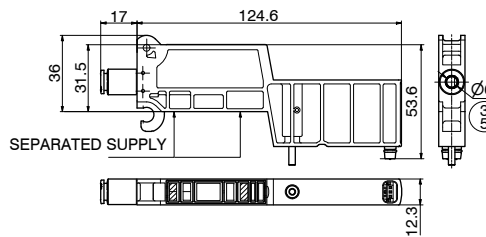
Weight 44 g

22E0.01.06



Weight 44 g

22E0.35.06



Proportional regulator base

Coding: 22E0.00.RP

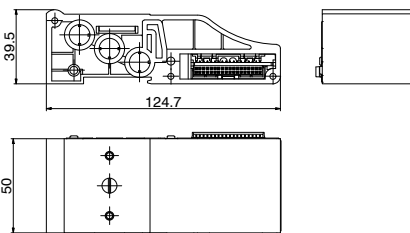
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

CONNECTION	
00	Closed
10	Ø10



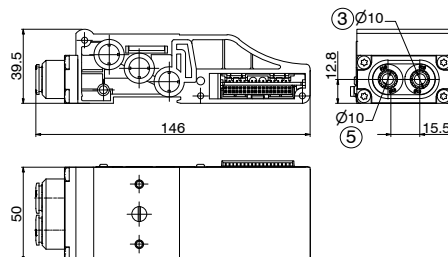
Weight 120 g

22E0.00.RP



Weight 120 g
3/5 = Exhaust connections

22E0.10.RP



3D PRINTING

Proportional regulator installation on its base



1
AIR DISTRIBUTION

Technical characteristics

Pneumatic characteristics	
Fluid	Air filtered at 5 micron and dehumidified
Minimum inlet pressure	Desired outlet pressure + 1 bar
Maximum inlet pressure	10 bar
Outlet pressure	0 ... 9 bar
Nominal flow rate from 1 to 2 (6 bar ΔP 1 bar)	1100 NI/min
Discharge flow rate (6 bar with 1 bar overpressure)	1300 NI/min
Air consumption	< 1 NI/min
Supply connection	G 1/4"
Operating connection	G 1/4"
Exhaust connection	G 1/8"
Maximum fitting tightening	15 Nm

Electrical characteristics		
Supply voltage	24VDC ± 10% (stabilized with ripple < 1%)	
Standby current consumption	70mA	
Current consumption with solenoid valves on	400mA	
**Reference Signal	Voltage	*0 ... 10 V *0 ... 5 V *1 ... 5 V
	Current	*4 ... 20 mA *0 ... 20 mA
	Voltage	10 kΩ
**Input Impedance	Current	250 Ω
**Digital inputs		24 VDC ± 10%
**Digital output		24 VDC PNP (max current 50 mA)

Functional characteristics	
Linearity	± Insensitivity
Hysteresis	± Insensitivity
Repeatability	± Insensitivity
Sensitivity	0,01 bar
Assembly position	Indifferent
Protection grade	IP65 (with casing fitted)
Ambient temperature	-5°... 50° / 23°F ... 122°F

Construction characteristics	
Body	Anodized aluminum
Shutters	Brass with vulcanized NBR
Diaphragm	Cloth-covered rubber
Seals	NBR
Cover for electrical part	Technopolymer
Springs	AISI 302
Weight	360 g

* Selectable by keyboard or by RS-232
** Valid only for devices with analog input



Installation/Operation

PNEUMATIC CONNECTION



The compressed air is connected by G 1/4" threaded holes on the body. Before making the connections, eliminate any impurities in the connecting pipes to prevent chippings or dust entering the unit. Do not supply the circuit with more than 10 bar pressure and make sure that the compressed air is dried (excessive condensate could cause the appliance to malfunction) and filtered at 5 micron. The supply pressure to the regulator must always be at least 1 bar greater than the desired outlet pressure. If a silencer is applied to the discharge path the unit response time may change; periodically check that the silencer is not blocked and replace it if necessary.

ELECTRICAL CONNECTION



For the electrical connection a SUB-D 15-pole female or a M12 connector is used (accordingly to the model, to be ordered separately). Wire in accordance with the wiring diagram shown below. **Warning: INCORRECT CONNECTIONS MAY DAMAGE THE DEVICE**

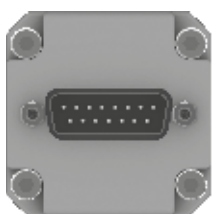
NOTES ON OPERATION



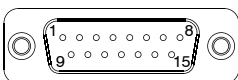
If the electric supply is interrupted, the outlet pressure is maintained at the set value. However, maintaining the exact value cannot be ensured as it is impossible to operate the solenoid valves. In order to discharge the circuit downstream, zero the reference, make sure that the display shows a pressure value equal to zero and then disconnect the electric power supply. A version of the device is available that exhausts the downstream circuit when the power supply is removed (Option "A" at the end of the ordering code). If the compressed-air supply is suspended and the electric power supply is maintained a whirring will be heard that is due to the solenoid valves; an operating parameter can be activated (P18) that triggers the regulator protection whenever the requested pressure is not reached within 4 seconds of the reference signal being sent. In this case the system will intervene to interrupt the control of the solenoid valves. Every twenty seconds, the unit will start the reset procedure until standard operating conditions have been restored.

1
AIR DISTRIBUTION

Proportional regulator, standard version with D-SUB connector



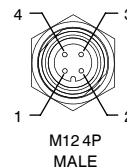
TOP VIEW OF THE REGULATOR CONNECTOR



CONNECTOR PINOUT:

- 1 = DIGITAL INPUT 1
- 2 = DIGITAL INPUT 2
- 3 = DIGITAL INPUT 3
- 4 = DIGITAL INPUT 4
- 5 = DIGITAL INPUT 5
- 6 = DIGITAL INPUT 6
- 7 = DIGITAL INPUT 7
- 8 = ANALOG INPUT / DIGITAL INPUT 8
- 9 = SUPPLY (24 VDC)
- 10 = DIGITAL OUTPUT (24 VDC PNP)
- 11 = ANALOG OUTPUT (CURRENT)
- 12 = ANALOG OUTPUT (VOLTAGE)
- 13 = Rx RS-232
- 14 = Tx RS-232
- 15 = GND

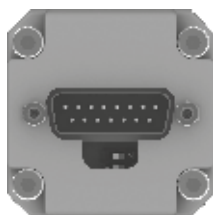
Proportional regulator, M12 standard version



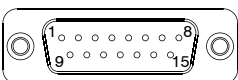
M12 Standard version

- CONNECTOR PINOUT:
- 1 = POWER SUPPLY (24 VDC)
 - 2 = ANALOG OUTPUT (depending on the model)
 - 3 = GND
 - 4 = ANALOG INPUT

Proportional regulator, CANopen® version with D-SUB connector



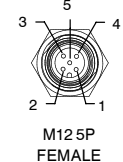
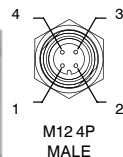
TOP VIEW OF THE REGULATOR CONNECTOR



CONNECTOR PINOUT:

- 1 = CAN_SHIELD
- 2 = CAN_V+
- 3 = CAN_GND
- 4 = CAN_H
- 5 = CAN_L
- 6 = NC
- 7 = NC
- 8 = NC
- 9 = SUPPLY (+24 VDC)
- 10 = CAN_SHIELD
- 11 = CAN_V+
- 12 = CAN_GND
- 13 = CAN_H
- 14 = CAN_L
- 15 = GND

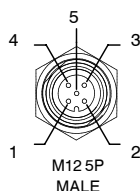
Proportional regulator, CANopen® version with M12 connector



PIN	DESCRIPTION
1	+24 VDC (NODE AND INPUTS)
2	NC
3	GND
4	+24 VDC (OUTPUTS)

PIN	SIGNAL	DESCRIPTION
1	CAN_SHIELD	Optional Can Shield
2	CAN_V+	Optional Can external positive supply (Dedicated for supply of transceiver and Optocouplers, if galvanic isolation of the bus node applies)
3	CAN_GND	Ground / 0V / V-
4	CAN_H	CAN_H bus line (Dominant high)
5	CAN_L	CAN_L bus line (Dominant low)

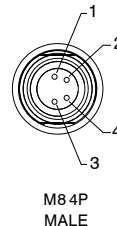
Proportional regulator, IO-Link version



CONNECTOR PINOUT:

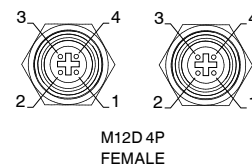
- 1 = L+
- 2 = +24 VDC (P24)
- 3 = L-
- 4 = C/Q
- 5 = GND (N24)

Proportional regulator, EtherCAT®, PROFINET IO RT and EtherNet/IP version



CONNECTOR PINOUT:

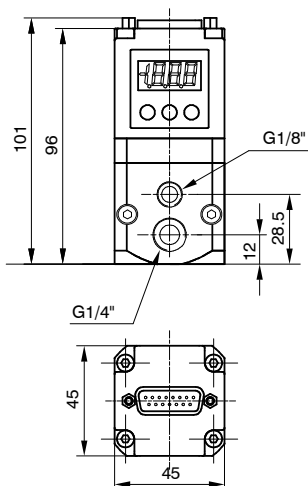
- 1 = Device logic power supply
- 2 = NC
- 3 = GND
- 4 = Solenoid valves power supply



CONNECTOR PINOUT:

- 1 = TX Signal + (Ethernet Transmit High)
- 2 = RX Signal + (Ethernet Receive High)
- 3 = TX Signal - (Ethernet Transmit Low)
- 4 = RX Signal - (Ethernet Receive Low)

▶ Proportional regulator, standard version with D-SUB connector



Coding: 221E2N. **T**. **D**. **P**. **V**

	TYPE
T	C = Current signal (4-20 mA / 0-20 mA) T = Voltage signal (0-10 V / 0-5 V / 1-5 V)
	PRESSURE RANGE
P	0001 = from 0 to 1 bar 0005 = from 0 to 5 bar 0009 = from 0 to 9 bar
	VARIANT
V	= Standard version A = Exhaust downstream pressure when power supply is removed

AIR DISTRIBUTION

Accessories

▶ Model with SUB-D 15 poles connector

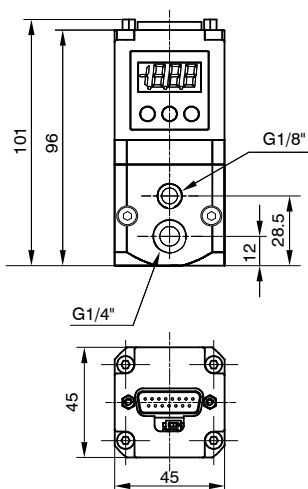


Coding: 5300.F15. **C**. **V**

	CONNECTOR
C	00 = straight connector 90 = 90° connector
	VARIANT
V	00 = casing IP65* 03 = cable 3 meters 05 = cable 5 meters

*whitout cable

▶ Proportional regulator, CANopen® version with D-SUB connector



Coding: 221E2N.S. **C**. **P**. **V**

	PRESSURE RANGE
P	0001 = from 0 to 1 bar 0005 = from 0 to 5 bar 0009 = from 0 to 9 bar
	VARIANT
V	= Standard version A = Exhaust downstream pressure when power supply is removed

Accessories

▶ Model with SUB-D 15 poles connector

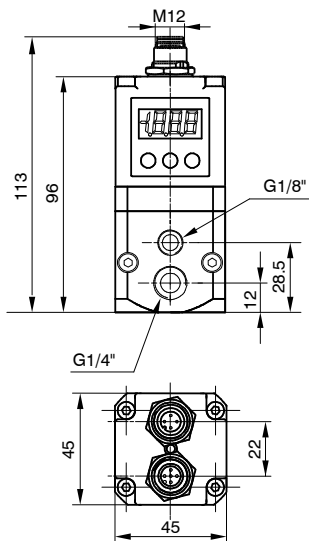


Coding: 5300.F15. **C**. **V**

	CONNECTOR
C	00 = straight connector 90 = 90° connector
	VARIANT
V	00 = casing IP65* 03 = cable 3 meters 05 = cable 5 meters

*senza cavo

▶ Proportional regulator, CANopen® version with M12 connector



Coding: 221E2N.M.C.P.V

	PRESSURE RANGE
P	0001 = from 0 to 1 bar
	0005 = from 0 to 5 bar
	0009 = from 0 to 9 bar
	VARIANT
V	= Standard Version
	A = Exhaust downstream pressure when power supply is removed

Note: This model doesn't include the terminating resistor

Accessories

Power supply connector

▶ Female straight connector M12A 4P



Network connector

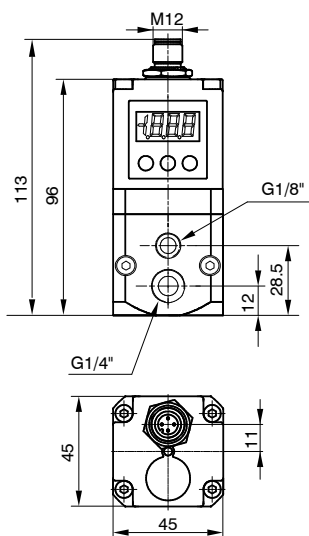
▶ Male straight connector M12A 5P



Coding: 5312A.F04.00

Coding: 5312A.M05.00

▶ Proportional regulator, M12 standard version



Coding: 221E2N.T.U.P.V

	TYPE
T	C = Current signal (4-20 mA)
	T = Voltage signal (0-10 V)
	OUTPUT
U	F = Voltage analogue output
	G = Current analogue output
	H = Digital output
	PRESSURE RANGE
P	0001 = from 0 to 1 bar
	0005 = from 0 to 5 bar
	0009 = from 0 to 9 bar
	VARIANT
V	= Standard Version
	A = Exhaust downstream pressure when power supply is removed

Accessories

Power supply connector

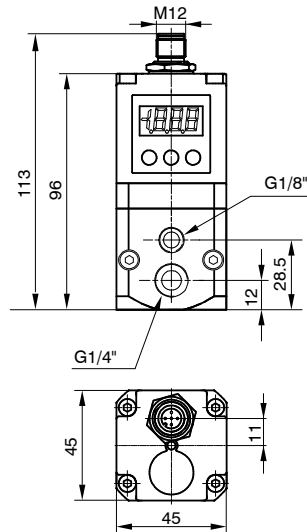
▶ Female straight connector M12A 4P



Coding: 5312A.F04.00

1 AIR DISTRIBUTION

Proportional regulator, IO-Link version



Coding: 221E2N.I.B.009.

	VARIANT
	= Standard Version
A	= Exhaust downstream pressure when power supply is removed

AIR DISTRIBUTION

Accessories

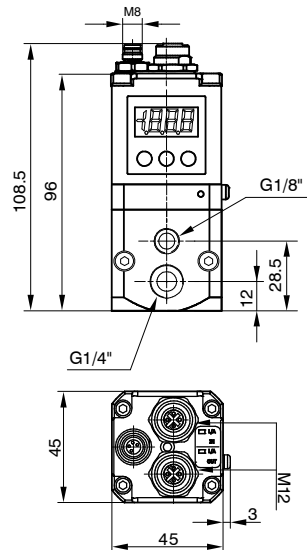
Power supply connector

Female straight connector M12A 4P



Coding: 5312A.F05.00

Proportional regulator, EtherCAT®, PROFINET IO RT and EtherNet/IP version



Coding: 221E2N. .0009.

	TYPE
	EC = EtherCAT
	PN = PROFINET IO RT
	EI = EtherNet/IP
	VARIANT
	= Standard Version
A	= Exhaust downstream pressure when power supply is removed

Accessories

Power supply connector

Male straight connector M12D 4P



Coding: 5312D.M04.00

Intermediate electro-pneumatic shut-off module 2/4/6/8 positions

Coding: 22E0.M.T.C

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 3...7 (piloting 12/14)
Temperature °C	-5 ... +50
Feeding	+ 24 V DC ±10%
Protection	Inverted polarity protection
Maximum load	100 mA
Indicators	+ 24 V DC presence LED
Series modules maximum number	3

MODULE	
M	10 = 12-14 open 11 = 12-14 closed
SHUT-OFF	
T	2A = 2 Signals 4A = 4 Signals 6A = 6 Signals 8A = 8 Signals
CONNECTION	
C	M8 = M8 M12 = M12



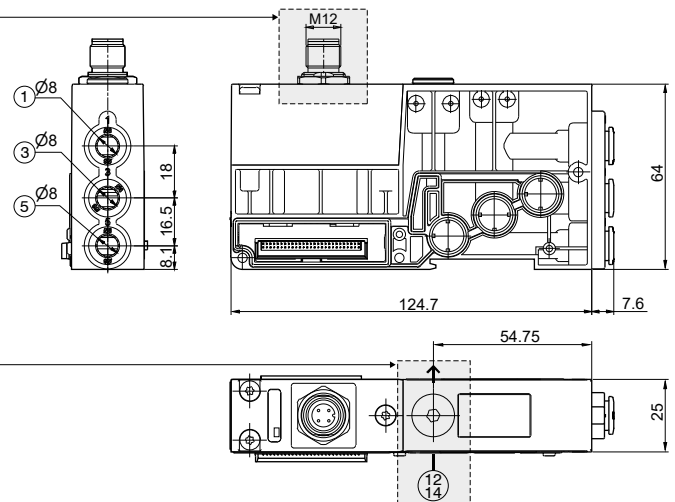
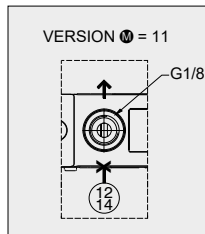
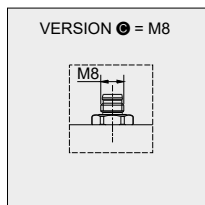
Weight 120 g

22E0.M.T.M12



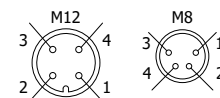
Weight 120 g

22E0.M.T.M8

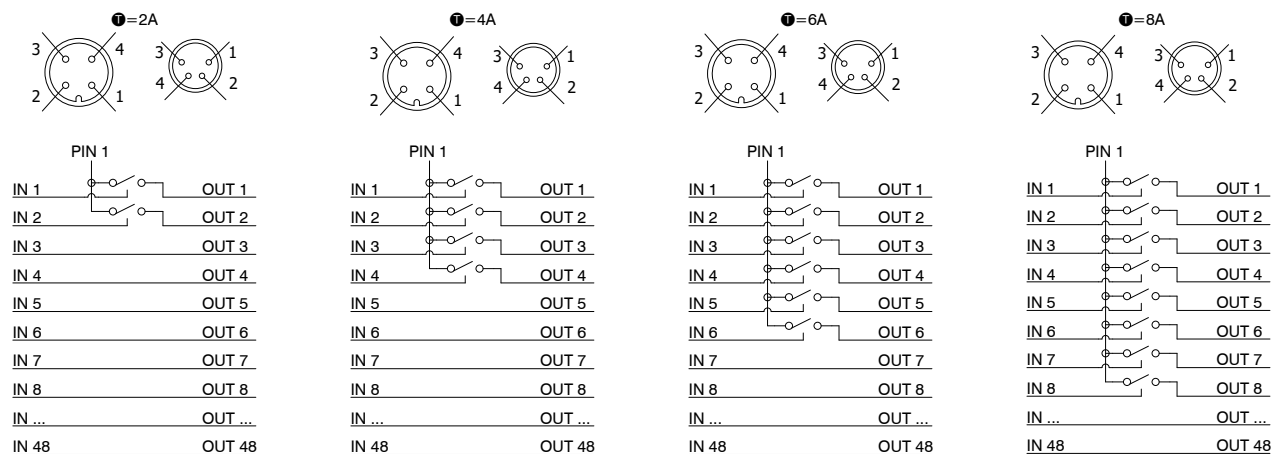


WORKING PRINCIPLE / SIMPLIFIED FUNCTIONAL DIAGRAM

Intermediate electro-pneumatic shut-off module allows you to interrupt at the same time the first 2, 4, 6 or 8 available command signals for the valves after the module itself. When the shut-off module is present, the controlled output logic signal values are equal to the input logic signal values which came from the serial node or the multi-pin module. If the supply input signal is absent, the controlled output logic signal values are all equal to zero. This module is particularly useful when control signals are used to block the valves; it is also effective both with serial management and multi-pin connection of the manifolds. It is possible to use more modules to interrupt every command signals simply by inserting them before the signals to be interrupted.



PIN	DESCRIPTION
1	+ 24 V DC
2	NOT CONNECTED
3	GND
4	NOT CONNECTED



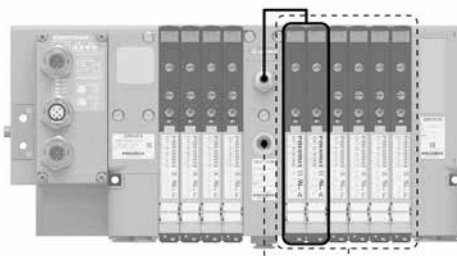
Usage examples

EXAMPLE 1

Manifold of 10 solenoid valves on which you want to interrupt signals 9 and 10.

Assembly:

- 4 bistable solenoid valves (not interruptible because before the module)
- 1 intermediate electro-pneumatic shut-off module, 2 signals M8 with conduit 12/14 closed
- 2 monostable solenoid valves (interruptible)
- 4 bistable solenoid valves (managed directly by the corresponding command signal)

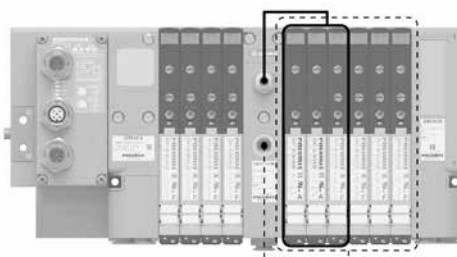


EXAMPLE 2

Manifold of 10 solenoid valves on which you want to interrupt signals 9 and 12.

Assembly:

- 4 bistable solenoid valves (not interruptible because before the module)
- 1 intermediate electro-pneumatic shut-off module, 4 signals M8 with conduit 12/14 closed
- 2 monostable solenoid valves (interruptible)
- 4 bistable solenoid valves (the first one is interruptible, the others are managed directly by the corresponding command signal)

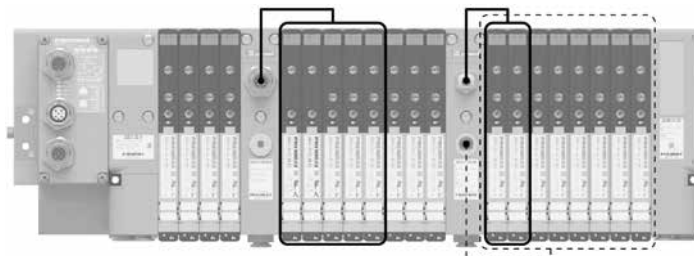


EXAMPLE 3

Manifold of 20 solenoid valves on which you want to interrupt signals from 9 to 16 and 23 to 26.

Assembly:

- 4 bistable solenoid valves (not interruptible because before the module)
- 1 intermediate electro-pneumatic shut-off module, 8 signals M12 with conduit 12/14 open
- 2 monostable solenoid valves (interruptible)
- 6 bistable solenoid valves (the first three are interruptible, the others are managed directly by the corresponding command signal)
- 1 intermediate electro-pneumatic shut-off module, 4 signals M8 with conduit 12/14 closed
- 8 bistable solenoid valves (the first two are interruptible, the others are managed directly by the corresponding command signal)



Key

- S.V. electrically managed by the shut-off module: ———
- S.V. pneumatically managed (12/14) by the shut-off module: - - - - -

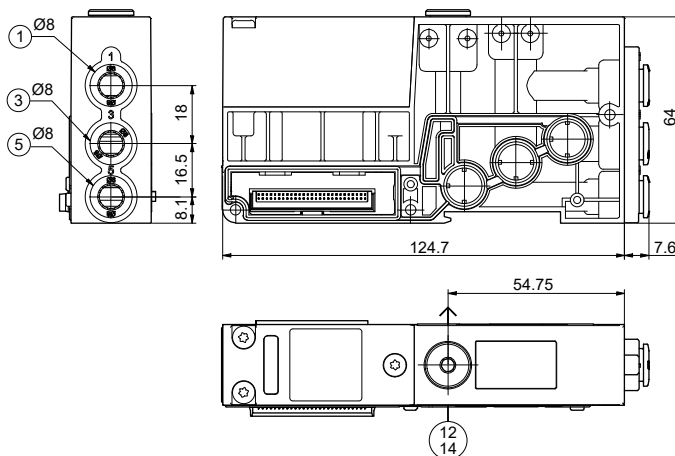
1
AIR DISTRIBUTION

► Intermediate inlet/Exhaust module with external pilot

Coding: 22E0. **M**

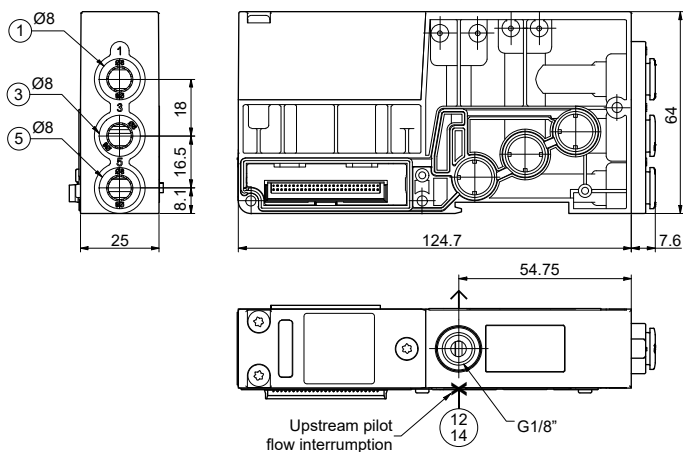
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 3... 7 (piloting 12/14)
Temperature °C	-5 ... +50

MODULE	
M	10 = 12-14 open
	11 = 12-14 closed



Weight 111 g

22E0.10



Weight 111 g

22E0.11

1
AIR DISTRIBUTION



1 AIR DISTRIBUTION

Polyethylene Silencer Series SPL-R

Coding: SPLR. **D**



TUBE DIAMETER	
D	6 = 6 mm
	10 = 10 mm

Diaphragm plug

Coding: 2230.17



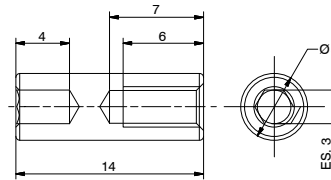
Weight 1,3g

Tie-rod M3

Coding: 2240.KD.00



The Kit includes 6 pieces

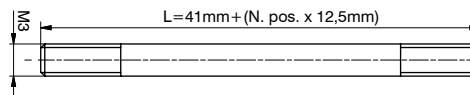


Tie-rod M3

Coding: 2240.KT. **P**



The Kit includes 3 pieces



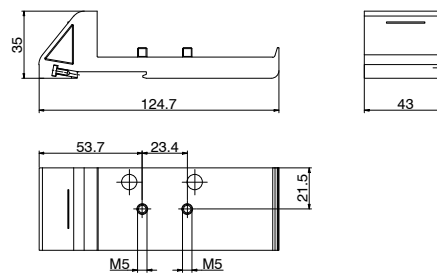
NO. POSITIONS
02 = Nr. 2 Positions
04 = Nr. 4 Positions
06 = Nr. 6 Positions
08 = Nr. 8 Positions
10 = Nr. 10 Positions
12 = Nr. 12 Positions
14 = Nr. 14 Positions
P 16 = Nr. 16 Positions
18 = Nr. 18 Positions
20 = Nr. 20 Positions
22 = Nr. 22 Positions
24 = Nr. 24 Positions
26 = Nr. 26 Positions
28 = Nr. 28 Positions
...
48 = Nr. 48 Positions

DIN rail adapter

Coding: 22E0.P1



Weight 55 g

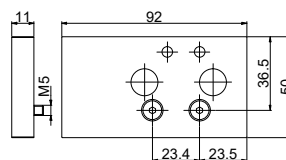


Offset compensation plate

Coding: 22E0.P0



Weight 116 g



Series 2500 Optyma-F EVO



2500 SERIES Optyma-F EVO SOLENOID VALVES MANIFOLD

- Increased flexibility
- Digital and analogue I/O modules
- Manufactured in technopolymer
- Wide range of communication protocols

CANopen

PROFI
BUS

PROFI
NET

EtherCAT

EtherNet/IP

IO-Link

CC-Link IE Field
Basic

WE SPEAK EVO

The Optyma-F series becomes EVO and interfaces with the new PX series modular electronic system while still retaining all of its technical advantages. This is enriched with new features that further extend the flexibility of the product:

- Flow rate of 1000 NI/min
- Quick assembly using rotating pins
- Operating using different pressures and vacuum

Construction characteristics

Body	Technopolymer
Seals	NBR
Hydraulic piston seals	NBR
Springs	Stainless Steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Technopolymer

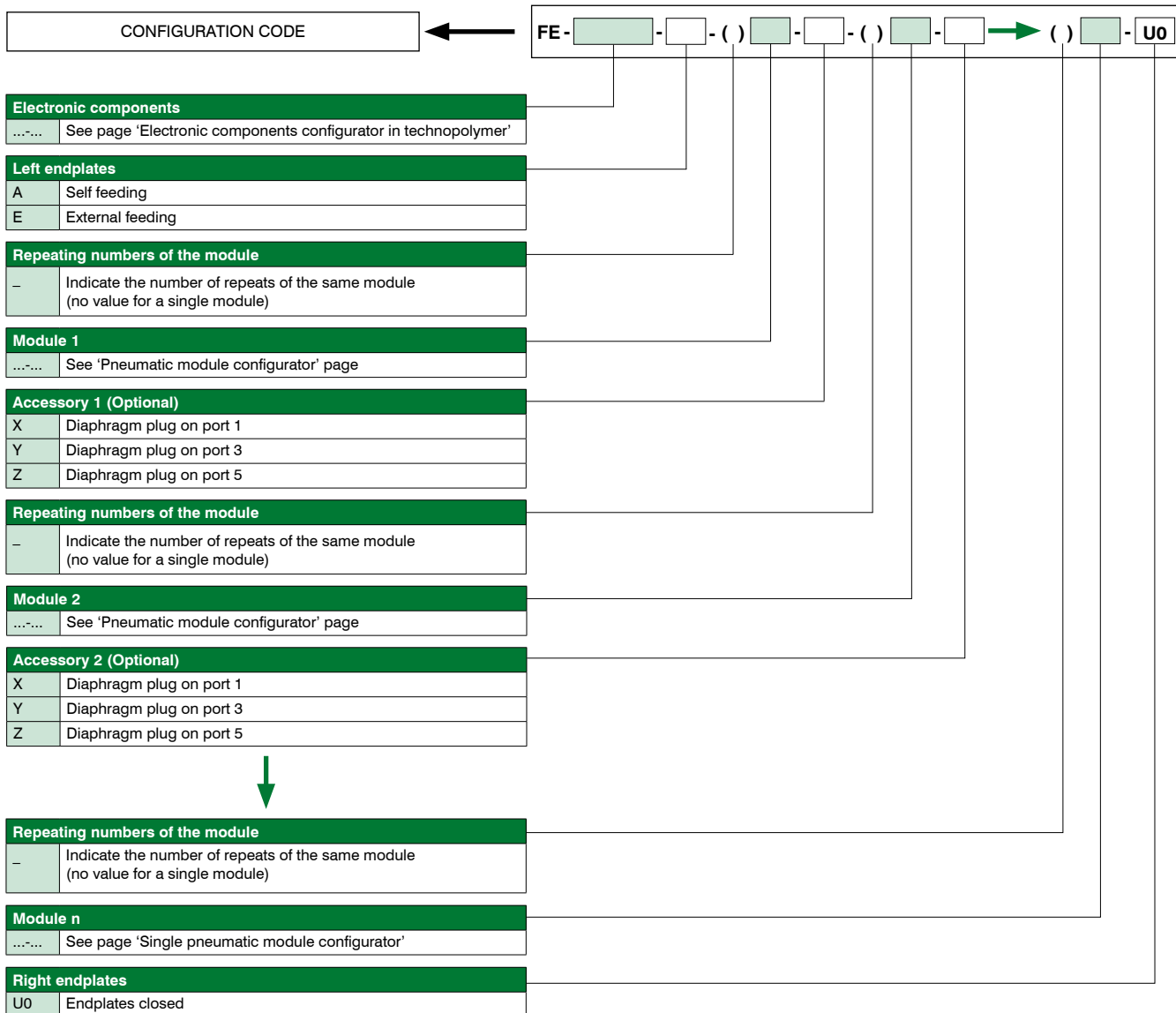
Technical characteristics

Voltage	+ 24 V DC \pm 10%
Pilot consumption	1,3W
Pilot working pressure (12-14)	from 3 up to 7 bar max.
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP65
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous



Rules and configuration scheme

AIR DISTRIBUTION



Note:

When composing the configuration, always bear in mind that the maximum number of electrical signals available is:

- 32 if a 37-pole multi-pin module, a serial node or IO-Link interface are used.
- 24 if a 25-pole multi-pin module is used.

If a monostable valve is used on a bistable type base (2 electrical signals occupied), an electrical signal is lost.

However, this makes it possible to replace the monostable valve with a bistable valve in the same position.

Diaphragm plugs are used to interrupt ports 1, 3 and 5 of the sub-base.

If it is necessary to interrupt more than one port at the same time, put the letters that identify their position in sequence (e.g.: if it is necessary to intercept the ports 3 and 5 you must put the letters YZ).

If one or more ports must be interrupted more than once, the addition of the intermediate supply/discharge module is necessary.



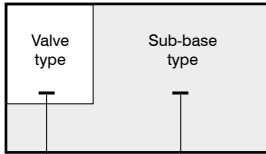
Electronic components configurator in technopolymer

Type	
P	Technopolymer
Multi-pin electrical connection	
MP	2 Multi-pin, PNP 24 V DC 25 poles
	3 Multi-pin, PNP 24 V DC 37 poles
MN	2 Multi-pin, NPN 24 V DC 25 poles
	3 Multi-pin, NPN 24 V DC 37 poles
MA	2 Multi-pin, 24 V AC 25 poles
	3 Multi-pin, 24 V AC 37 poles
Electrical connection	
C3	CANopen® node 64 IN - 64 OUT (32 fixed)
P3	PROFIBUS DP node 64 IN - 64 OUT (32 fixed)
I4	EtherNet/IP node 128 IN - 128 OUT (48 fixed)
A4	EtherCAT® node 128 IN - 128 OUT (48 fixed)
N4	PROFINET IO RT node 128 IN - 128 OUT (48 fixed)
G4	CC-Link IE Field Basic node 128 IN - 128 OUT (48 fixed)
K3	IO-Link interface 64 IN - 64 OUT (32 fixed)
Electrical connection accessories	
	Without DIN rail fixing
G	With DIN rail fixing
Repeating numbers of the module	
	Indicate the number of repeats of the same module (no value for a single module)
Inputs module - Analog / Digital (EXCLUDED WITH MP)	
D8	8 M8 digital inputs module
D12	8 M12 digital inputs module
D3	32 digital inputs SUB-D 37 poles
T1	2 analogue inputs 0-5V module (voltage signal)
T2	2 analogue inputs 0-10V module (voltage signal)
T3	4 analogue inputs 0-5V module (voltage signal)
T4	4 analogue inputs 0-10V module (voltage signal)
C1	2 analogue inputs 0-20mA module (current signal)
C2	2 analogue inputs 4-20mA module (current signal)
C3	4 analogue inputs 0-20mA module (current signal)
C4	4 analogue inputs 4-20mA module (current signal)
P1	2 Pt100 2 wires inputs module
P2	2 Pt100 3 wires inputs module
P3	2 Pt100 4 wires inputs module
P4	4 Pt100 2 wires inputs module
P5	4 Pt100 3 wires inputs module
P6	4 Pt100 4 wires inputs module
Outputs module - Analog / Digital	
M8	8 M8 digital outputs module
M12	8 M12 digital outputs module
M3	32 digital outputs SUB-D 37 poles
V1	2 analogue outputs 0-5V module (voltage signal)
V2	2 analogue outputs 0-10V module (voltage signal)
V3	4 analogue outputs 0-5V module (voltage signal)
V4	4 analogue outputs 0-10V module (voltage signal)
L1	2 analogue outputs 0-20mA module (current signal)
L2	2 analogue outputs 4-20mA module (current signal)
L3	4 analogue outputs 0-20mA module (current signal)
L4	4 analogue outputs 4-20mA module (current signal)
Additional modules (Optional)	
P12	M12 additional power supply module
Module accessories	
	Without DIN rail fixing
G	With DIN rail fixing

Refer to the current limits indicated in the pages relating to the nodes / IO-Link interface

Modules configurator

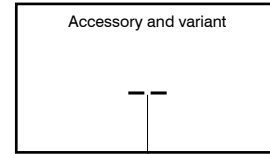
Base module configurator with Solenoid valve



Solenoid valve position	
A	S.V. 5/2 SOL.-SPRING
B	S.V. 5/2 SOL.-DIF.
C	S.V. 5/2 SOL.-SOL.
E	S.V. 5/3 CC SOL.-SOL.
F	S.V. 2x3/2 NC-NC
G	S.V. 2x3/2 NO-NO
H	S.V. 2x3/2 NC-NO
I	S.V. 2x3/2 NO-NC
T	PLUG

Base	
1	Monostable base
2	Bistable base

Accessory module configurator



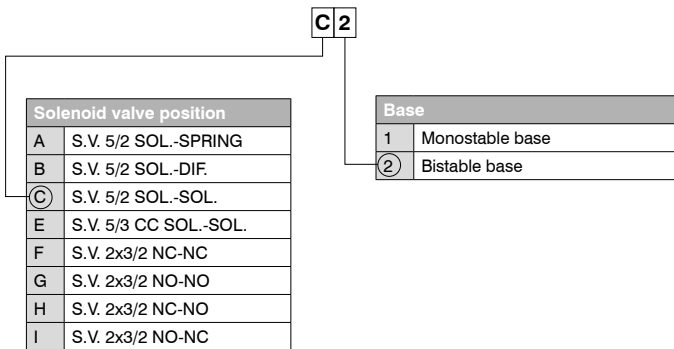
Intermediate inlet/Exhaust module	
W	Separated power supply and exhaust

Intermediate electropneumatic shut-off module			
U	Separated power supply and exhaust	2	2 positions
		4	4 positions
		6	6 positions
K	Separated power supply, exhaust and 12/14 piloting	2	2 positions
		4	4 positions
		6	6 positions
		8	8 positions

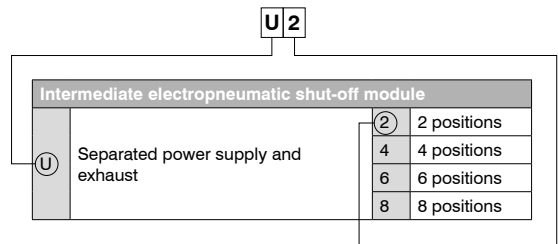
1 AIR DISTRIBUTION

Configuration example of single module:

Bistable base, 5/2 Solenoid-Solenoid valve



Intermediate electropneumatic shut-off module 2 positions

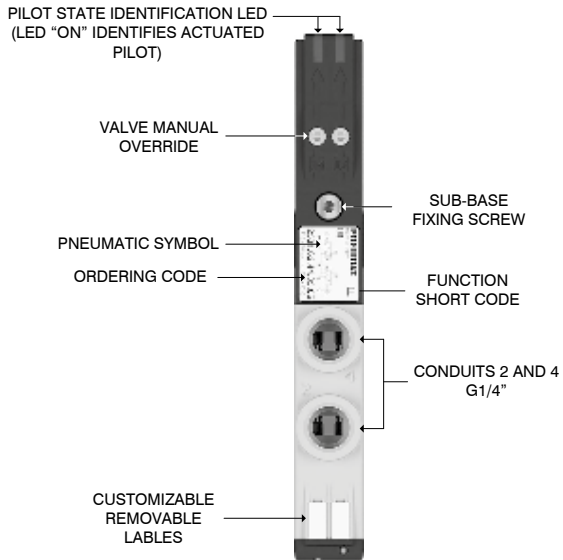


Configuration example of complete group:

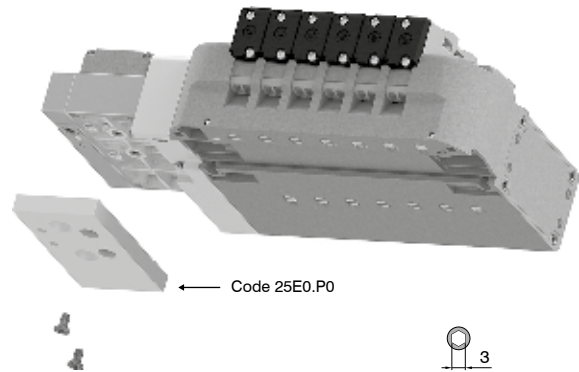
- Technopolymer PX3 serial system (P-A4-M12-M8-P4)
- Left endplates - External feeding (E)
- Bistable base with (F2) Solenoid valve
- Bistable base with (C2) Solenoid valve
- Monostable base with (A1) Solenoid valve
- Bistable base with (E2) Solenoid valve
- Bistable base with (C2) Solenoid valve
- Monostable base with (B1) Solenoid valve
- Right endplates closed (U0)



FE-P-A4-M12-M8-P4-E-F2-C2-A1-E2-C2-B1-U0

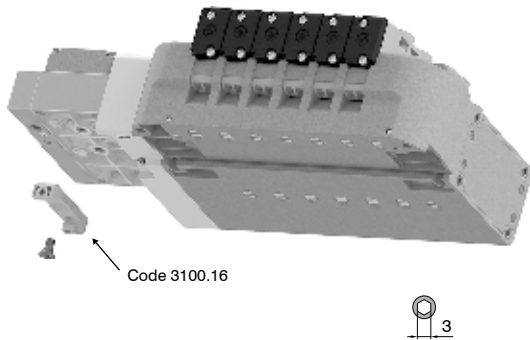


Offset compensation plate



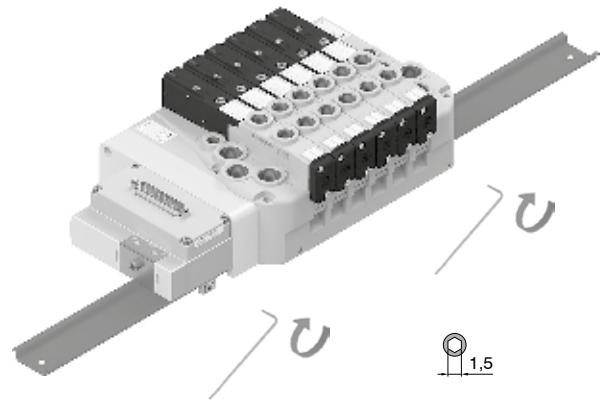
Attention: This accessory is supplied on the manifold unless otherwise stated. This is not compatible for DIN rail mounting.

DIN rail mounting support plate

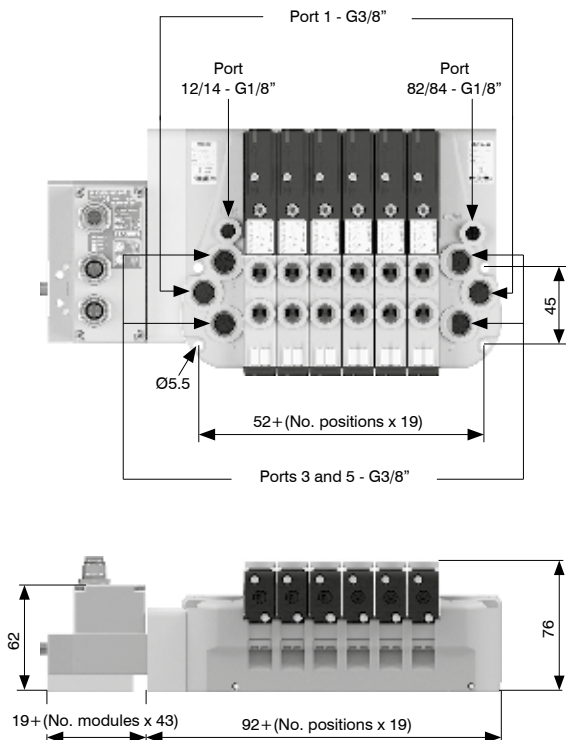


Attention: This must be included when creating the manifold configuration. Exclude the offset compensation plate.

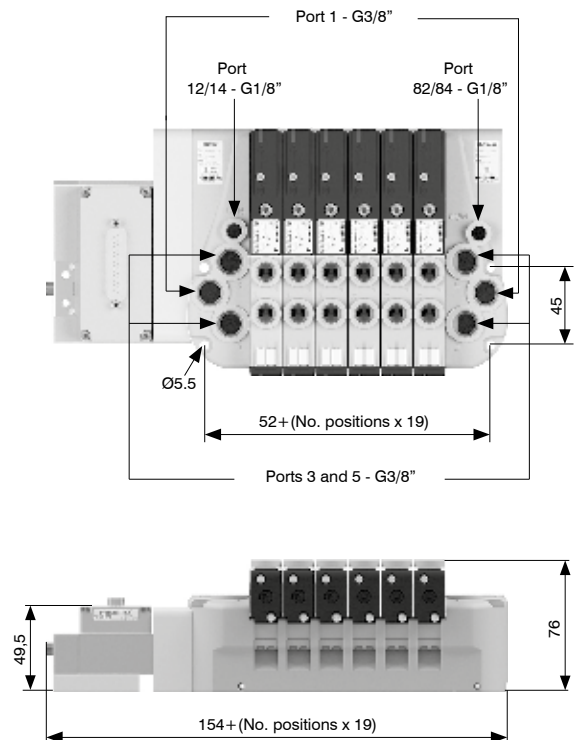
DIN rail fixing



Supply ports and maximum possible size according to valves used
Serial system node version



Multi-pin version





Manual override actuation

Instable function:

Push to actuate
(when released it moves back to the original position)

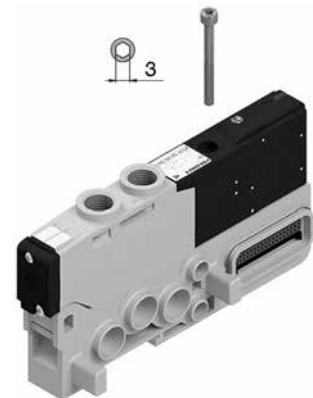
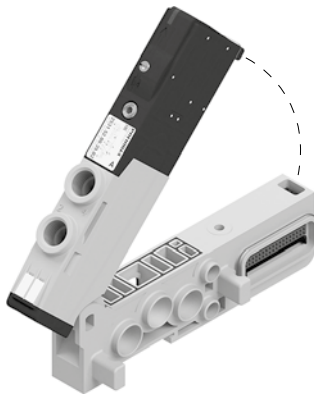
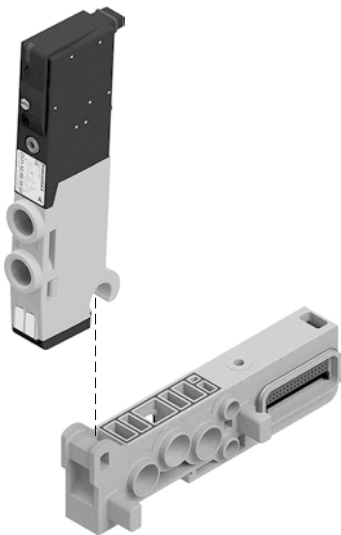
Bistable function:

Push and turn to get the bistable function



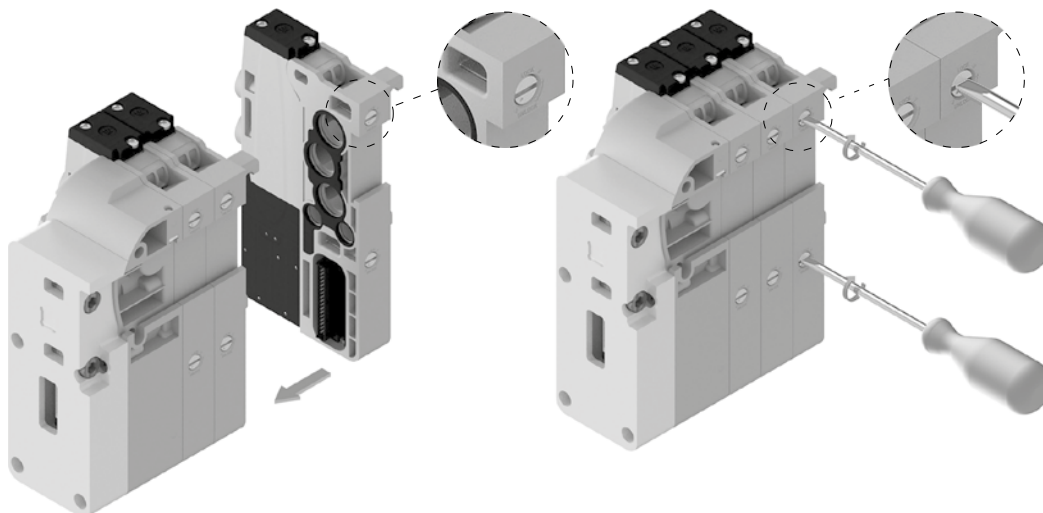
Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation



Note: Torque moment 1 Nm

Sub-base assembly

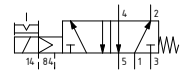
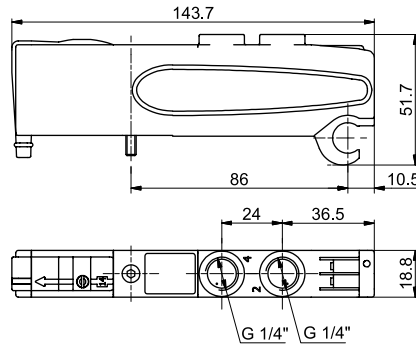


Solenoid-Spring

Coding: 2531.52.00.39.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	14
Response time according to ISO 12238, deactivation time (ms)	40

VOLTAGE	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC
SHORT FUNCTION CODE "A"	
Weight 123 g	

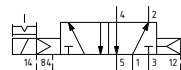
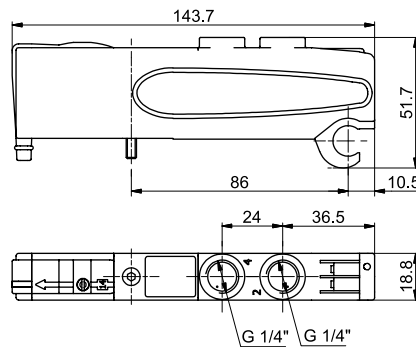


Solenoid-Differential

Coding: 2531.52.00.36.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	29

VOLTAGE	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC
SHORT FUNCTION CODE "B"	
Weight 120 g	

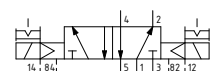
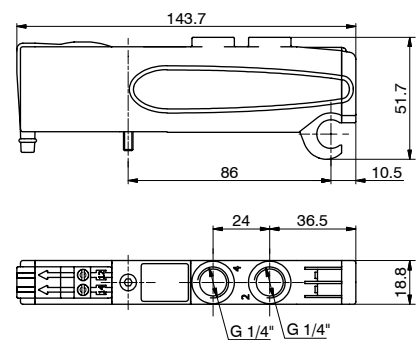


Solenoid-Solenoid

Coding: 2531.52.00.35.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	14

VOLTAGE	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC
SHORT FUNCTION CODE "C"	
Weight 128 g	

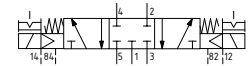
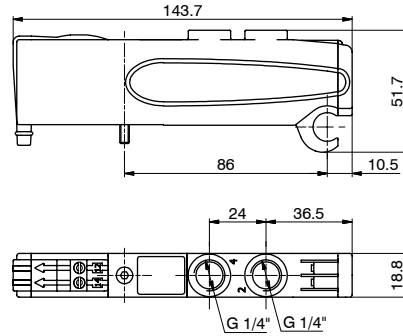


Solenoid-Solenoid 5/3

Coding: 2531.53.31.35. **V**

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	600
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	20

VOLTAGE	
V	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC
SHORT FUNCTION CODE "E"	
Weight 126 g	



Solenoid-Solenoid 2x3/2

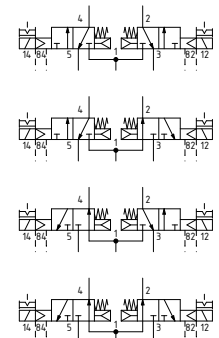
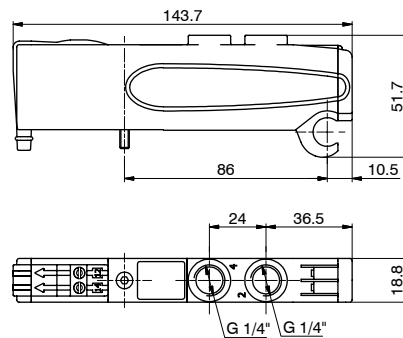
Coding: 2531.62.F.35. **V**

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	≥3+(0,2xInlet pressure)
Temperature °C	-5 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	25

FUNCTION	
F	44 = NC-NC (5/3 Open centres)
	45 = NC-NO (normally closed-normally open)
	54 = NO-NC (normally open-normally closed)
	55 = NO-NO (5/3 Pressured centres)
VOLTAGE	
V	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

Example: If inlet pressure is set at 5 bar then pilot pressure must be at least $P_p = 2,5 + (0,2 \times 5) = 3,5$ bar

SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
N.O. - N.O. (5/3 Pressured centres) = "G"
N.C. - N.O. = "H"
N.O. - N.C. = "I"
Weight 115,5 g



1 AIR DISTRIBUTION

Left Endplate

Coding: 25E0.∇.F

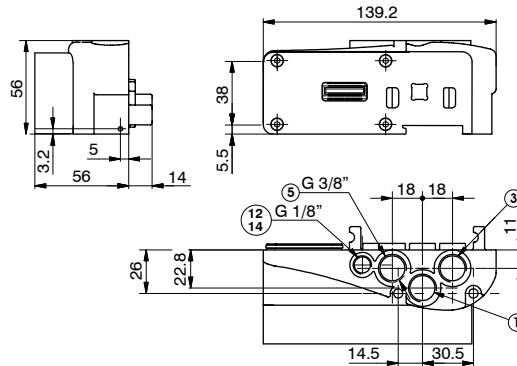
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 (external feeding) 3 ... 7 (self feeding)
Pilot pressure (bar)	3 ... 7 (external feeding)
Temperature °C	-5 ... +50

VERSION	
∇	02 = External feeding
	12 = Self-feeding



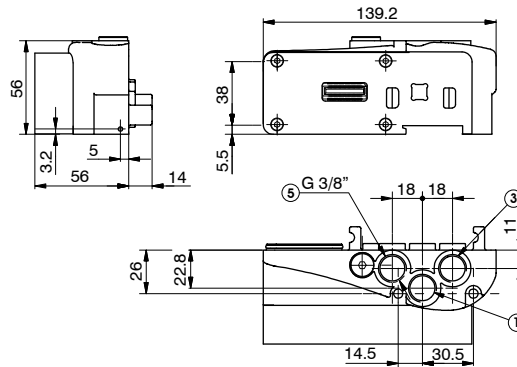
12/14 SEPARATED FROM PORT 1
Weight 206 g

25E0.02.F



12/14 CONNECTED TO PORT 1
Weight 206 g

25E0.12.F



Right Endplate

Coding: 2530.03.⊙

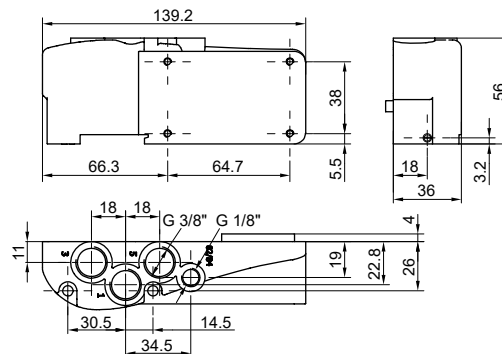
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

ELECTRICAL CONNECTION	
⊙	00 = Electrical connection



PORT 82/84 = DO NOT PRESSURIZE, SOLENOID PILOTS
EXHAUST
Weight 181,5 g

2530.03.00



Modular base

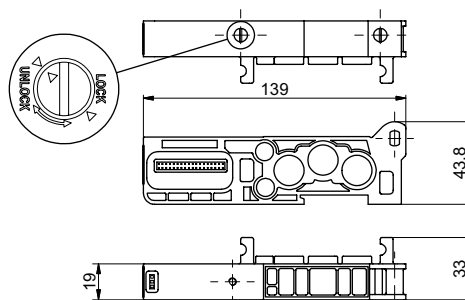
Coding: 2530.01.∇

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

VERSION	
∇	M = for monostable S.V.
	B = for bistable S.V.



SHORT CODE "1" (for monostable S.V.)
SHORT CODE "2" (for bistable S.V.)
Weight 91,5 g



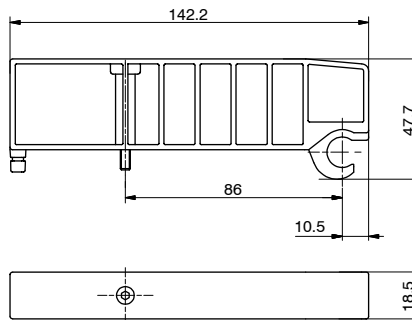


1
AIR DISTRIBUTION

Closing plate

Coding: 2530.00

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

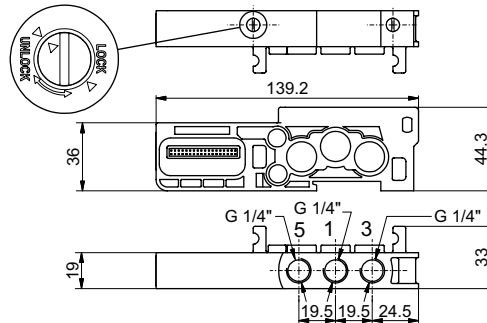


SHORT FUNCTION CODE "T"
Weight 53.5 g

Intermediate Inlet/Exhaust module

Coding: 2530.10

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

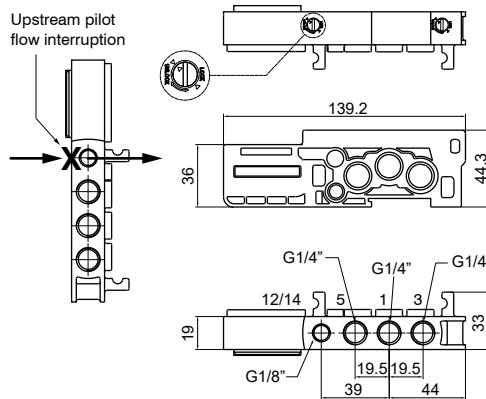


SHORT FUNCTION CODE "W"
Weight 110 g

Intermediate inlet/Exhaust module with external pilot

Coding: 2530.11

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50



SHORT CODE "K"
Weight 162 g

Intermediate electro-pneumatic shut-off module 2/4/6/8 positions

Coding: 2530.M.T

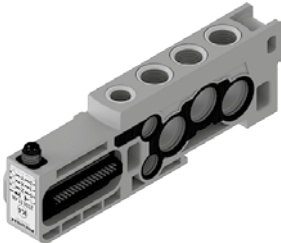
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 3... 7 (piloting 12/14)
Temperature °C	-5 ... +50
Feeding	+ 24 V DC ±10%
Protection	Inverted polarity protection
Maximum load	100 mA
Indicators	+ 24 V DC presence LED
Series modules maximum number	3

MODULE	
M	10 = Supply and exhaust
M	11 = Supply and exhaust with separate pilot
SHUT-OFF	
T	2A = 2 Signals
T	4A = 4 Signals
T	6A = 6 Signals
T	8A = 8 Signals



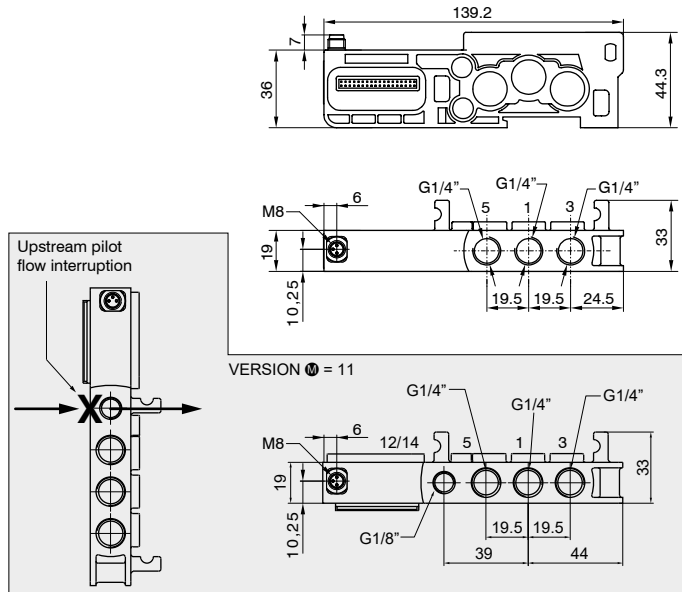
Weight 157 g

2530.10.T



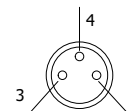
Weight 163 g

2530.11.T

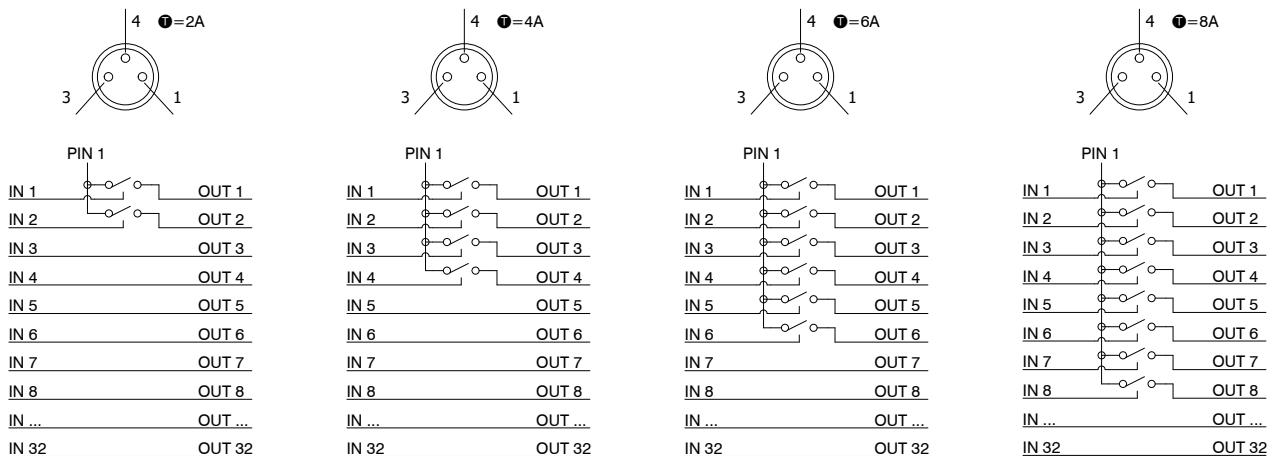


WORKING PRINCIPLE / SIMPLIFIED FUNCTIONAL DIAGRAM

Intermediate electro-pneumatic shut-off module allows you to interrupt at the same time the first 2, 4, 6 or 8 available command signals for the valves after the module itself. When the shut-off module is present, the controlled output logic signal values are equal to the input logic signal values which came from the serial node or the multi-pin module. If the supply input signal is absent, the controlled output logic signal values are all equal to zero. This module is particularly useful when control signals are used to block the valves; it is also effective both with serial management and multi-pin connection of the manifolds. It is possible to use more modules to interrupt every command signals simply by inserting them before the signals to be interrupted.



PIN	DESCRIPTION
1	+ 24 V DC
4	NOT CONNECTED
3	GND



Usage examples

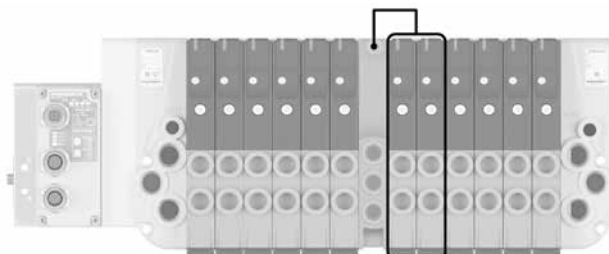
EXAMPLE 1

Manifold of 12 monostable solenoid valves on which you want to interrupt signals 7-8.

Assembly:

- 6 monostable solenoid valves (not interruptible because before the module)
- 1 additional power supply module
- 6 monostable solenoid valves

Note: the first 2 of these 6 monostable solenoid valves are interruptible by the module, while the following 4 will work correctly managed directly by the corresponding command signals.

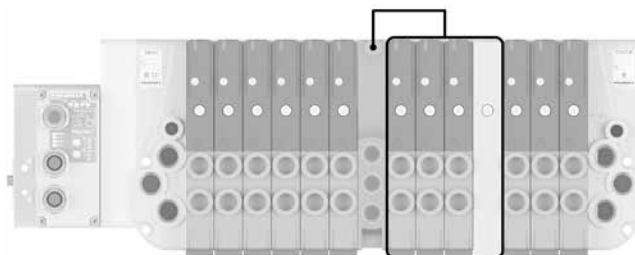


EXAMPLE 2

Manifold of 12 monostable solenoid valves on which you want to interrupt signals 7-8-9.

Assembly:

- 6 monostable solenoid valves (not interruptible because before the module)
- 1 additional power supply module
- 3 monostable solenoid valves (interruptible)
- 1 closing plate mounted on a monostable base
- 3 monostable solenoid valves (work correctly managed directly by the corresponding command signals)



EXAMPLE 3

Manifold of 7 monostable and 3 bistable solenoid valves in which you want to interrupt signals 2-3-4-5 and 8-9-10-11.

Assembly:

- 1 monostable solenoid valve (not interruptible because before the module)
- 1 additional electro-pneumatic shut-off module
- 6 monostable solenoid valves

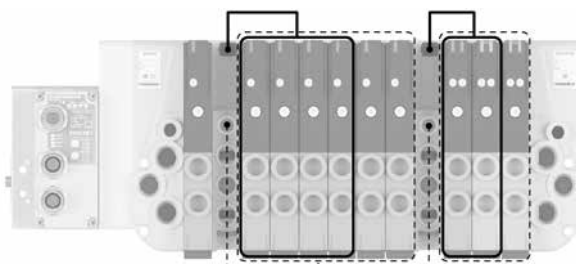
Note: the first 4 of these 6 monostable solenoid valves are interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

Note no. 2: The pilots of the 6 solenoid valves downstream of the intermediate electro-pneumatic shut-off module are pneumatically powered by the module itself.

- 1 additional electro-pneumatic shut-off module
- 3 bistable solenoid valves

Note no. 3: the first 2 of these 3 bistable solenoid valves are interruptible by the module, while the following will work correctly and are managed directly by the corresponding command signals.

Note no. 4: The pilots of the 3 solenoid valves downstream of the intermediate electro-pneumatic shut-off module are pneumatically powered by the module itself.



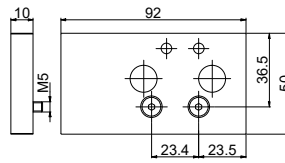
Key

- S.V. electrically managed by the shut-off module: ———
- S.V. pneumatically managed (12/14) by the shut-off module: - - - - -

AIR DISTRIBUTION 1

▶ Offset compensation plate

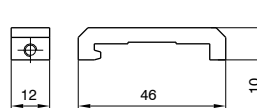
Coding: 25E0.P0



Weight 116 g

▶ DIN rail adapter

Coding: 3100.16



Weight 12 g

▶ Polyethylene Silencer Series SPL-P

Coding: SPLP.Ⓢ



	TUBE DIAMETER
Ⓢ	18 = 1/8"
	14 = 1/4"
	38 = 3/8"

▶ Diaphragm plug

Coding: 2530.17

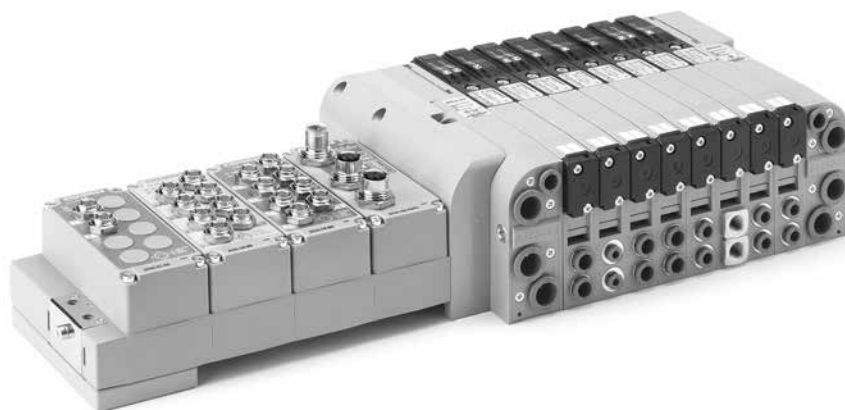


Weight 2,3 g

1
AIR DISTRIBUTION



Series 2500 Optyma-T EVO



1
AIR DISTRIBUTION

2500 SERIES Optyma-T EVO SOLENOID VALVES MANIFOLD

- Increased flexibility
- Digital and analogue I/O modules
- Manufactured in technopolymer
- Wide range of communication protocols



WE SPEAK EVO

The Optyma-T series becomes EVO and interfaces with the new PX series modular electronic system while still retaining all of its technical advantages. This is enriched with new features that further extend the flexibility of the product:

- Flow rate of 750 NI/min
- Assembly with tie rods kit
- Operating using different pressures and vacuum
- Electro-pneumatic shut-off module

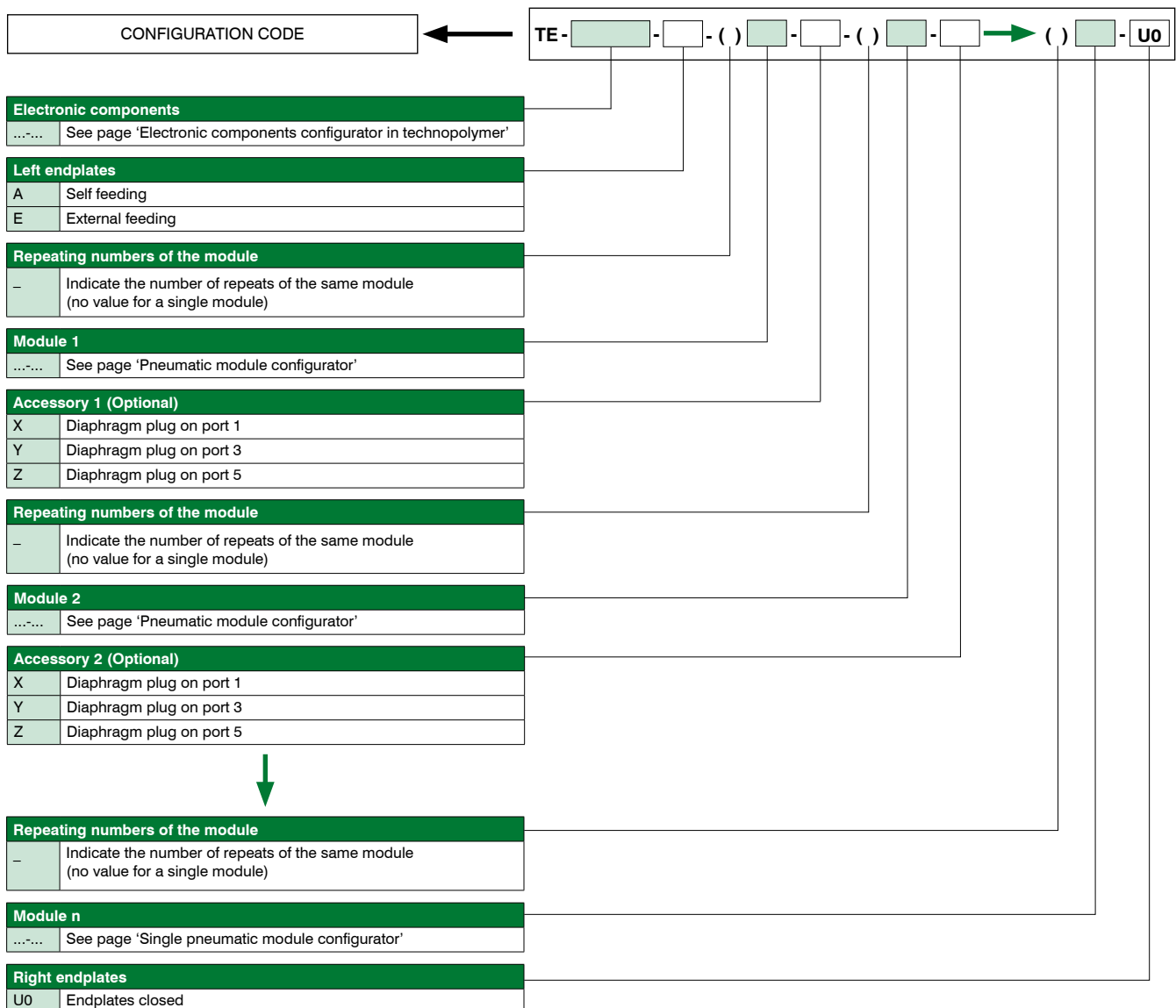
Construction characteristics

Body	Technopolymer
Seals	NBR
Hydraulic piston seals	NBR
Springs	Stainless Steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Technopolymer

Technical characteristics

Voltage	+ 24 V DC ±10%
Pilot consumption	1,3W
Pilot working pressure (12-14)	from 3 up to 7 bar max.
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP65
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

Rules and configuration scheme



1
AIR DISTRIBUTION



Note:

When composing the configuration, always bear in mind that the maximum number of electrical signals available is:

- 32 if a 37-pole multi-pin module, a serial node or IO-Link interface are used.
- 24 if a 25-pole multi-pin module is used.

If a monostable valve is used on a bistable type base (2 electrical signals occupied), an electrical signal is lost. However, this makes it possible to replace the monostable valve with a bistable valve in the same position. Diaphragm plugs are used to interrupt ports 1, 3 and 5 of the sub-base. If it is necessary to interrupt more than one port at the same time, put the letters that identify their position in sequence (e.g.: if it is necessary to intercept the ports 3 and 5 you must put the letters YZ). If one or more ports must be interrupted more than once, the addition of the intermediate supply/discharge module is necessary.



Electronic components configurator in technopolymer

AIR DISTRIBUTION

1

Type	
P	Technopolymer

Multi-pin electrical connection		
MP	2	Multi-pin, PNP 24 V DC 25 poles
	3	Multi-pin, PNP 24 V DC 37 poles
MN	2	Multi-pin, NPN 24 V DC 25 poles
	3	Multi-pin, NPN 24 V DC 37 poles
MA	2	Multi-pin, 24 V AC 25 poles
	3	Multi-pin, 24 V AC 37 poles

Electrical connection	
C3	CANopen® node 64 IN - 64 OUT (32 fixed)
P3	PROFIBUS DP node 64 IN - 64 OUT (32 fixed)
I4	EtherNet/IP node 128 IN - 128 OUT (48 fixed)
A4	EtherCAT® node 128 IN - 128 OUT (48 fixed)
N4	PROFINET IO RT node 128 IN - 128 OUT (48 fixed)
G4	CC-Link IE Field Basic node 128 IN - 128 OUT (48 fixed)
K3	IO-Link interface 64 IN - 64 OUT (32 fixed)

Electrical connection accessories	
	Without DIN rail fixing
G	With DIN rail fixing

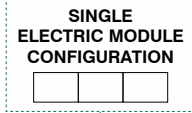
Repeating numbers of the module	
	Indicate the number of repeats of the same module (no value for a single module)

Inputs module - Analog / Digital	
D8	8 M8 digital inputs module
D12	8 M12 digital inputs module
D3	32 digital inputs SUB-D 37 poles
T1	2 analogue inputs 0-5V module (voltage signal)
T2	2 analogue inputs 0-10V module (voltage signal)
T3	4 analogue inputs 0-5V module (voltage signal)
T4	4 analogue inputs 0-10V module (voltage signal)
C1	2 analogue inputs 0-20mA module (current signal)
C2	2 analogue inputs 4-20mA module (current signal)
C3	4 analogue inputs 0-20mA module (current signal)
C4	4 analogue inputs 4-20mA module (current signal)
P1	2 Pt100 2 wires inputs module
P2	2 Pt100 3 wires inputs module
P3	2 Pt100 4 wires inputs module
P4	4 Pt100 2 wires inputs module
P5	4 Pt100 3 wires inputs module
P6	4 Pt100 4 wires inputs module

Outputs module - Analog / Digital	
M8	8 M8 digital outputs module
M12	8 M12 digital outputs module
M3	32 digital outputs SUB-D 37 poles
V1	2 analogue outputs 0-5V module (voltage signal)
V2	2 analogue outputs 0-10V module (voltage signal)
V3	4 analogue outputs 0-5V module (voltage signal)
V4	4 analogue outputs 0-10V module (voltage signal)
L1	2 analogue outputs 0-20mA module (current signal)
L2	2 analogue outputs 4-20mA module (current signal)
L3	4 analogue outputs 0-20mA module (current signal)
L4	4 analogue outputs 4-20mA module (current signal)

Additional modules (Optional)	
P12	M12 additional power supply module

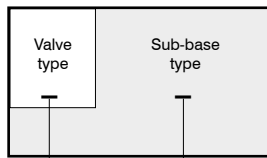
Module accessories	
	Without DIN rail fixing
G	With DIN rail fixing



Refer to the current limits indicated in the pages relating to the nodes / IO-Link interface

Modules configurator

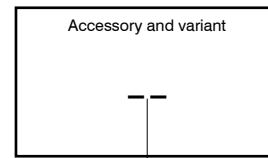
Base module configurator with Solenoid valve



Solenoid valve position	
A	S.V. 5/2 SOL.-SPRING
B	S.V. 5/2 SOL.-DIF.
C	S.V. 5/2 SOL.-SOL.
E	S.V. 5/3 CC SOL.-SOL.
F	S.V. 2x3/2 NC-NC
G	S.V. 2x3/2 NO-NO
H	S.V. 2x3/2 NC-NO
I	S.V. 2x3/2 NO-NC
T	Plug

Base	
1	Monostable base G1/8 GAS
2	Bistable base G1/8 GAS
3	Monostable base Ø4
4	Bistable base Ø4
5	Monostable base Ø6
6	Bistable base Ø6
7	Monostable base Ø8
8	Bistable base Ø8

Accessory module configurator

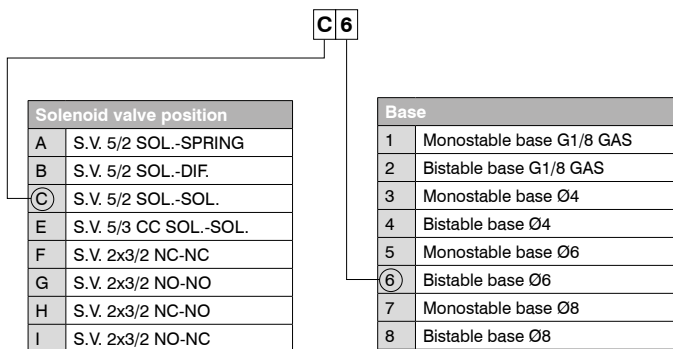


Intermediate inlet/Exhaust module	
W	Separated power supply and exhaust

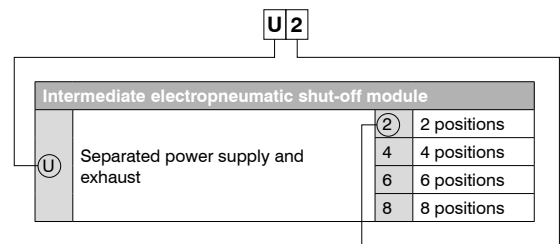
Intermediate electropneumatic shut-off module			
U	Separated power supply and exhaust	2	2 positions
		4	4 positions
		6	6 positions
		8	8 positions
K	Separated power supply, exhaust and 12/14 piloting	2	2 positions
		4	4 positions
		6	6 positions
		8	8 positions

Configuration example of single module:

Bistable base, 5/2 Solenoid-Solenoid valve

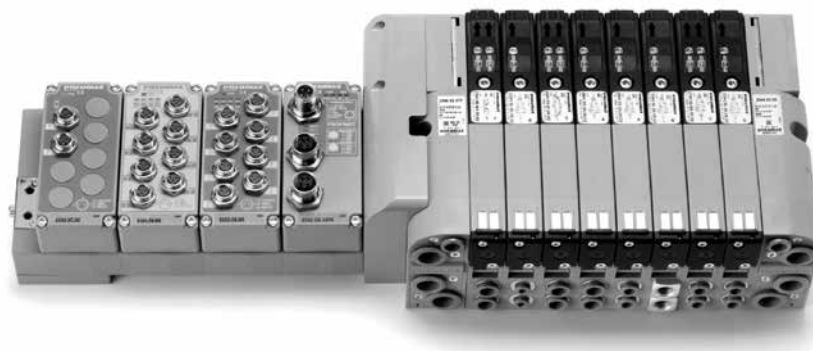


Intermediate electropneumatic shut-off module 2 positions

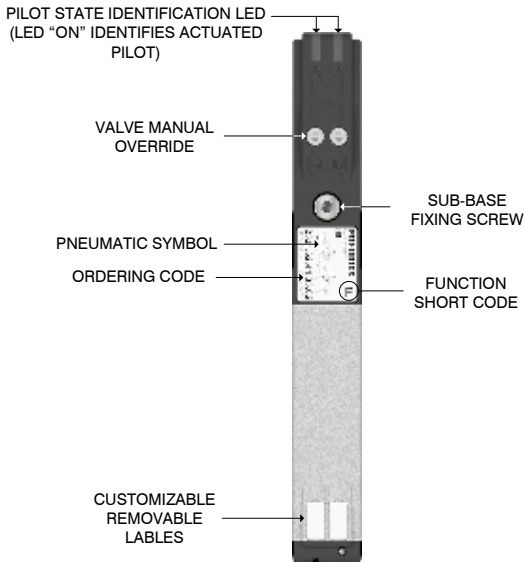


Configuration example of complete group:

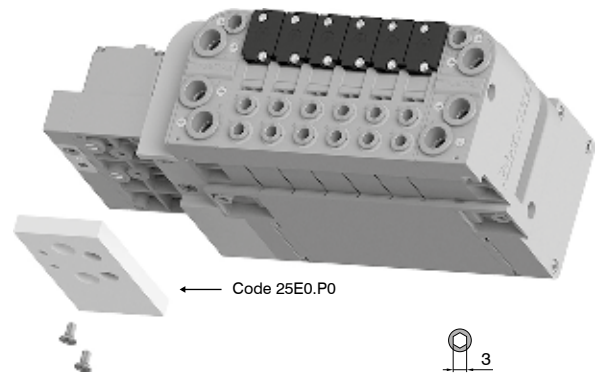
- Technopolymer PX3 serial system (P-N4-D8-M8-C1)
- Left endplates - External feeding (E)
- Bistable base with (F6) Solenoid valve
- Monostable base with (B3) Solenoid valve
- Bistable base with (E6) Solenoid valve
- Monostable base with (A5) Solenoid valve
- Monostable base with (A3) Solenoid valve
- Monostable base with (B1) Solenoid valve
- Bistable base with (C4) Solenoid valve
- Monostable base with (B3) Solenoid valve
- Right endplates closed (U0)



TE-P-N4-D8-M8-C1-E-F6-B3-E6-A5-A3-B1-C4-B3-U0

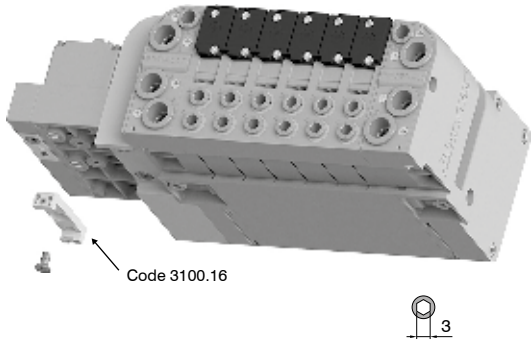


Offset compensation plate



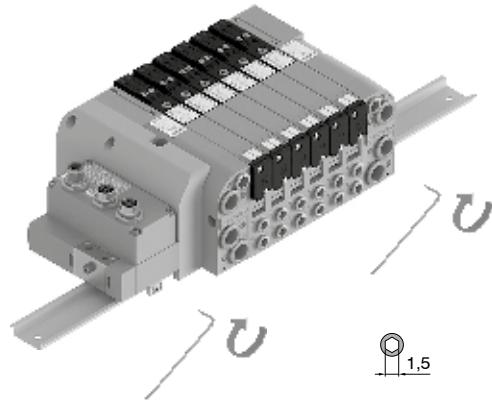
Attention: This accessory is supplied on the manifold unless otherwise stated. This is not compatible for DIN rail mounting.

DIN rail mounting support plate

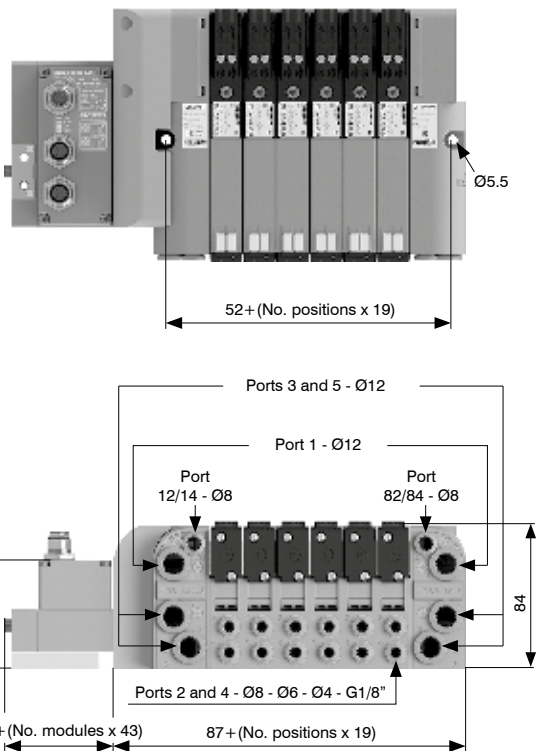


Attention: This must be included when creating the manifold configuration. Exclude the offset compensation plate.

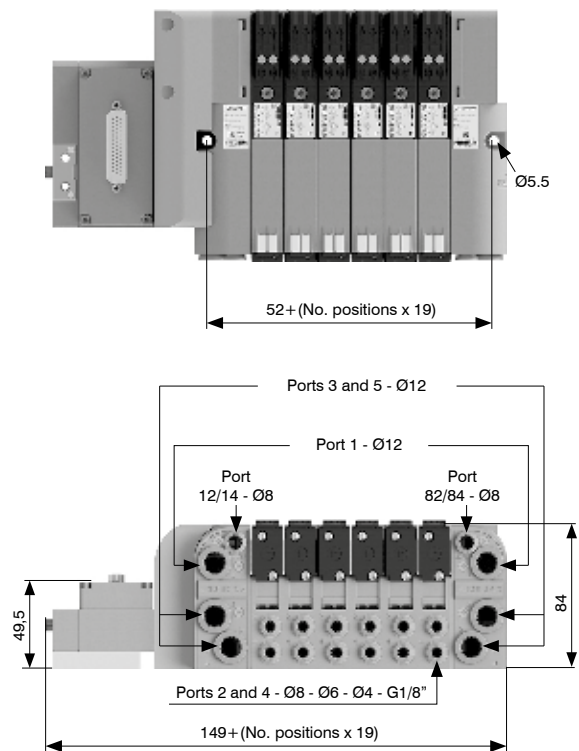
DIN rail fixing



Supply ports and maximum possible size according to valves used
Serial system node version



Multi-pin version



Manual override actuation

Instable function:

Push to actuate
(when released it moves back to the original position)



Bistable function:

Push and turn to get the bistable function



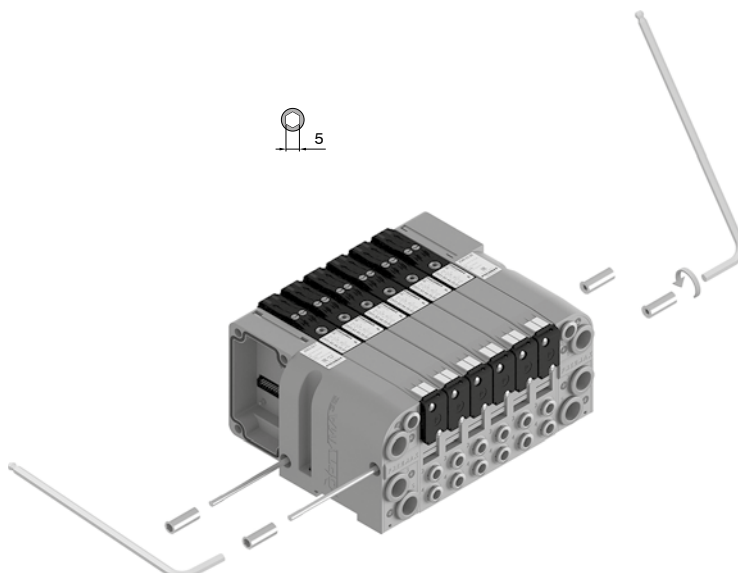
Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation



Note: Torque moment 1 Nm

Sub-base assembly



Minimum torque moment: 2,5 Nm
Maximum fixing torque for fittings: 3 Nm



1
AIR DISTRIBUTION

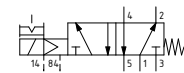
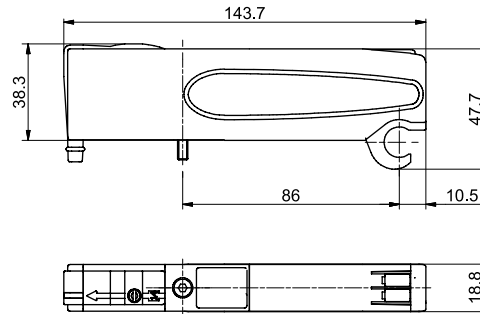
Solenoid-Spring

Coding: 2541.52.00.39.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	750
Response time according to ISO 12238, activation time (ms)	14
Response time according to ISO 12238, deactivation time (ms)	40

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "A"
Weight 129 g



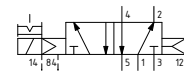
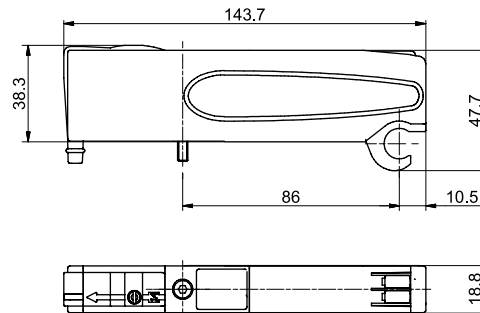
Solenoid-Differential

Coding: 2541.52.00.36.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	750
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	29

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "B"
Weight 126 g



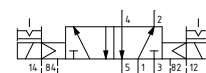
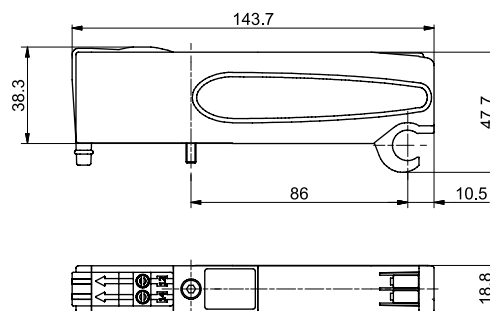
Solenoid-Solenoid

Coding: 2541.52.00.35.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	750
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	14

VOLTAGE	
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "C"
Weight 134 g

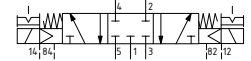
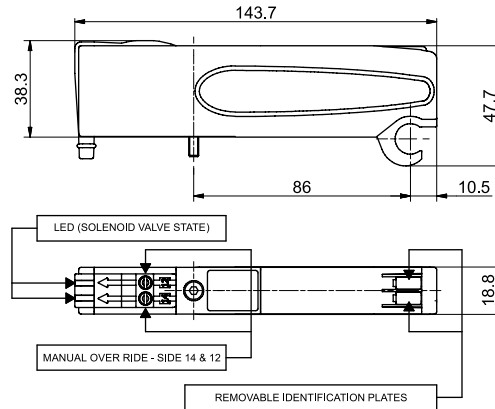


Solenoid-Solenoid 5/3

Coding: 2541.53.31.35. **V**

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	600
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	20

VOLTAGE	
V	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC
SHORT FUNCTION CODE "E"	
Weight 132 g	



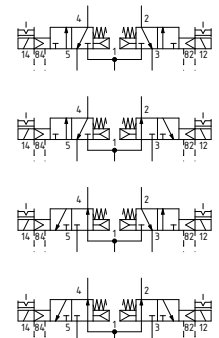
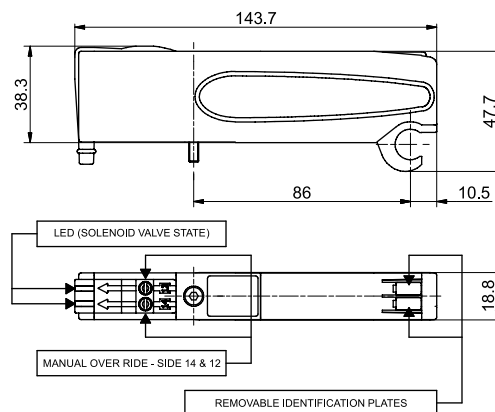
Solenoid-Solenoid 2x3/2

Coding: 2541.62. **F**.35. **V**

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	≥3+(0,2xInlet pressure)
Temperature °C	-5 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	700
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	25

FUNCTION	
F	44 = NC-NC (5/3 Open centres)
	45 = NC-NO (normally closed-normally open)
	54 = NO-NC (normally open-normally closed)
	55 = NO-NO (5/3 Pressured centres)
VOLTAGE	
V	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC
Weight 122 g	

Example: If inlet pressure is set at 5 bar then pilot pressure must be at least $P_p = 2,5 + (0,2 \cdot 5) = 3,5$ bar



1
AIR DISTRIBUTION



Left Endplate

Coding: 25E0.▼.T

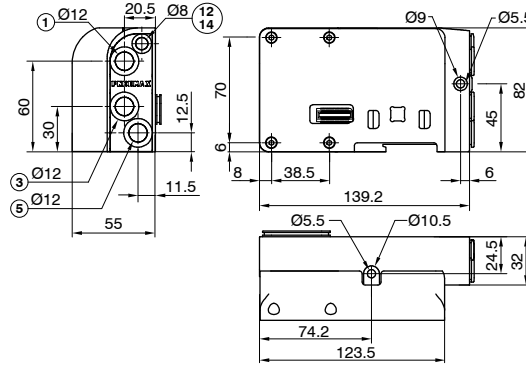
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 (external feeding) 3 ... 7 (self feeding)
Pilot pressure (bar)	3 ... 7 (external feeding)
Temperature °C	-5 ... +50

VERSION	
▼	02 = External feeding
	12 = Self-feeding



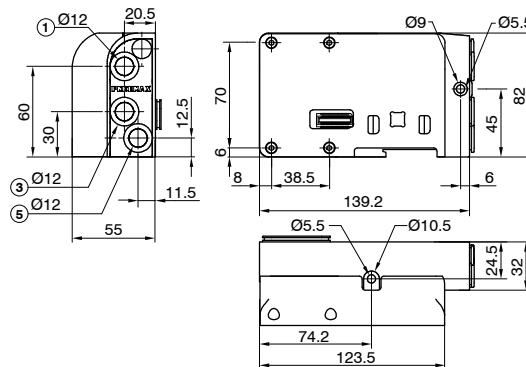
12/14 SEPARATED FROM PORT 1
Weight 300 g

25E0.02.T



12/14 CONNECTED TO PORT 1
Weight 300 g

25E0.12.T



Right Endplate

Coding: 2540.03.●

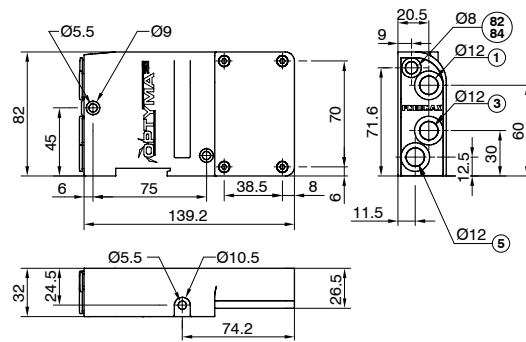
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

ELECTRICAL CONNECTION	
●	00 = Electrical connection



PORT 82/84= DO NOT PRESSURIZE, SOLENOID PILOTS
EXHAUST
Weight 274 g

2540.03.●



Modular base

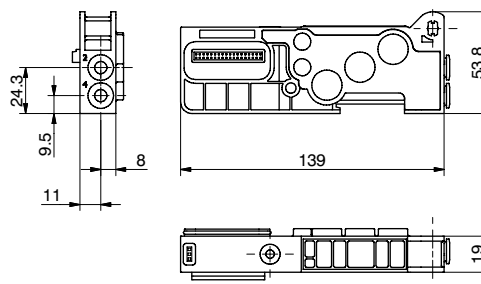
Coding: 254●.01▼

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

WORKING PORTS SIZE	
1	G1/8" female straight cartridge
4	Cartridge Ø4
6	Quick fitting tube Ø6
8	Quick fitting tube Ø8
VERSION	
▼	M = for monostable S.V.
	B = for bistable S.V.



Weight 96,5 g



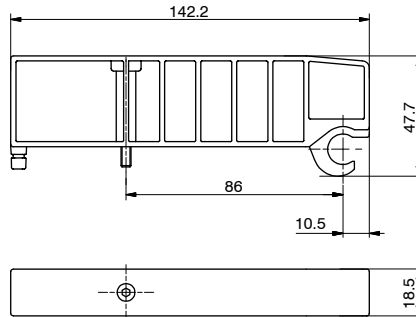
AIR DISTRIBUTION

1

► Closing plate

Coding: 2530.00

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

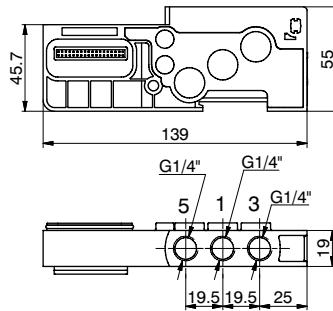


SHORT FUNCTION CODE "T"
Weight 53.5 g

► Intermediate Inlet/Exhaust module

Coding: 2540.10

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

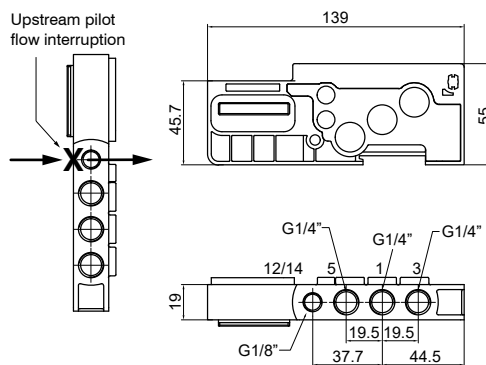


SHORT FUNCTION CODE "W"
Weight 115 g

► Intermediate inlet/Exhaust module with external pilot

Coding: 2540.11

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50



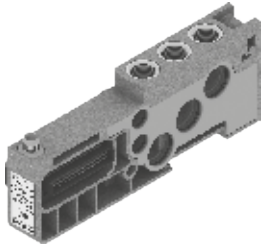
SHORT CODE "K"
Weight 173 g

Intermediate electro-pneumatic shut-off module 2/4/6/8 positions

Coding: 2540.M.T

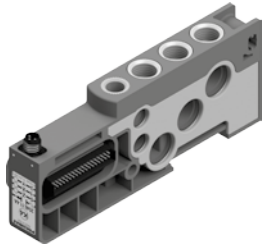
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 3 ... 7 (piloting 12/14)
Temperature °C	-5 ... +50
Feeding	+ 24 V DC ±10%
Protection	Inverted polarity protection
Maximum load	100 mA
Indicators	+ 24 V DC presence LED
Series modules maximum number	3

MODULE	
M	10 = Supply and exhaust 11 = Supply and exhaust with separate pilot
SHUT-OFF	
T	2A = 2 Signals 4A = 4 Signals 6A = 6 Signals 8A = 8 Signals



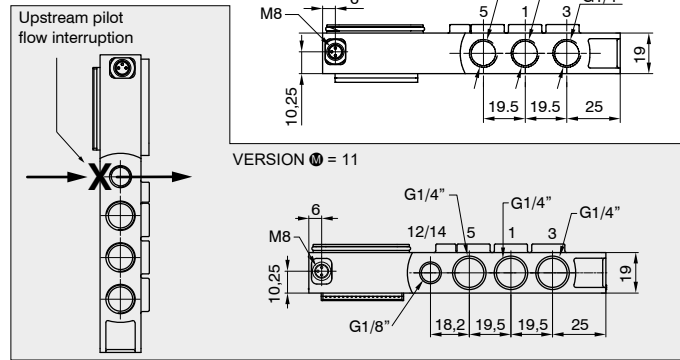
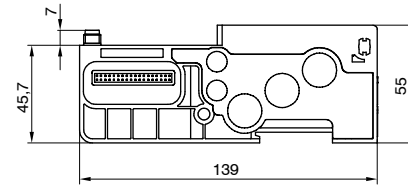
Weight 168 g

2540.10.M



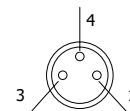
Weight 174 g

2540.11.M

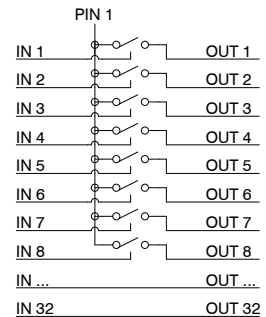
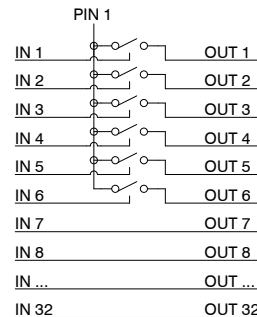
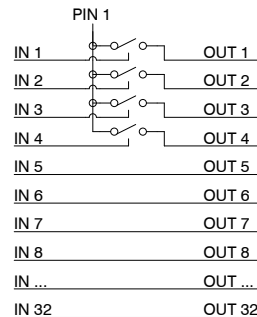
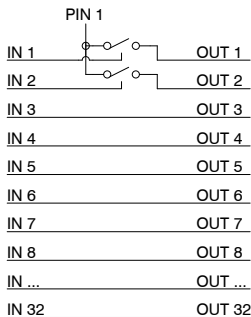
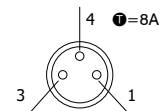
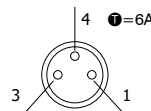
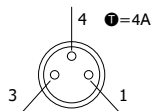
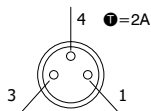


WORKING PRINCIPLE / SIMPLIFIED FUNCTIONAL DIAGRAM

Intermediate electro-pneumatic shut-off module allows you to interrupt at the same time the first 2, 4, 6 or 8 available command signals for the valves after the module itself.
When the shut-off module is present, the controlled output logic signal values are equal to the input logic signal values which came from the serial node or the multi-pin module.
If the supply input signal is absent, the controlled output logic signal values are all equal to zero.
This module is particularly useful when control signals are used to block the valves; it is also effective both with serial management and multi-pin connection of the manifolds.
It is possible to use more modules to interrupt every command signals simply by inserting them before the signals to be interrupted.



PIN	DESCRIPTION
1	+ 24 VDC
4	NOT CONNECTED
3	GND



AIR DISTRIBUTION

Usage examples

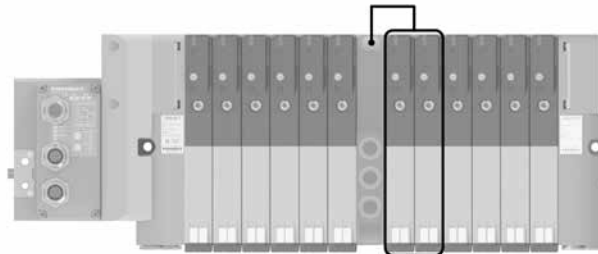
EXAMPLE 1

Manifold of 12 monostable solenoid valves on which you want to interrupt signals 7-8.

Assembly:

- 6 monostable solenoid valves (not interruptible because before the module)
- 1 additional power supply module
- 6 monostable solenoid valves

Note: the first 2 of these 6 monostable solenoid valves are interruptible by the module, while the following 4 will work correctly managed directly by the corresponding command signals.

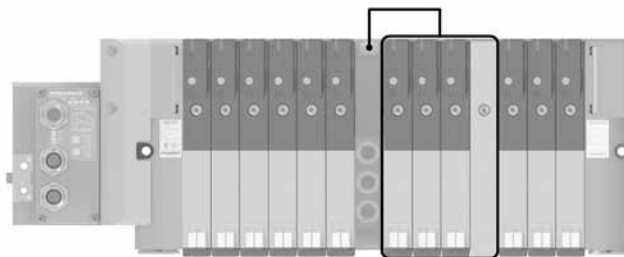


EXAMPLE 2

Manifold of 12 monostable solenoid valves on which you want to interrupt signals 7-8-9.

Assembly:

- 6 monostable solenoid valves (not interruptible because before the module)
- 1 additional power supply module
- 3 monostable solenoid valves (interruptible)
- 1 closing plate mounted on a monostable base
- 3 monostable solenoid valves (work correctly managed directly by the corresponding command signals)



EXAMPLE 3

Manifold of 7 monostable and 3 bistable solenoid valves in which you want to interrupt signals 2-3-4-5 and 8-9-10-11.

Assembly:

- 1 monostable solenoid valve (not interruptible because before the module)
- 1 additional electro-pneumatic shut-off module
- 6 monostable solenoid valves

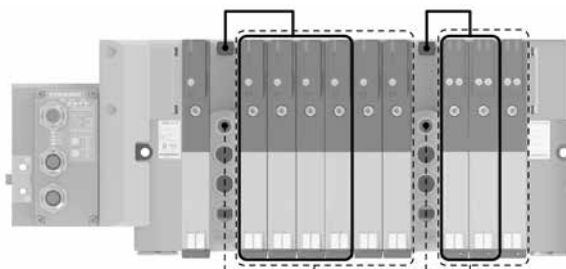
Note: the first 4 of these 6 monostable solenoid valves are interruptible by the module, while the following 2 will work correctly managed directly by the corresponding command signals.

Note no. 2: The pilots of the 6 solenoid valves downstream of the intermediate electro-pneumatic shut-off module are pneumatically powered by the module itself.

- 1 additional electro-pneumatic shut-off module
- 3 bistable solenoid valves

Note no. 3: the first 2 of these 3 bistable solenoid valves are interruptible by the module, while the following will work correctly and are managed directly by the corresponding command signals.

Note no. 4: The pilots of the 3 solenoid valves downstream of the intermediate electro-pneumatic shut-off module are pneumatically powered by the module itself.



Key

S.V. electrically managed by the shut-off module: ———

S.V. pneumatically managed (12/14) by the shut-off module: - - - - -

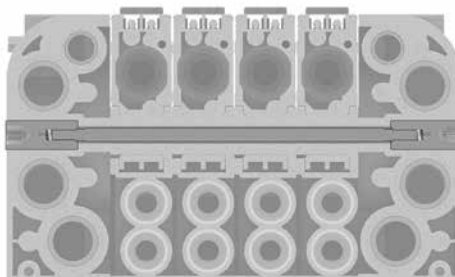
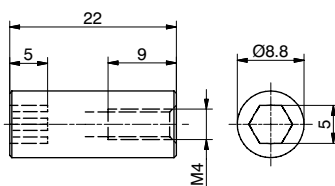
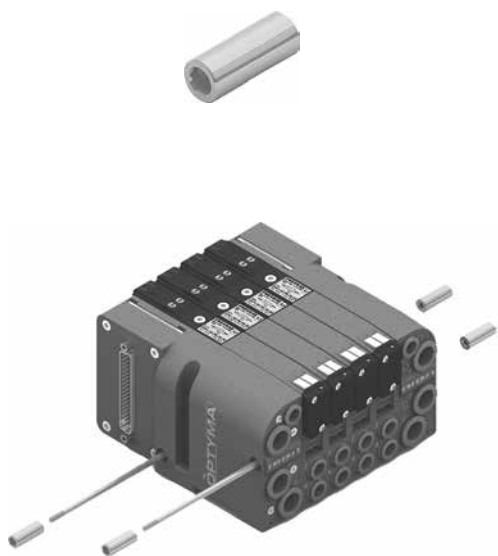
Nut

Coding: 2540.KD.00

The Kit includes 4 pieces
Weight 10 g

AIR DISTRIBUTION

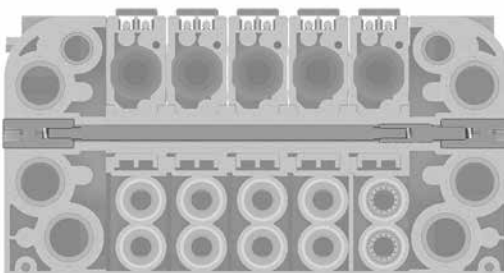
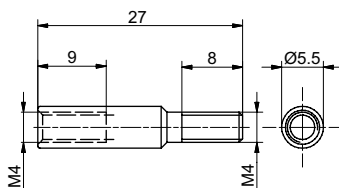
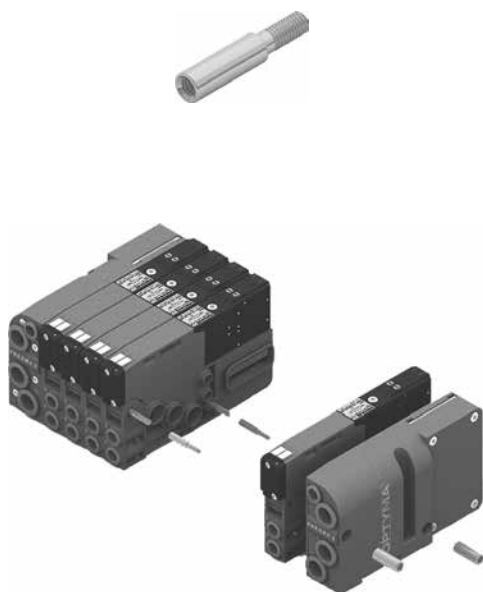
1



Extension (1 Position)

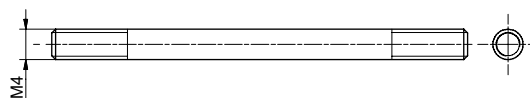
Coding: 2540.KP.01

The Kit includes 2 pieces
Weight 3,5 g



Tie-rod M4

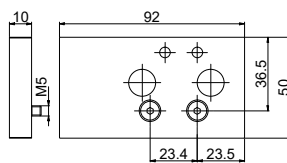
Coding: 2540.KT.P



NO. POSITIONS
01 = Nr. 1 Position
02 = Nr. 2 Positions
03 = Nr. 3 positions
04 = Nr. 4 Positions
05 = Nr. 5 positions
06 = Nr. 6 Positions
07 = Nr. 7 positions
08 = Nr. 8 Positions
09 = Nr. 9 positions
10 = Nr. 10 Positions
11 = Nr. 11 positions
12 = Nr. 12 Positions
13 = Nr. 13 positions
14 = Nr. 14 Positions
...
32 = Nr. 32 Positions

► Offset compensation plate

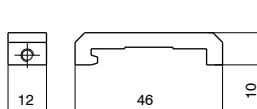
Coding: 25E0.P0



Weight 116 g

► DIN rail adapter

Coding: 3100.16



Weight 12 g

► Polyethylene Silencer Series SPL-R

Coding: SPLR.①



TUBE DIAMETER	
①	8 = 8 mm
	12 = 12 mm

► Diaphragm plug

Coding: 2530.17

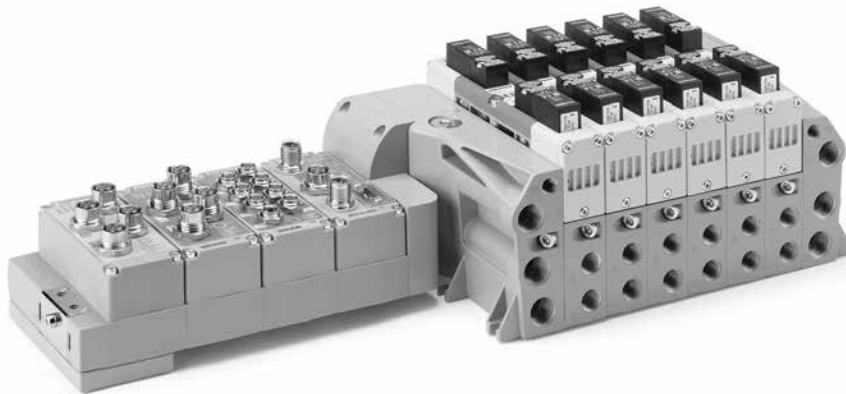


Weight 2,3 g

1
AIR DISTRIBUTION



Series 2700 EVO



1
AIR DISTRIBUTION

2700 SERIES EVO SOLENOID VALVES MANIFOLD

- Increased flexibility
- Digital and analogue I/O modules
- Manufactured according to ISO 15407-2
- Wide range of communication protocols



WE SPEAK EVO

The 2700 series becomes EVO and interfaces with the new PX series modular electronic system while still retaining all of its technical advantages. This is enriched with new features that further extend the flexibility of the product:

- Size 26 mm with nominal flow rate up to 1000 NI/min
- Compliant to directive 2014/30/UE
- Monitored solenoid valves
- Vertical configuration

Construction characteristics

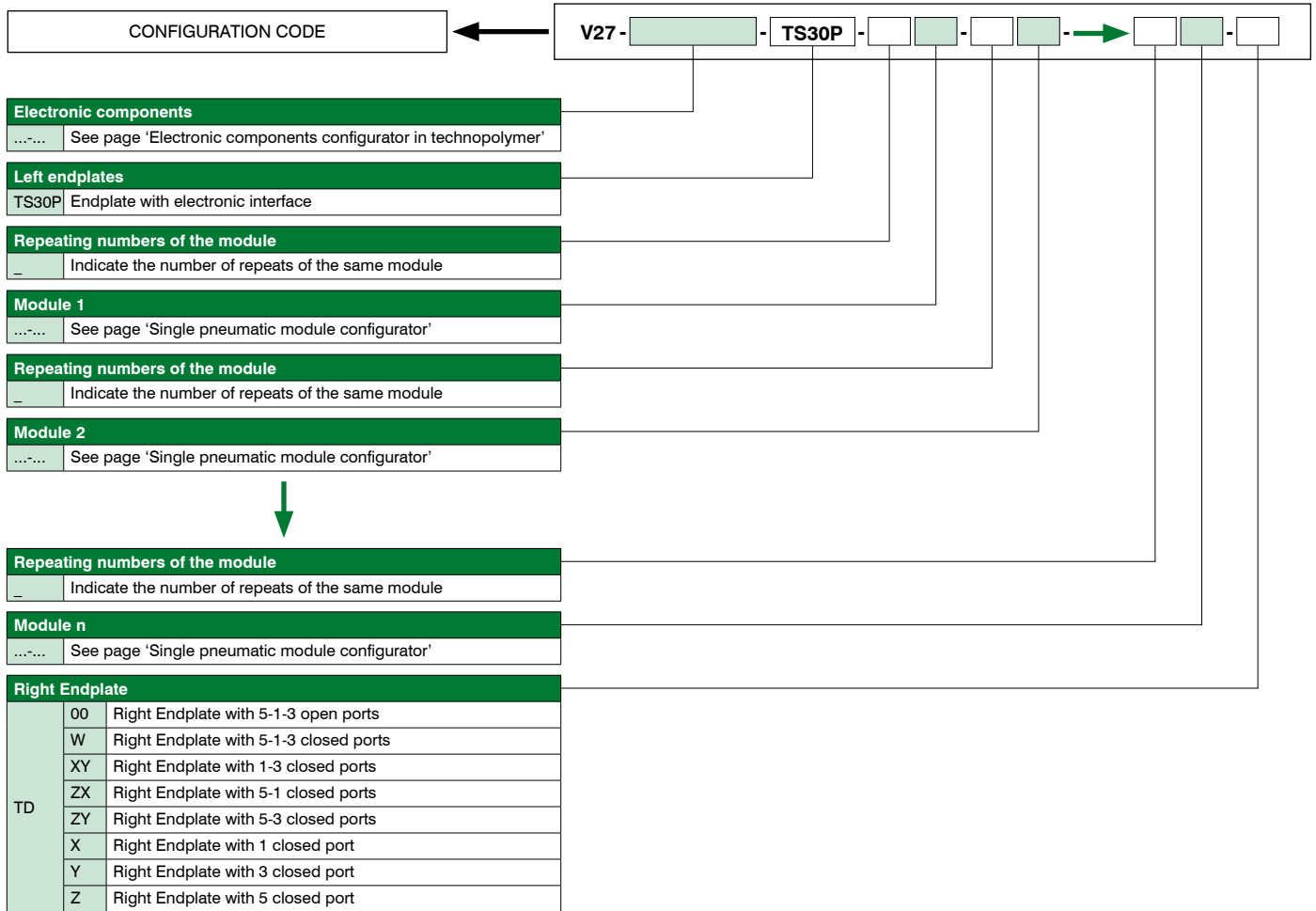
Body	Die-cast aluminium
Springs	Stainless Steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Aluminium

Technical characteristics

Voltage	+ 24 V DC ±10% PNP
Pilot consumption	1W - 2.3W
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -10°C to +50°C
Protection degree	IP65
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010



Rules and configuration scheme



1
AIR DISTRIBUTION



Note:

When composing the configuration, always bear in mind that the maximum number of electrical signals available is:

- 32 if a 37-pole multi-pin module is used, if a node or IO-Link interface is used.
- 24 if a 25-pole multi-pin module is used.

If a monostable valve is used on a bistable type base (2 electrical signals occupied), an electrical signal is lost.

However, this makes it possible to replace the monostable valve with a bistable valve in the same position.

Use bases with dedicated closed ports to interrupt ducts 1, 3 and 5.

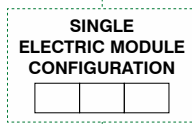
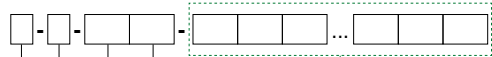
If one or more ports must be interrupted more than once, the addition of the intermediate supply/discharge module is necessary.



Electronic components configurator in technopolymer

1 AIR DISTRIBUTION

Type	
P	Technopolymer
Left endplate accessory	
	Offset compensation plate
G	DIN rail fixing accessory
Multi-pin electrical connection	
MP2	Module 25 poles + 24 V DC
MP3	Module 37 poles + 24 V DC
Electrical connection	
C3	CANopen® node 64 IN - 64 OUT (32 fixed)
P3	PROFIBUS DP node 64 IN - 64 OUT (32 fixed)
I4	EtherNet/IP node 128 IN - 128 OUT (48 fixed)
A4	EtherCAT® node 128 IN - 128 OUT (48 fixed)
N4	PROFINET IO RT node 128 IN - 128 OUT (48 fixed)
G4	CC-Link IE Field Basic node 128 IN - 128 OUT (48 fixed)
K3	IO-Link interface 64 IN - 64 OUT (32 fixed)
Electrical connection accessories	
	Without DIN rail fixing
G	With DIN rail fixing
Repeating numbers of the module	
	Indicate the number of repeats of the same module (no value for a single module)
Inputs module - Analogue / Digital (EXCLUDED WITH MP)	
D8	8 M8 digital inputs module
D12	8 M12 digital inputs module
D3	32 digital inputs SUB-D 37 poles
T1	2 analogue inputs 0-5V module (voltage signal)
T2	2 analogue inputs 0-10V module (voltage signal)
T3	4 analogue inputs 0-5V module (voltage signal)
T4	4 analogue inputs 0-10V module (voltage signal)
C1	2 analogue inputs 0-20mA module (current signal)
C2	2 analogue inputs 4-20mA module (current signal)
C3	4 analogue inputs 0-20mA module (current signal)
C4	4 analogue inputs 4-20mA module (current signal)
P1	2 Pt100 2 wires inputs module
P2	2 Pt100 3 wires inputs module
P3	2 Pt100 4 wires inputs module
P4	4 Pt100 2 wires inputs module
P5	4 Pt100 3 wires inputs module
P6	4 Pt100 4 wires inputs module
Outputs module - Analogue / Digital	
M8	8 M8 digital outputs module
M12	8 M12 digital outputs module
M3	32 digital outputs SUB-D 37 poles
V1	2 analogue outputs 0-5V module (voltage signal)
V2	2 analogue outputs 0-10V module (voltage signal)
V3	4 analogue outputs 0-5V module (voltage signal)
V4	4 analogue outputs 0-10V module (voltage signal)
L1	2 analogue outputs 0-20mA module (current signal)
L2	2 analogue outputs 4-20mA module (current signal)
L3	4 analogue outputs 0-20mA module (current signal)
L4	4 analogue outputs 4-20mA module (current signal)
Additional module (Optional)	
P12	M12 additional power supply module
Module accessories	
	Without DIN rail fixing
G	With DIN rail fixing

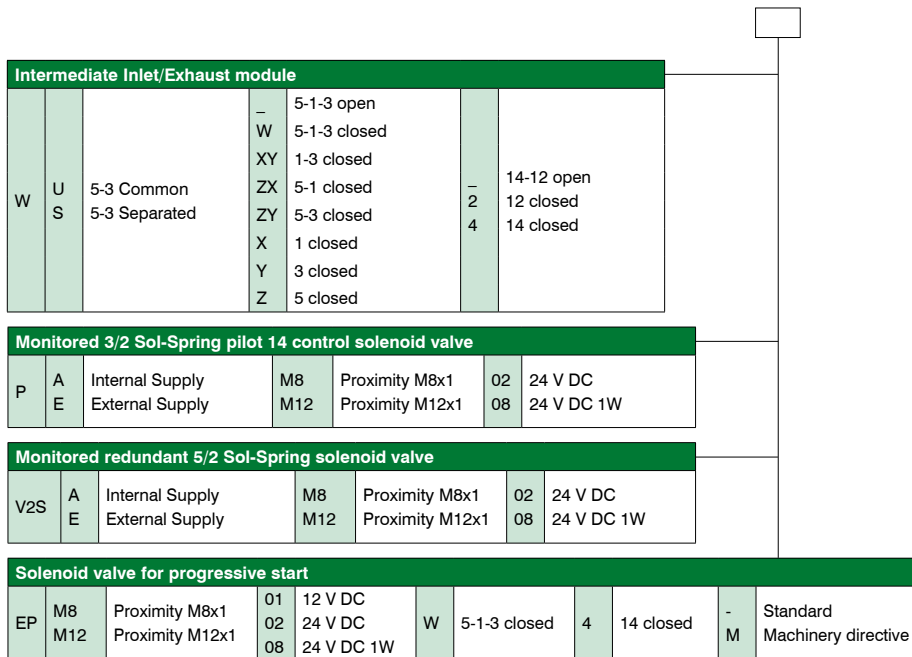


Refer to the current limits indicated in the pages relating to the nodes / IO-Link interface



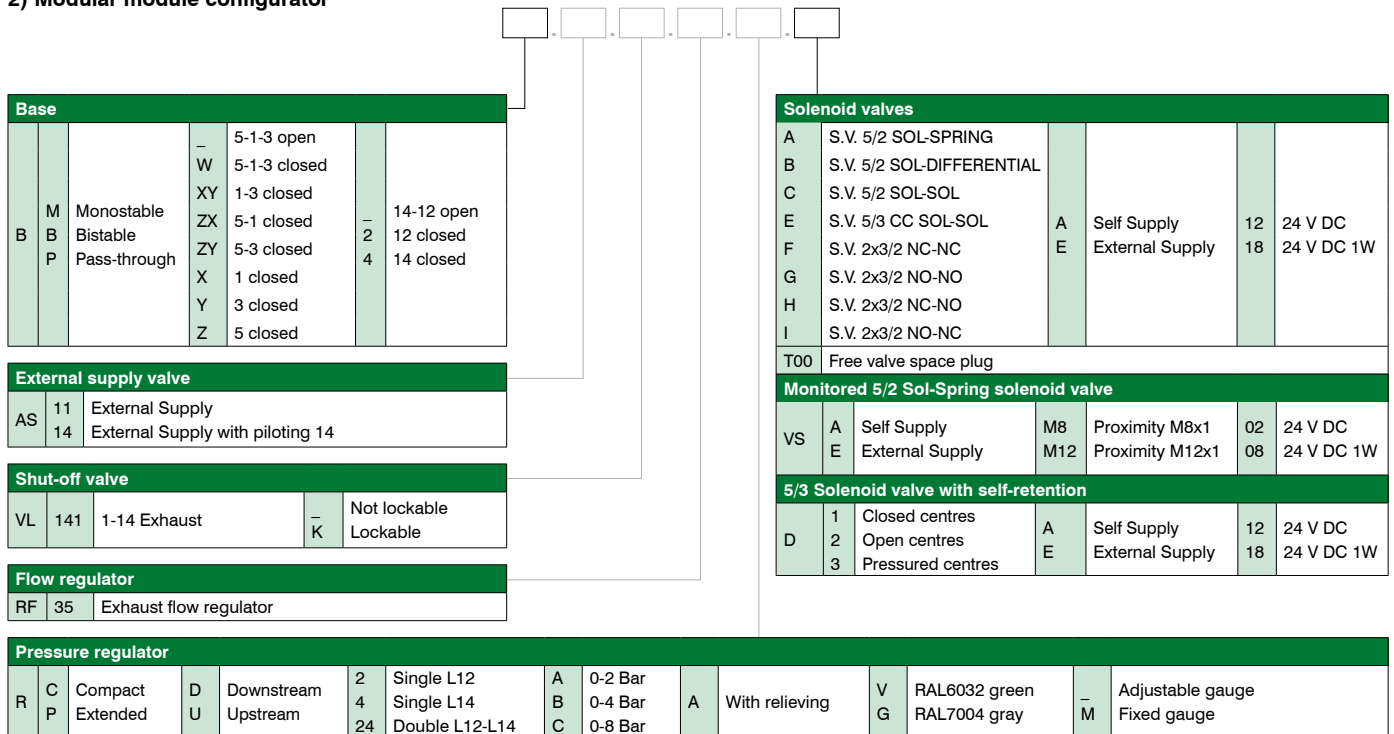
Modules configurator:

1) Complete module configurator



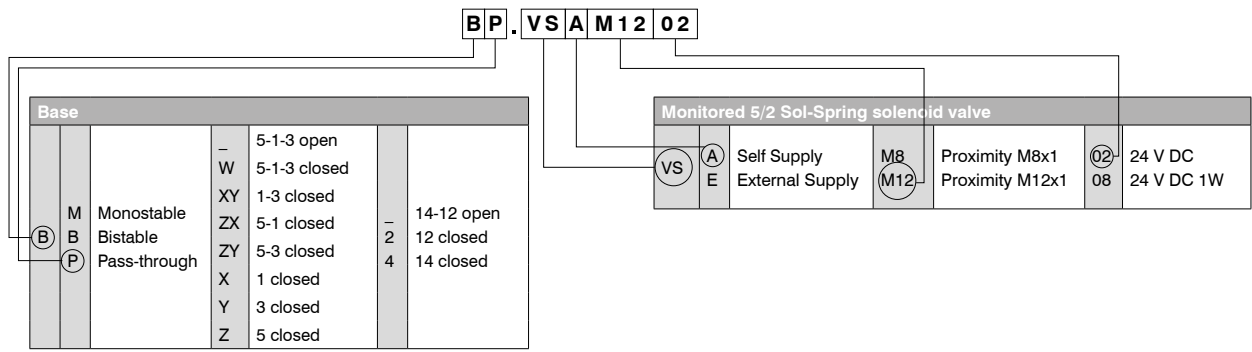
1
AIR DISTRIBUTION

2) Modular module configurator



Configuration example of single module:

Signal pass-through base, ports 5-1-3 open, ports 14-12 open with monitored S.V. internal supply, M12 connector, 24 V DC is identified as:



Configuration example of complete group:

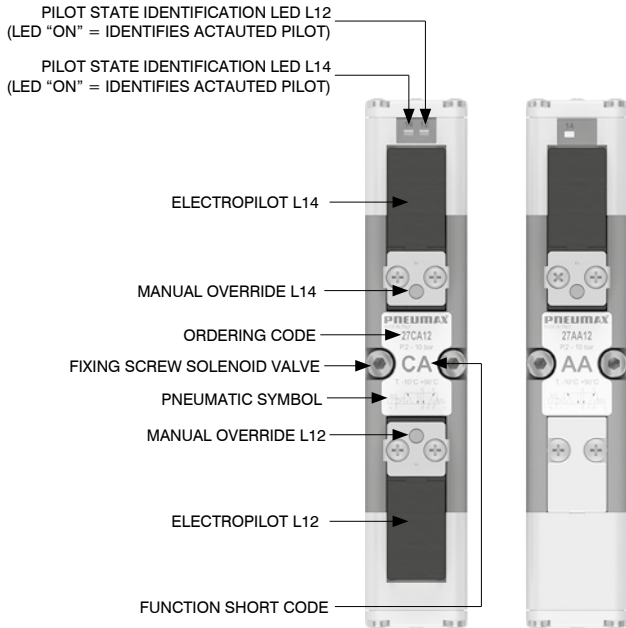
- Technopolymer PX3 serial system (P-C3-2M8-D12)
- Left endplate with interface (TS30P)
- Bistable base with S.V. 5/3 CC Sol-Sol (BB.EE12)
- Bistable base with S.V. 2X3/2 NC-NC (BB.FE12)
- Bistable base with S.V. 5/2 Sol-Sol (BB.CE12)
- Bistable base with S.V. 2X3/2 NC-NC (BB.FE12)
- Right endplate with open ports 1 - 3 - 5 (TD00)



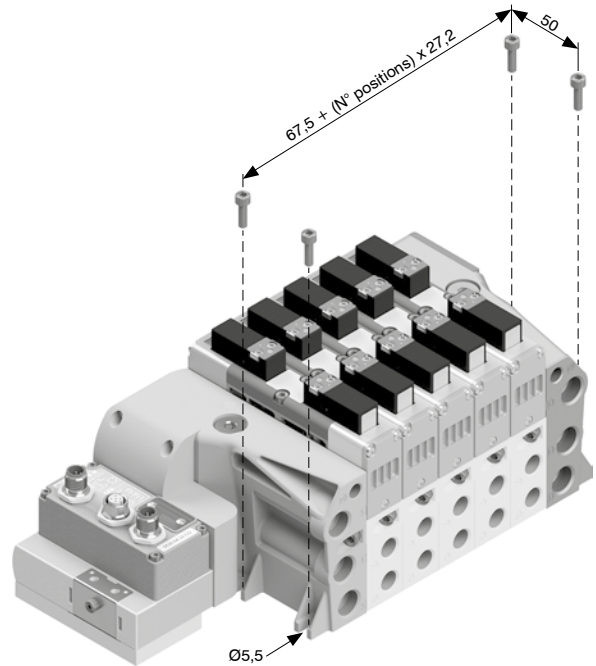
V27-P-C3-2M8-D12-TS30P-BB.EE12-BB.FE12-BB.CE12-BB.FE12-2BB.CE12-TD00

1 AIR DISTRIBUTION

Solenoid valve description



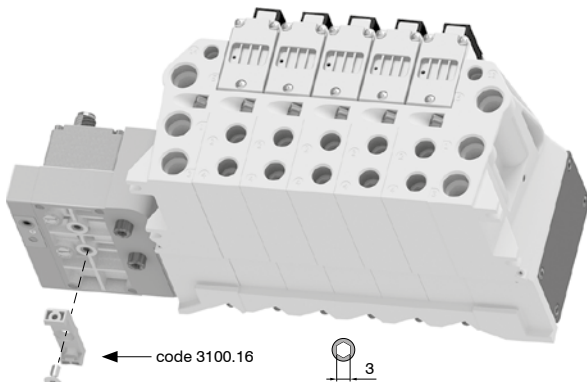
From the top



Attention: The overall dimensions shown refer to the modular (valve) sub-bases, and may differ when manifold accessories are included.

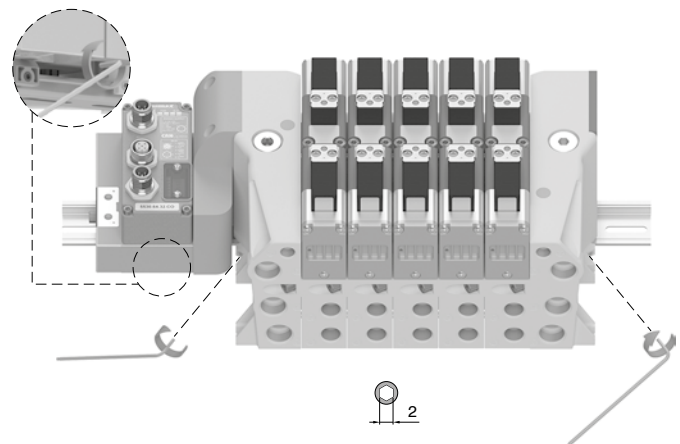
1
AIR DISTRIBUTION

DIN rail mounting support plate

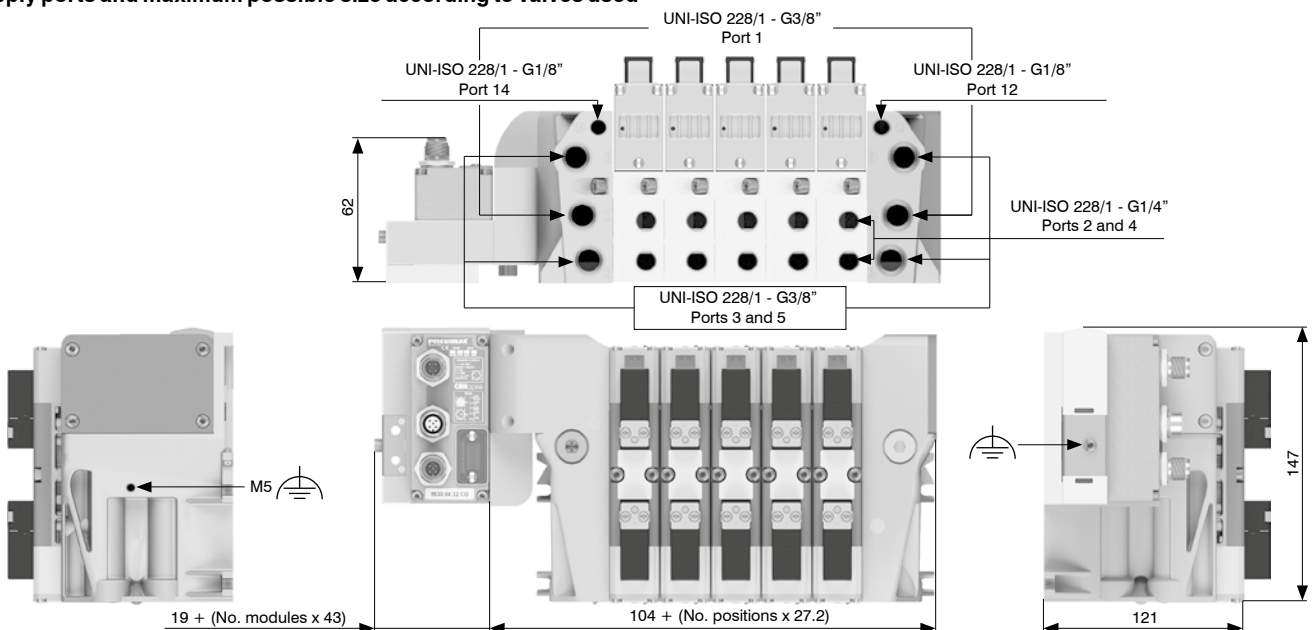


Attention: This must be included when creating the manifold configuration. Exclude the offset compensation plate.

DIN rail fixing



Supply ports and maximum possible size according to valves used



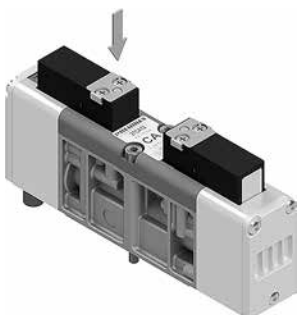
Attention: The overall dimensions shown refer to the modular (valve) sub-bases, and may differ when manifold accessories are included.



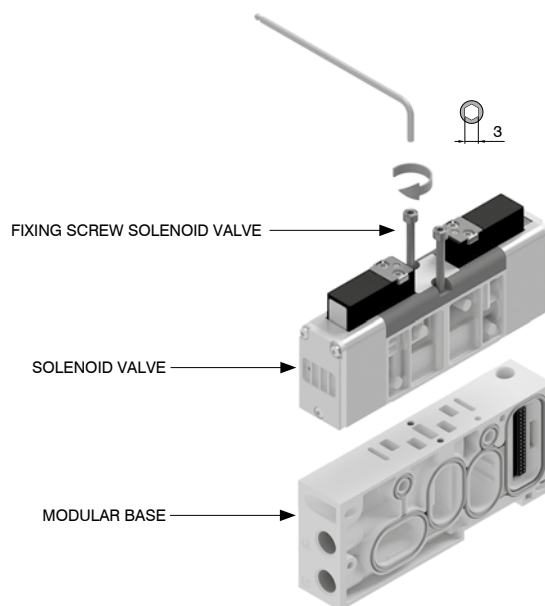
Manual override actuation

Instable function:

Push to actuate
 (when released it moves back to the original position)

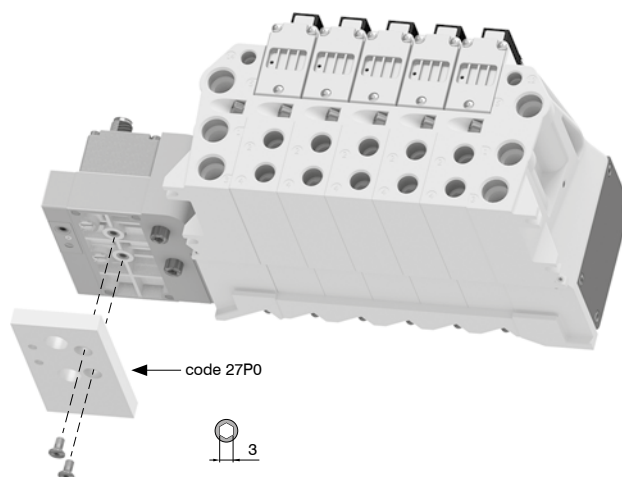


Solenoid valves installation



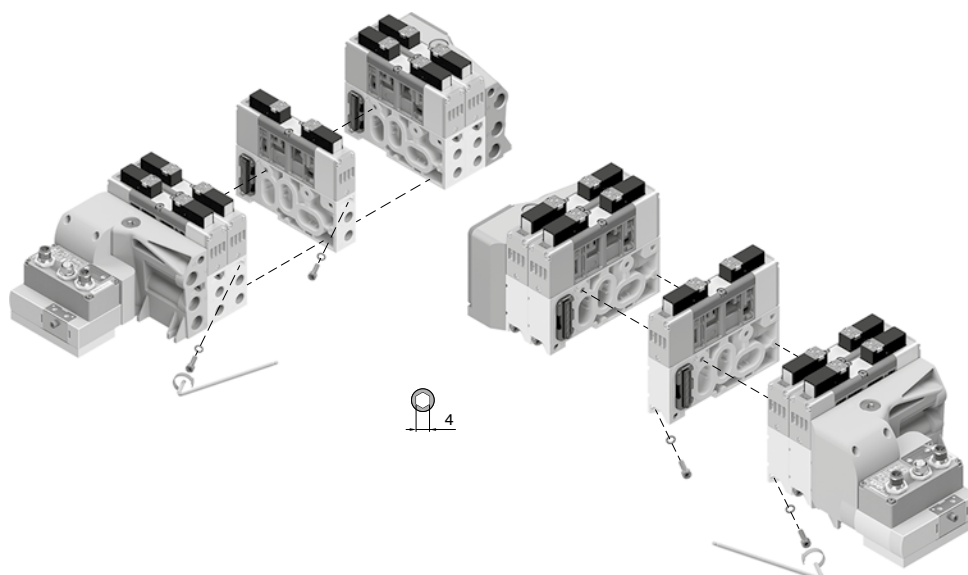
1
AIR DISTRIBUTION

Offset compensation plate



Attention: This accessory is supplied on the manifold unless otherwise stated. This is not compatible for DIN rail mounting.

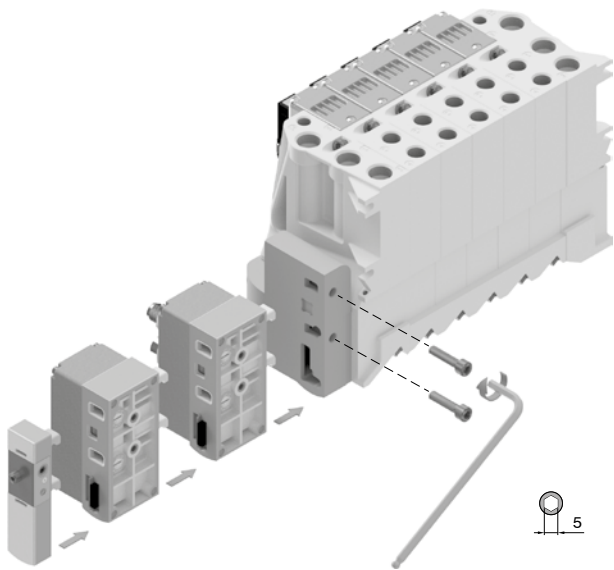
Sub-base assembly



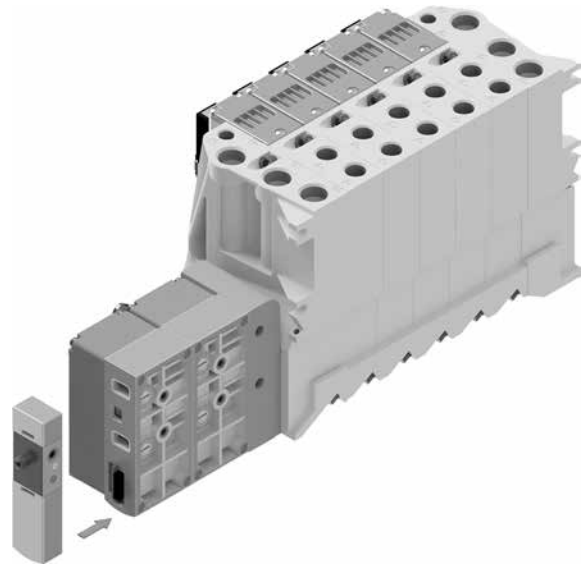
Note: Torque moment 4 Nm

Attention: Ensure the washer is mounted on the screw before tightening

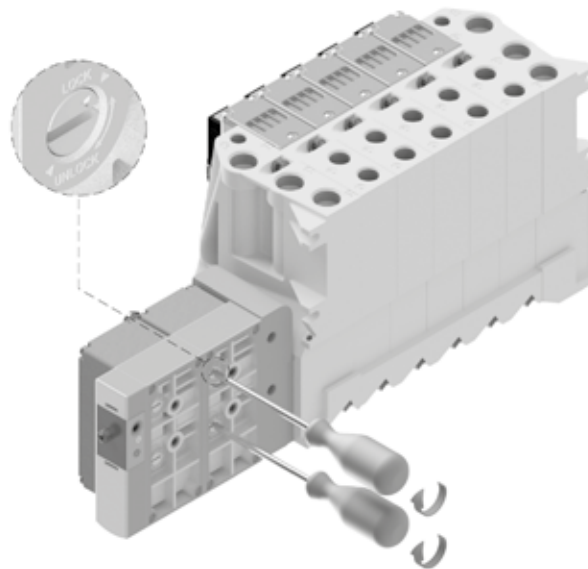
1. Assemble the desired modules and tighten the fixing screws as shown in the figure below.



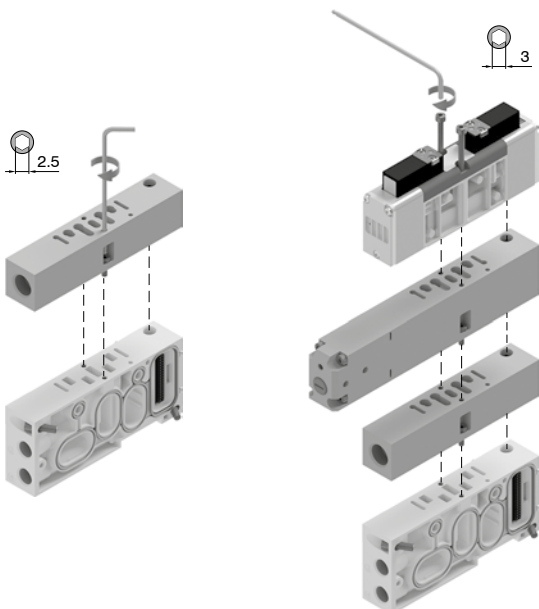
2. Complete the assembly with the 3100.KT.00 left endplate kit.



3. To lock: rotate anticlockwise (in the direction of the LOCK print on the case).
To unlock: rotate clockwise (in the direction of the UNLOCK print on the case).
The same procedure shall be used to add or remove any module.



Modules assembled for vertical configuration



Modules for vertical configuration are as follows:

- Single external supply module
- Flow regulator module
- Shut-off and exhaust module
- Pressure regulator

Attention: The flow rate of the solenoid valve will be reduced compared to that shown in the general catalogue

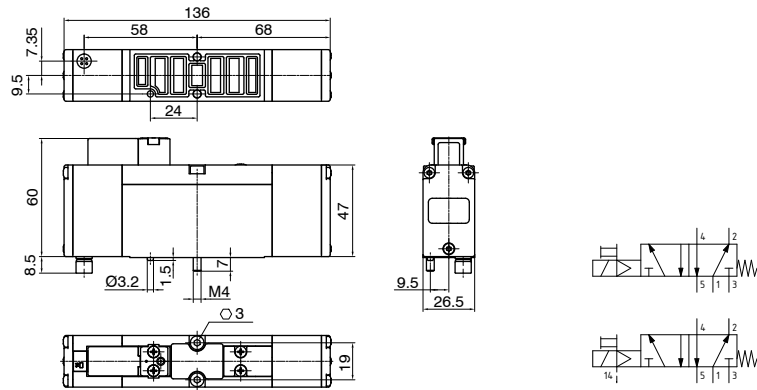
Solenoid-Spring 5/2

Coding: 27A^P_T

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Working pressure (bar)	From vacuum to 10 (external feeding version) 2 ... 10 (self feeding version)
Minimum pilot pressure (bar)	2
Temperature °C	-10 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	38

PILOTING	
P	A = Self feeding E = External feeding
VOLTAGE	
T	12 = 24 V DC 18 = 24 V DC 1 W

Weight 309 g



The "Activations time" values, are valid only for the 24 V DC 2,3W versions

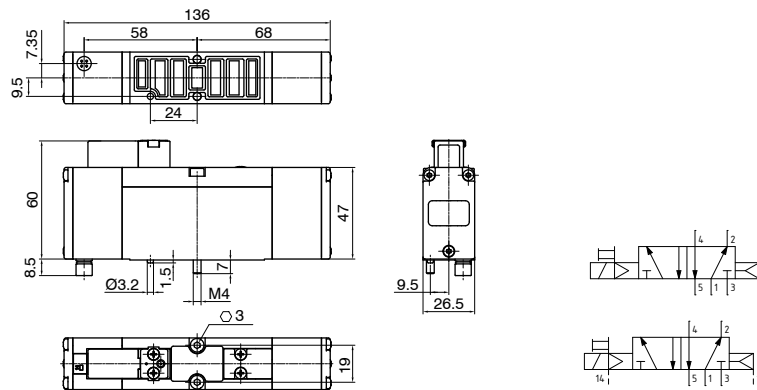
Solenoid-Differential 5/2

Coding: 27B^P_T

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Working pressure (bar)	From vacuum to 10 (external feeding version) 2 ... 10 (self feeding version)
Minimum pilot pressure (bar)	2
Temperature °C	-10 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	38

PILOTING	
P	A = Self feeding E = External feeding
VOLTAGE	
T	12 = 24 V DC 18 = 24 V DC 1 W

Weight 274 g



The "Activations time" values, are valid only for the 24 V DC 2,3W versions

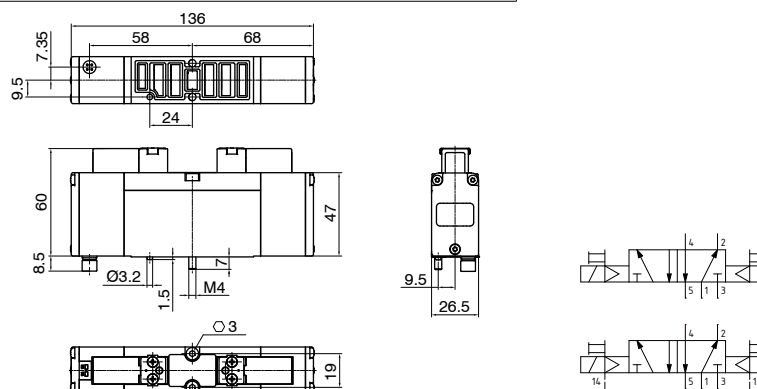
Solenoid-Solenoid 5/2

Coding: 27C^P_T

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Working pressure (bar)	From vacuum to 10 (external feeding version) 2 ... 10 (self feeding version)
Minimum pilot pressure (bar)	2
Temperature °C	-10 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	1000
Response time according to ISO 12238, activation time (ms)	12
Response time according to ISO 12238, deactivation time (ms)	14

PILOTING	
P	A = Self feeding E = External feeding
VOLTAGE	
T	12 = 24 V DC 18 = 24 V DC 1 W

Weight 309 g



The "Activations time" values, are valid only for the 24 V DC 2,3W versions

1 AIR DISTRIBUTION

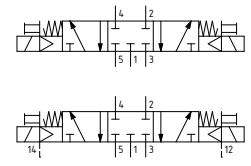
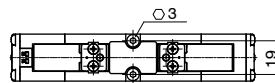
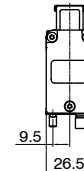
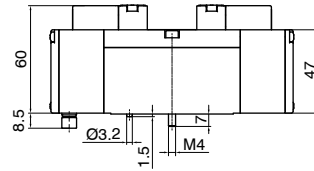
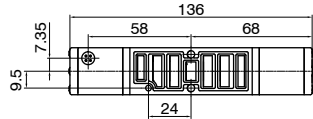
Solenoid-Solenoid 5/3

Coding: 27E P T

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Working pressure (bar)	From vacuum to 10 (external feeding version) 3 ... 10 (self feeding version)
Minimum pilot pressure (bar)	3
Temperature °C	-10 ... +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	660
Response time according to ISO 12238, activation time (ms)	12
Response time according to ISO 12238, deactivation time (ms)	60

PILOTING	
P	A = Self feeding
	E = External feeding
VOLTAGE	
T	12 = 24 V DC
	18 = 24 V DC 1 W

Weight 309 g



The "Activations time" values, are valid only for the 24 V DC 2,3W versions

Solenoid-Solenoid 5/3 with auto-retaining function

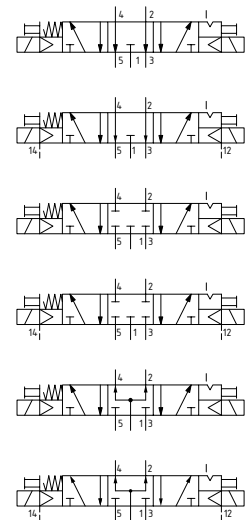
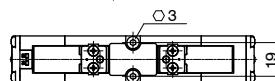
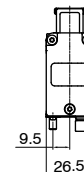
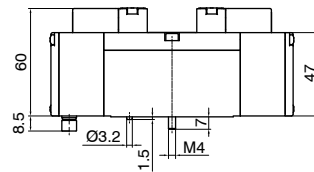
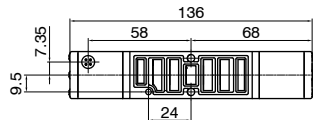
Coding: 27D F P T

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Working pressure (bar)	From vacuum to 10 (external feeding version) 3 ... 10 (self feeding version)
Minimum pilot pressure (bar)	3
Temperature °C	-10 ... +50
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	700
Response time according to ISO 12238, activation time (ms)	15
Response time according to ISO 12238, deactivation time (ms)	80

FUNCTION	
F	1 = S.V. 5/3 C.C.
	2 = S.V. 5/3 O.C.
	3 = S.V. 5/3 P.C.
PILOTING	
P	A = Self feeding
	E = External feeding
VOLTAGE	
T	12 = 24 V DC
	18 = 24 V DC 1 W

Weight 309 g

- Maintains the valve state without an electric or pneumatic signal after the activation of L14 (self-retention).
- Valve state changes by activating L12.
- Mechanical spring return.



The "Activations time" values, are valid only for the 24 V DC 2,3W versions

Solenoid-Spring 2x3/2

Coding: 27 **F P T**

1

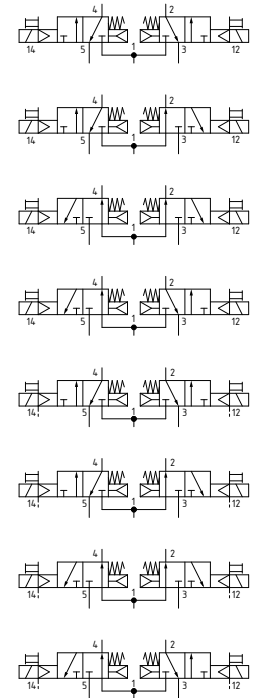
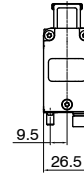
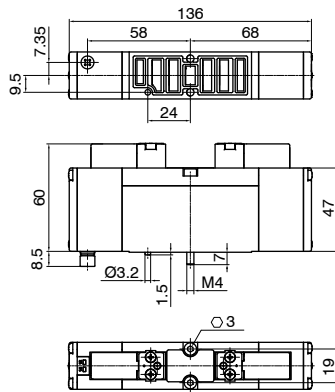
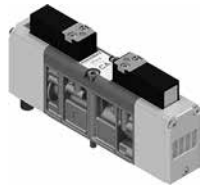
AIR DISTRIBUTION

Technical characteristics

Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5.4:4] according to ISO 8573-1:2010
Working pressure (bar)	From vacuum to 10 (external feeding version) 3,5 ... 10 (self feeding version)
Minimum pilot pressure (bar)	≥2+(0,3 x Inlet pressure)
Temperature °C	-10 ... +50
Flow rate at 6 bar with Δp=1 (NI/min)	550
Response time according to ISO 12238, activation time (ms)	12 (external feeding version) 15 (self feeding version)
Response time according to ISO 12238, deactivation time (ms)	60 (external feeding version) 15 (self feeding version)

FUNCTION	
F	NC-NC (5/3 Open centres)
G	NO-NO (5/3 Pressured centres)
H	NC-NO
I	NO-NC
PILOTING	
A	Self feeding
E	External feeding
VOLTAGE	
T12	24 V DC
T18	24 V DC 1 W

Weight 309 g



The "Activations time" values, are valid only for the 24 V DC 2,3W versions
Example: If inlet pressure is set at 5 bar then pilot pressure must be at least
 $P_p = 2 + (0,3 \times 5) = 3,5$ bar

Solenoid-Spring monitored (VS)

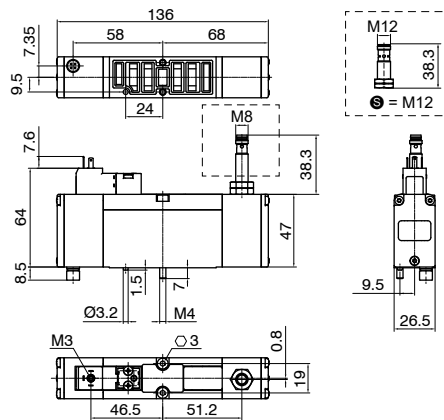
Coding: 27VSPST

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5.4.4] according to ISO 8573-1:2010
Response time according to ISO 12238, deactivation time (ms)	70
Response time according to ISO 12238, activation time (ms)	15
Flow rate from 1 to 2 at 6 bar with $\Delta p=1$ (NI/min)	1000
Flow rate from 1 to 4 at 6 bar with $\Delta p=1$ (NI/min)	1000
Flow rate from 2 to 3 at 6 bar with $\Delta p=1$ (NI/min)	1000
Flow rate from 4 to 5 at 6 bar with $\Delta p=1$ (NI/min)	1000
Flow rate from 2 to 3 at 6 bar with free exhaust (NI/min)	1700
Flow rate from 4 to 5 at 6 bar with free exhaust (NI/min)	1700
Temperature °C	-10 ... +50
Working pressure (bar)	From vacuum to 10 (external feeding version) 2 ... 10 (self feeding version)
Minimum pilot pressure (bar)	2
Function	5/2 N.C. Monostable
Noise level (dB)	75

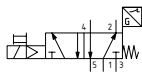
PILOTING	
P	A = Self feeding E = External feeding
SENSOR	
S	M8 = M8x1 Proximity Sensor M12 = M12x1 Proximity Sensor
VOLTAGE	
02	= 24 V DC
08	= 24 V DC 1 W

Weight 312 g

- Monostable with mechanical spring return and proximity sensor
 - Safety component according to annex V of 2006/42/EC directive
 - Diagnostic system that monitors the state of the valve:
- Sensor ON: Valve at rest
Sensor OFF: Valve activated



The "Activations time" values, are valid only for the 24 V DC 2,3W versions
Note: Overall noise level depends on the final application of the device
Note: The noise level indicated on the table is obtained without using silencers



Sensor	Out	Pin-out	Wiring diagram
M8 Male 3P type A	N.O.		
M12 Male 3P type A	N.O.		

Pin 1 = Brown - Pin 4 = Black - Pin 3 = Blue

Electrical characteristics: Electropilot	
Electropilot	Series 300 Size 15 mm
Electrical connection	Earth Faston / Series 300 connectors
Solenoid coils features	24 V DC 2.3 W 24 V DC 1 W
Supply voltage tolerance	-5% ... 10%
Manual override Integrated	Yes
Protection degree	IP65 (with mounted connector)

Note: Refer to the Pneumax general catalogue for detailed information regarding the electropilot

Electrical characteristics: Proximity sensor		
Type	Single channel	Single channel
Thread	M8X1	M12X1
Electrical design	PNP	PNP
Output function	N.O.	N.O.
Operating voltage	10 ... 30 VDC	10 ... 30 VDC
Current consumption (mA)	< 20	< 20
Isolating class	III	III
Display	Switching status 4x90° Yellow LEDs	Switching status 4x90° Yellow LEDs
Protection degree	IP65 (with mounted connector)	IP65 (with mounted connector)

Note: Manufacturer and model of proximity sensors could be changed at the discretion of Pneumax S.p.A.

Safety characteristics		
Standards compliances	EN ISO 13849-1:2015 EN ISO 13849-2:2012	
Performed Safety Function	Interruption of supply and discharge of a pneumatic circuit connected to port 4	
Sensor feedback	Valve at REST	ON
	Valve ACTIVATED	OFF
MTTFd Sensor	Single Channel M8	1088 years
	Single Channel M12	932 years
Performance Level (PL)	Up to PL=d	
Category	Up to 2	
B10d	630.000 cycles	

Note B10d:

General Procedures for assessing pneumatic component reliability by testing performed in accordance with ISO 19973-1, Pneumatic fluid power - Assessment of component reliability by testing - Part 1: General Procedures.
Reliability and lifetime of pneumatic valves assessed in accordance with ISO 19973-2: Pneumatic fluid power - Assessment of component reliability by testing - Part 2: Directional control valves.

Activities regarding the identification of the safety function, the estimation of the required reliability level (e.g. estimation of the PLr according to EN ISO 13849-1), the design and the production of the related safety circuit, its verification and validation are responsibilities of the operator who uses the device in its final application.
The choice of the category and the satisfaction of its requirements according to EN ISO 13849-1 is in charge of the end-user who integrates the device in its final application while considering the final configuration of the safety circuit.
The diagnostic coverage value guaranteed by the sensor must be calculated by the end-user in function of the final configuration of the safety circuit (e.g. in function of the PLC for safety design which controls the solenoid valve and acquires the state of the sensor).
The estimation of the diagnostic coverage must satisfy the requirements of EN ISO 13849-1.
According to EN ISO 13849-1, T10D value must be calculated by the enduser in function of the annual operation number in which the device will be subjected to; in any case, the device must be substituted every 20 years.



Solenoid-Spring monitored redundant (V2S)

Coding: 27V2SPST

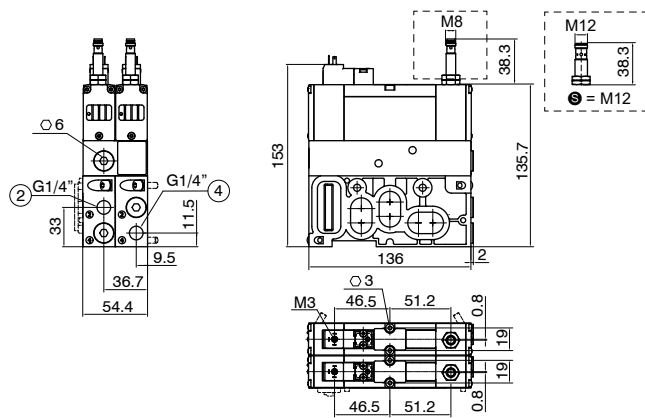
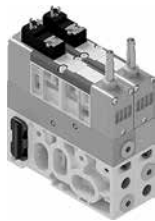
AIR DISTRIBUTION 1

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Response time according to ISO 12238, deactivation time (ms)	70
Response time according to ISO 12238, activation time (ms)	25
Flow rate from 1 to 2 at 6 bar with $\Delta p=1$ (NI/min)	1000
Flow rate from 1 to 4 at 6 bar with $\Delta p=1$ (NI/min)	500
Flow rate from 2 to 3 at 6 bar with $\Delta p=1$ (NI/min)	500
Flow rate from 4 to 5 at 6 bar with $\Delta p=1$ (NI/min)	1000
Flow rate from 2 to 3 at 6 bar with free exhaust (NI/min)	900
Flow rate from 4 to 5 at 6 bar with free exhaust (NI/min)	1700
Temperature °C	-10 ... +50
Working pressure (bar)	From vacuum to 10 (external feeding version) 2 ... 10 (self feeding version)
Minimum pilot pressure (bar)	2
Function	5/2 N.C. Monostable
Noise level (dB)	75

PILOTING	
P	A = Self feeding E = External feeding
SENSOR	
S	M8 = M8x1 Proximity Sensor M12 = M12x1 Proximity Sensor
VOLTAGE	
O2	24 V DC
O8	24 V DC 1 W

Weight 1786 g

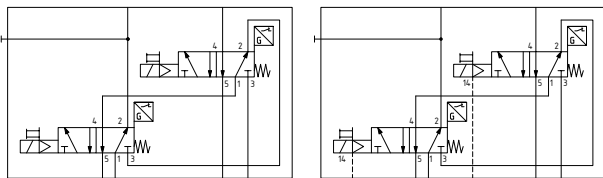
- Double monostable with mechanical spring return and proximity sensor
 - Double redundant channel which guarantees that a pneumatic circuit is safely exhausted in case of failure of one of the valves
 - Safety component according to annex V of 2006/42/EC directive
 - Diagnostic system that monitors the state of the valve:
- Sensor ON: Valve at rest
Sensor OFF: Valve activated



The "Activations time" values, are valid only for the 24 V DC 2,3W versions

Note: Overall noise level depends on the final application of the device

Note: The noise level indicated on the table is obtained without using silencers



Sensor	Out	Pin-out	Wiring diagram
M8 Male 3P type A	N.O.		
M12 Male 3P type A	N.O.		

Pin 1= Brown - Pin 4= Black - Pin 3= Blue

Electrical characteristics: Electropilot	
Electropilot	Series 300 Size 15 mm
Electrical connection	Earth Faston / Series 300 connectors
Solenoid coils features	24 V DC 2.3 W 24 V DC 1 W
Supply voltage tolerance	-5% ... 10%
Manual override Integrated	Yes
Protection degree	IP65 (with mounted connector)

Note: Refer to the Pneumax general catalogue for detailed information regarding the electropilot

Electrical characteristics: Proximity sensor		
Type	Single channel	Single channel
Thread	M8X1	M12X1
Electrical design	PNP	PNP
Output function	N.O.	N.O.
Operating voltage	10 ... 30 VDC	10 ... 30 VDC
Current consumption (mA)	< 20	< 20
Isolating class	III	III
Display	Switching status 4x90° Yellow LEDs	Switching status 4x90° Yellow LEDs
Protection degree	IP65 (with mounted connector)	IP65 (with mounted connector)

Note: Manufacturer and model of proximity sensors could be changed at the discretion of Pneumax S.p.A.

Safety characteristics		
Standards compliances	EN ISO 13849-1:2015 EN ISO 13849-2:2012	
Performed Safety Function	Interruption of supply and discharge of a pneumatic circuit connected to port 4	
Sensor feedback	Valve at REST	ON
	Valve ACTIVATED	OFF
MTTFd Sensor	Single Channel M8	1088 years
	Single Channel M12	932 years
Performance Level (PL)	Up to PL=e	
Category	Up to 4	
B10d	630.000 cicli (referred to a single valve)	

Note B10d:

General Procedures for assessing pneumatic component reliability by testing performed in accordance with ISO 19973-1, Pneumatic fluid power - Assessment of component reliability by testing - Part 1: General Procedures.
Reliability and lifetime of pneumatic valves assessed in accordance with ISO 19973-2: Pneumatic fluid power - Assessment of component reliability by testing - Part 2: Directional control valves.

Activities regarding the identification of the safety function, the estimation of the required reliability level (e.g. estimation of the PLr according to EN ISO 13849-1), the design and the production of the related safety circuit, its verification and validation are responsibilities of the operator who uses the device in its final application.

The choice of the category and the satisfaction of its requirements according to EN ISO 13849-1 is in charge of the end-user who integrates the device in its final application while considering the final configuration of the safety circuit.

The diagnostic coverage value guaranteed by the sensor must be calculated by the end-user in function of the final configuration of the safety circuit (e.g. in function of the PLC for safety design which controls the solenoid valve and acquires the state of the sensor).

The estimation of the diagnostic coverage must satisfy the requirements of EN ISO 13849-1.

According to EN ISO 13849-1, T10d value must be calculated by the enduser in function of the annual operation number in which the device will be subjected to; in any case, the device must be substituted every 20 years.

Solenoid-Spring monitored for pilot control 14 (P)

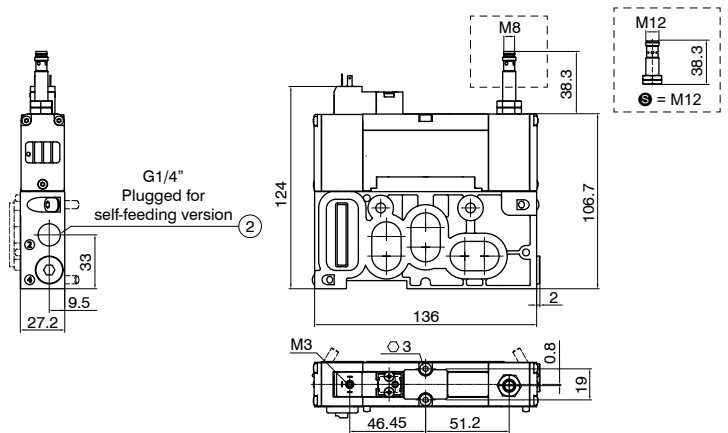
Coding: 27P P S T

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5.4:4] according to ISO 8573-1:2010
Response time according to ISO 12238, deactivation time (ms)	70
Response time according to ISO 12238, activation time (ms)	15
Flow rate from 1 to 2(14) at 6 bar with $\Delta p=1$ (NI/min)	250
Flow rate from 2(14) to 3(5) at 6 bar with $\Delta p=1$ (NI/min)	250
Flow rate from 2(14) to 3(5) at 6 bar with free exhaust (NI/min)	500
Temperature °C	-10 ... +50
Working pressure (bar)	2 ... 10 (external feeding version) 2 ... 10 (self feeding version)
Minimum pilot pressure (bar)	2
Function	3/2 N.C. Monostable

PILOTING
P A = Self feeding E = External feeding
SENSOR
S M8 = M8x1 Proximity Sensor M12 = M12x1 Proximity Sensor
VOLTAGE
02 = 24 V DC 08 = 24 V DC 1 W

Weight 615 g

- Monostable with mechanical spring return and proximity sensor
 - Control of downstream pressure in pilot channel 14
 - Safety component according to annex V of 2006/42/EC directive
 - Diagnostic system that monitors the state of the valve:
- Sensor ON: Valve at rest
Sensor OFF: Valve activated



The "Activations time" values, are valid only for the 24 V DC 2,3W versions
Note: Overall noise level depends on the final application of the device



Sensor	Out	Pin-out	Wiring diagram
M8 Male 3P type A	N.O.		
M12 Male 3P type A	N.O.		

Pin 1 = Brown - Pin 4 = Black - Pin 3 = Blue

Electrical characteristics: Electropilot	
Electropilot	Series 300 Size 15 mm
Electrical connection	Earth Faston / Series 300 connectors
Solenoid coils features	24 V DC 2.3 W 24 V DC 1 W
Supply voltage tolerance	-5% ... 10%
Manual override Integrated	Yes
Protection degree	IP65 (with mounted connector)

Note: Refer to the Pneumax general catalogue for detailed information regarding the electropilot

Electrical characteristics: Proximity sensor		
Type	Single channel	Single channel
Thread	M8X1	M12X1
Electrical design	PNP	PNP
Output function	N.O.	N.O.
Operating voltage	10 ... 30 VDC	10 ... 30 VDC
Current consumption (mA)	< 20	< 20
Isolating class	III	III
Display	Switching status 4x90° Yellow LEDs	Switching status 4x90° Yellow LEDs
Protection degree	IP65 (with mounted connector)	IP65 (with mounted connector)

Note: Manufacturer and model of proximity sensors could be changed at the discretion of Pneumax S.p.A.

Safety characteristics		
Standards compliances	EN ISO 13849-1:2015 EN ISO 13849-2:2012	
Performed Safety Function	Interruption of supply and exhaust of a pneumatic channel to port 2 (14)	
Sensor feedback	Valve at REST	ON
	Valve ACTIVATED	OFF
MTTFd Sensor	Single Channel M8	1088 years
	Single Channel M12	932 years
Performance Level (PL)	Up to PL=d	
Category	Up to 2	
B10d	1.100.000 cycles	

Note B10d:

General Procedures for assessing pneumatic component reliability by testing performed in accordance with ISO 19973-1, Pneumatic fluid power - Assessment of component reliability by testing - Part 1: General Procedures.
Reliability and lifetime of pneumatic valves assessed in accordance with ISO 19973-2: Pneumatic fluid power - Assessment of component reliability by testing - Part 2: Directional control valves.

Activities regarding the identification of the safety function, the estimation of the required reliability level (e.g. estimation of the PLr according to EN ISO 13849-1), the design and the production of the related safety circuit, its verification and validation are responsibilities of the operator who uses the device in its final application.
The choice of the category and the satisfaction of its requirements according to EN ISO 13849-1 is in charge of the end-user who integrates the device in its final application while considering the final configuration of the safety circuit.
The diagnostic coverage value guaranteed by the sensor must be calculated by the end-user in function of the final configuration of the safety circuit (e.g. in function of the PLC for safety design which controls the solenoid valve and acquires the state of the sensor).
The estimation of the diagnostic coverage must satisfy the requirements of EN ISO 13849-1.
According to EN ISO 13849-1, T10D value must be calculated by the enduser in function of the annual operation number in which the device will be subjected to; in any case, the device must be substituted every 20 years.

Solenoid valve for progressive start (EP)

Coding: 27EP**S**T**C**P**V**

AIR DISTRIBUTION

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Response time according to ISO 12238, deactivation time (ms)	70
Response time according to ISO 12238, activation time (ms)	15
Flow rate from 1 to 2(1) at 6 bar with $\Delta p=1$ (NI/min)	2200
Flow rate from 2(1) to 3 at 6 bar with $\Delta p=1$ (NI/min)	2000
Flow rate from 2(1) to 3 at 6 bar with free exhaust (NI/min)	4000
Temperature °C	-10 ... +50
Preset switchover pressure (bar)	~ 4
Working pressure (bar)	2 ... 10
Function	5/2 N.C. Monostable
Noise level (dB)	75

S	SENSOR
	M8 = M8x1 Proximity Sensor
	M12 = M12x1 Proximity Sensor
V	VOLTAGE
	02 = 24 VDC
	08 = 24 VDC 1 W
C	SUPPLY AND EXHAUST PORTS
	W = Ports 5, 1 and 3 closed
P	PILOT PORTS
	4 = Port 14 closed
V	VERSION
	= Standard
	M = Machinery directive

- It allow slow and gradual increase in pressure to the supply port and rapid exhaust
 - Available version as a safety component according to annex V of 2006/42/EC directive
 - Pressure zone exhaust ports 3 and 5 available
 - Diagnostic system that monitors the state of the valve:
- Sensor ON: Valve activated
Sensor OFF: Valve at rest



Weight 1360 g

27EP**S**T**C**0**0**



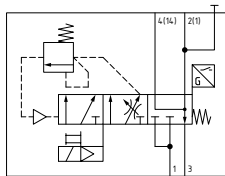
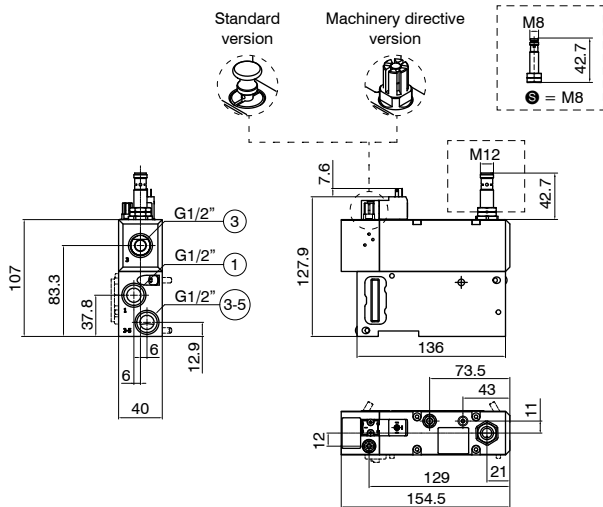
Weight 1360 g

27EP**S**T**C**0**M**

The "Activations time" values, are valid only for the 24 V DC 2,3W versions

Note: Overall noise level depends on the final application of the device

Note: The noise level indicated on the table is obtained without using silencers



Sensor	Out	Pin-out	Wiring diagram
M8 Male 3P type A	N.O.		
M12 Male 3P type A	N.O.		

Pin 1 = Brown - Pin 4 = Black - Pin 3 = Blue

Electrical characteristics: Electropilot	
Electropilot	Series 300 Size 15 mm
Electrical connection	Earth Faston / Series 300 connectors
Solenoid coils features	24 VDC 2.3 W 24 VDC 1 W
Supply voltage tolerance	-5% ... 10%
Manual override Integrated	No (separated from the electropilot)
Protection degree	IP65 (with mounted connector)

Note: Refer to the Pneumax general catalogue for detailed information regarding the electropilot

Electrical characteristics: Proximity sensor		
Type	Single channel	Single channel
Thread	M8x1	M12x1
Electrical design	PNP	PNP
Output function	N.O.	N.O.
Operating voltage	10 ... 30 VDC	10 ... 30 VDC
Current consumption (mA)	< 20	< 20
Isolating class	III	III
Display	Switching status 4x90° Yellow LEDs	Switching status 4x90° Yellow LEDs
Protection degree	IP65 (with mounted connector)	IP65 (with mounted connector)

Note: Manufacturer and model of proximity sensors could be changed at the discretion of Pneumax S.p.A.

Safety characteristics		
Standards compliances	EN ISO 13849-1:2015 EN ISO 13849-2:2012	
Performed Safety Function	Interruption of supply and exhaust of pneumatic channels connected to port 2 (1) and port 4 (14)	
Sensor feedback	Valve at REST	OFF
	Valve ACTIVATED	ON
MTTFd Sensor	Single Channel M8	1088 years
	Single Channel M12	932 years
Performance Level (PL)	Up to PL=d	
Category	Up to 2	
B10d	2.000.000 cycles	

Note B10d:

General Procedures for assessing pneumatic component reliability by testing performed in accordance with ISO 19973-1, Pneumatic fluid power - Assessment of component reliability by testing - Part 1: General Procedures.
Reliability and lifetime of pneumatic valves assessed in accordance with ISO 19973-2: Pneumatic fluid power - Assessment of component reliability by testing - Part 2: Directional control valves.

Activities regarding the identification of the safety function, the estimation of the required reliability level (e.g. estimation of the PLr according to EN ISO 13849-1), the design and the production of the related safety circuit, its verification and validation are responsibilities of the operator who uses the device in its final application.

The choice of the category and the satisfaction of its requirements according to EN ISO 13849-1 is in charge of the end-user who integrates the device in its final application while considering the final configuration of the safety circuit.

The diagnostic coverage value guaranteed by the sensor must be calculated by the end-user in function of the final configuration of the safety circuit (e.g. in function of the PLC for safety design which controls the solenoid valve and acquires the state of the sensor).

The estimation of the diagnostic coverage must satisfy the requirements of EN ISO 13849-1.

According to EN ISO 13849-1, T10d value must be calculated by the enduser in function of the annual operation number in which the device will be subjected to; in any case, the device must be substituted every 20 years.

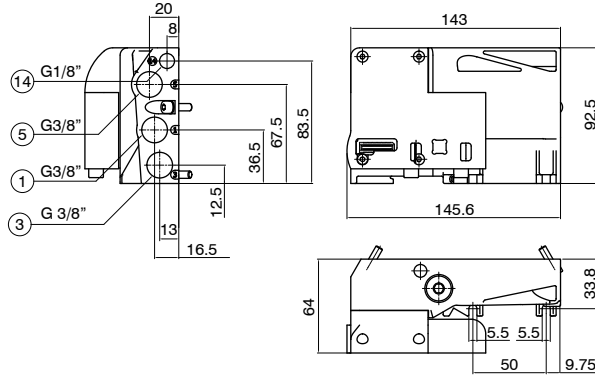
Left Endplate

Coding: 27TS30P

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	From vacuum to 10
Pilot pressure port 14 (bar)	3 ... 7



Weight 815 g



Right Endplate

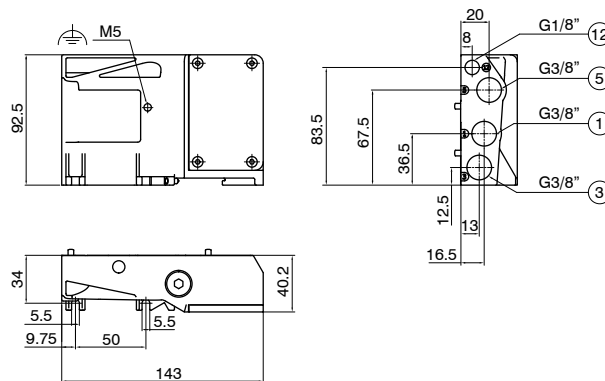
Coding: 27TD

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	From vacuum to 10
Pilot pressure port 12 (bar)	3 ... 7

SUPPLY AND EXHAUST PORTS	
00	= Ports 5, 1 and 3 open
W	= Ports 5, 1 and 3 closed
XY	= Ports 1-3 closed
ZX	= Ports 5-1 closed
ZY	= Ports 5-3 closed
X	= Port 1 closed
Y	= Port 3 closed
Z	= Port 5 closed



Weight 560 g



Modular base

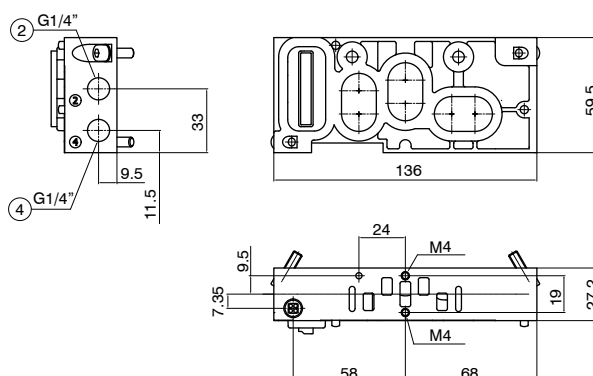
Coding: 27BVCP

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	3 ... 10

VERSION	
V	= Monostable
B	= Bistable
P	= Pass-through signal
SUPPLY AND EXHAUST PORTS	
	= Ports 5, 1 and 3 open
W	= Ports 5, 1 and 3 closed
XY	= Ports 1-3 closed
ZX	= Ports 5-1 closed
ZY	= Ports 5-3 closed
X	= Port 1 closed
Y	= Port 3 closed
Z	= Port 5 closed
PILOT PORTS	
	= Ports 14-12 open
4	= Port 14 closed
2	= Port 12 closed



Weight 298 g



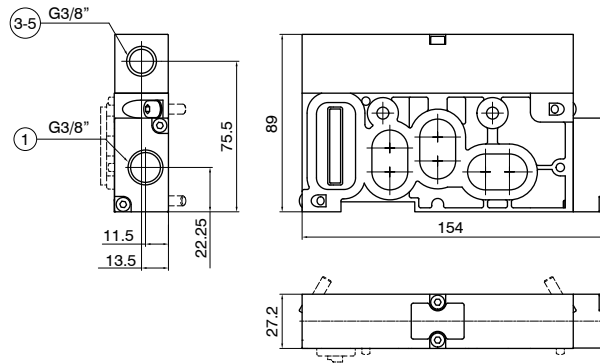
1
AIR DISTRIBUTION

Intermediate Inlet/Exhaust module

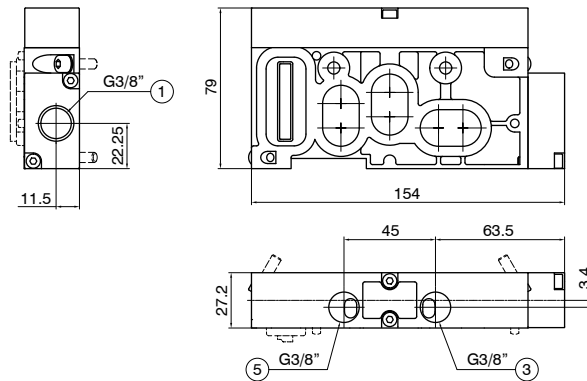
Coding: 27W **V** **C** **P**

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	From vacuum to 10

VERSION	
V	U = Conveyed exhausts S = Separated exhausts
SUPPLY AND EXHAUST PORTS	
	= Ports 5, 1 and 3 open
W	Ports 5, 1 and 3 closed
XY	Ports 1-3 closed
C	ZX = Ports 5-1 closed
	ZY = Ports 5-3 closed
	X = Port 1 closed
	Y = Port 3 closed
	Z = Port 5 closed
PILOT PORTS	
	= Ports 14-12 open
4	Port 14 closed
2	Port 12 closed



Weight 606 g

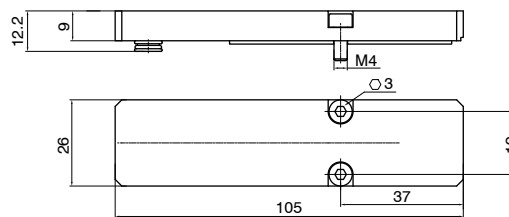


Weight 524 g

Free valve space plug

Coding: 27T00

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	From vacuum to 10
Pilot pressure port 14 (bar)	3 ... 7



Weight 70 g

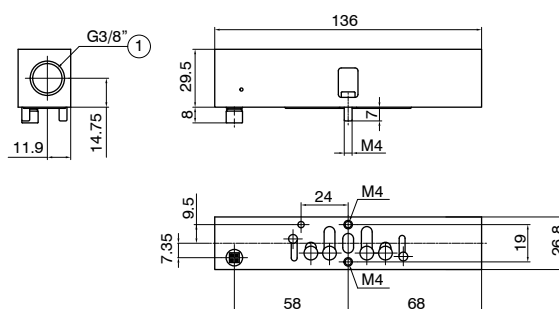
Single external power supply module

Coding: 27AS **V**

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	2 ... 10 (version 14) From vacuum to 10 (version 11)

VERSION	
V	11 = External supply of port 1 14 = External supply of ports 1 and 14

Weight 246 g



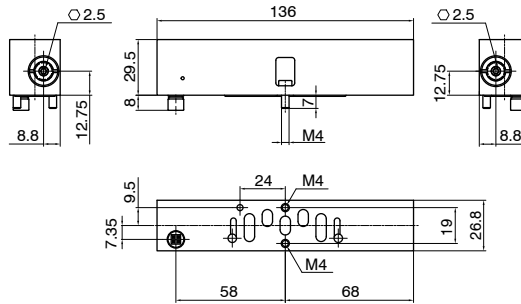
-Suitable module for vertical configuration
-It allows to externally supply a single valve with pressure different from the manifold.

Flow regulator module

Coding: 27RF ∇

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50

∇	VERSION
	35 = Exhaust flow regulator
Weight 283 g	



- Suitable module for vertical configuration
- It allows the flow regulation of ports 3 and 5
- Regulation through two needles independent of each other
- It is designed to control the speed of an actuator

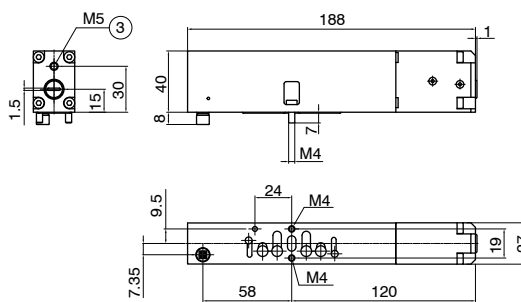


Shut-off and exhaust module

Coding: 27VL ∇ $\textcircled{1}$

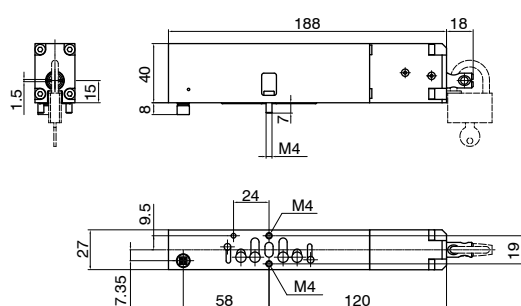
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50

∇	VERSION
	141 = Shut-off and exhaust of ports 1-14
$\textcircled{1}$	TYPE
	= Non lockable
	K = Lockable



Weight 504 g

27VL ∇



Weight 550 g

27VL ∇ K

- Suitable module for vertical configuration
- It allows you to shut-off and exhaust the supply port 1 and pilot port 14 or other modules mounted on it

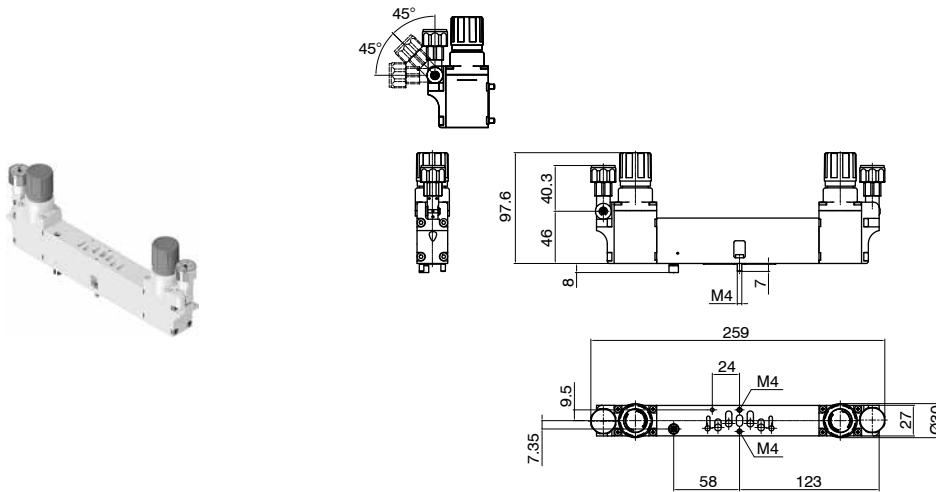
Pressure regulator (compact version)

Coding: 27RCRLGOC

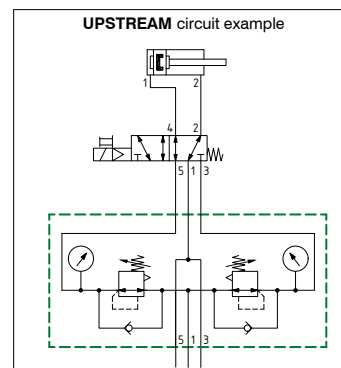
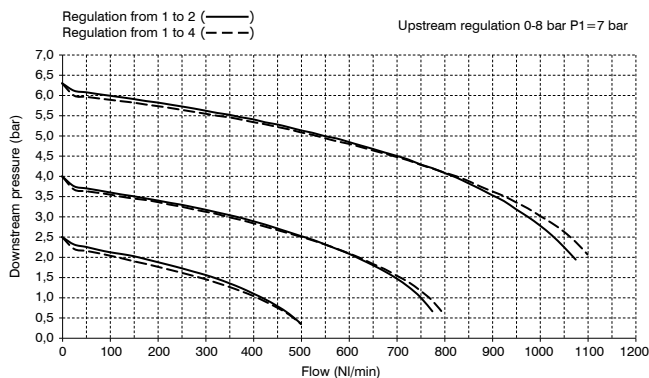
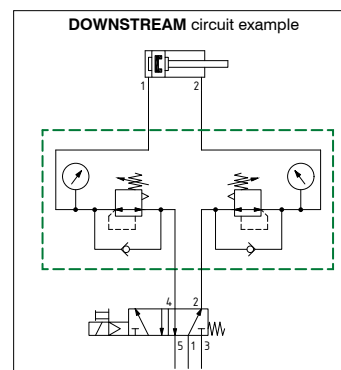
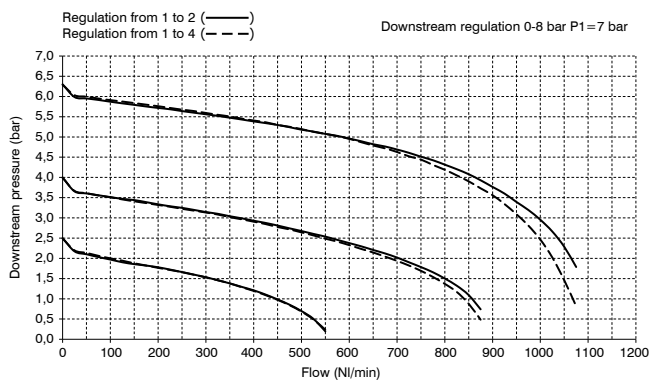
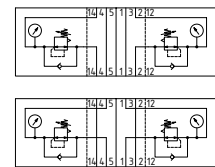
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	0,5 ... 10

R	REGULATION TYPE
D	Downstream
U	Upstream
L	REGULATION SIDE
2	Single L12
4	Single L14
24	Double L12-L14
G	REGULATION RANGE
A	0 - 2 bar
B	0 - 4 bar
C	0 - 8 bar
O	RELIEVING OPTIONS
A	With relieving
KNOB COLOUR	
V	Green (RAL 6032)
G	Grey (RAL 7004)

Weight 600 g



- Suitable module for vertical configuration
- It allows the regulation of output pressure to actuators
- Actuator pressure regulation:
 - with regulator upstream of the solenoid valve (faster exhaust phase of the actuator)
 - with regulator downstream of the solenoid valve
- Possible installation of pressure regulators in succession (available on request)
- Pressure gauges adjustable in 3 positions



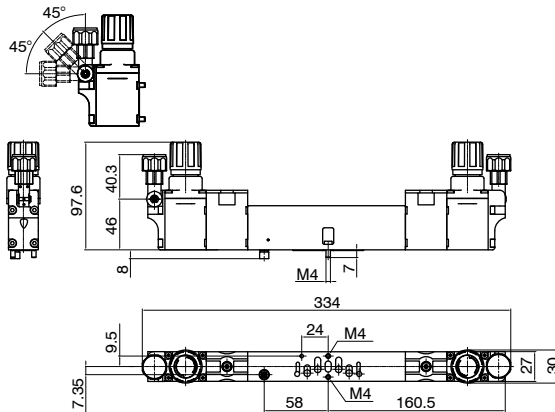
Note:
Pressure must be set upwards.
For greater accuracy and sensitivity, it is recommended using a regulator with a pressure rating as close as possible to the desired pressure.

Pressure regulator (extended version)

Coding: 27RPRLGOCV

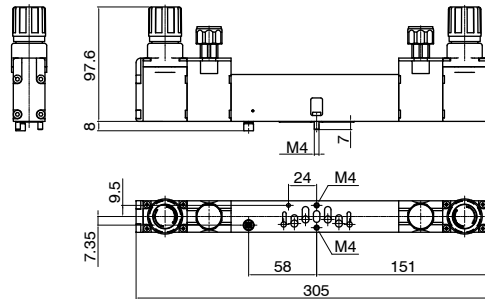
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous Recommended purity class [5:4:4] according to ISO 8573-1:2010
Temperature °C	-10 ... +50
Working pressure (bar)	0,5 ... 10

REGULATION TYPE	F = Downstream U = Upstream
REGULATION SIDE	2 = Single L12 4 = Single L14 24 = Double L12-L14
REGULATION RANGE	A = 0 - 2 bar B = 0 - 4 bar C = 0 - 8 bar
RELIEVING OPTIONS	A = With relieving
KNOB COLOUR	V = Green (RAL 6032) G = Grey (RAL 7004)
VERSION	V = Adjustable pressure gauge M = Fixed pressure gauge



Weight 760 g

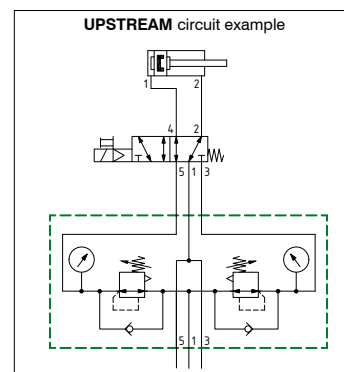
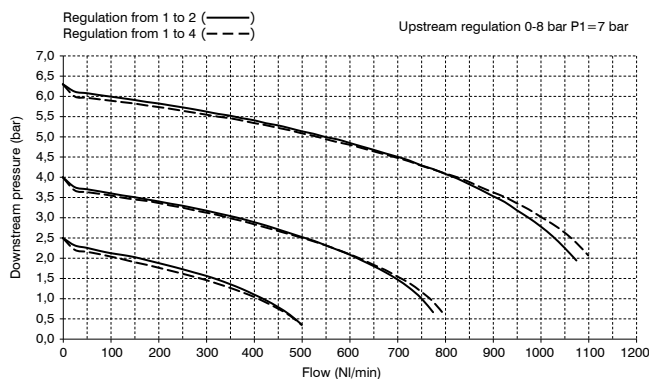
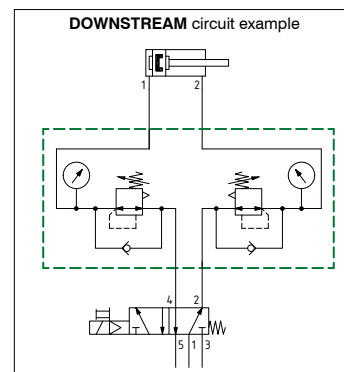
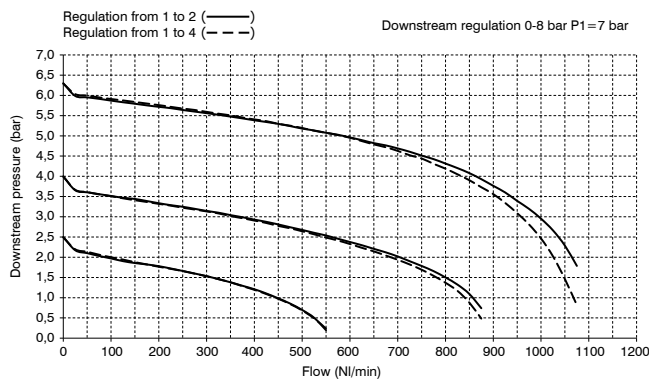
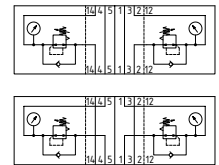
27RPRLGOCM



Weight 760 g

27RPRLGOCM

- Suitable module for vertical configuration
- It allows the regulation of output pressure to actuators
- Actuator pressure regulation:
 - with regulator upstream of the solenoid valve (faster exhaust phase of the actuator)
 - with regulator downstream of the solenoid valve
- Possible installation of pressure regulators in succession (available on request)
- Pressure gauges adjustable in 3 positions or fixed



Note:
Pressure must be set upwards.
For greater accuracy and sensitivity, it is recommended using a regulator with a pressure rating as close as possible to the desired pressure.

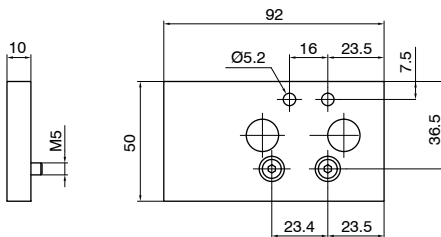


▶ Offset compensation plate

Coding: 27P0



Weight 118 g

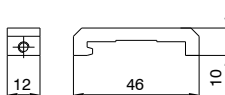


▶ DIN rail adapter

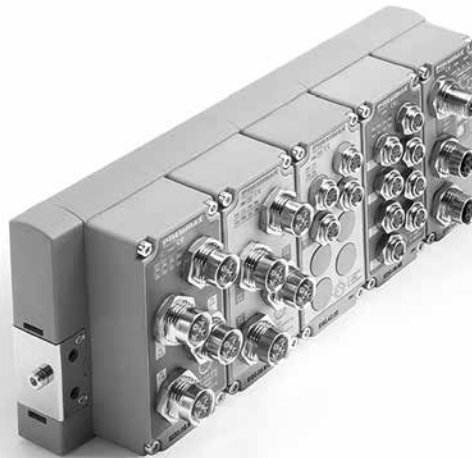
Coding: 3100.16



Weight 12 g



1
AIR DISTRIBUTION



A UNIQUE CONTROL SYSTEM, A WIDE RANGE OF SOLUTIONS

The PX Series multiserual module can be integrated into all Optyma S-F-T and 2700 series solenoid valves manifolds in EVO versions. The solenoid valves manifolds can be configured by implementing all major communication protocols on the same electronics, ensuring maximum flexibility and reliability in any application context.

MULTI-PIN MODULE				
	Optyma-S	Optyma-F	Optyma-T	Series 2700
25 poles	•	•	•	•
37 poles	•	•	•	•
44 poles	•			
SERIAL SYSTEMS				
	Optyma-S	Optyma-F	Optyma-T	Series 2700
CANopen® 32 bit protocol node kit	•	•	•	•
CANopen® 48 bit protocol node kit	•			
PROFIBUS DP 32 bit protocol node kit	•	•	•	•
PROFIBUS DP 48 bit protocol node kit	•			
EtherNet/IP protocol node kit	•	•	•	•
EtherCAT® protocol node kit	•	•	•	•
PROFINET IO RT protocol node kit	•	•	•	•
CC-Link IE Field Basic protocol node kit	•	•	•	•
IO-Link 32 bit protocol interface kit	•	•	•	•
IO-Link 48 bit protocol interface kit	•			
INPUTS AND OUTPUTS MODULES				
	Optyma-S	Optyma-F	Optyma-T	Series 2700
8 M8 & M12 digital inputs module kits	•	•	•	•
8 M8 & M12 digital outputs module kits	•	•	•	•
32 digital inputs & outputs module kits (37 pin SUB-D connector)	•	•	•	•
Analogue inputs module kit M8	•	•	•	•
Analogue outputs module kit M8	•	•	•	•
Pt100 inputs module kit	•		•	•
ADDITIONAL MODULES				
	Optyma-S	Optyma-F	Optyma-T	Series 2700
Additional power supply module kit	•	•	•	•



Coding: 5E30.Ⓒ

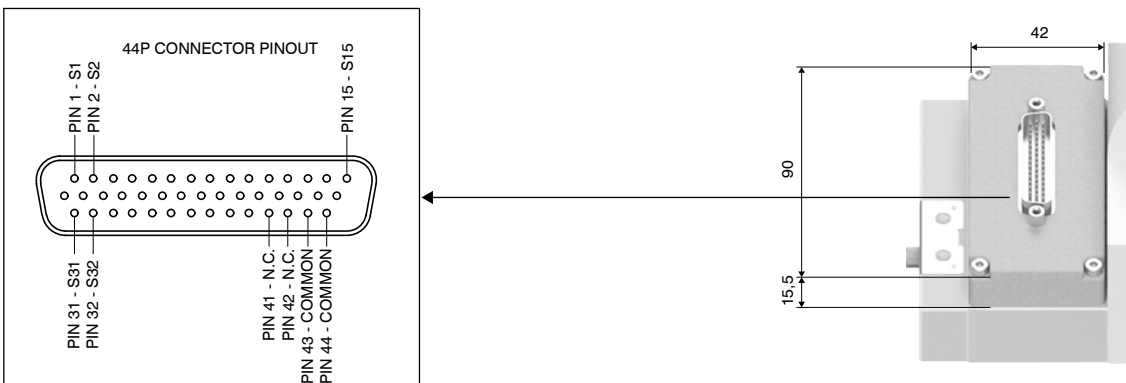
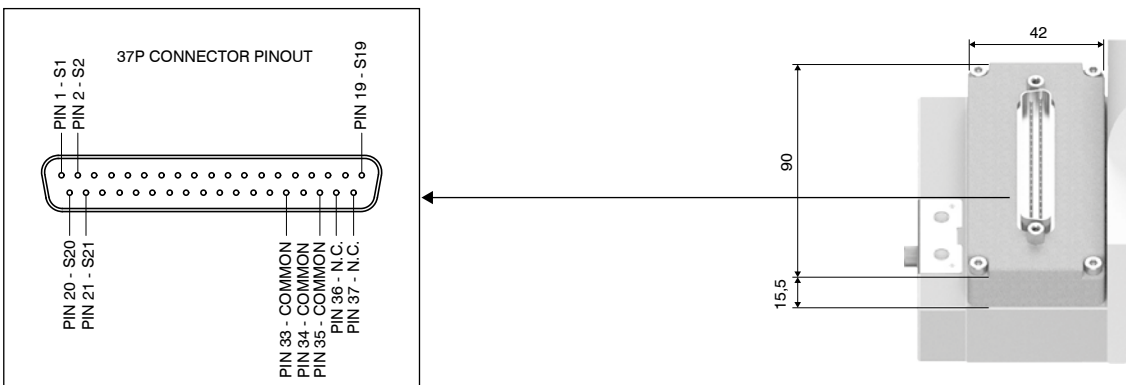
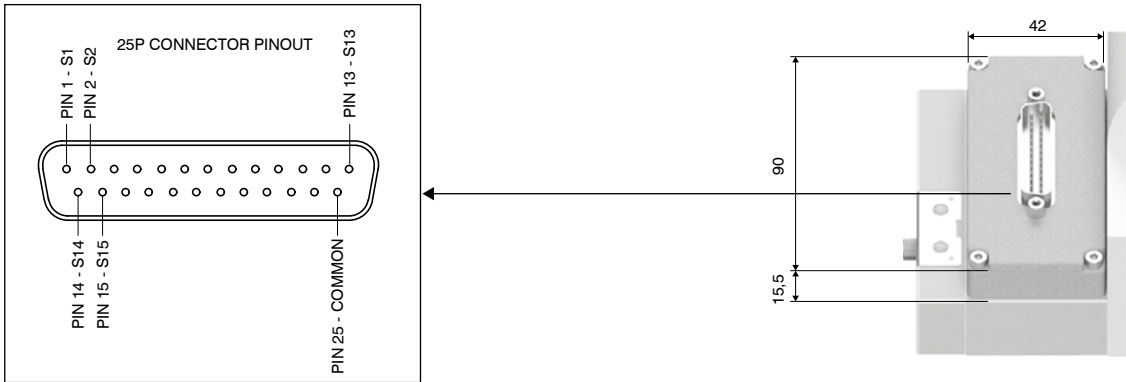
► Multi-pin module

Technical characteristics	
Maximum current per module	300mA
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3kΩ
Maximum cable length	< 30 m
Input data allocation	8 bit
INPUTS + 24 VDC current consumption of the module only	5mA
Maximum number of handled signals	25 Poles
	37 poles
	44 Poles

ELECTRICAL CONNECTION
25P = Connector 25 poles PNP
37P = Connector 37 poles PNP
44P = Connector 44 poles PNP
25N = Connector 25 poles NPN
37N = Connector 37 poles NPN
44N = Connector 44 poles NPN
25A = Connector 25 poles AC
37A = Connector 37 poles AC
44A = Connector 44 poles PNP

1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



CANopen® protocol node kit

CANopen® node manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Connection to CANopen® fieldbus is made via two M12, male and female, 5 pins, type A circular connectors, in parallel between them; connectors pinout is compliant to CiA Draft recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed and address, as well as termination resistor activation are set via DIP-switches.

CANopen® node is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24\text{ V DC out}} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

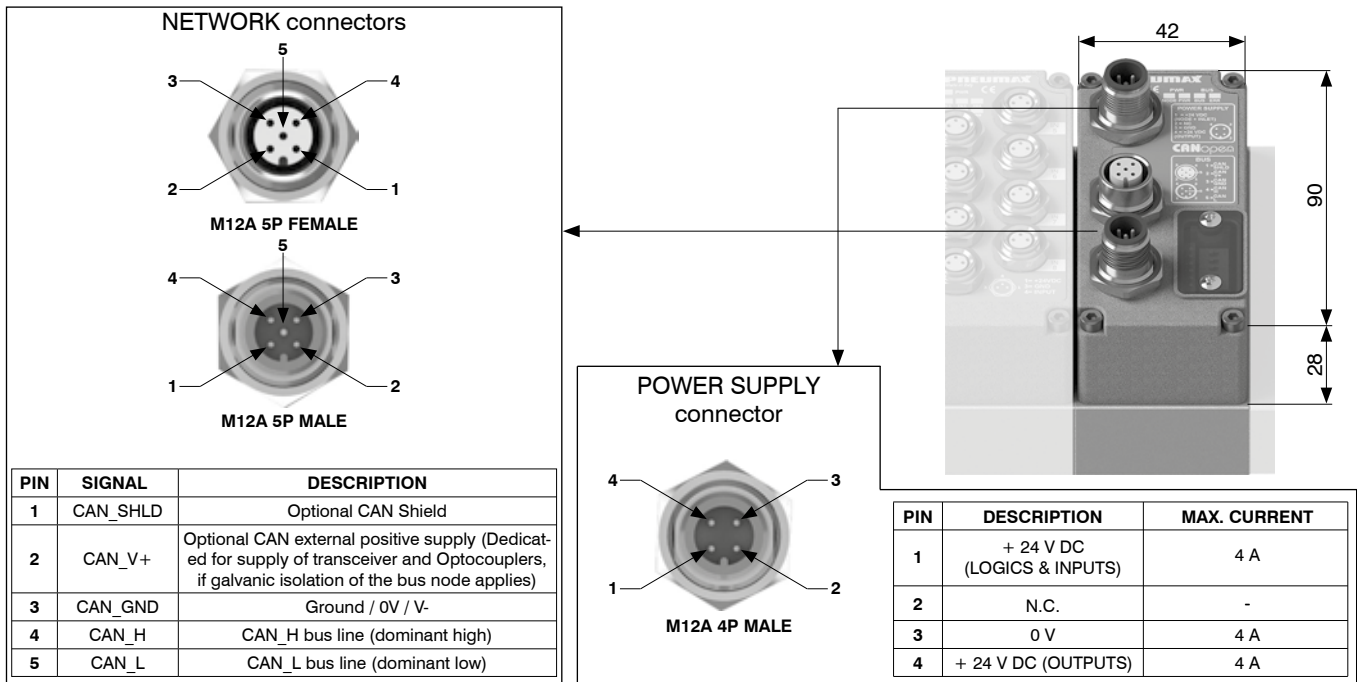
$$I_{24\text{ V DC out}} + I_{24\text{ V DC in}} < 4A$$

Where:

$$I_{24\text{ V DC in}} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

Scheme / Overall dimensions and I/O layout



Coding: K5530.64.VCO

VERSION
V 32 = 32 output bits available for valve connections 48 = 48 output bits available for valve connections



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



1
AIR DISTRIBUTION

Technical characteristics		
Specifications		CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 VDC ± 10%
	Node only current consumption on + 24 VDC inputs	40 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 5 pins male-female connectors type A (IEC 60947-5-2)
	Baud rate	10 - 20 - 50 - 125 - 250 - 500 - 800 - 1000 Kbit/s
	Addresses possible numbers	From 1 to 63
	Maximum nodes number in network	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

PROFIBUS DP protocol node kit

PROFIBUS DP node manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Connection to PROFIBUS DP fieldbus is made via two M12, male and female, 5 pins, type B circular connectors, in parallel between them; connectors pinout is PROFIBUS Interconnection Technology specifications compliant (Version 1.1, August 2001).

Address as well as termination resistor activation are set via DIP-switches.

PROFIBUS DP node is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Coding: K5330.64. PB

VERSION
32 = 32 output bits available for valve connections
48 = 48 output bits available for valve connections



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24VDC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24VDC\ out} + I_{24VDC\ in} < 4A$$

Where:

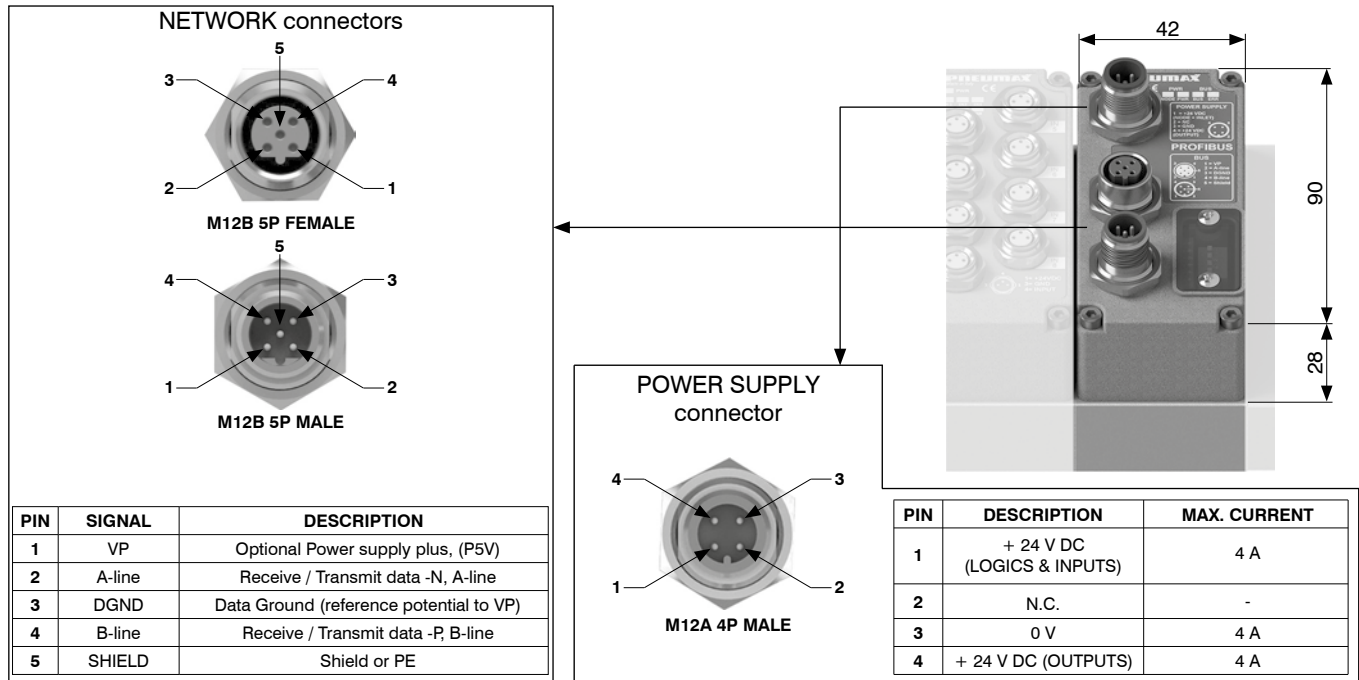
$$I_{24VDC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics

Specifications		PROFIBUS DP
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	70 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 5 pins male-female connectors type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses possible numbers	From 1 to 99
	Maximum nodes number in network	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
Configuration file		Green / red status LED
Protection degree		Available from our web site http://www.pneumaxspa.com
Temperature °C		IP65 when assembled
		-5 ... +50

EtherNet/IP protocol node kit

EtherNet/IP node manages 128 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.

Code K5730.128.48EI provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.

Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48EI

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24\text{ V DC out}} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

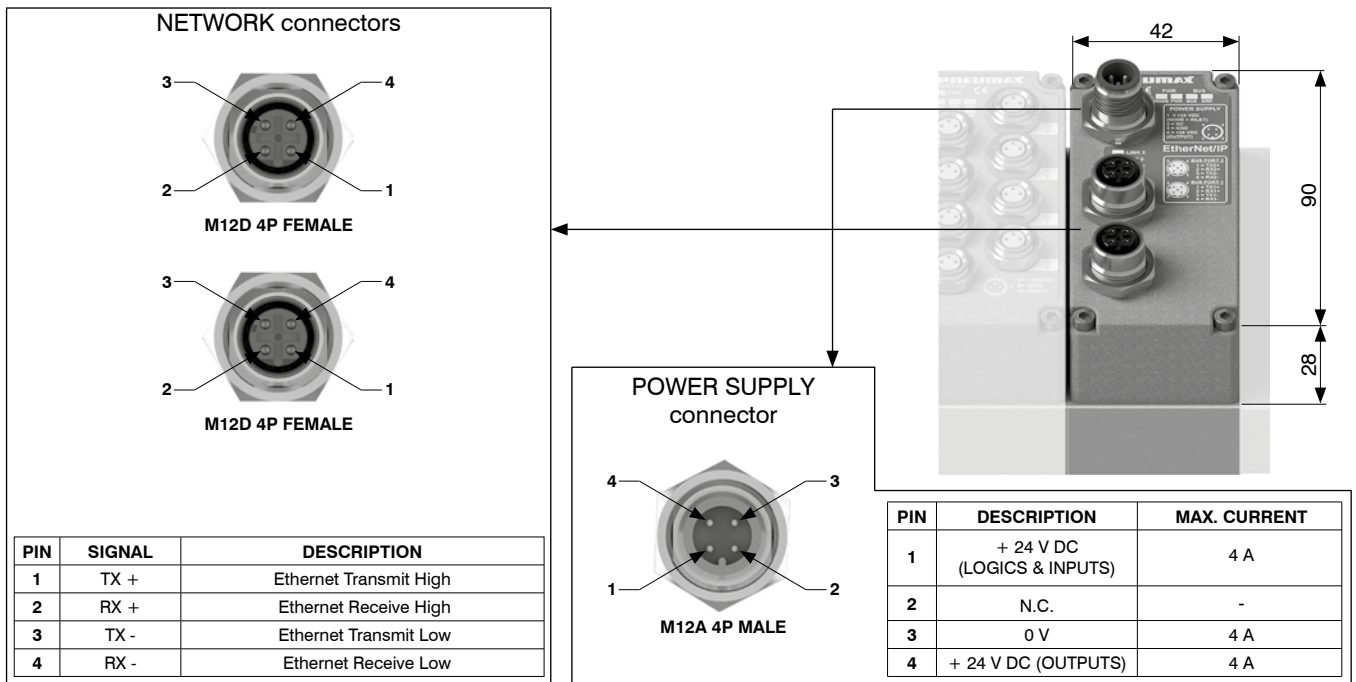
$$I_{24\text{ V DC out}} + I_{24\text{ V DC in}} < 4A$$

Where:

$$I_{24\text{ V DC in}} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

Scheme / Overall dimensions and I/O layout



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



1
AIR DISTRIBUTION



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

EtherCAT® protocol node kit

EtherCAT® node manages 128 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.

Code K5730.128.48EC provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.

Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48EC



Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24V\ DC\ out} + I_{24V\ DC\ in} < 4A$$

Where:

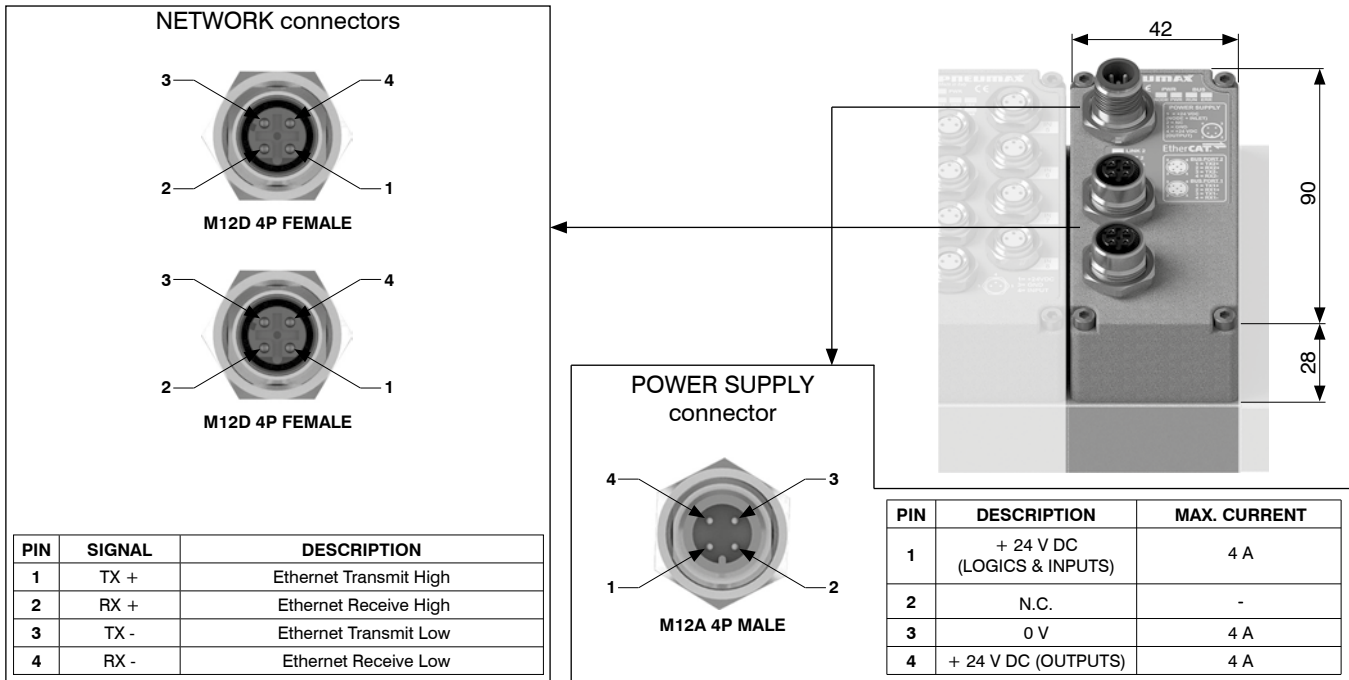
$$I_{24V\ DC\ in} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

Scheme / Overall dimensions and I/O layout



Technical characteristics

Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

PROFINET IO RT protocol node kit

PROFINET IO RT node manages 128 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Network connection is made via 2 M12 female, type D, 4 pins, circular connectors.

Code K5730.128.48PN provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node.

Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48PN

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24\text{ V DC out}} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 *Optyma S*	36 mA
2500 *Optyma F*	54 mA
2500 *Optyma T*	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

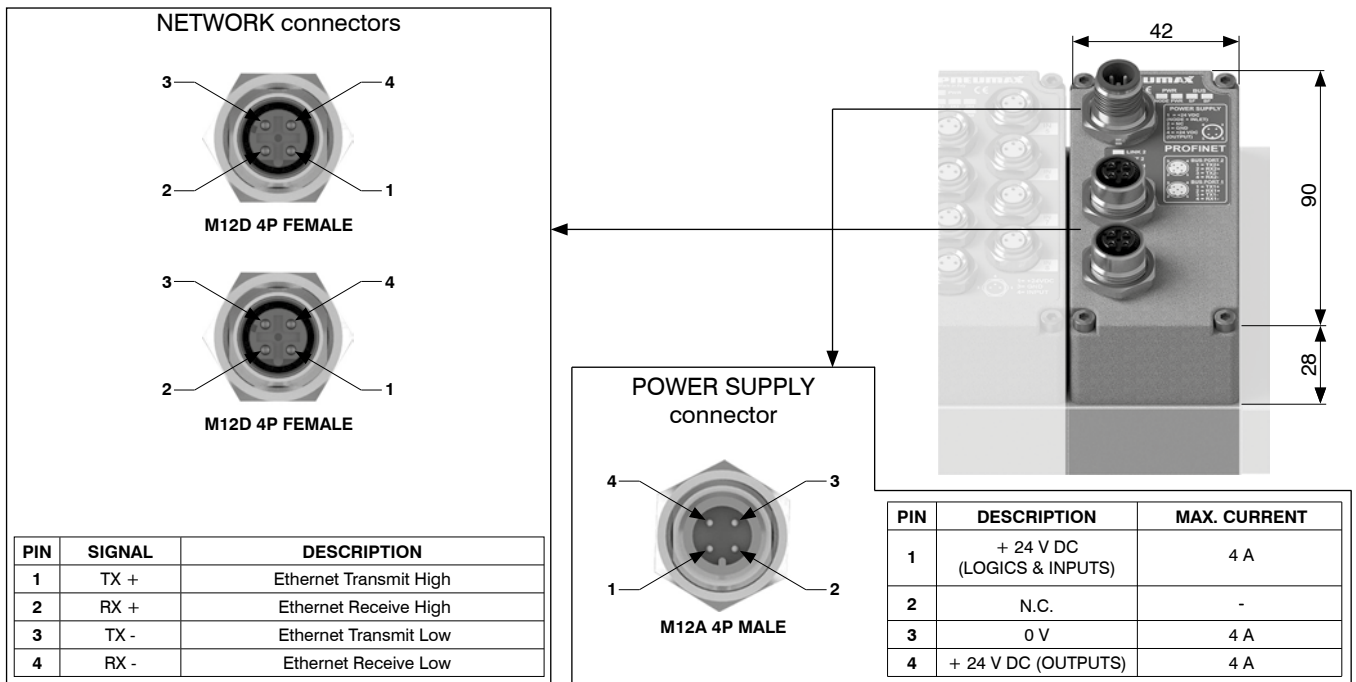
$$I_{24\text{ V DC out}} + I_{24\text{ V DC in}} < 4A$$

Where:

$$I_{24\text{ V DC in}} = \sum_{i=1}^n I_{in,i}$$

n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

Scheme / Overall dimensions and I/O layout



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



1
AIR DISTRIBUTION



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	Green / red status LED
Configuration file		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

CC-Link IE Field Basic protocol node kit

CC-Link IE Field Basic node manages 128 inputs and outputs. Accessory modules can be connected in whatever order and configuration. Network connection is made via 2 M12 female, type D, 4 pins, circular connectors. Code K5730.128.48CL provides first 48 outputs, corresponding to least significant 6 bytes, are allocated to the solenoid valve positions, regardless how many they are and how many valves are installed on the manifold directly connected to the node. Remaining 80 outputs can be used to manage output modules; bytes allocation to additional modules is fully automatic.

Coding: K5730.128.48CL

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by OUTPUTS + 24 V DC (pin 4).

To compute the maximum current on the OUTPUTS + 24 V DC, please use the following formula:

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i -th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

For each fieldbus node, maximum deliverable current by OUTPUTS + 24 V DC supply is 4 A, moreover the sum of the currents on OUTPUTS + 24 V DC and INPUTS + 24 V DC must not exceed 4 A.

$$I_{24V\ DC\ out} + I_{24V\ DC\ in} < 4A$$

Where:

$$I_{24V\ DC\ in} = \sum_{i=1}^n I_{in,i}$$

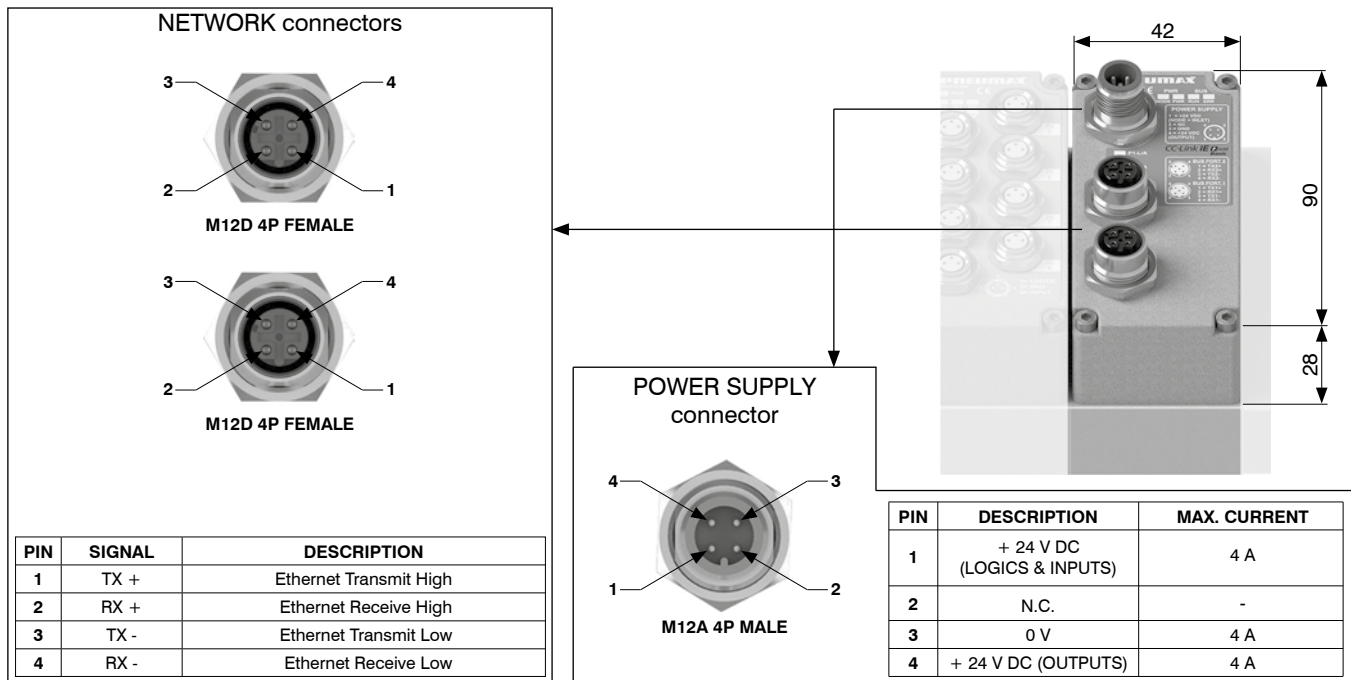
n = number of installed modules
 $I_{in,i}$ = maximum total current absorbed by the i -th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)



In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.



Scheme / Overall dimensions and I/O layout



Technical characteristics		
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC ± 10%
	Node only current consumption on + 24 V DC inputs	65 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	2 M12 4 pins male-female connectors type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 Green LED and 1 red status LED + 2 link and activity LEDs ¹
Configuration file	Available from our web site http://www.pneumaxspa.com	
Protection degree	IP65 when assembled	
Temperature °C	-5 ... +50	

IO-Link protocol interface kit

IO-Link interface manages 64 inputs and outputs.

Accessory modules can be connected in whatever order and configuration.

Electric power supply and IO-Link connection to the Master are made via M12, male, 5 pins, type A, circular connector, "CLASS B", according to IO-Link specifications.

Electric rails L+/L- supply interface only, while P24/N24 rails supply additional modules and solenoid valves.

Either power supplies are galvanically isolated in the IO-Link interfaces.

IO-Link interface is available in two versions with 32 or 48 outputs allocated to solenoid valves on the manifold directly connected to the node.

Such outputs correspond to least significant bytes and their allocation is independent of how many solenoid valves are installed.

Remaining outputs can be used to control the modules.

Byte allocation to additional modules is fully automatic.

Current limitations

Both stand alone and integrated components must operate within the current limits of the fieldbus node; please note: the solenoid valves are supplied by pin 2 and pin 5 (P24 / N24).

To compute the maximum current on the P24 / N24 supply, please use the following formula::

$$I_{24V\ DC\ out} = \sum_{i=1}^n I_{out,i} + m i_{EV}$$

n = number of installed modules
 $I_{out,i}$ = maximum total current absorbed by the i-th module on the OUTPUTS + 24 V DC supply rail (please see specifications of the single module)
 $I_{in,i}$ = maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)
 m = number of installed solenoid pilots
 i_{EV} = mean absorbed current per solenoid pilot (please see table below)

Series	i_{EV}
2200 "Optyma S"	36 mA
2500 "Optyma F"	54 mA
2500 "Optyma T"	54 mA
Series 2700	24 mA (1 W version) / 100 mA (2,3 W version)

= maximum total current absorbed by the i-th module on the INPUTS + 24 V DC supply rail (please see specifications of the single module)

In case total current is more than 4 A, it is mandatory to supply modules exceeding current limit with power supply module K5030.M12.

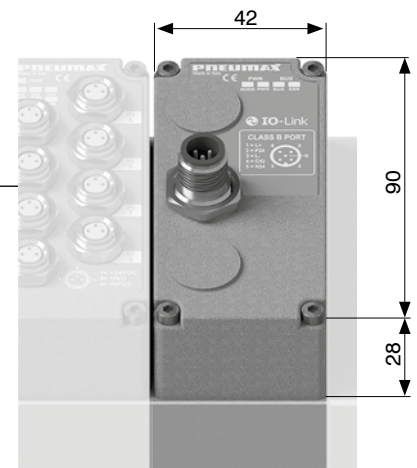
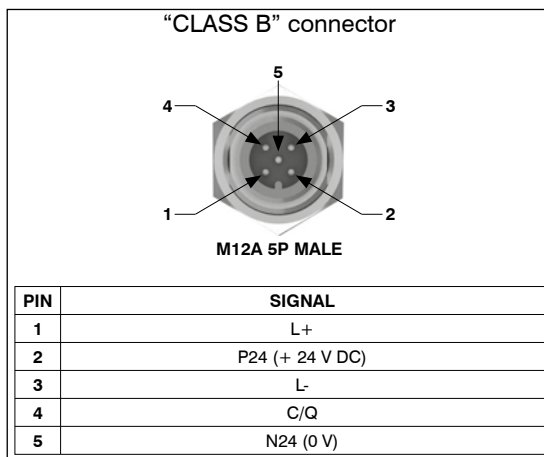
Coding: K5830.64.VIK

VERSION
V 32 = 32 output bits available for valve connections
48 = 48 output bits available for valve connections



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics		
Specifications		IO-Link Specification v1.1
Case		Reinforced technopolymer
Power supply	Voltage	+ 24 V DC +/- 10%
	Interface current consumption on + 24 VDC (L+ / L-)	25 mA
	Power supply diagnosis	Green LED PWR NODE / Green LED PWR OUT
Communication	Connection	"Class B" port
	Communication speed	38.4 kbaud/s
	Maximum distance from Master	20 m
	Bus diagnosis	Green / red status LED
	Vendor ID / Device ID	1257 (hex 0x04E9) / 3000 (hex 0x0BB8)
Configurations file IO-DD		Available from our web site http://www.pneumaxspa.com
Protection degree		IP65 when assembled
Temperature °C		-5 ... +50

8 digital inputs module kit M8

M8 digital inputs module provides 8 M8, 3 pins, female connectors.

Inputs have PNP logic, + 24 V DC \pm 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.08.M8

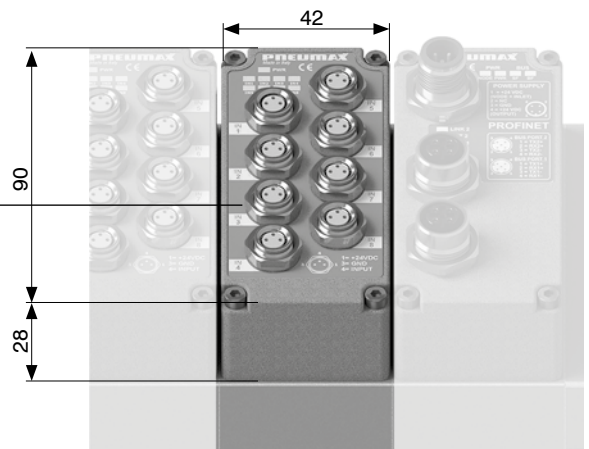
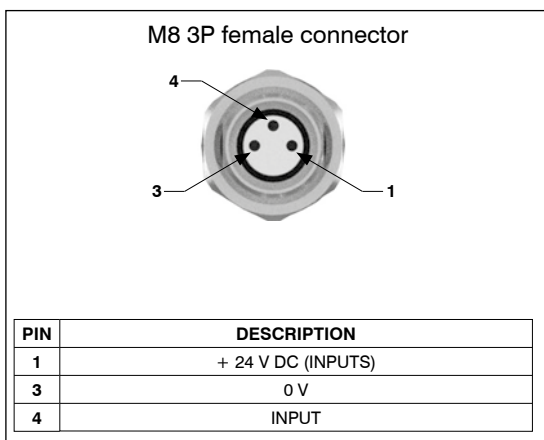


1 AIR DISTRIBUTION

Technical characteristics

Maximum current per module	300 mA
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3 k Ω
Maximum cable length	< 30 m
Input data allocation	8 bit
INPUTS + 24 V DC current consumption of the module only	5 mA

Scheme / Overall dimensions and I/O layout



8 digital inputs module kit M12

M12 digital inputs module provides 4 M12, 5 pins, female connectors.

Inputs have PNP logic, + 24 V DC \pm 10%.

Every connector takes two input channels.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

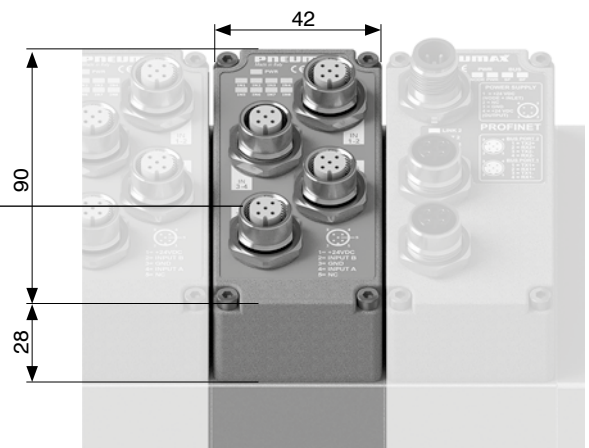
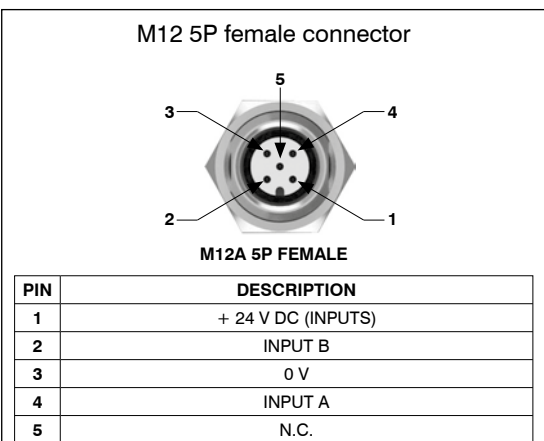
Coding: K5230.08.M12



Technical characteristics

Maximum current per module	300 mA
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3k Ω
Maximum cable length	< 30 m
Input data allocation	8 bit
INPUTS + 24 V DC current consumption of the module only	5 mA

Scheme / Overall dimensions and I/O layout



8 digital outputs module kit M8

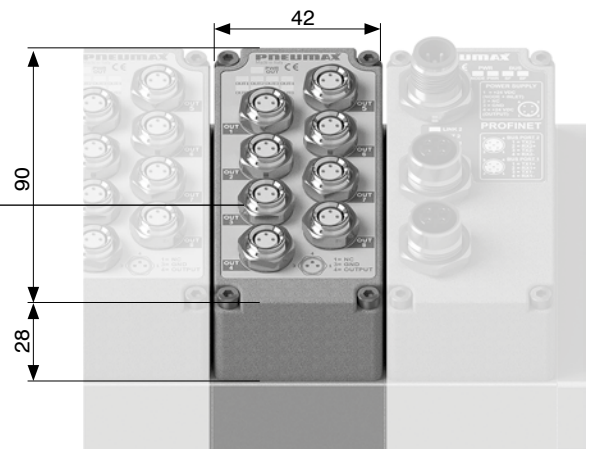
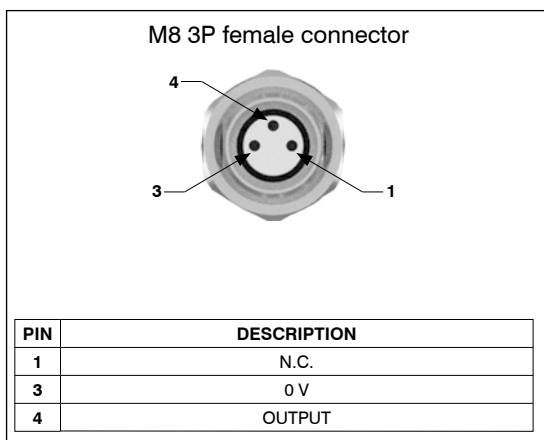
M8 digital inputs module provides 8 M8, 3 pins, female connectors.
Outputs have PNP logic, + 24 V DC \pm 10%.
Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.
Power supply presence is displayed by "PWR OUT" green LED light-on.
Each output has a LED indicator associated which lights up when output's signal status is high.

Coding: K5130.08.M8



Technical characteristics	
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	8 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout



1

AIR DISTRIBUTION

8 digital outputs module kit M12

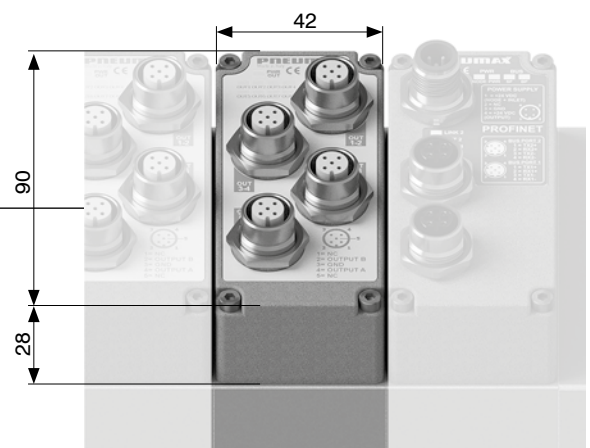
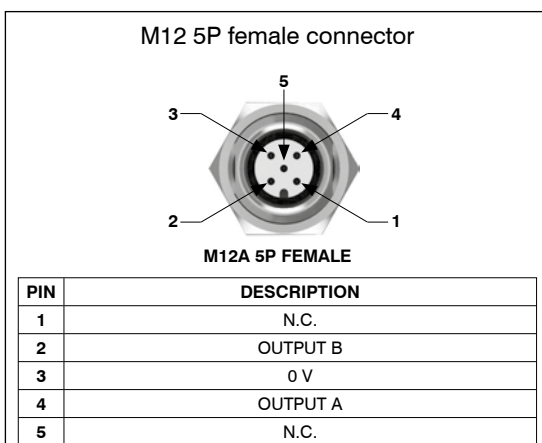
M12 digital inputs module provides 4 M12, 5 pins, female connectors.
Outputs have PNP logic, + 24 V DC \pm 10%.
Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.
Power supply presence is displayed by "PWR OUT" green LED light-on.
Each output has a LED indicator associated which lights up when output's signal status is high.

Coding: K5130.08.M12



Technical characteristics	
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	8 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout



32 digital inputs module kit (37 pins SUB-D connector)

The module provides a SUB-D 37 pins female connector.

Inputs have PNP logic, + 24 V DC \pm 10%.

It is possible to connect 2 wires devices (e.g. switches, magnetic limit switches, pressure switches, etc.) as well as 3 wires devices (e.g. proximity sensors, photocells, electronic magnetic limit switches, etc.).

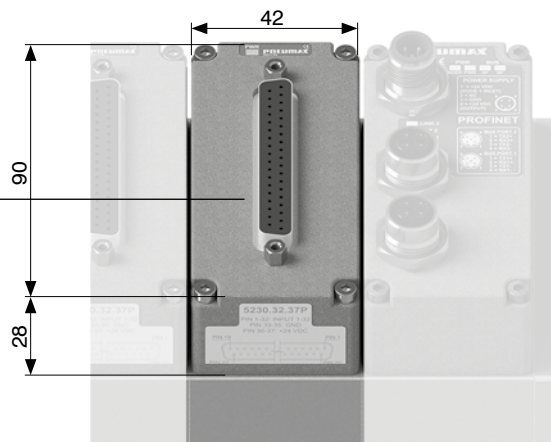
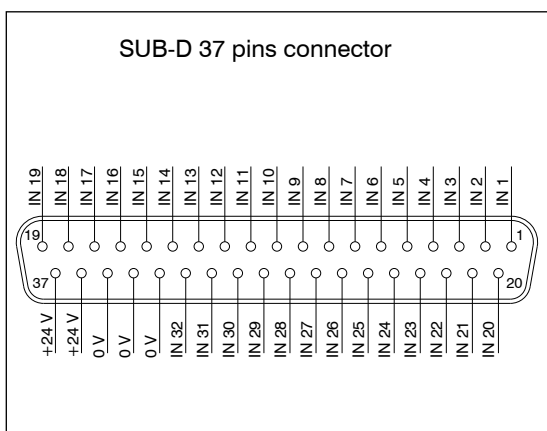
Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.32.37P



Technical characteristics	
Maximum current per module	1 A
Protection	Overcurrent (auto-resettable fuse) Reverse polarity
Input impedance	3 k Ω
Maximum cable length	< 30 m
Input data allocation	32 bit
INPUTS + 24 V DC current consumption of the module only	10 mA

Scheme / Overall dimensions and I/O layout



32 digital outputs module kit (37 pins SUB-D connector)

The module provides a SUB-D 37 pins female connector.

Outputs have PNP logic, + 24 V DC \pm 10%.

Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

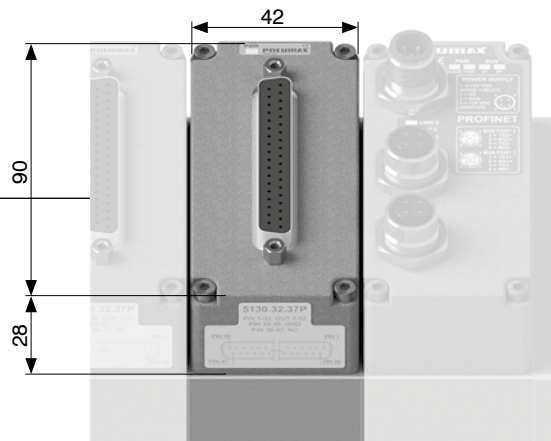
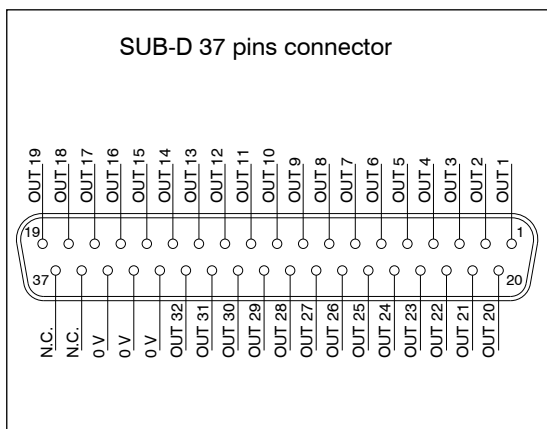
Power supply presence is displayed by "PWR OUT" green LED light-on.

Coding: K5130.32.37P



Technical characteristics	
Maximum current per output	100 mA
Protection	Short circuit (electronic), trigger at 2.8A
Maximum cable length	< 30 m
Output data allocation	32 bit
OUTPUTS + 24 V DC current consumption of the module only	15 mA

Scheme / Overall dimensions and I/O layout



Analogue inputs module kit M8

M8 analogue inputs module converts analogue signals into digital signals and transfers acquired data to field bus, via network node.

Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230. **CS**

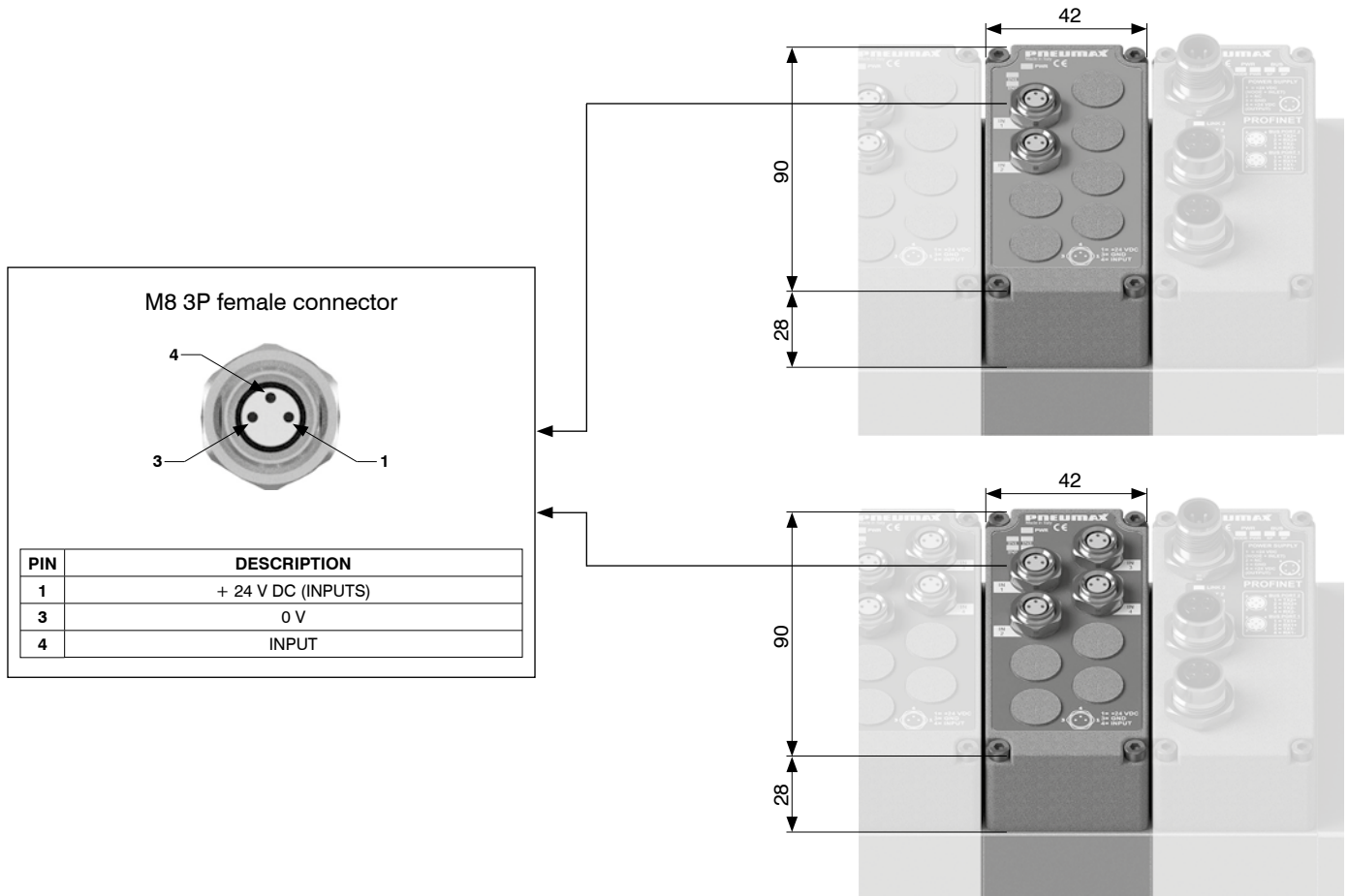
Technical characteristics	
Protection (pin 1)	Overcurrent (auto-resettable fuse)
Input impedance (voltage inputs)	33 kΩ
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Input data allocation	16 bit per channel
Diagnostic LED	Input signal overcurrent or overvoltage
Accuracy	0,3% F.S.
Overall maximum current 2 channels (pin 1)	300 mA
Overall maximum current 4 channels (pin 1)	750 mA (375 mA for each pair of channels)
INPUTS + 24 V DC current consumption of the module only	15 mA

CHANNELS	
C	2 = 2 channels 4 = 4 channels
SIGNAL	
T.00	= VOLTAGE (0-10 V)
T.01	= VOLTAGE (0-5 V)
C.00	= CURRENT (4-20 mA)
C.01	= CURRENT (0-20 mA)



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Analogue outputs module kit M8

M8 analogue outputs module converts output data, received from field bus via network node, into analogue signal. Outputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pins M12 power connector, pin 4) or by K5030.M12 additional power supply module, in case it were installed upstream of the outputs module.

Coding: K5130.

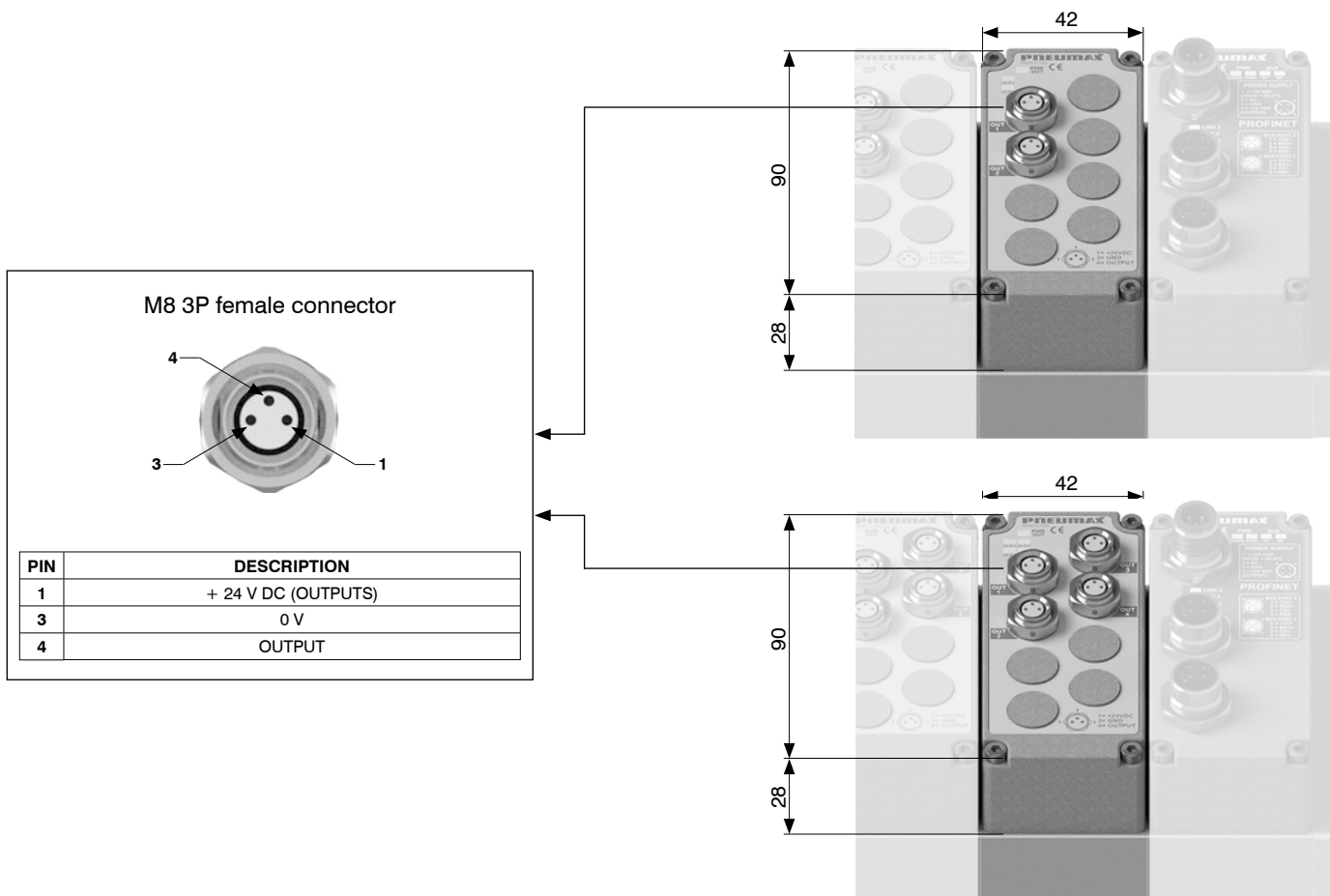
	CHANNELS
C	2 = 2 channels 4 = 4 channels
	SIGNAL
T.00	= VOLTAGE (0-10 V)
T.01	= VOLTAGE (0-5 V)
C.00	= CURRENT (4-20 mA)
C.01	= CURRENT (0-20 mA)



1
AIR DISTRIBUTION

Technical characteristics	
Protection (pin 1)	Overcurrent (auto-resettable fuse)
Protection (pin 4)	Overcurrent (auto-resettable fuse)
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Output data allocation	16 bit per channel
Diagnostic LED	Output signal overcurrent
Accuracy	0,3% F.S.
Overall maximum current 2 channels (pin 1)	300 mA
Overall maximum current 4 channels (pin 1)	750 mA (375 mA for each pair of channels)
INPUTS + 24 V DC current consumption of the module only	15 mA
OUTPUTS + 24 V DC current consumption of the module only (2 channels)	35 mA
OUTPUTS + 24 V DC current consumption of the module only (4 channels)	70 mA

Scheme / Overall dimensions and I/O layout



Pt100 inputs module kit

Pt100 inputs module digitizes signals from Pt100 probes and transfers acquired data to field bus, via network node. It is possible to connect two, three or four wires probes. Inputs module power supply is provided by + 24 V DC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by K5030.M12 additional power supply module, in case it were installed upstream of the inputs module.

Coding: K5230.CP.0^T

CHANNELS	
C	2 = 2 channels 4 = 4 channels
TYPE	
T	0 = Pt100 2 wires 1 = Pt100 3 wires 2 = Pt100 4 wires

Technical characteristics	
Digital conversion resolution	12 bit
Maximum cable length	< 30 m
Input data allocation	16 bit per channel
Diagnostic LED	Probe presence Temperature out of range
Accuracy	±0,2°C
Probe temperature range	-100°C ... +300°C
INPUTS + 24 V DC current consumption of the module only (2 channels)	25 mA
INPUTS + 24 V DC current consumption of the module only (4 channels)	35 mA

Conversion formula (°C)

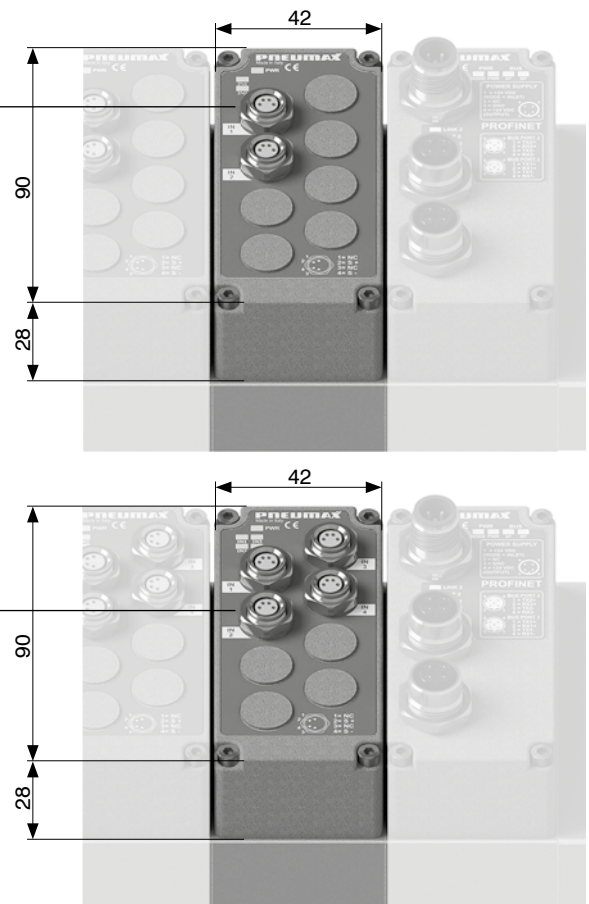
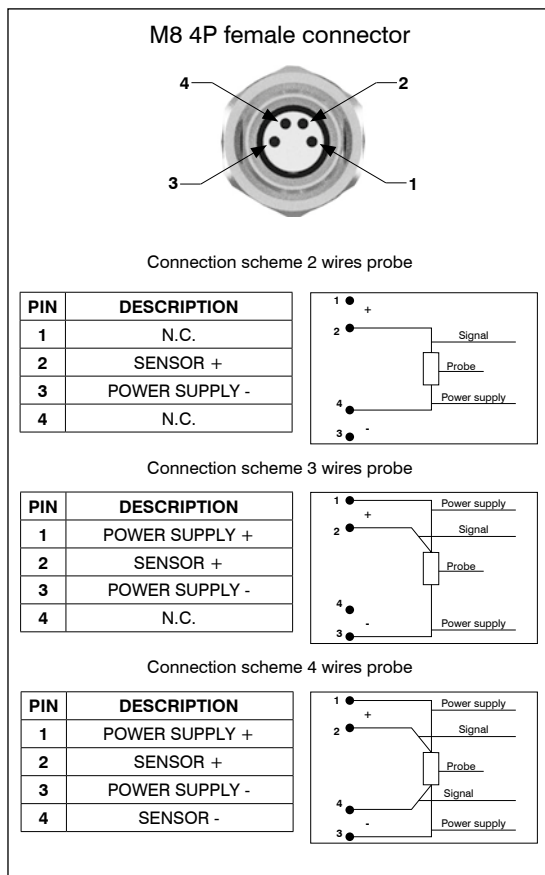
$$\text{Temperature (°C)} = \left(\frac{\text{Points}}{4095} \times 400 \right) - 100$$



1

AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Additional power supply module kit

Additional power supply module supplies additional electric power for downstream optional modules, where "downstream" means farther from serial node, **resetting the current limits of the network node / IO-Link interface.**

Electric connection of the module to external power supply unit occurs via an M12 4 pins type A male connector.

M12 connector has two different pins to power up logics and inputs (Pin 1) and outputs (Pin 4).

Presence of each power supply rail is indicated by corresponding green LED.

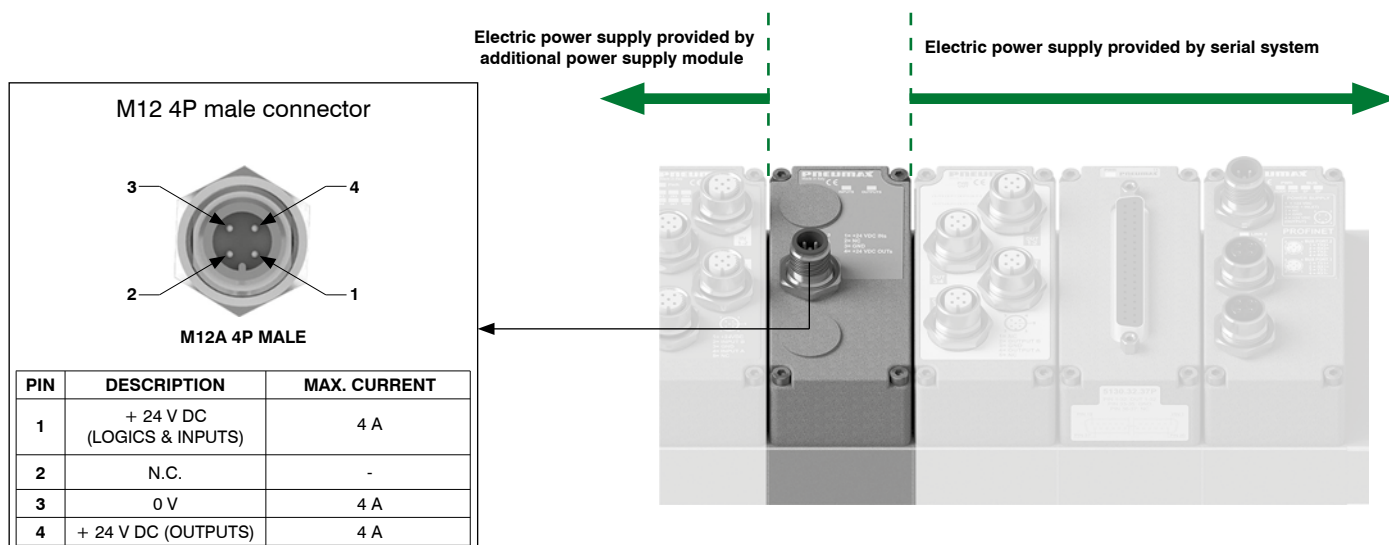
When using IO-Link interface, the additional power supply module is useful for separating the module power supplies of input from the output modules placed downstream.

Coding: K5030.M12



1
AIR DISTRIBUTION

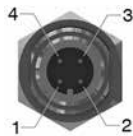
Scheme / Overall dimensions and I/O layout



POWER SUPPLY connectors

► **Straight connector M12A 4P female**

Coding: 5312A.F04.00



Upper view slave connector

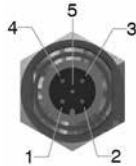
PIN	DESCRIPTION
1	+ 24 V DC (LOGICS AND INPUTS)
2	N.C.
3	0 V
4	+ 24 V DC (OUTPUTS)

Power supply socket

NETWORK connectors

► **Straight connector M12A 5P female**

Coding: 5312A.F05.00



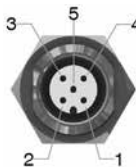
Upper view slave connector

PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

Socket for bus CANopen® and IO-Link

► **Straight connector M12A 5P male**

Coding: 5312A.M05.00



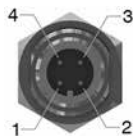
Upper view slave connector

PIN	DESCRIPTION
1	(CAN_SHIELD)
2	(CAN_V+)
3	CAN_GND
4	CAN_H
5	CAN_L

Plug for bus CANopen®

► **Straight connector M12D 4P male**

Coding: 5312D.M04.00



Upper view slave connector

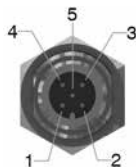
PIN	SIGNAL	DESCRIPTION
1	TX+	EtherNet Transmit High
2	RX+	EtherNet Receive High
3	TX-	EtherNet Transmit Low
4	RX-	EtherNet Receive Low

Plug for bus EtherCAT®, PROFINET IO RT and EtherNet/IP

Trademarks: EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

► **Straight connector M12B 5P female**

Coding: 5312B.F05.00



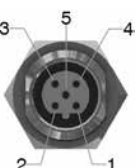
Upper view slave connector

PIN	DESCRIPTION
1	Power Supply
2	A-Line
3	DGND
4	B-Line
5	SHIELD

Socket for bus PROFIBUS DP

► **Straight connector M12B 5P male**

Coding: 5312B.M05.00



Upper view slave connector

PIN	DESCRIPTION
1	Power Supply
2	A-Line
3	DGND
4	B-Line
5	SHIELD

Socket for bus PROFIBUS DP

INPUTS connectors

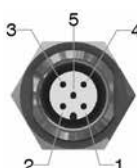
► **Straight connector M12A 5P male**

Coding: 5312A.M05.00

Plugs

► **M12 plug**

Coding: 5300.T12



PIN	DESCRIPTION
1	+ 24 V DC
2	INPUT B
3	0 V
4	INPUT A
5	N.C.

Upper view slave connector

Plug for inputs modules

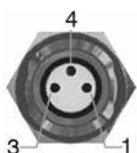


► **Straight connector M8 3P male**

Coding: 5308A.M03.00

► **M8 plug**

Coding: 5300.T08



PIN	DESCRIPTION
1	+ 24 V DC
4	INPUT
3	0 V

Upper view slave connector

Plug for inputs modules





1
AIR DISTRIBUTION

▶ Cable complete with connector, 25 Poles, IP65



Coding: 2300.25.L.C

L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
C	CONNECTOR
	10 = Stand alone
	90 = 90° Angle

▶ Cable complete with connector, 37 Poles, IP65



Coding: 2400.37.L.C

L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
C	CONNECTOR
	10 = Stand alone
	90 = 90° Angle

▶ Cable complete with connector, 44 Poles, IP65



Coding: 2300.44.L.C

L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
C	CONNECTOR
	10 = Stand alone
	90 = 90° Angle

▶ Cable complete with connector, 25 Poles, IP65



Coding: 2400.25.L.25

L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

▶ Cable complete with connector, 37 Poles, IP65



Coding: 2400.37.L.37

L	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters



PNEUMAX

PNEUMAX S.p.A.

Via Cascina Barbellina, 10

24050 Lurano (BG) - Italy

P. +39 035 41 92 777

process@pneumaxspa.com

www.pneumaxspa.com