



**PNEUMAX**



# **SERIES 3000 SOLENOID VALVES**

**TECHNOLOGY AND FLEXIBILITY**

[www.pneumaxspa.com](http://www.pneumaxspa.com)





# Pneumax

## 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 fore front of a group comprised of 23 companies, with over 660 employees worldwide. Ongoing investment in research and development has allowed **Pneumax** to continually expand its range of standard products and customised solutions, adding to the well-established pneumatic technology, a range of electric drive actuators and fluid control components.



The ability to provide various technologies and solutions for each of our clients applications is the main objective of the Company, making **Pneumax** the ideal strategic partner.

What defines us is the “Pneumax Business Attitude”, born out of the capacity to combine industry sectors, technology and our application skills via the clients collaboration with our business and product specialists. This represents the main **Pneumax** distinguishing factor.



Pneumatic  
technology



Electric  
actuation



Fluid  
control



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## Solenoid valves series 3000



- **10 mm size**
- **Nominal flow rate up to 200 NL/min**
- **Available sub-base mounted or with M5 threaded ports**
- **The ability to replace valves without disconnecting the pipework**
- **Wide range of input modules**
- **Available with a wide range of serial system protocols**
- **Wide range of accessories**
- **Stand-alone or manifold mounted versions**
- **Suitable for use with pressure or vacuum**

Versatility and maximum reliability: With these prerogatives in mind, new products are being developed dedicated to control in a smarter context. Having the flexibility to be configured within control systems to provide optimal management through a constant interface and communication with the machines control system. The Pneumax 3000 series solenoid valve range has been developed with this in mind and has been developed to suit both stand-alone and manifold mounted applications.

Both stand alone and manifold mounted versions are available in the most commonly used types, capable of working with positive pressures up to 10 Bar or vacuum. The valves have aluminum bodies with integrated electrical connections, manual override and an LED that indicates when the valve is actuated. The Pneumax 3000 series is another addition to the extensive range of solenoid valve systems designed for applications from assembly to automotive.

Construction characteristics	
Body	Aluminium
Operators	Technopolymer
Spool	Aluminium
Seals	NBR
Piston seals	NBR
Springs	AISI 302 stainless steel
Pistons	Aluminium

Technical characteristics	
Voltage	24 VDC $\pm 10\%$
Pilot power consumption	1.3W nominal in the STAND ALONE version (M8 version 1.3W with energy saving) 1.3W nominal in energy saving mode in the MANIFOLD version.
Valve working pressure [1]	from vacuum to 10 bar max.
Pilot working pressure [12-14]	from 2,5 to 7 bar max.
Operating temperature	from -5°C to +50°C
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

## ► STAND ALONE solenoid valves version



### General

The 10mm solenoid valves range with a flow of 200 NL/min, is available in STAND ALONE self-feeding or external feeding versions and realised with point to point connections in three different types of interface: with miniature connector type H, with 300mm leads and with an M8 connector with an integrated snap-on fitting.

### Main characteristics

10 mm size thick.

Multi-position sub-bases in different lengths.

### 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

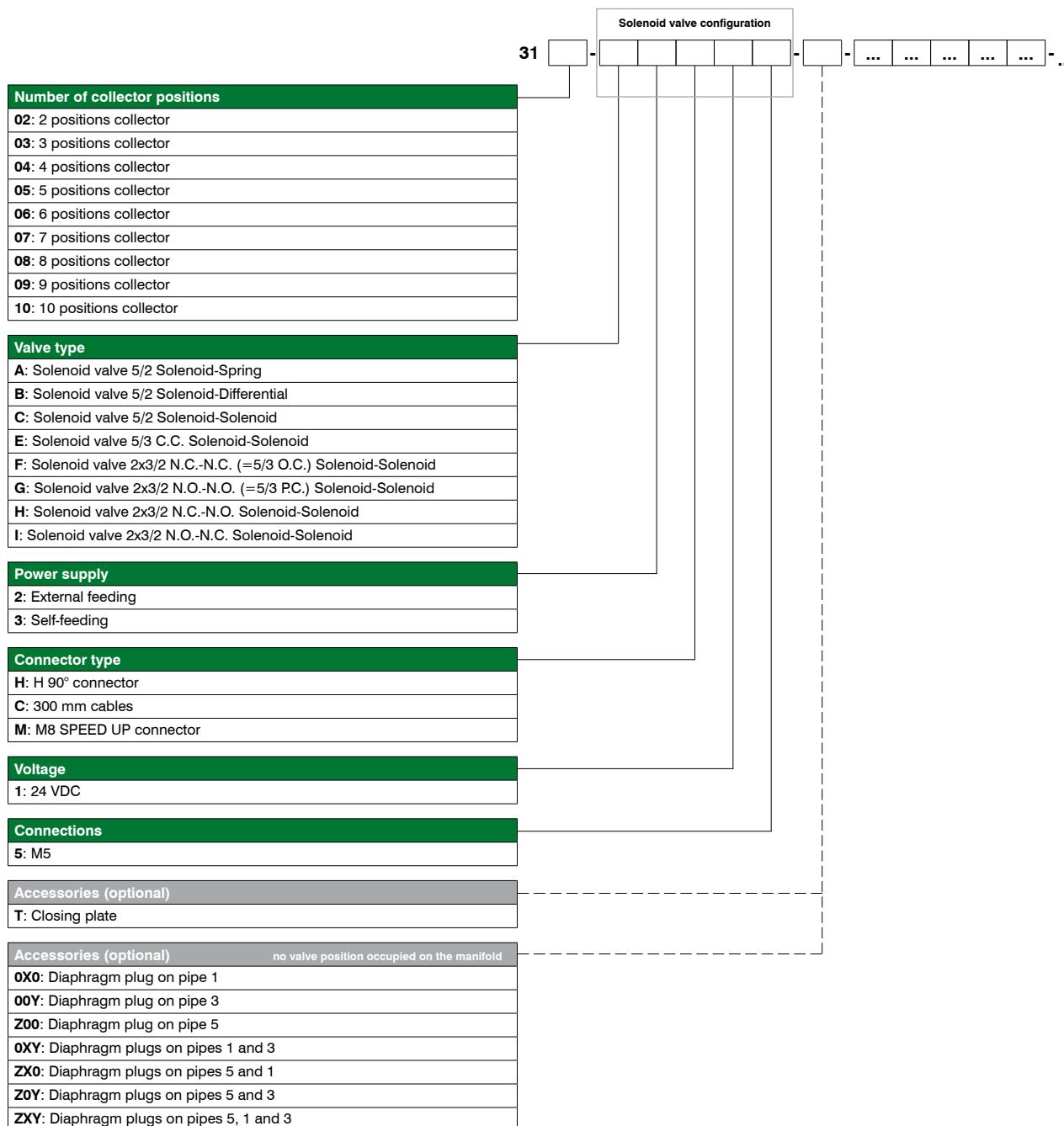
### Solenoid valve ordering code

Function	3115. <b>52.00</b> . <b>39</b> . <b>02</b>
52.00: Solenoid valve 5/2	
53.31: Solenoid valve 5 way 3 positions	
62.44: 2x Solenoid valve 3/2 N.C.-N.C.	
62.55: 2x Solenoid valve 3/2 N.O.-N.O.	
62.45: 2x Solenoid valve 3/2 N.C.-N.O.	
62.54: 2x Solenoid valve 3/2 N.O.-N.C.	
Valves type	
36: Solenoid - Differential self-feeding	
39: Solenoid - Spring self-feeding	
35: Solenoid - Solenoid self-feeding	
26: Solenoid - Differential external feeding	
29: Solenoid - Spring external feeding	
25: Solenoid - Solenoid external feeding	
Connection	
02: H 90° connector	
32: 300 mm cables	
82: M8 SPEED-UP connector	

Example in the table : 3115.52.00.39.02 : Solenoid valve 5/2 solenoid-spring self-feeding, H 90° connector



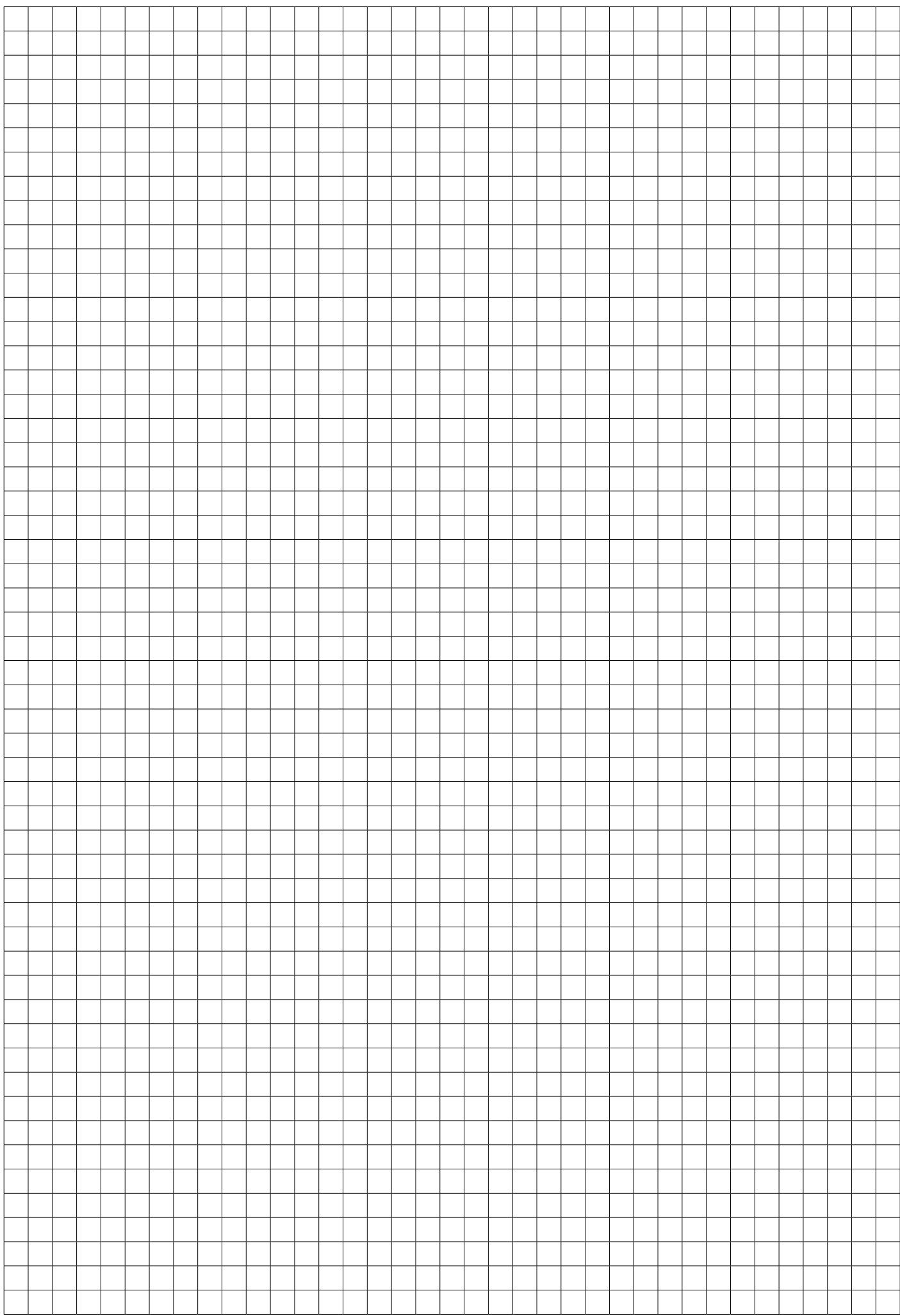
Configurator



**Example in the table : 3104-C2H15-T-0X0-A3H15-F3M15**

Four-position manifold composed of:

- Solenoid valve 5/2 solenoid-solenoid external feeding, H90° connector, 24 VDC
- Closing plate
- Diaphragm plug on pipe 1
- Solenoid valve 5/2 solenoid-spring self-feeding, H90° connector, 24 VDC
- Solenoid valve 2x3/2 N.C.-N.C. (=5/3 O.C.) solenoid-solenoid, M8 SPEED UP connector, 24 VDC





# Solenoid valves

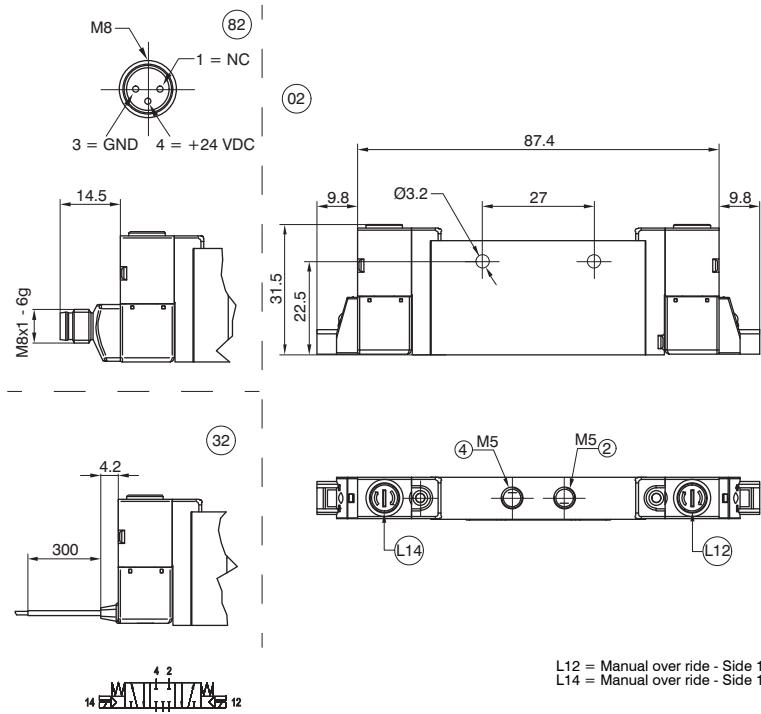
## Series 3000 STAND ALONE - 10mm, M5 - Self-feeding

Solenoid-Spring / Solenoid-Differential		5/2					
Ordering code							
<b>3115.52.00.F.C</b>							
<b>F</b>	FUNCTION 36=Solenoid-Differential 39=Solenoid-Spring						
<b>C</b>	CONNECTIONS 02=H 90° Connector, 24VDC 32=300mm Cable, 24VDC 82=M8 SPEED Connector UP, 24VDC						
SHORT FUNCTION CODE "A" (39) SHORT FUNCTION CODE "B" (36)		L14 = Manual over ride - Side 14					
Operational Characteristic		"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"					
Code	Fluid	Flow rate at 6 bar with $\Delta p = 1$ (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3115.52.00.39.C</b> Solenoid-Spring	Filtered air. No lubrication needed, if applied it shall be continuous.	160	10	20	2,5 - 7	-5 - +50	49
<b>3115.52.00.36.C</b> Solenoid-Differential				15			
Solenoid-Solenoid		5/2					
Ordering code							
<b>3115.52.00.35.C</b>							
<b>C</b>	CONNECTIONS 02=H 90° Connector, 24VDC 32=300mm Cable, 24VDC 82=M8 SPEED Connector UP, 24VDC						
SHORT FUNCTION CODE "C"		L12 = Manual over ride - Side 12 L14 = Manual over ride - Side 14					
Operational Characteristic		"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"					
Code	Fluid	Flow rate at 6 bar with $\Delta p = 1$ (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3115.52.00.35.C</b> Solenoid-Solenoid	Filtered air. No lubrication needed, if applied it shall be continuous.	160	10	10	2,5 - 7	-5 - +50	59

Solenoid-Solenoid (Closed centres)

5/3

Ordering code	
<b>3115.53.31.35.◎</b>	
CONNECTIONS	
02=H 90° Connector, 24VDC	
32=300mm Cable, 24VDC	
82=M8 SPEED Connector UP, 24VDC	



SHORT FUNCTION CODE "E"

L12 = Manual over ride - Side 12  
L14 = Manual over ride - Side 14

Operational Characteristic

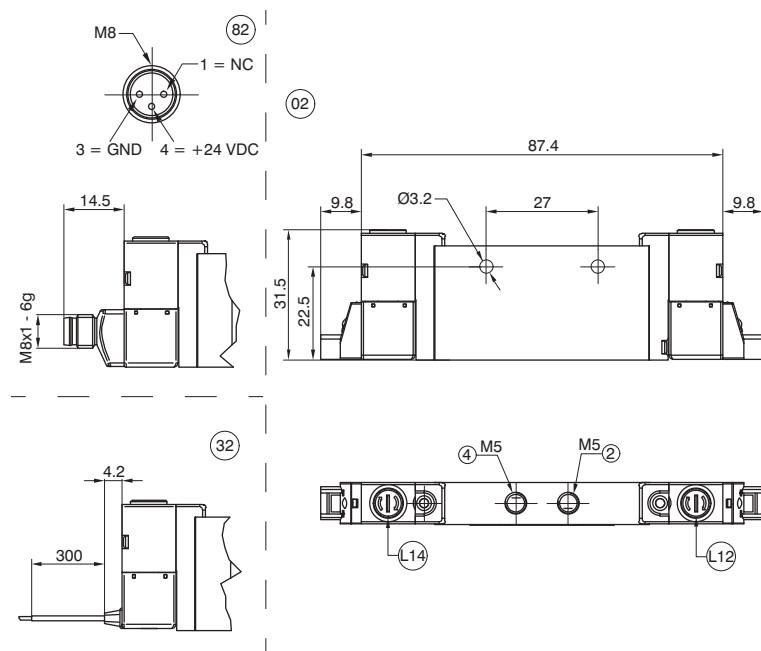
"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"

Code	Fluid	Flow rate at 6 bar with $\Delta p = 1$ (Nl/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3115.53.31.35.◎</b> Solenoid-Solenoid (Closed centres)	Filtered air. No lubrication needed, if applied it shall be continuous.	150	10	20	2,5 - 7	-5 + 50	59

Solenoid-Solenoid 2x3/2

6/2

Ordering code	
<b>3115.62.◎.35.◎</b>	
FUNCTION	
44=NC-NC (5/3 Open Centres)	
45=NC-NO	
55=NO-NO (5/3 Pressured Centres)	
54=NO-NC	
CONNECTIONS	
02=H 90° Connector, 24VDC	
32=300mm Cable, 24VDC	
82=M8 SPEED Connector UP, 24VDC	



SHORT FUNCTION CODE:  
NC-NC (5/3 Open Centres) = "F"  
NO-NO (5/3 Pressured Centres) = "G"  
NC-NO = "H"  
NO-NC = "I"

L12 = Manual over ride - Side 12  
L14 = Manual over ride - Side 14

Operational Characteristic

"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"

Code	Fluid	Flow rate at 6 bar with $\Delta p = 1$ (Nl/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3115.62.44.35.◎</b> NC-NC (5/3 Open Centres)	Filtered air. No lubrication needed, if applied it shall be continuous.	150	10	15	2,5 - 7	-5 + 50	59,4
<b>3115.62.55.35.◎</b> NO-NO (5/3 Pressured Centres)							
<b>3115.62.45.35.◎</b> NC-NO							
<b>3115.62.54.35.◎</b> NO-NC							

**Solenoid-Spring / Solenoid-Differential**

Ordering code: **3115.52.00.F.C**

**F** FUNCTION  
 26=Solenoid-Differential  
 29=Solenoid-Spring  
**CONNECTIONS**  
 02=H 90° Connector, 24VDC  
 32=300mm Cable, 24VDC  
 82=M8 SPEED Connector UP, 24VDC

**C**



Technical drawings showing dimensions and connection details:

- Front view: Shows a top connection with an M8 connector (82) and a side connection with a 90° H connector (02). Dimensions: 74.7mm width, 22.5mm height, 9.8mm side height, and a side connection height of 27mm. A note indicates a side connection height of 27mm.
- Side view: Shows the valve body height of 300mm and side connection height of 4.2mm.
- Bottom view: Shows the valve body height of 300mm and side connection height of 4.2mm.
- Pinout diagram: Shows a 14-pin connector with pins 4 and 2 as the solenoid coil, pin 3 as GND, and pin 4 as +24 VDC. Pin 1 is labeled NC.

SHORT FUNCTION CODE "A" (29)  
 SHORT FUNCTION CODE "B" (26)

L12 = Manual over ride - Side 12  
 L14 = Manual over ride - Side 14

Operational Characteristic		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3115.52.00.29.C</b> Solenoid-Spring	Filtered air. No lubrication needed, if applied it shall be continuous.	160	10	20	From vacuum to 10	2,5 - 7	-5 - +50	49
<b>3115.52.00.26.C</b> Solenoid-Differential				15				

**Solenoid-Solenoid**

Ordering code: **3115.52.00.25.C**

**C** CONNECTIONS  
 02=H 90° Connector, 24VDC  
 32=300mm Cable, 24VDC  
 82=M8 SPEED Connector UP, 24VDC



Technical drawings showing dimensions and connection details:

- Front view: Shows a top connection with an M8 connector (82) and a side connection with a 90° H connector (02). Dimensions: 87.4mm width, 31.5mm height, 9.8mm side height, and a side connection height of 27mm. A note indicates a side connection height of 27mm.
- Side view: Shows the valve body height of 300mm and side connection height of 4.2mm.
- Bottom view: Shows the valve body height of 300mm and side connection height of 4.2mm.
- Pinout diagram: Shows a 14-pin connector with pins 4 and 2 as the solenoid coil, pin 3 as GND, and pin 4 as +24 VDC. Pin 1 is labeled NC.

SHORT FUNCTION CODE "C"

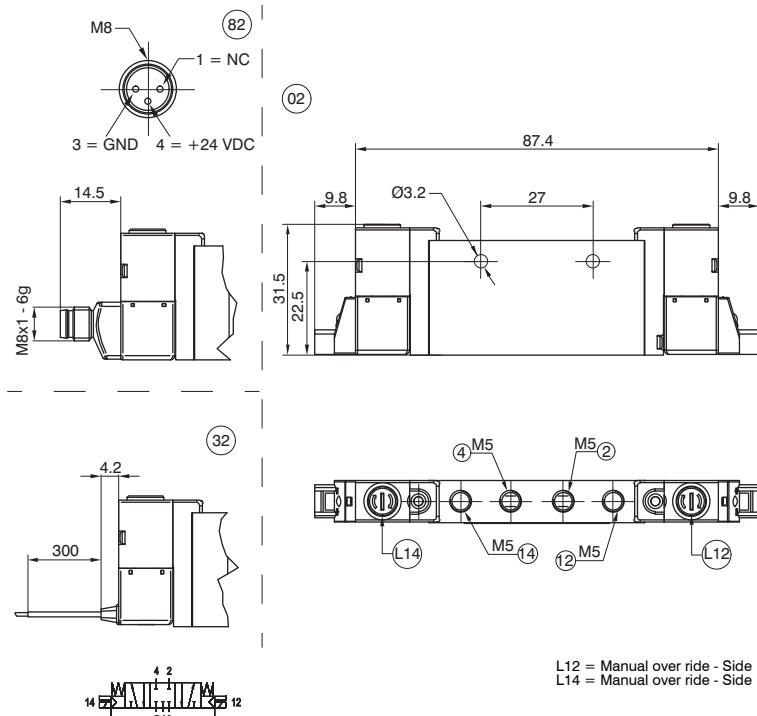
L12 = Manual over ride - Side 12  
 L14 = Manual over ride - Side 14

Operational Characteristic		*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001*						
Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressione di (bar)	Temperature (°C)	Weight (g)
<b>3115.52.00.25.C</b> Solenoid-Solenoid	Filtered air. No lubrication needed, if applied it shall be continuous.	160	10	10	From vacuum to 10	2,5 - 7	-5 - +50	59

**Solenoid-Solenoid 5/3 (Closed centres)**

5/3

Ordering code	
<b>3115.53.31.25.◎</b>	
CONNECTIONS	
02=H 90° Connector, 24VDC 32=300mm Cable, 24VDC 82=M8 SPEED Connector UP, 24VDC	



SHORT FUNCTION CODE "E"

L12 = Manual over ride - Side 12  
L14 = Manual over ride - Side 14

**Operational Characteristic**

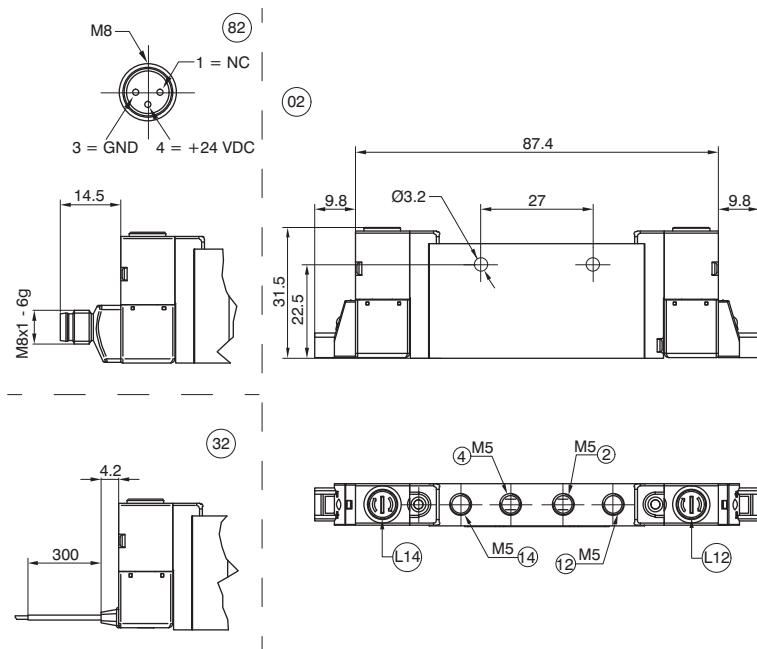
"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"

Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3115.52.00.25.◎</b> Solenoid-Solenoid 5/3 (Closed centres)	Filtered air. No lubrication needed; if applied it shall be continuous.	150	10	20	From vacuum to 10	2,5 - 7	-5 - +50	59

**Solenoid-Solenoid 2x3/2**

6/2

Ordering code	
<b>3115.62.F.25.◎</b>	
FUNCTION	
44=NC-NC (5/3 Open Centres)	
45=NC-NO	
F 55=NO-NO (5/3 Pressured Centres)	
54=NO-NC	
CONNECTIONS	
02=H 90° Connector, 24VDC	
32=300mm Cable, 24VDC	
82=M8 SPEED Connector UP, 24VDC	



SHORT FUNCTION CODE:  
 NC-NC (5/3 Open Centres) = "F"  
 NO-NO (5/3 Pressured Centres) = "G"  
 NC-NO = "H"  
 NO-NC = "I"

L12 = Manual over ride - Side 12  
L14 = Manual over ride - Side 14

**Operational Characteristic**

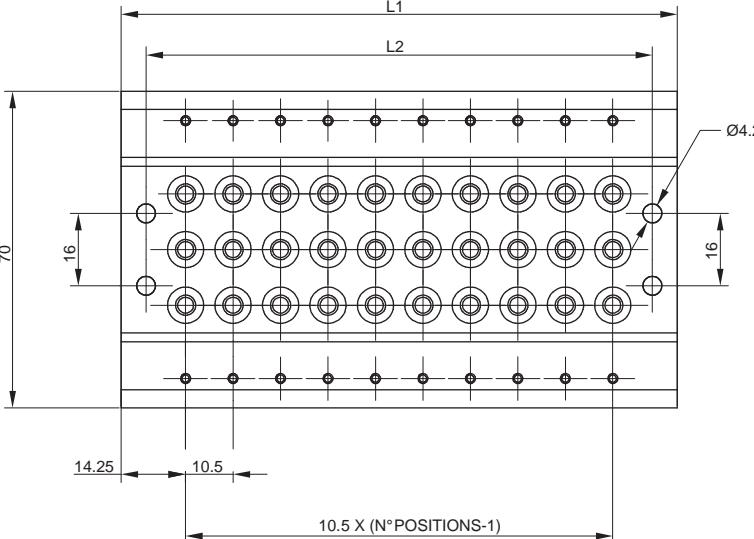
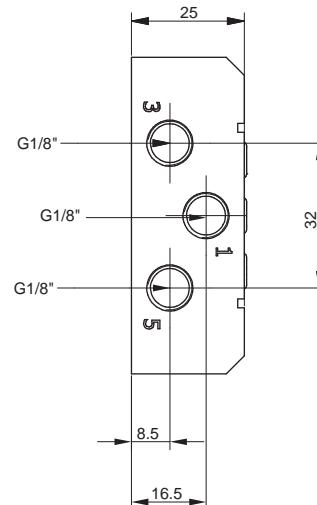
"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"

Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (Nl/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3115.62.44.25.◎</b> NC-NC (5/3 Open Centres)	Filtered air. No lubrication needed; if applied it shall be continuous.	150	10	15	From vacuum to 10	$\geq 3 + (02 \times P.alim.)$	-5 - +50	59,4
<b>3115.62.55.25.◎</b> NO-NO (5/3 Pressured Centres)								
<b>3115.62.45.25.◎</b> NC-NO								
<b>3115.62.54.25.◎</b> NO-NC								



## Solenoid valves Series 3000 STAND ALONE - 10mm, M5 - Manifold

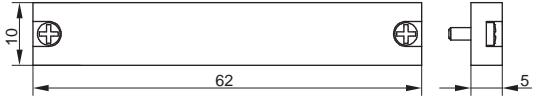
Manifold		
Ordering code		
<b>3115.P</b>		
POSITIONS	L1	L2
02=2 POSITIONS (Weight g. 150)	39	29
03=3 POSITIONS (Weight g. 200)	49,5	39,5
04=4 POSITIONS (Weight g. 250)	60	50
05=5 POSITIONS (Weight g. 300)	70,5	60,5
<b>P</b> 06=6 POSITIONS (Weight g. 350)	81	71
07=7 POSITIONS (Weight g. 400)	91,5	81,5
08=8 POSITIONS (Weight g. 450)	102	92
09=9 POSITIONS (Weight g. 500)	112,5	102,5
10=10 POSITIONS (Weight g. 550)	123	113

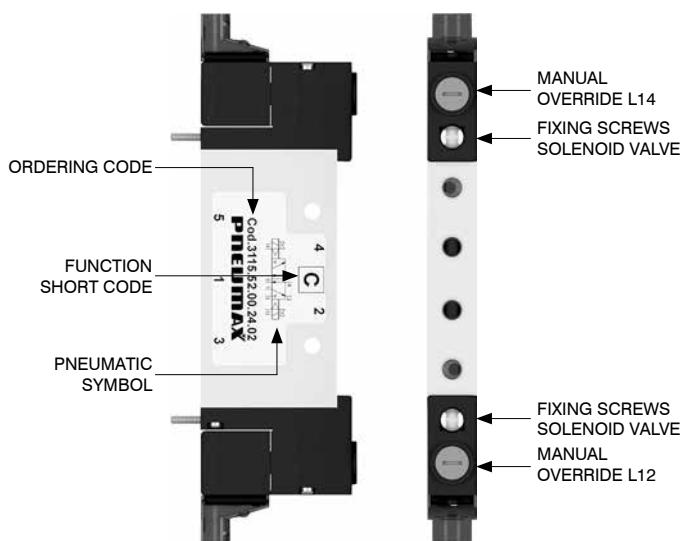
## Series 3000 STAND ALONE - 10mm, M5 - Accessories

Assembling kit		
Ordering code		
<b>3115.KV</b>		
Weight g. 2		
Closing plate		
Ordering code		
<b>3115.00</b>		
Weight g. 10		
Diaphragm plug		
Ordering code		
<b>3130.17</b>		
Weight g 1,5		

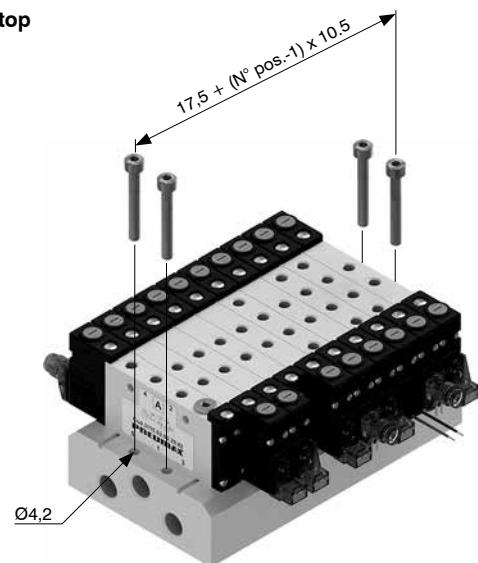

  

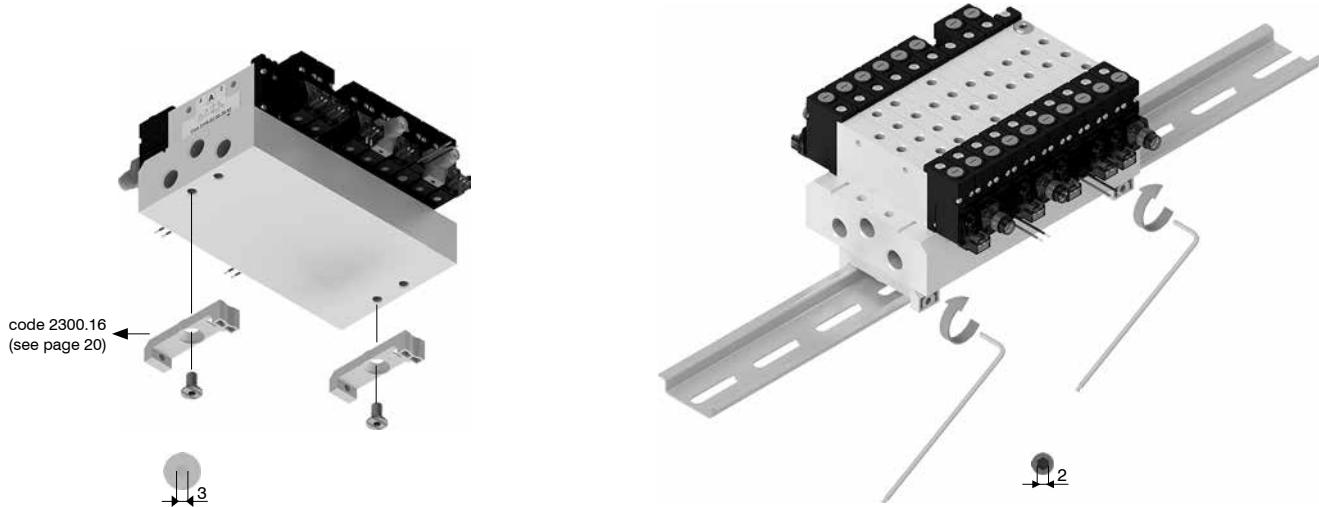

**Solenoid valve description**



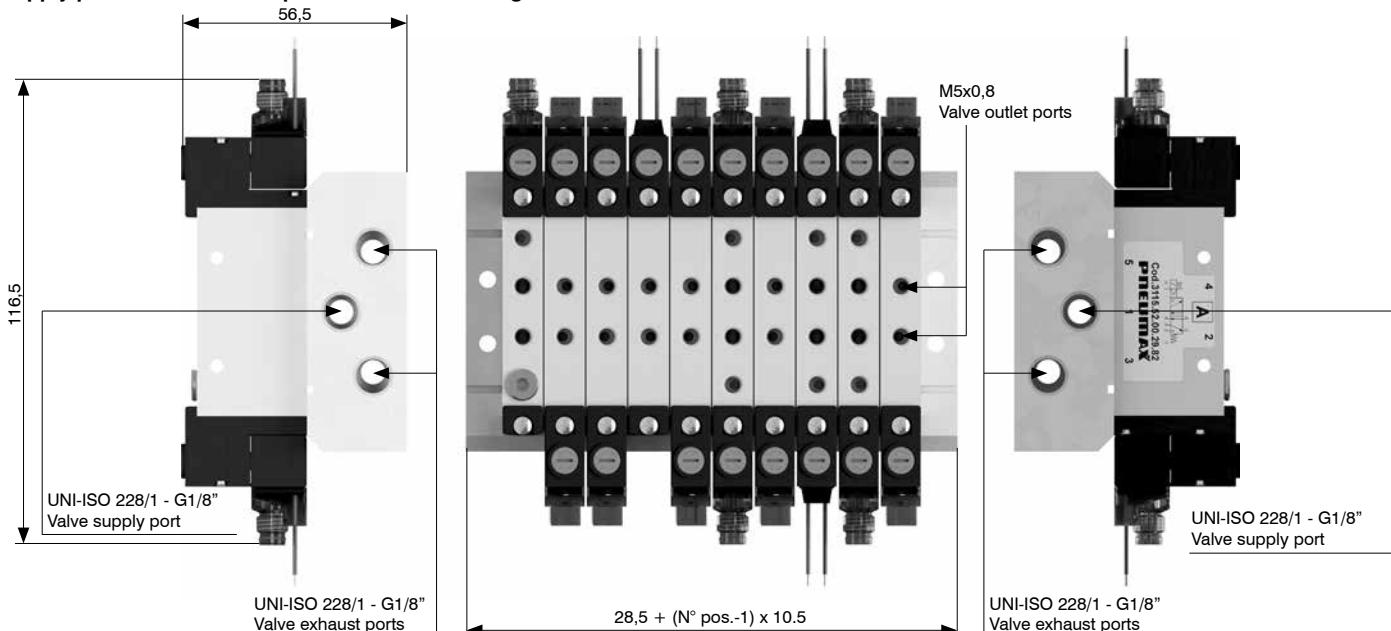
**From the top**



**DIN rail fixing**

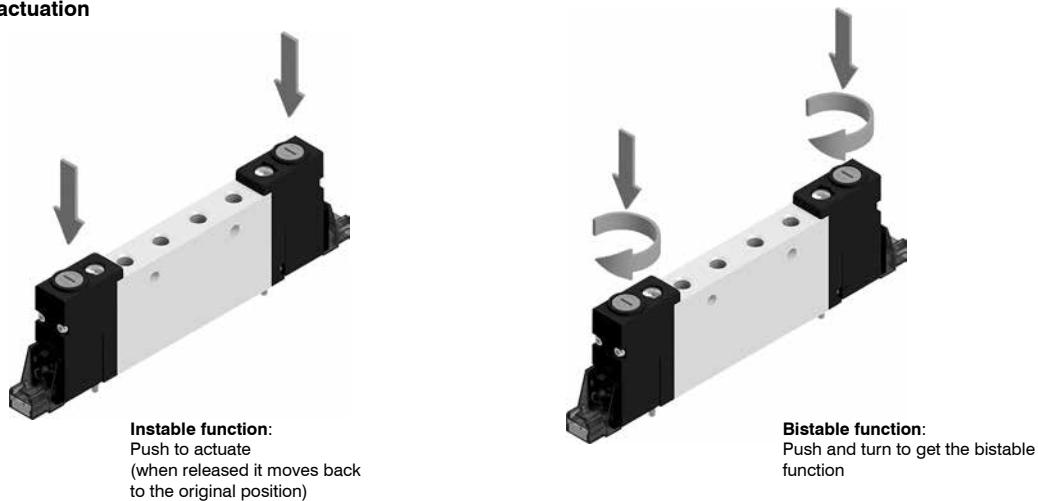


**Supply ports and maximum possible size according to valves used**



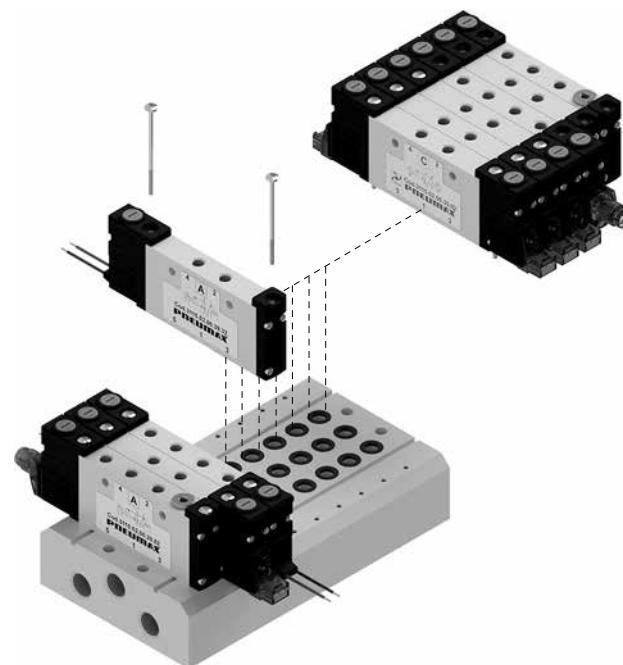


**Manual override actuation**



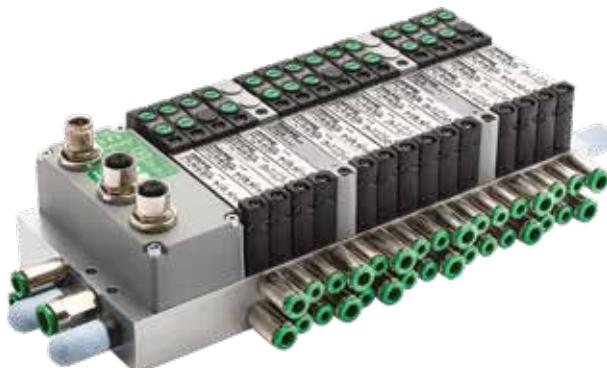
**Note:** it is strongly suggested to replace the original position after using

**Valve installation**



**Max. torque moment:** 0,2 Nm

## ► MANIFOLD version



### General

The range of solenoid valves, dedicated to the assembly sector in pre-configured manifold, is available in multipolar and serial versions, thanks to a vast choice of connectors and analogue and digital input and output modules. The compact and clean design of both the valve body and the manifold, each one produced in aluminium, allows their use in applications requiring space optimisation and weight reduction without sacrificing the reliability and the characteristics of aluminium. The multipolar version is available in three different types of connections:

- SUB-D 25 poles equipped with 24 outputs and configurable in different lengths up to manifolds with a maximum of 12 bistable valve positions
- SUB-D 37 poles equipped with 32 outputs and configurable in different lengths up to manifolds with a maximum of 16 bistable valve positions
- SUB-D 25 poles HD (44 poles) equipped with 40 outputs and configurable in different lengths up to manifolds with a maximum of 20 bistable valve positions

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 versatility in integration in different machines and applications, the 3000 series valves in the serial version are designed to interface with all the main communication protocols: CANopen®, EtherCAT®, PROFINET IO RT/IRT, EtherNet/IP, Powerlink, PROFIBUS DP and IO-Link.

Each manifold has also been thought out in order to be extremely flexible in the management or addition of further outputs through the use of a sub-base system that expands the main manifold.

This system of sub-bases can be connected through the use of a specific kit of connecting pins which can be repeated modularly until reaching the maximum number of outputs managed by the serial protocol used.

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

With the same system it is also possible to connect a series of modules to the main manifold dedicated to the management of input signals up to the maximum number of inputs manageable by the specific serial node used.

In fact, input modules with different interfaces and different technologies have been provided, that is: modules with eight digital inputs with M8 or M12 connection or; analogue or voltage input modules with M8 connection interface.

The strong point of this system is the possibility to configure the series of input and output modules freely giving the advantage of installation flexibility.

### Main characteristics

10 mm size thick.

Multi-position sub-bases in different lengths.

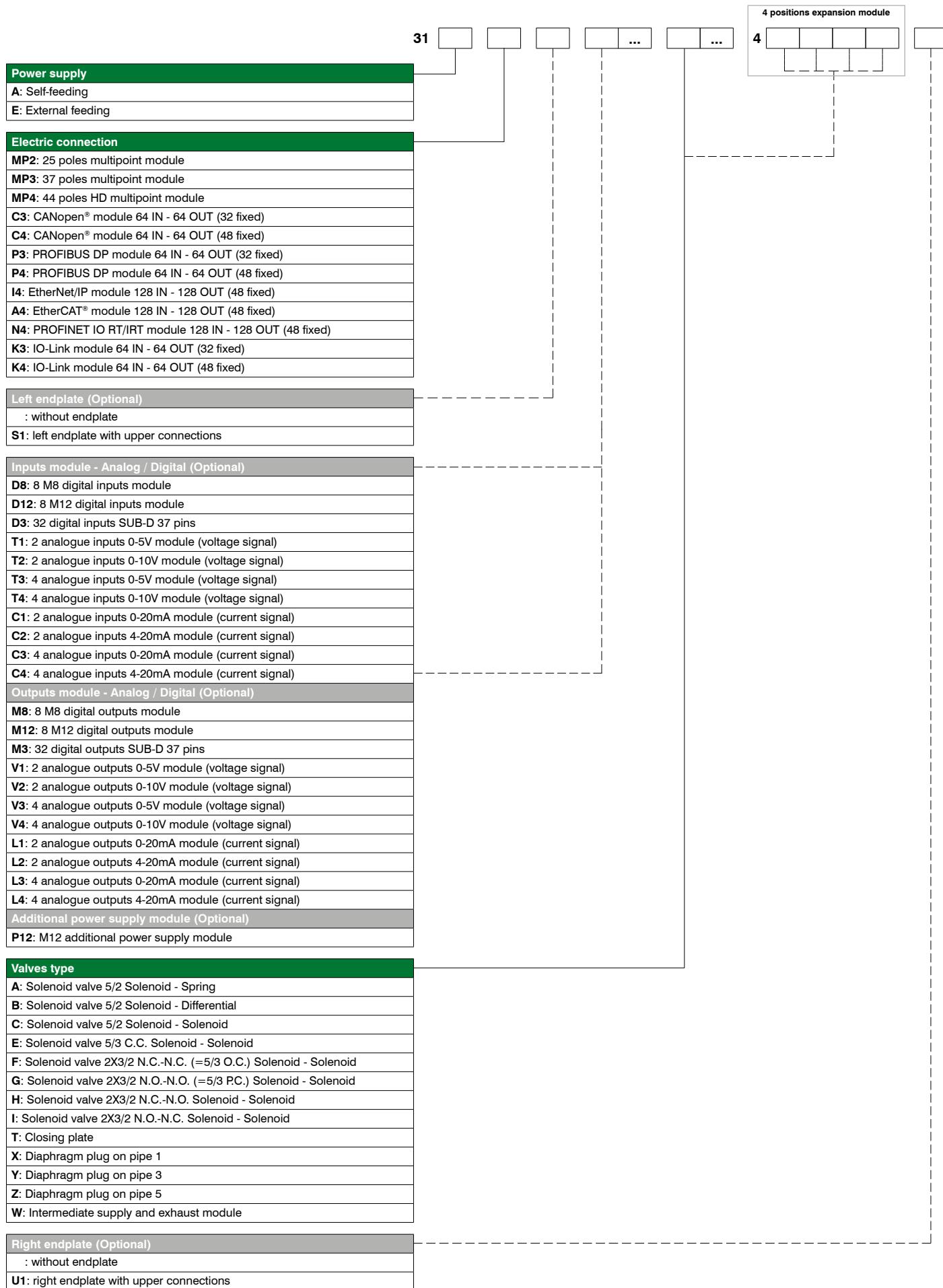
Integrated and optimized electrical connection as standard

### Functions

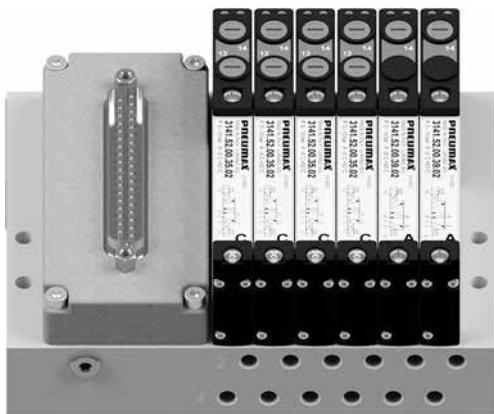
- S.V. Monostable Solenoid-Spring
- S.V. Monostable Solenoid-Differential
- S.V. 5/2 Bistable Solenoid-Solenoid
- S.V. 5/3 C.C. Solenoid-Solenoid
- S.V. 2x3/2 N.C.-N.C. (= 5/3 O.C.) Solenoid-Solenoid
- S.V. 2x3/2 N.O.-N.O. (= 5/3 P.C.) Solenoid-Solenoid
- S.V. 2x3/2 N.C.-N.O. Solenoid-Solenoid
- S.V.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



Configurator

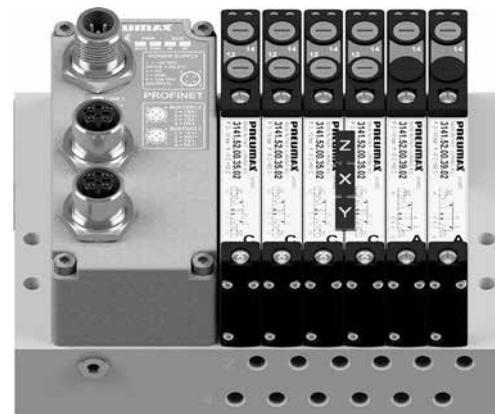


Configuration examples



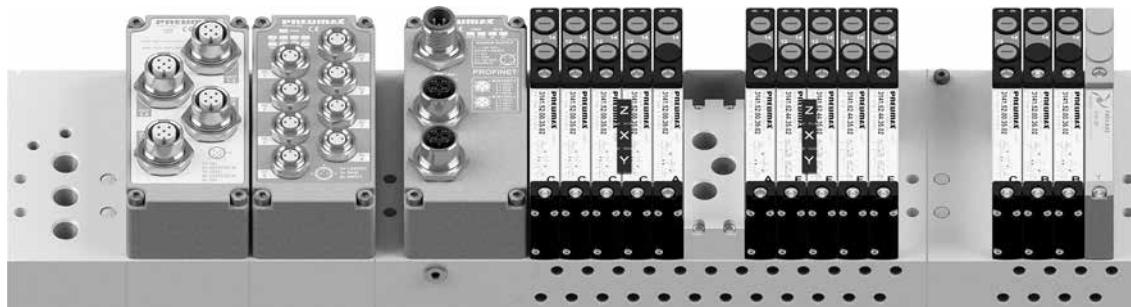
**Example shown : 31EMP3CCCCAA**

Manifold with external supply, multipolar; 37 poles and solenoid valves.



**Example shown : 31EN4CCCXYZCAA**

Manifold with external feeding, serial module, solenoid valves and diaphragm plugs.



**Example shown : 31EN4S1D8M12CCCXYZCAWAXYZEEE4CBBT**

Manifold with external feeding, left endplate, serial module, M8 input module, M12 output module; solenoid valves, multi-position diaphragm plugs, additional power supply module and solenoid valves expansion kit with relative solenoid valves.



**Example shown : 31AN4D8M12CCCCAA4CBBT4EEEE**

Self-feeding manifold with serial module, M8 input module, M12 output module, solenoid valves, two solenoid valves expansion kit with relative solenoid valves.

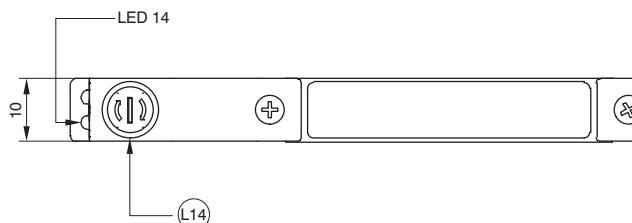
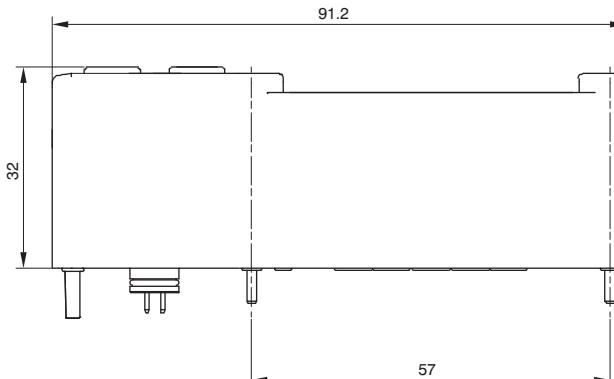


## Solenoid valves Series 3000 MANIFOLD - 10mm

### Solenoid-Spring / Solenoid-Differential

5/2

Ordering code	
<b>3141.52.00.F.C</b>	
<b>F</b>	FUNCTION
36	Solenoid-Differential
39	Solenoid-Spring
<b>C</b>	CONNECTIONS
02	24VDC



SHORT FUNCTION CODE "A" (39)  
SHORT FUNCTION CODE "B" (36)



L14 = Manual over ride - Side 14

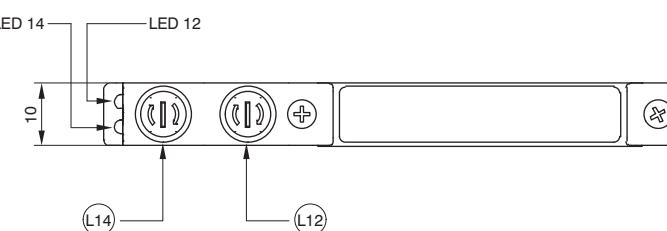
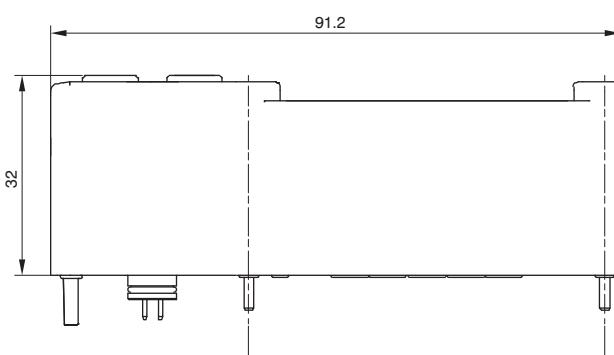
### Operational Characteristic

Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NL/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3141.52.00.39.C</b> Solenoid-Spring	Filtered air. No lubrication needed, if applied it shall be continuous.	200	10	20	From vacuum to 10	2,5 - 7	-5 - +50	55,7
<b>3141.52.00.36.C</b> Solenoid-Differential								

### Solenoid-Solenoid

5/2

Ordering code	
<b>3141.52.00.35.C</b>	
<b>C</b>	CONNECTIONS
02	24VDC



SHORT FUNCTION CODE "C"



L12 = Manual over ride - Side 12  
L14 = Manual over ride - Side 14

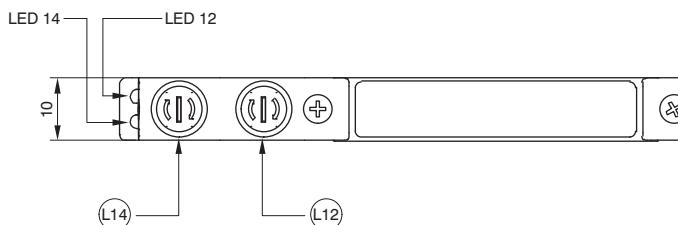
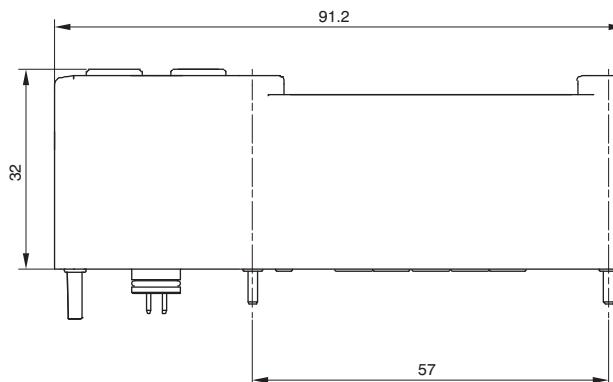
### Operational Characteristic

Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NL/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3141.52.00.35.C</b> Solenoid-Solenoid	Filtered air. No lubrication needed, if applied it shall be continuous.	200	10	10	From vacuum to 10	2,5 - 7	-5 - +50	55,7

Solenoid-Solenoid 5/3 (Closed centres)

5/3

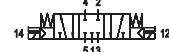
Ordering code	
<b>3141.53.31.35.◎</b>	
CONNECTIONS	



SHORT FUNCTION CODE "E"

L12 = Manual over ride - Side 12

L14 = Manual over ride - Side 14



Operational Characteristic

"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"

Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NL/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3141.53.31.35.◎</b> Solenoid-Solenoid 5/3 (Closed centres)	Filtered air. No lubrication needed, if applied it shall be continuous.	170	10	20	From vacuum to 10	2,5 - 7	-5 - +50	60,3

Solenoid-Solenoid 2x3/2

6/2

Ordering code	
<b>3141.62.F.35.◎</b>	
FUNCTION	

44=NC-NC (5/3 Open Centres)

45=NC-NO (Normally Closed-Normally Open)

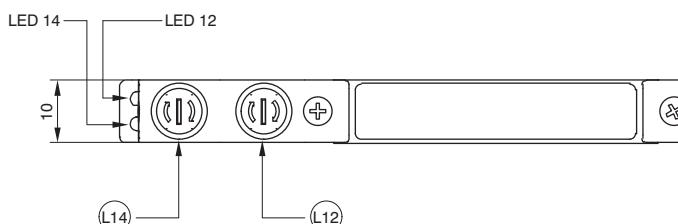
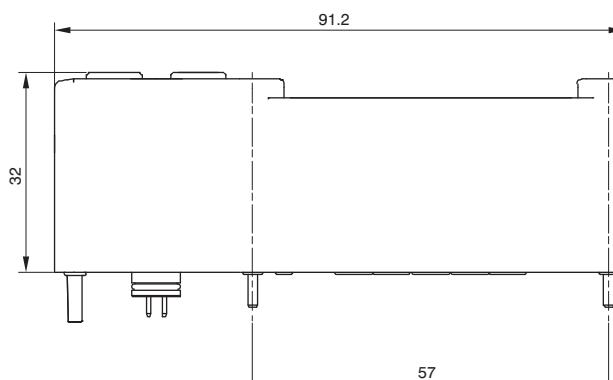
55=NO-NO

5/3 (Pressured Centres)

54=NO-NC

(Normally Open-Normally Closed)

CONNECTIONS	
02=24VDC	



SHORT FUNCTION CODE:

NC-NC (5/3 Open Centres) = "F"

NO-NO (5/3 Pressured Centres) = "G"

NC-NO = "H"

NO-NC = "I"

L12 = Manual over ride - Side 12

L14 = Manual over ride - Side 14



Operational Characteristic

"Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001"

Code	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NL/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)
<b>3141.62.44.35.◎</b> NC-NC (5/3 Open Centres)	Filtered air. No lubrication needed, if applied it shall be continuous.	170	10	15	From vacuum to 10	$\geq 3 + (02 \times P.alim.)$	-5 - +50	60,7
<b>3141.62.45.35.◎</b> NC-NO								
<b>3141.62.55.35.◎</b> NO-NO (5/3 Pressured Centres)								
<b>3141.62.54.35.◎</b> NO-NC								



# Solenoid valves

## Series 3000 MANIFOLD - 10mm - Multipoint connections

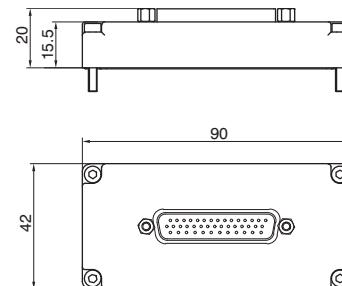
### Multipoint module

#### Ordering code

**3140.00.◎**

#### CONNECTIONS

- 25P=Connector 25 poles
- 37P=Connector 37 poles
- 44P=Connector 44 poles



### Operational Characteristic

#### Code

**3140.00.25P**

25 poles

**3140.00.37P**

37 poles

**3140.00.44P**

44 poles

#### Temperature (°C)

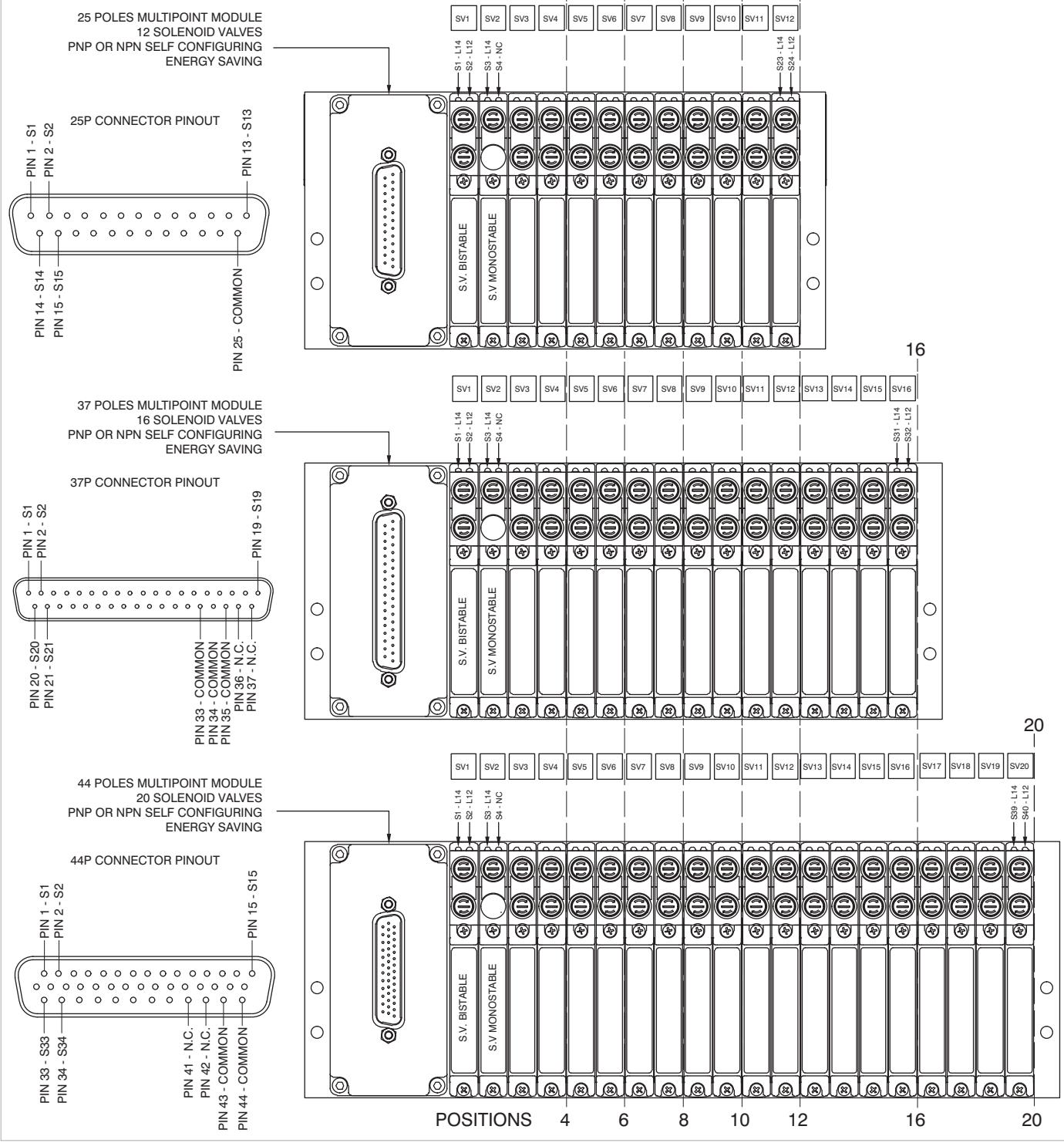
-5 - +50

#### Weight (g)

47,4

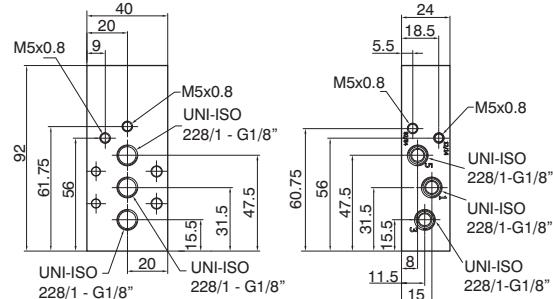
51,3

49,1



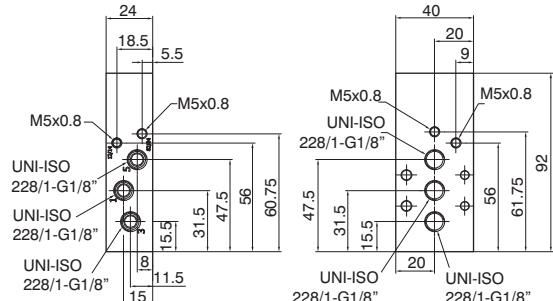
**Left Endplates, input side**

Ordering code  
**3140.02**



**Right Endplates, valve side**

Ordering code  
**3140.03**

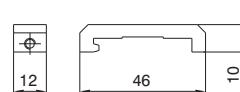


AIR DISTRIBUTION

**Series 3000 MANIFOLD - 10mm - Accessories**

**DIN rail adapter**

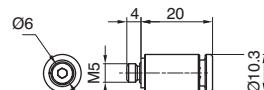
Ordering code  
**2300.16**



Weight g 12

**Fitting M5 Ø6**

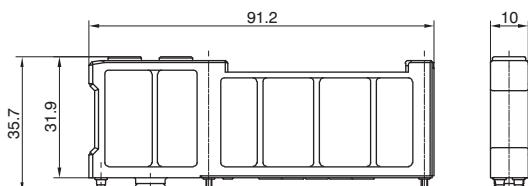
Ordering code  
**RDR560**



Weight g 7

**Closing plate**

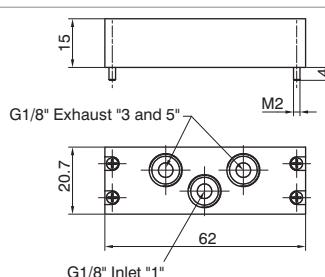
Ordering code  
**3140.00**



Weight g 21

**Inlet/Exhaust module**

Ordering code  
**3140.10**



Weight g 50



**Solenoid valves**  
**Series 3000 MANIFOLD - 10mm** - Accessories

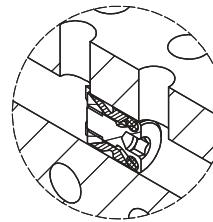
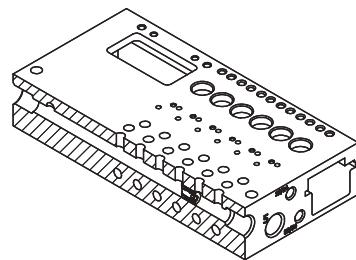
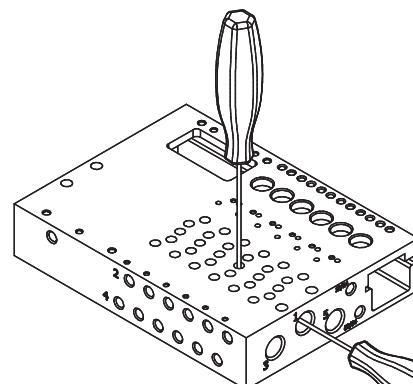
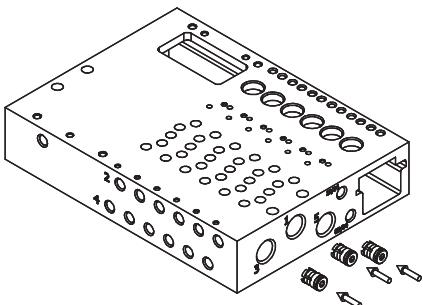
**Diaphragm plug**

Ordering code  
**3130.17**



Weight g 1,5

**Diaphragm plug installation**



**Diaphragm plug fixing**

**Series 3000 MANIFOLD - 10mm - Cables**

**Cable complete with connector, 25 Poles IP65**

Ordering code  
**2300.25.●.●**

CABLE LENGTH

- 03=3 meters
- 05=5 meters
- 10=10 meters
- CONNECTORS
- 10=In line
- 90=90° Angle



**Cable complete with connector, 37 Poles IP65**

Ordering code  
**2400.37.●.●**

CABLE LENGTH

- 03=3 meters
- 05=5 meters
- 10=10 meters
- CONNECTORS
- 10=In line
- 90=90° Angle



**Cable complete with connector, 44 Poles IP65**

Ordering code  
**2300.44.●.●**

CABLE LENGTH

- 03=3 meters
- 05=5 meters
- 10=10 meters
- CONNECTORS
- 10=In line
- 90=90° Angle



**Manifold**

**Ordering code**

**3145.V.P**

**VERSION**

02 = External feeding

12 = Self feeding

POSITIONS	L1	L2
04=4 POSITIONS (Weight g. 432)	103	94
06=6 POSITIONS (Weight g. 518)	124	115
08=8 POSITIONS (Weight g. 604)	145	136
10=10 POSITIONS (Weight g. 690)	166	157
12=12 POSITIONS (Weight g. 776)	187	178
16=16 POSITIONS (Weight g. 948)	229	220
20=20 POSITIONS (Weight g. 1120)	271	262
24=24 POSITIONS (Weight g. 1280)	313	304

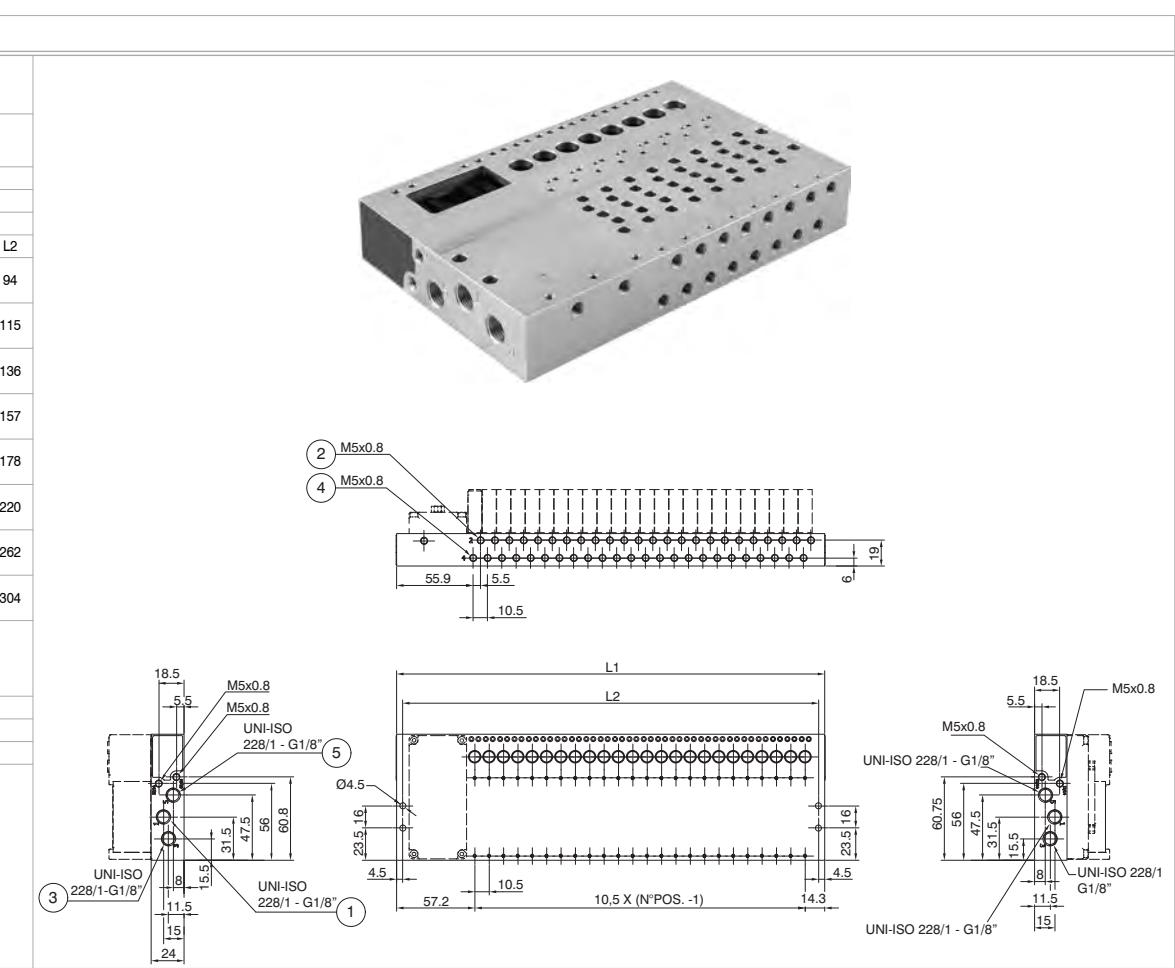
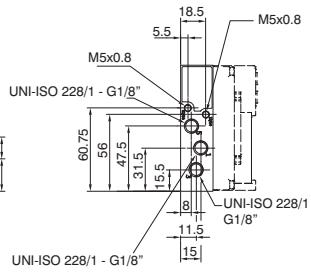
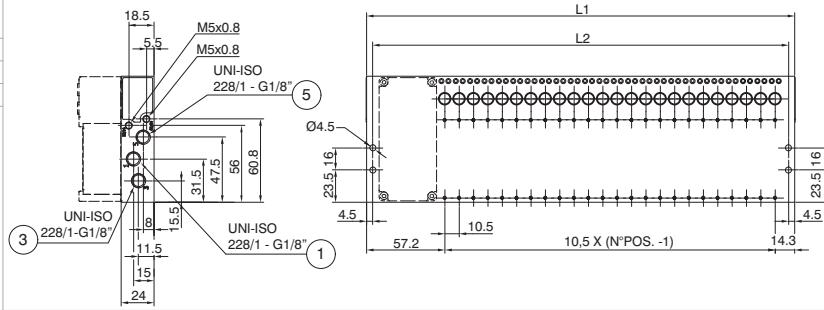
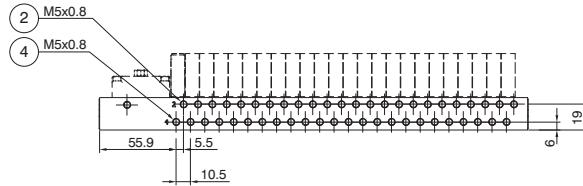
**P**



1 = Inlet port G1/8

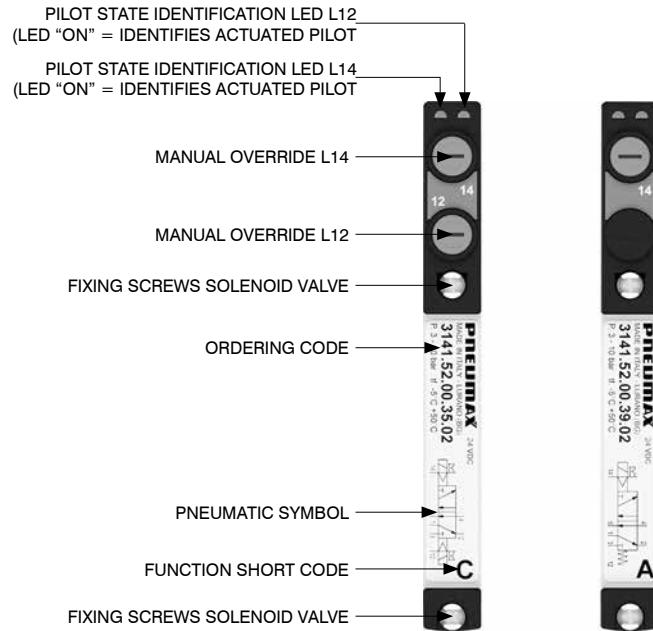
2 e 4 = Outlet port M5

3 e 5 = Exhaust port G1/8"

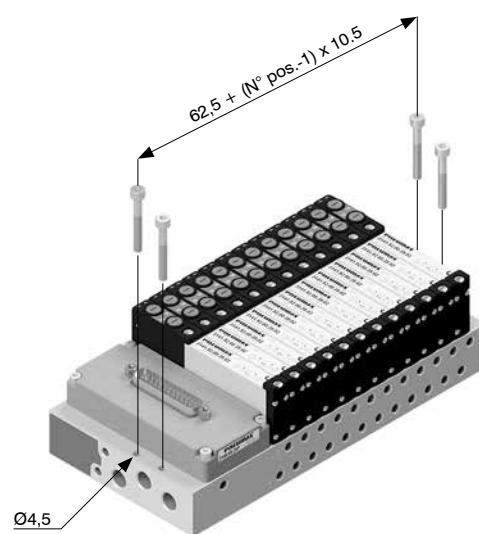




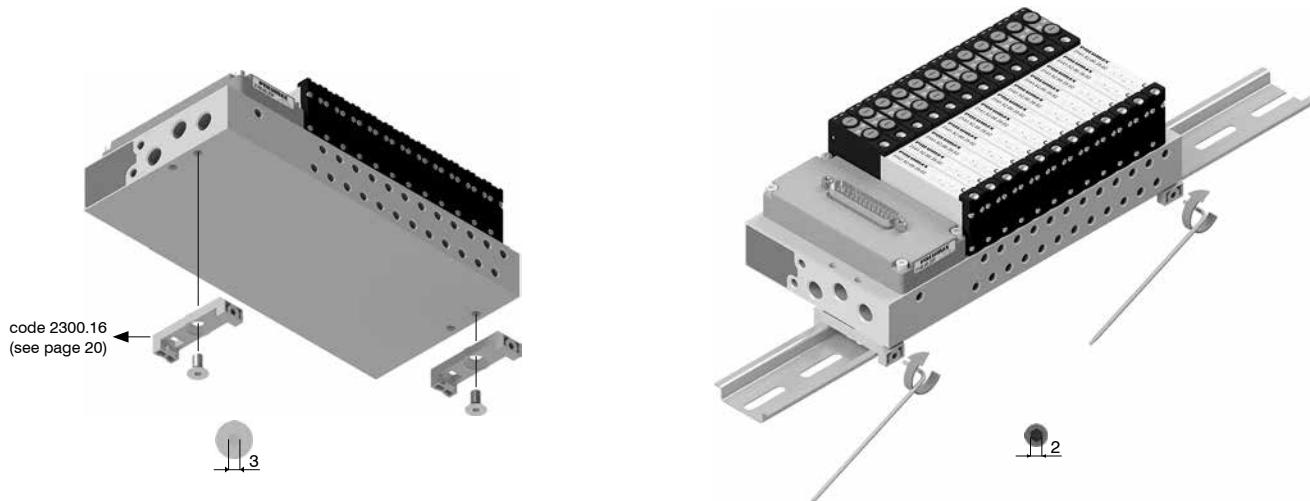
**Solenoid valve description**



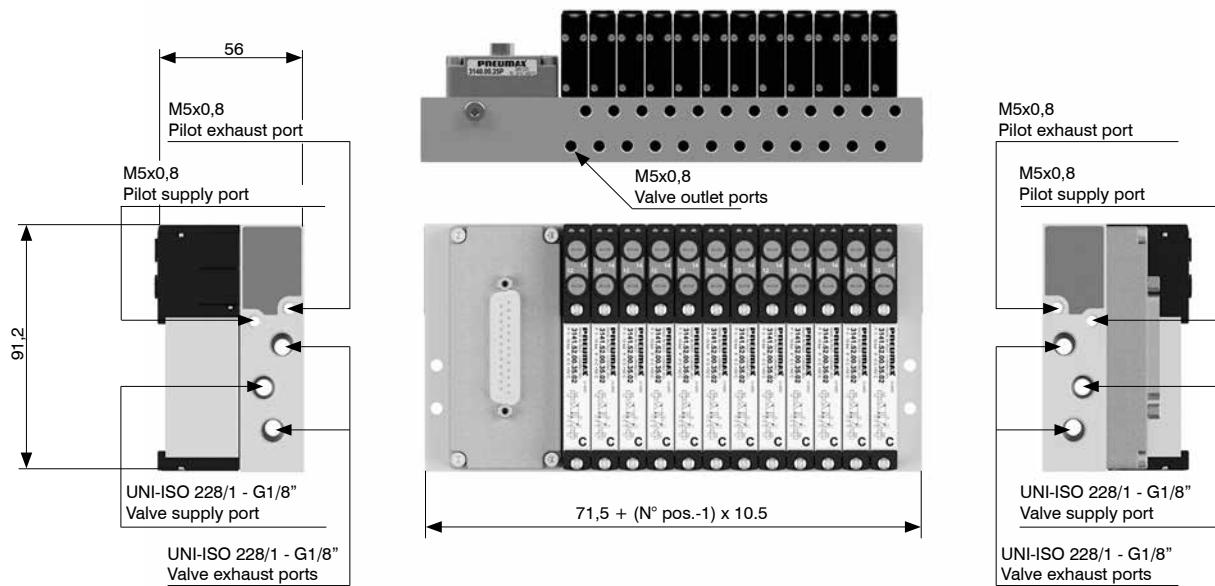
**From the top**



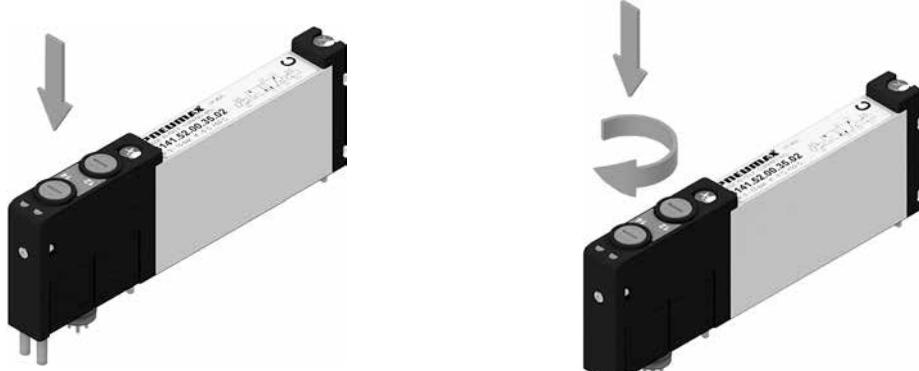
**DIN rail fixing**



**Supply ports and maximum possible size according to valves used**



**Manual override actuation**

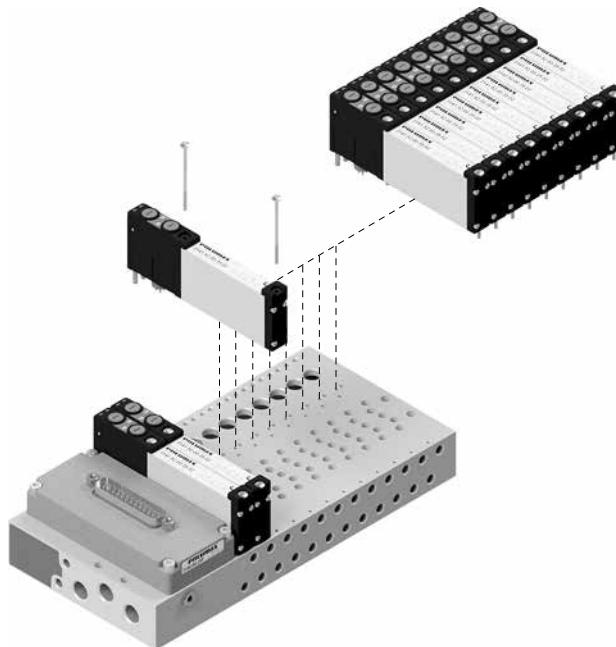


**Instable function:**  
Push to actuate  
(when released it moves back to the original position)

**Bistable function:**  
Push and turn to get the bistable function

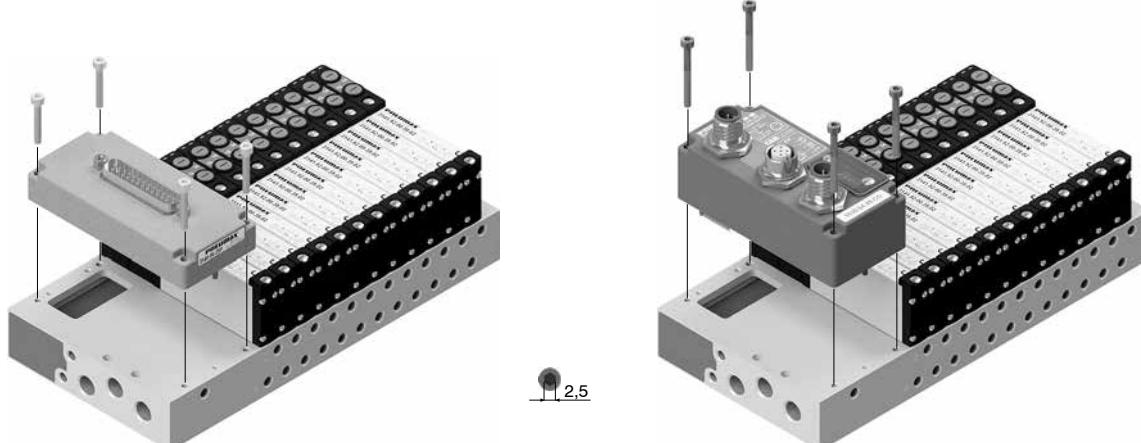
**Note:** it is strongly suggested to replace the original position after using

**Valve installation**



**Max. torque moment:** 0,2 Nm

**Serial systems and multipoint system installation**



**Max. torque moment:** 0,5 Nm



### General - CANopen® slave modules

CANopen® module handles up to 64 outputs, divided into 8 bytes, and 64 inputs, they too divided into 8 bytes. Provided outputs topologies include solenoid valves directly installed on the manifold, expansion solenoid valves connected to the manifold (e.g. 4 solenoid valves expansion kit 3140.KE.04), digital outputs (e.g. 5130.08.M8) as well as analog outputs (e.g. 5130.2T.00). Connectable inputs topologies include digital inputs modules (e.g. 5230.08.M8) as well as analog input modules (e.g. 5230.2T.00). Inputs (or outputs) digital (or analog) modules can be connected to the manifold in any sequence and configuration through the use of "INPUTS/OUTPUTS EXPANSION KIT", code 3140.KE.01.

Node electrical power must be supplied via circular M12 4 pins type A male connector. Separation between node 24VDC and outputs 24VDC allows to shut down outputs leaving the node and eventual inputs active.

CANopen® network connection occurs via two circular male female M12, 5 pins, type A, connectors, connected in parallel; connectors pinout is compliant to CiA Draft Recommendation 303-1 (V. 1.3 : 30 December 2004).

Transmission speed and address are set with DIP-switch. Internal termination resistance is provided and can be enabled through DIP-switch as well.

There are two versions of CANopen® module, differentiated by the number of outputs directly allocated to solenoid valves on the manifold.

Code 5530.64.32CO provides first 32 outputs out of 64 outputs manageable by the node, corresponding to the less significant 4 bytes, to be permanently allocated to solenoid valve sockets on the manifold, regardless how many they physically are. Remaining 32 outputs can be used to handle digital outputs modules and expansion solenoid valves (via above-mentioned dedicated kit); byte allocation to expansion modules occurs automatically.

Code 5530.64.48CO provides first 48 outputs out of 64 outputs manageable by the node, corresponding to the less significant 6 bytes, to be permanently allocated to solenoid valve sockets on the manifold, regardless how many they physically are. Remaining 16 outputs can be used to handle digital outputs modules and expansion solenoid valves (via above-mentioned dedicated kit); byte allocation to expansion modules occurs automatically.

Two codes have been provided to guarantee enhanced flexibility during configuration. Code 5530.64.48CO is recommended in case several solenoid valves must be handled, whilst ensuring room for future expansions. Code 5530.64.32CO is recommended in case increased flexibility is needed for the use of digital outputs.

To better understand different possibilities offered during configuration, some examples follow.

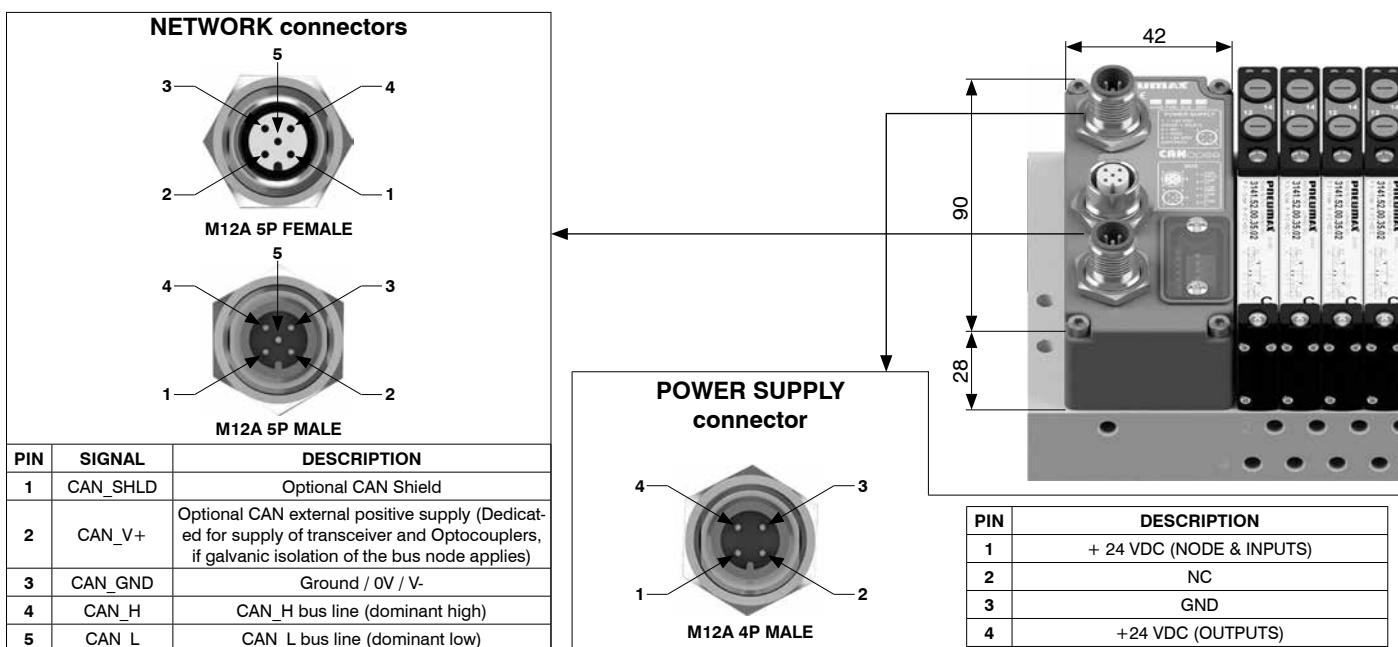
### Ordering code

5530.64.32CO

5530.64.48CO



### Scheme / Overall dimensions and I/O layout



### Technical characteristics

Power supply	Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
	Case	Reinforced technopolymer
	Power supply connection	M12 4 P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
Network	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
	Network connectors	2 M12 5 P connectors male-female 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
	Max. node in net	64 (slave + master)
	Bus maximum recommended length	100 m at 500 Kbit/s
	Bus diagnosis	Green LED + red LED
	Configuration file	Available from our web site <a href="http://www.pneumaxspa.com">http://www.pneumaxspa.com</a>
	IP Rating	IP65 when assembled
	Temperature range	From 0°C to +50°C

### General - PROFIBUS DP slave modules

PROFIBUS DP module handles up to 64 outputs, divided in 8 bytes, and 64 inputs, they too divided in 8 bytes. Provided output topologies include solenoid valves directly installed on the manifold, expansion solenoid valves connected to the manifold (e.g. solenoid valves expansion module 3140.KE.04) and digital outputs (e.g. 5130.08.M8) as well as analog outputs (e.g. 5130.2T.00). Connectable input topologies include digital inputs modules (e.g. 5230.08.M8) and analog inputs modules (e.g. 5230.2T.00). Digital and analog input and output modules can be connected to the manifold in any order and configuration through the "INPUTS/OUTPUTS EXPANSION KIT", code 3140.KE.01. Electric power must be supplied through circular M12 4 pins male type A connector. Split between node 24 VDC and outputs 24 VDC allows to turn off outputs leaving node and eventual inputs operational.

PROFIBUS DP network connection occurs via 2 circular male-female 5 pins M12 type B connectors, connected in parallel; connector pinout is PROFIBUS Interconnection Technology compliant (Version 1.1 August 2001).

Network node address is set through DIP-switch; furthermore, the module provides internal termination resistance, connectable through DIP-switch as well.

There are two versions of the PROFIBUS DP node, differentiated by the number of outputs directly allocated to solenoid valves of the manifold.

Code 5330.64.32PB provide that first 32 out of 64 total manageable outputs from the node, corresponding to less significant 4 bytes, are permanently allocated to solenoid valves of the manifold. Remaining 32 outputs can be used to handle digital outputs modules and expansion solenoid valves (though the use of kit above-mentioned); byte allocation to additional modules occurs automatically.

Code 5330.64.48PB provides instead that first 48 out of 64 total manageable outputs from the node, corresponding to less significant 6 bytes, are permanently allocated to solenoid valves of the manifold. Remaining 16 outputs can be used to handle digital outputs modules and expansion solenoid valves (though the use of kit above-mentioned); byte allocation to additional modules occurs automatically.

Two code have been provided to guarantee greater flexibility during configuration, since 5330.64.48PB solution better fits the case where it is necessary to handle several solenoid valves, still maintaining some margin for future expansions, while 5330.64.32PB solution is indicated where increased flexibility is needed to drive digital outputs.

To better understand different possibilities offered, some configuration examples are made in the following pages.

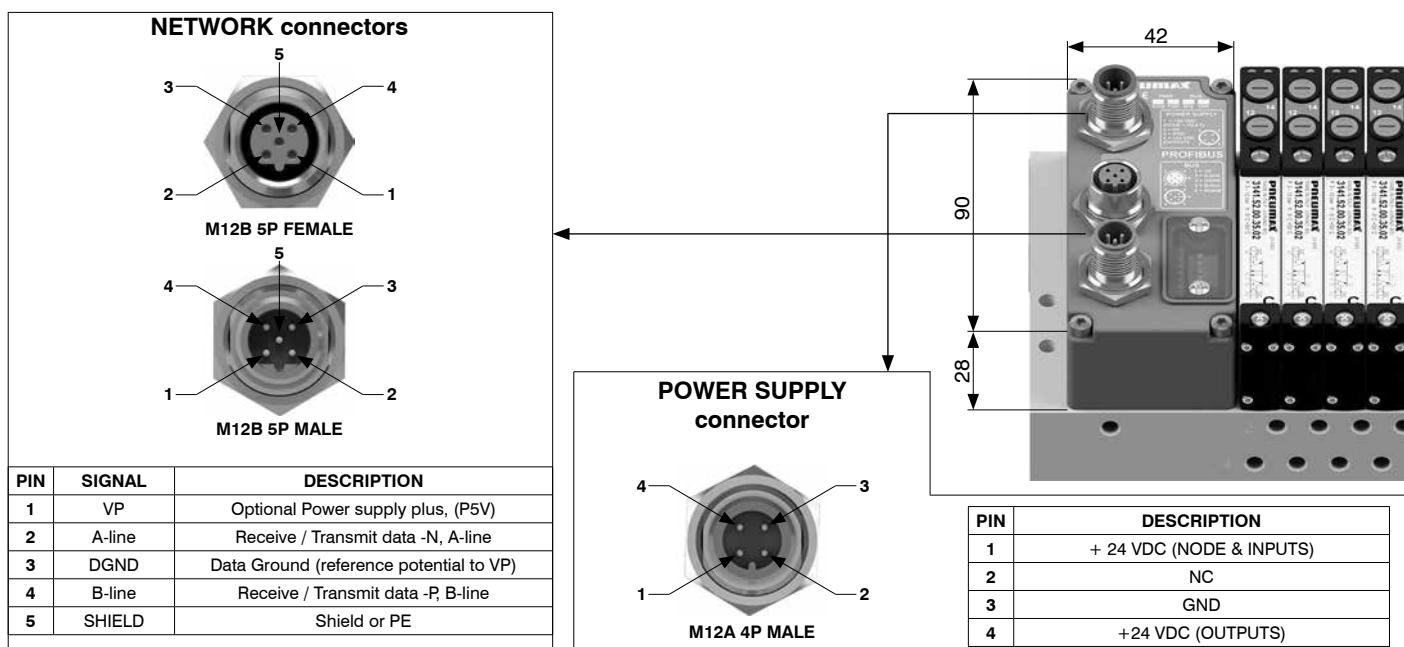
### Ordering code

**5330.64.32PB**

**5330.64.48PB**



### Scheme / Overall dimensions and I/O layout



### Technical characteristics

<b>Power supply</b>	Specifications	PROFIBUS DP
	Case	Reinforced technopolymer
	Power supply connection	M12 4 P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
<b>Network</b>	Node consumption (without inputs)	50 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
	Network connectors	2 M12 5 P connectors male-female 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
	Max. node in net	100 (slave + master)
	Bus maximum recommended length	100 m at 12 Mbit/s - 1200 m at 9,6 Kbit/s
<b>General</b>	Bus diagnosis	Green LED + red LED
	Configuration file	Available from our web site <a href="http://www.pneumaxspa.com">http://www.pneumaxspa.com</a>
	IP Rating	IP65 when assembled
	Temperature range	From 0°C to +50°C



## Solenoid valves

Series 3000 Serial systems - EtherNet/IP - EtherCAT® - PROFINET IO RT/IRT slave modules

### General - EtherNet/IP - EtherCAT® - PROFINET IO RT/IRT slave modules

Modules 5730.128.48PN, 5730.128.48EC e 5730.128.48EI handle up to 128 outputs, allocated over 16 bytes, and 128 inputs, they too allocated over 16 bytes. Provided output topologies include solenoid valves directly installed on the manifold, expansion solenoid valves connected to the manifold (e.g. solenoid valves expansion kit 3140.KE.04) and digital outputs (e.g. 5130.08.M8) as well as analog outputs (e.g. 5130.2T.00). Connectable input topologies include digital inputs modules (e.g. 5230.08.M8) and analog inputs modules (e.g. 5230.2T.00). Digital and analog input and output modules can be connected to the manifold in any order and configuration through the "INPUTS/OUTPUTS EXPANSION KIT", code 3140.KE.01.

Electric power must be supplied through circular M12 4 pins male type A connector. Split between node 24 VDC and outputs 24 VDC allows to turn off outputs leaving node and eventual inputs operational.

Network connection occurs through two circular male-female connectors (M12 4 pins, type D); these two circular connectors point to two distinct communication ports, hence they are not connected in parallel.

Codes 5730.128.48PN, 5730.128.48EC and 5730.128.48EI provide first 48 outputs of 128 in all, corresponding to less significant 6 bytes, to be permanently allocated to solenoid valve sockets on the manifold, regardless how many they are. The remaining available 80 outputs can be used to handle digital and/or analog expansion modules as well as expansion solenoid valves (using above-mentioned dedicated modules). Bytes allocation to expansion modules is done automatically.

If you want to use a number of inputs greater than 64 and current coming from 24VDC rail greater than 2.5A (2.5 Ampere), additional power supply module (code 5030.M12) employ is mandatory. Additional power supply module 5030.M12 must be inserted upstream (so closer to network node on the manifold) modules exceeding current limit above stated.

Whenever outputs employed in the system is 64 and you want to add further digital and/or analogue outputs modules, if the total computed simultaneous current is greater than 2A, employ of 5030.M12 module is mandatory. 5030.M12 module is installed upstream additional modules, in this way it will supply electrical power to downstream modules. If 5030.M12 module has already been introduced to supply inputs modules, it is not necessary to introduce a second one, since it supplies outputs modules too.

In case only expansion solenoid valves are in use (through solenoid valves expansion kit 3140.KE.04), even exceeding limit of 64 outputs, it is not necessary introduce in the system the 5030.M12 module.

### Ordering code

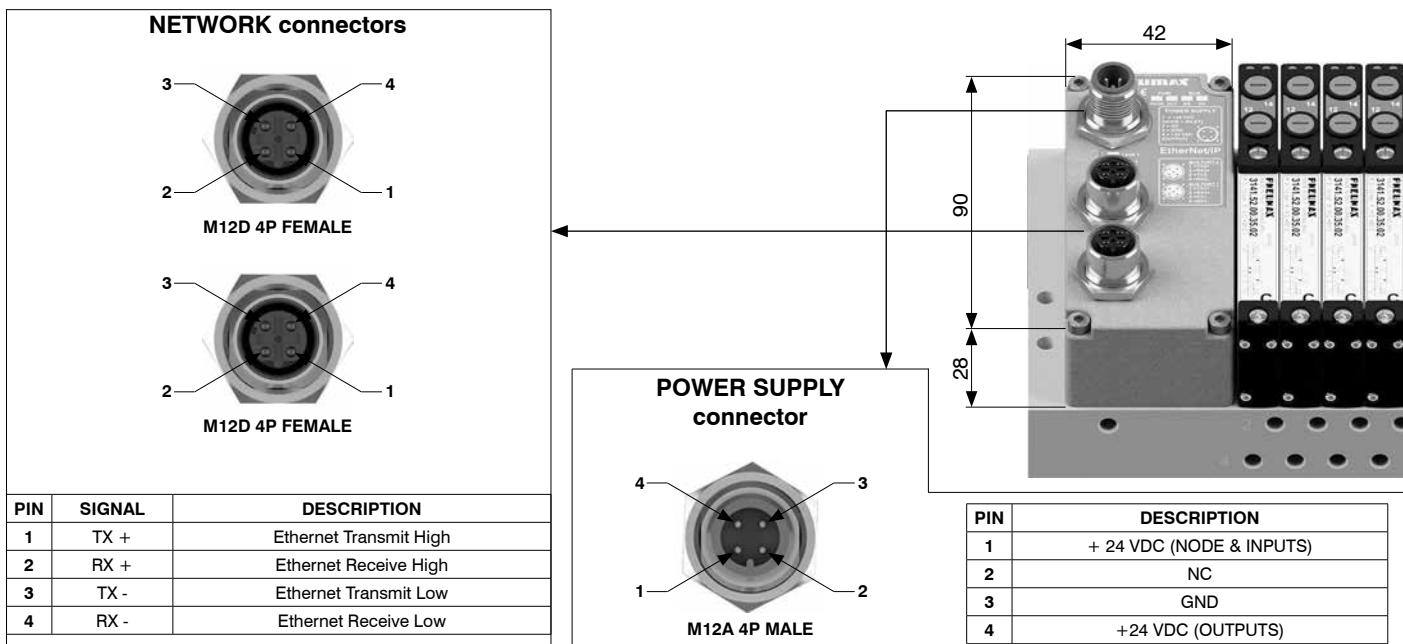
5730.128.48EI

5730.128.48EC

5730.128.48PN



### Scheme / Overall dimensions and I/O layout



### Technical characteristics

Power supply	Case	Reinforced technopolymer
	Power supply connection	M12 4 P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	100 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Network	Network connectors	2 M12 4 P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses possible numbers	As an IP address
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	2 Bicolor red / green LEDs + 4 LEDs for link & activity
	Configuration file	Available from our web site <a href="http://www.pneumaxspa.com">http://www.pneumaxspa.com</a>
	IP Rating	IP65 when assembled
	Temperature range	From 0°C to +50°C

### General - IO-Link slave modules

IO-Link module manages up to 64 outputs, distributed over 8 bytes, and 64 inputs, as well distributed over 8 bytes. Provided output typologies include solenoid valves directly installed on the manifold, solenoid valves connected to the manifold (e.g. 4 valves expansion kit 3140.KE.04), digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Inputs typologies include digital inputs modules (e.g. 5230.08.M8) and analog inputs modules (e.g. 5230.2T.00). Digital inputs and outputs modules can be connected in whatever order and configuration to the manifold through "IN-OUT EXPANSION KIT", code 3140.KE.01.

Electric power supply and connection to IO-Link Master come through male circular connector M12, 5 poles, type A, "CLASS B" according to IO-Link specifications. L+/L- electric power allows to supply the node while P24/N24 electric power allows to supply inputs and outputs modules, including solenoid valves, connected to the manifold. L+/L- and P24/N24 power supplies are galvanically isolated into the IO-Link node.

IO-Link node exists in two versions, differing in the number of outputs directly allocated to solenoids valves present on the manifold.

Code 5830.64.32IK provides 32 outputs (4 less significant bytes), over total 64 manageable by the node, invariably allocated to solenoid valves sockets on the manifold, independently from how many solenoid valves are present.

Remaining 32 available outputs can be used to manage expansion solenoid valves as well as digital outputs (using above cited kits); byte allocation to additional modules is automatic.

Code 5830.64.48IK provides instead 48 outputs (6 less significant bytes), over total 64 manageable by the node, invariably allocated to solenoid valves sockets on the manifold, again independently from how many solenoid valves are present.

Remaining 16 available outputs can be used to manage expansion solenoid valves as well as digital outputs (using above cited kits); byte allocation to additional modules is automatic.

Two codes have been provided to guarantee increased flexibility during configuration: solution with 5830.64.48IK is indicated in case there is need to manage an high number of solenoid valves, keeping anyhow some margin for future expansions, whilst code 5830.64.32IK is indicated in case increased flexibility is requested in the use of digital outputs.

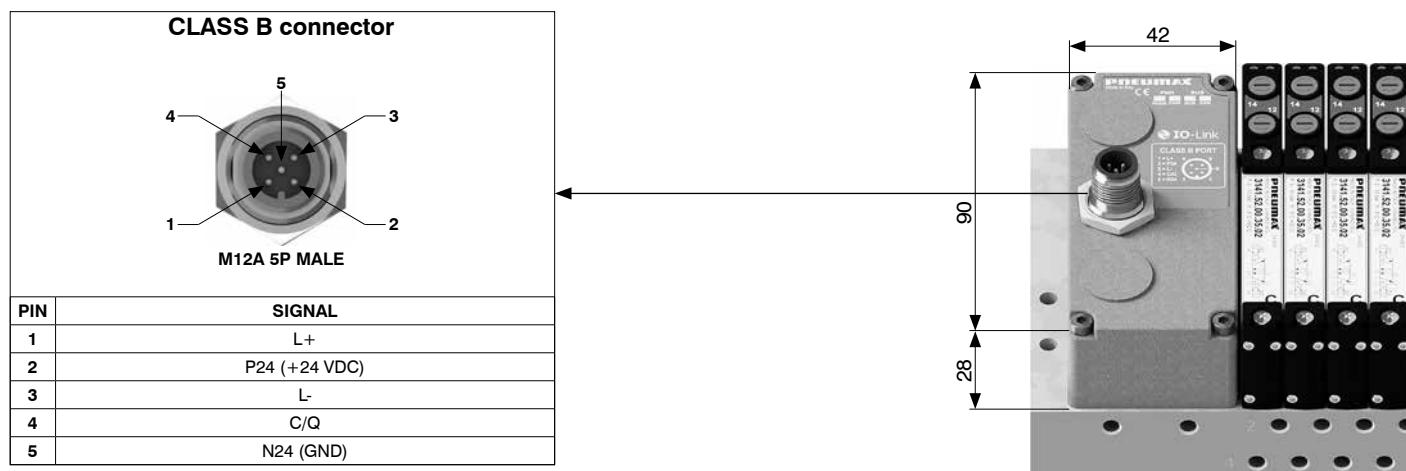
### Ordering code

5830.64.32IK

5830.64.48IK



### Scheme / Overall dimensions and I/O layout



### Technical characteristics

Specifications	IO-Link Specification v1.1
Case	Reinforced technopolymer
Outputs	PNP equivalent outputs
	+24 VDC +/- 10%
	64
Network	Maximum output number
	64
	64
Network	Network connectors
	Class B port
	Communication speed
	COM2
	Maximum distance from Master
	20 m
	Bus diagnosis
Vendor ID / Device ID	1 green and 1 red LED di stato for status
	1257 (hex 0x04E9) / 3000 (hex 0xBB8)
	Configurations file IODD
	Available from our web site <a href="http://www.pneumaxspa.com">http://www.pneumaxspa.com</a>
IP Rating	IP65 when assembled
	Temperature range
	From 0°C to +50°C



### General - 8 M8 digital inputs module

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

Inputs are PNP equivalent, 24VDC  $\pm$  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 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module.

Maximum overall available current for all 8 inputs on 24VDC rail is 300mA, since every module is equipped with an auto-resettable fuse with 300mA threshold, thus, in case of overload or short circuit, 24VDC rail is interrupted and as a consequence all 8 inputs 24VDC is turned off along with green PWR LED. Other eventually connected inputs modules remains operational. Removing fault cause, green PWR LED gets back in on status and module becomes operational again.

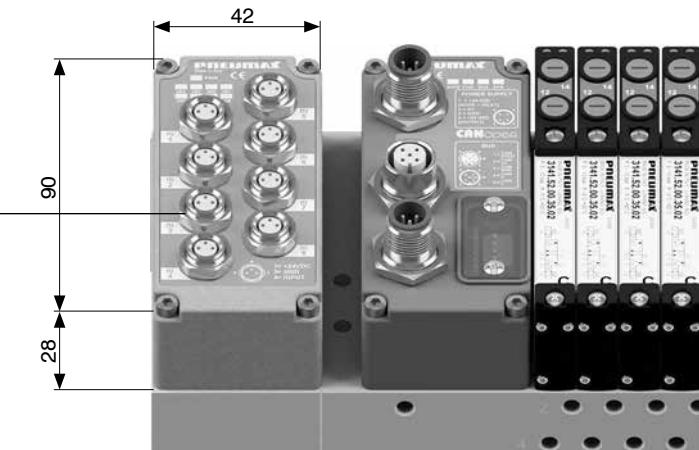
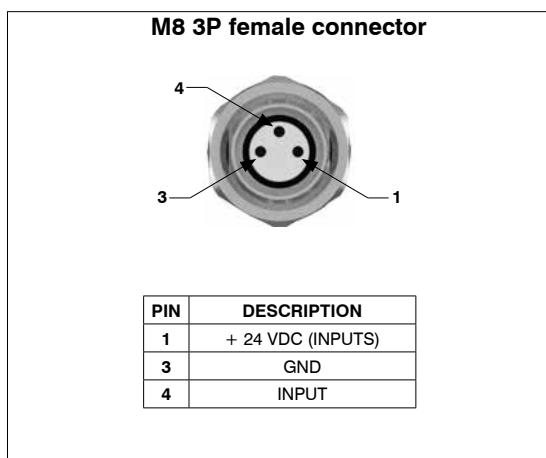
The M8 digital inputs module takes up 8 input bits of the serial node installed on the manifold. To be connected to the manifold, combination with "INPUTS/OUTPUTS EXPANSION KIT" is needed (code 3140.KE.01).

### Ordering code

5230.08.M8



### Scheme / Overall dimensions and I/O layout



### General - 8 M12 digital inputs module

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

Inputs are PNP equivalent, 24VDC  $\pm$  10%.

Every connector takes two independent 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 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module.

Maximum overall available current for all 4 connectors on 24VDC rail is 300mA, since every module is equipped with an auto-resettable fuse with 300mA threshold, thus, in case of overload or short circuit, 24VDC rail is interrupted and as a consequence all inputs 24VDC is turned off along with green PWR LED. Other eventually connected inputs modules remains operational. Removing fault cause, green PWR LED gets back in on status and module becomes operational again.

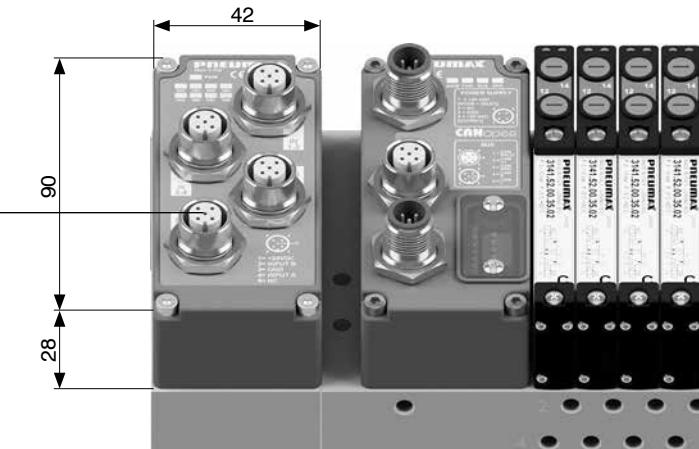
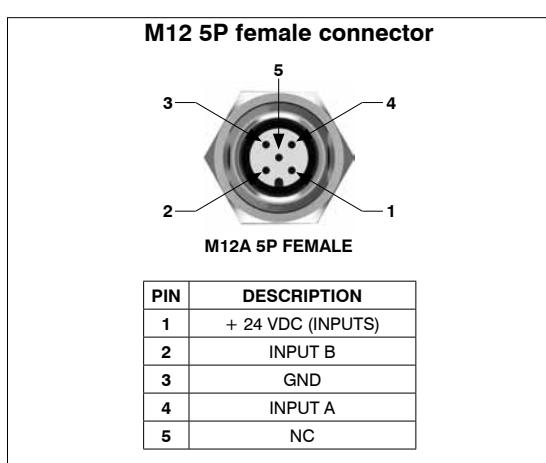
The M12 digital inputs module takes up 8 input bits of the serial node installed on the manifold. To be connected to the manifold, combination with "INPUTS/OUTPUTS EXPANSION KIT" is needed (code 3140.KE.01).

### Ordering code

5230.08.M12



### Scheme / Overall dimensions and I/O layout



#### General - 8 M8 digital outputs module

M8 digital outputs module offers 8 PNP equivalent digital outputs, available on 8 M8 3 pins female connectors. Overall maximum available current from each output is 100mA. Outputs electric power is supplied via pin 4 of the M12 power connector of network node or additional power supply module (5030.M12), whose presence is indicated by the green "PWR" LED lightened up.

Each output has a corresponding red LED, whose activation indicates signal active status.

The module takes-up 8 of the output bytes.

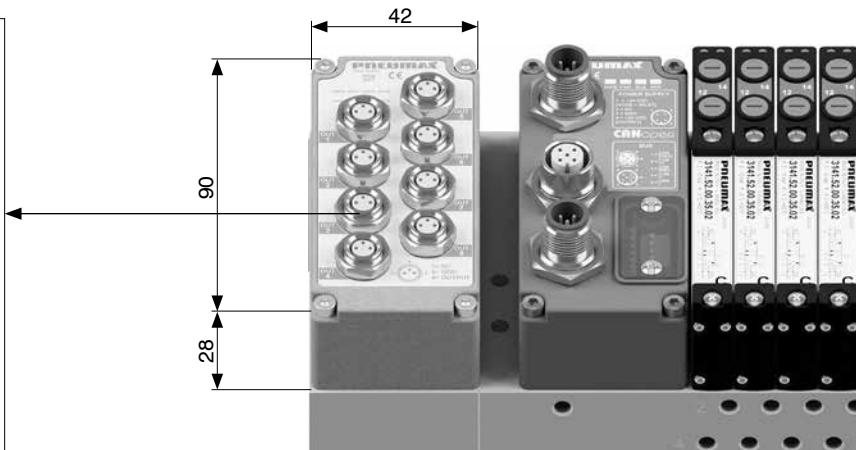
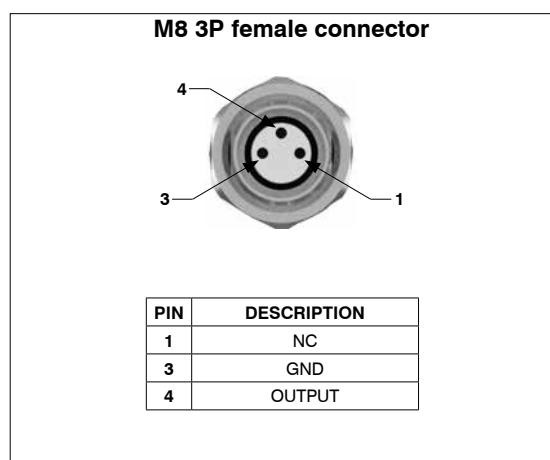
To be connected to the manifold "INPUTS/OUTPUTS EXPANSION KIT" is required (code 3140.KE.01).

#### Ordering code

5130.08.M8



#### Scheme / Overall dimensions and I/O layout



#### General - 8 M12 digital outputs module

M12 digital outputs module offers 8 PNP equivalent digital outputs, available on 4 M12 5 pins female connectors. Overall maximum available current from each output is 100mA. Outputs electric power is supplied via pin 4 of the M12 power connector of network node or additional power supply module (5030.M12), whose presence is indicated by the green "PWR" LED lightened up.

Each output has a corresponding red LED, whose activation indicates signal active status.

The module takes-up 8 of the output bytes.

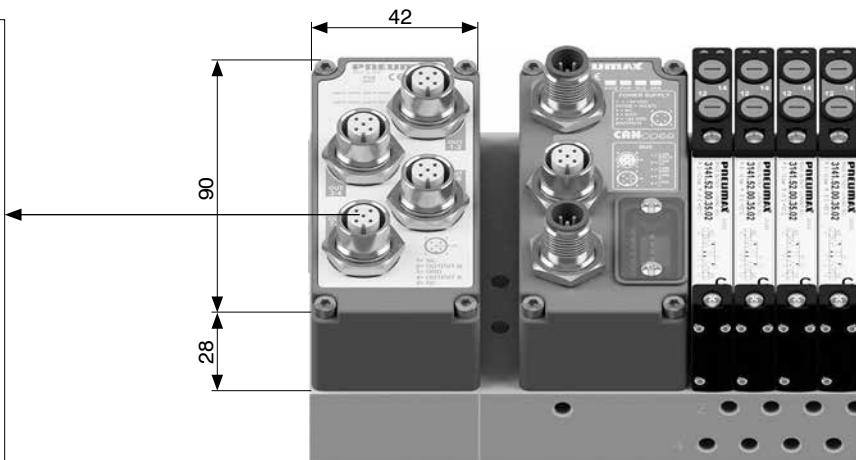
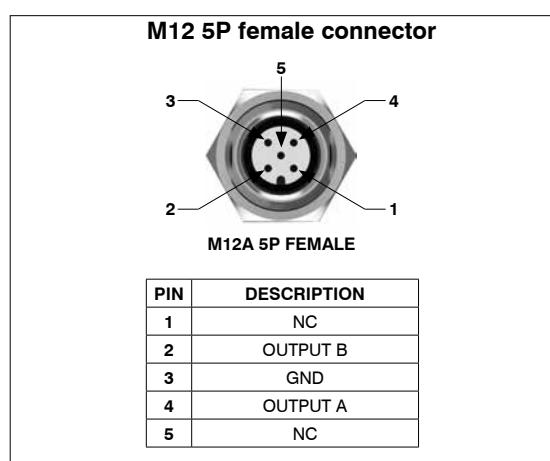
To be connected to the manifold "INPUTS/OUTPUTS EXPANSION KIT" is required (code 3140.KE.01).

#### Ordering code

5130.08.M12



#### Scheme / Overall dimensions and I/O layout





### General - 32 digital inputs SUB-D 37 pins module

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

Inputs are PNP equivalent, 24VDC  $\pm$  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 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 1) or by module 5030.M12, in case it were installed upstream of the inputs module.

Maximum overall available current for all 32 inputs on 24VDC rail is 1A, since every module is equipped with an auto-resettable fuse with 1A threshold, thus, in case of overload or short circuit, 24VDC rail is interrupted and as a consequence all 32 inputs 24VDC is turned off along with green PWR LED. Other eventually connected inputs modules stays operational. Removing fault cause, green PWR LED gets back in on status and module becomes operational again.

The module takes up 32 bits on the input data of the serial node installed on the manifold.

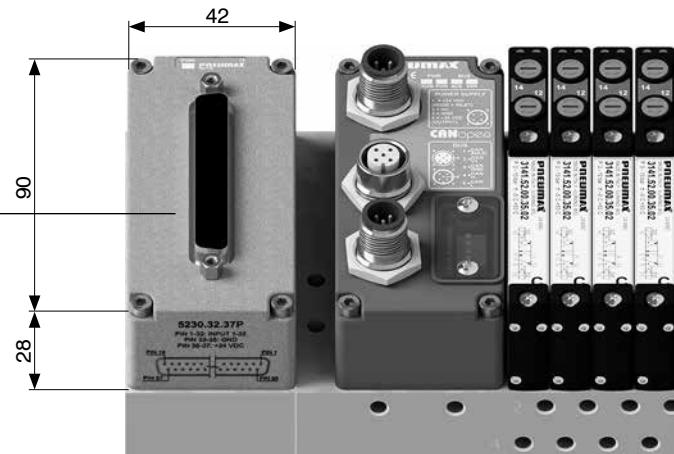
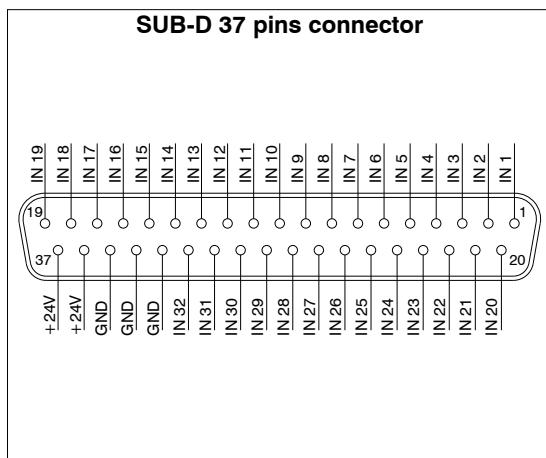
To be connected to the manifold "IN-OUT EXPANSION KIT" is required (code 3140.KE.01).

### Ordering code

**5230.32.37P**



### Scheme / Overall dimensions and I/O layout



### General - 32 digital outputs SUB-D 37 pins module

The module offers 32 PNP digital outputs, available on a SUB-D 37 pins female connector.

Maximum available current from each output is 100mA. Electric power on outputs module is supplied by pin 4 of the M12 power connector on the network node or by the expansion module (code 5030.M12). Power supply presence is displayed by "PWR OUT" green LED light-on.

### Ordering code

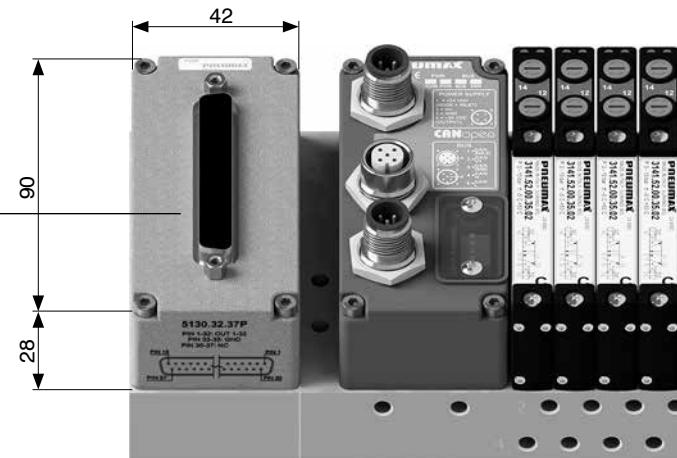
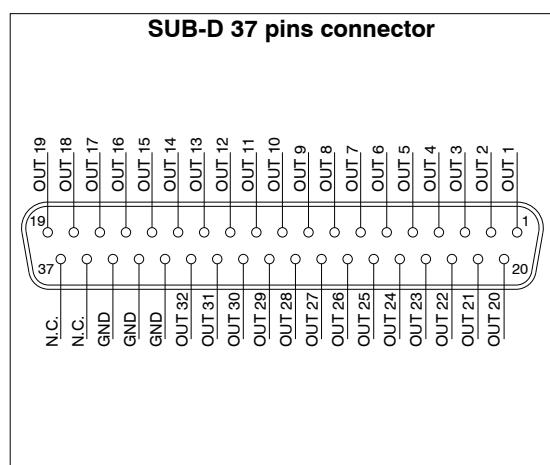
**5130.32.37P**

The module takes up 32 bits on the output data of the serial node installed on the manifold.

To be connected to the manifold it is necessary to combine it with IN-OUT EXPANSION KIT (code 3140.KE.01).



### Scheme / Overall dimensions and I/O layout





**General - M8 analogue inputs modules**

M8 analog inputs enable the possibility to digitize analog voltage or current inputs and to transfer acquired data to field bus, through serial node

Every analog input is sampled at 12 bits and transmitted, for convenience of use, at 16 bit, whose less significant bits padded to 0. Hence every digitized signal takes 16 inputs (2 bytes) of the serial node installed on the manifold.

When ordering is necessary to verify that the serial system has a sufficient number of free inputs.

Following table reports available models:

CODE	SIGNAL	ANALOGUE INPUTS	MAXIMUM CURRENT ON +24 VDC RAIL	OCCUPIED INPUTS
5230.2T.00	VOLTAGE 0-10V	2	300 mA	32 (4 Byte)
5230.2T.01	VOLTAGE 0-5V	2	300 mA	32 (4 Byte)
5230.4T.00	VOLTAGE 0-10V	4	750 mA	64 (8 Byte)
5230.4T.01	VOLTAGE 0-5V	4	750 mA	64 (8 Byte)
5230.2C.00	CURRENT 4-20mA	2	300 mA	32 (4 Byte)
5230.2C.01	CURRENT 0-20mA	2	300 mA	32 (4 Byte)
5230.4C.00	CURRENT 4-20mA	4	750 mA	64 (8 Byte)
5230.4C.01	CURRENT 0-20mA	4	750 mA	64 (8 Byte)

Modules provide M8 3pins female connectors and a diagnostic LED for every analog input. The LED indicates signal correct presence or out of range signal.

Maximum available current available for all inputs on 24VDC rail is reported in the table. Every module provides an internal resettable fuse, which acts when thresholds are exceeded cutting 24VDC power supply to every M8 connector and turning off green PWR LED. Inputs of other eventual modules connected to the node continue to operate uninterrupted. By removing the cause of the threshold overrun, green PWR LED gets back in ON status and the module becomes operational again.

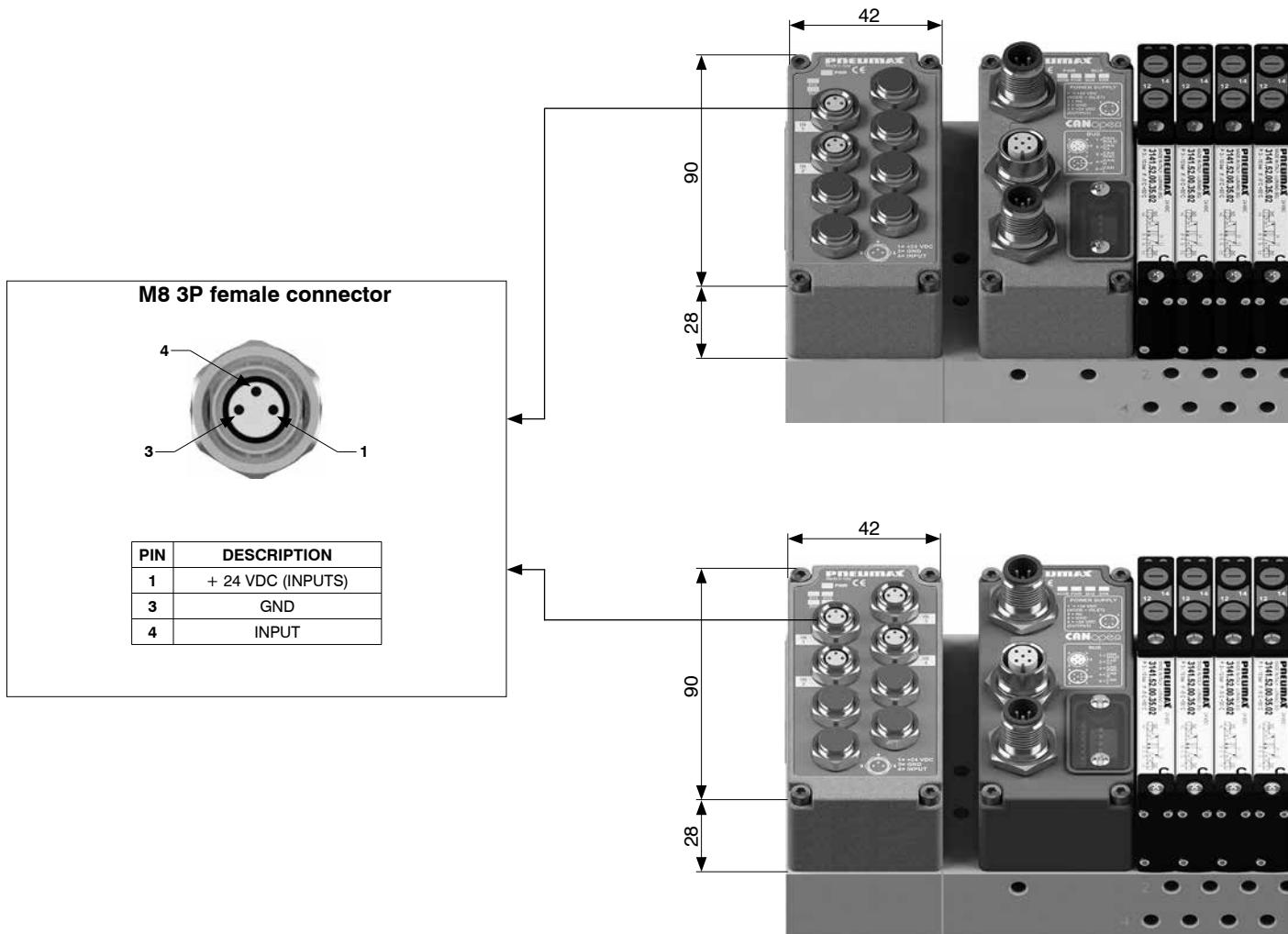
To be connected to the manifold "INPUTS/OUTPUTS EXPANSION KIT" is needed (code 3140.KE.01).

**Ordering code**

5230.\_ \_ .0



**Scheme / Overall dimensions and I/O layout**



### General - M8 analogue outputs modules

M8 analog outputs module can generate an analog voltage or current signal, exploiting acquired output data from field bus through network node.

Every analog output has a resolution of 12 bits, processed from 16 outputs (2 bytes), ignoring 4 less significant bits. At the time of order, it is necessary to verify that the serial system has enough free outputs.

Different models are available:

### Ordering code

5130.\_.\_.0\_



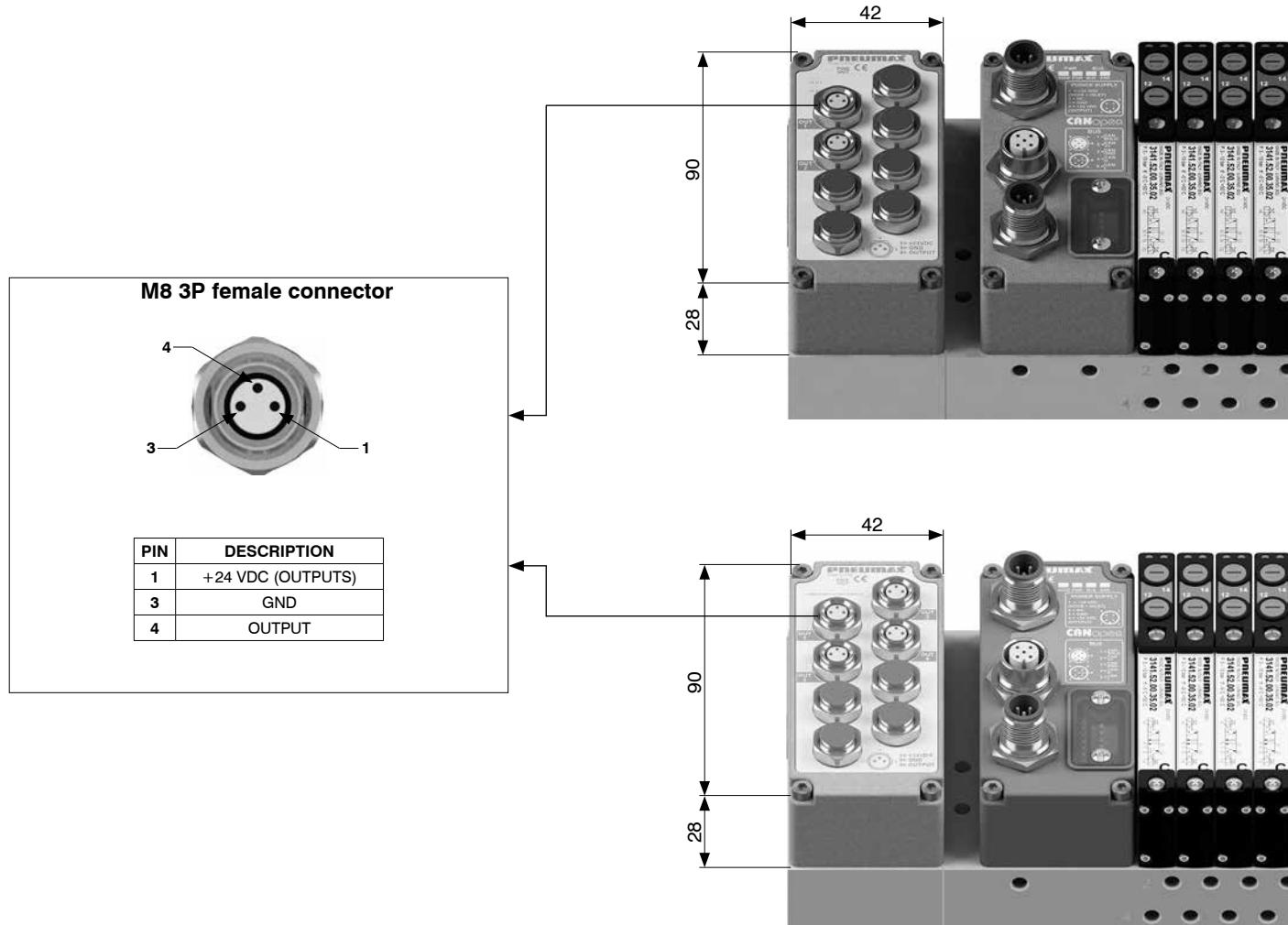
CODE	SIGNAL	ANALOGUE OUTPUTS	MAXIMUM CURRENT ON + 24 VDC RAIL	OCCUPIED OUTPUTS
5130.2T.00	VOLTAGE 0-10V	2	1 A	32 (4 Byte)
5130.2T.01	VOLTAGE 0-5V	2	1 A	32 (4 Byte)
5130.4T.00	VOLTAGE 0-10V	4	2 A (1A for each pair of channel)	64 (8 Byte)
5130.4T.01	VOLTAGE 0-5V	4	2 A (1A for each pair of channel)	64 (8 Byte)
5130.2C.00	CURRENT 4-20mA	2	1 A	32 (4 Byte)
5130.2C.01	CURRENT 0-20mA	2	1 A	32 (4 Byte)
5130.4C.00	CURRENT 4-20mA	4	2 A (1A for each pair of channel)	64 (8 Byte)
5130.4C.01	CURRENT 0-20mA	4	2 A (1A for each pair of channel)	64 (8 Byte)

Modules provide M8 3 pins female connectors and one diagnostic LED for every analog output. The diagnostic LED reports eventual overload or short circuit on the corresponding out.

Every model provides auxiliary 24VDC power supply on pin 1 for every connector. The overall maximum available current from each module is reported in the table; when the reported value is exceeded, a protection resettable fuse, with which every module is equipped, interrupts 24VDC power supply. Eventual other outputs modules connected to the manifold remains operational. Removing the fault cause, green PWR LED turns on again and module becomes operational again.

To be connected to the manifold with "INPUTS/OUTPUTS EXPANSION KIT" is required (code 3140.KE.01).

### Scheme / Overall dimensions and I/O layout





### General - Additional power supply module

Additional power supply module 5030.M12 supply additional electric power for input and output downstream modules, where "downstream" means farther from serial system on the manifold.

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

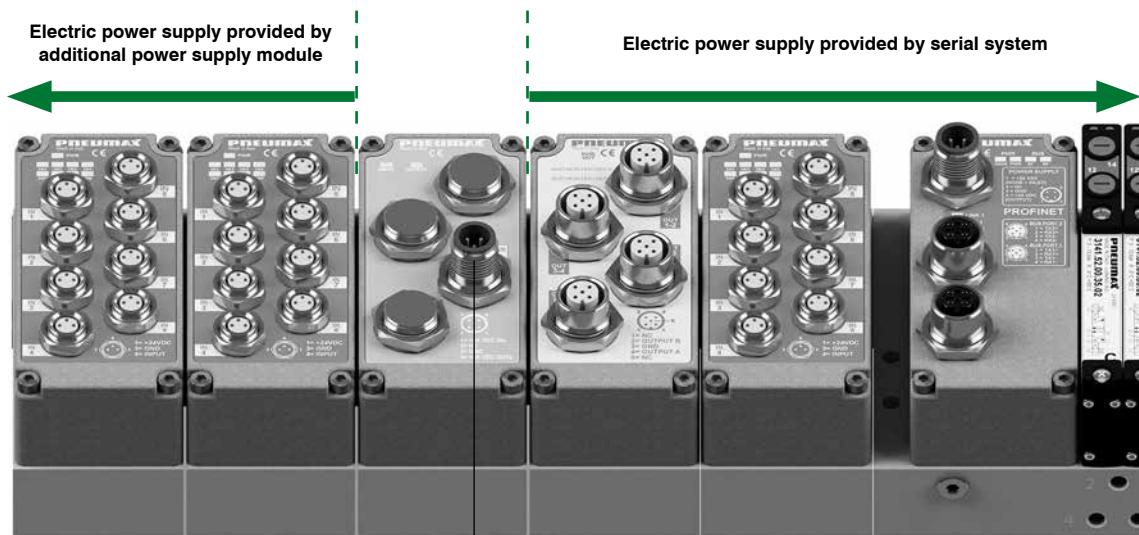
M12 connector has two different pins to power up inputs (pin 1) and outputs (pin 4). Each power supply rail presence is indicated by corresponding green LED. To be connected to the manifold combination with "INPUTS/OUTPUTS EXPANSION KIT" is needed (code 3140.KE.01).

### Ordering code

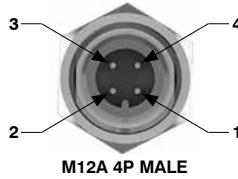
5030.M12



### Scheme / Overall dimensions and I/O layout



### M12 4P male connector



PIN	DESCRIPTION
1	+ 24 VDC
2	NC
3	GND
4	PWR OUT

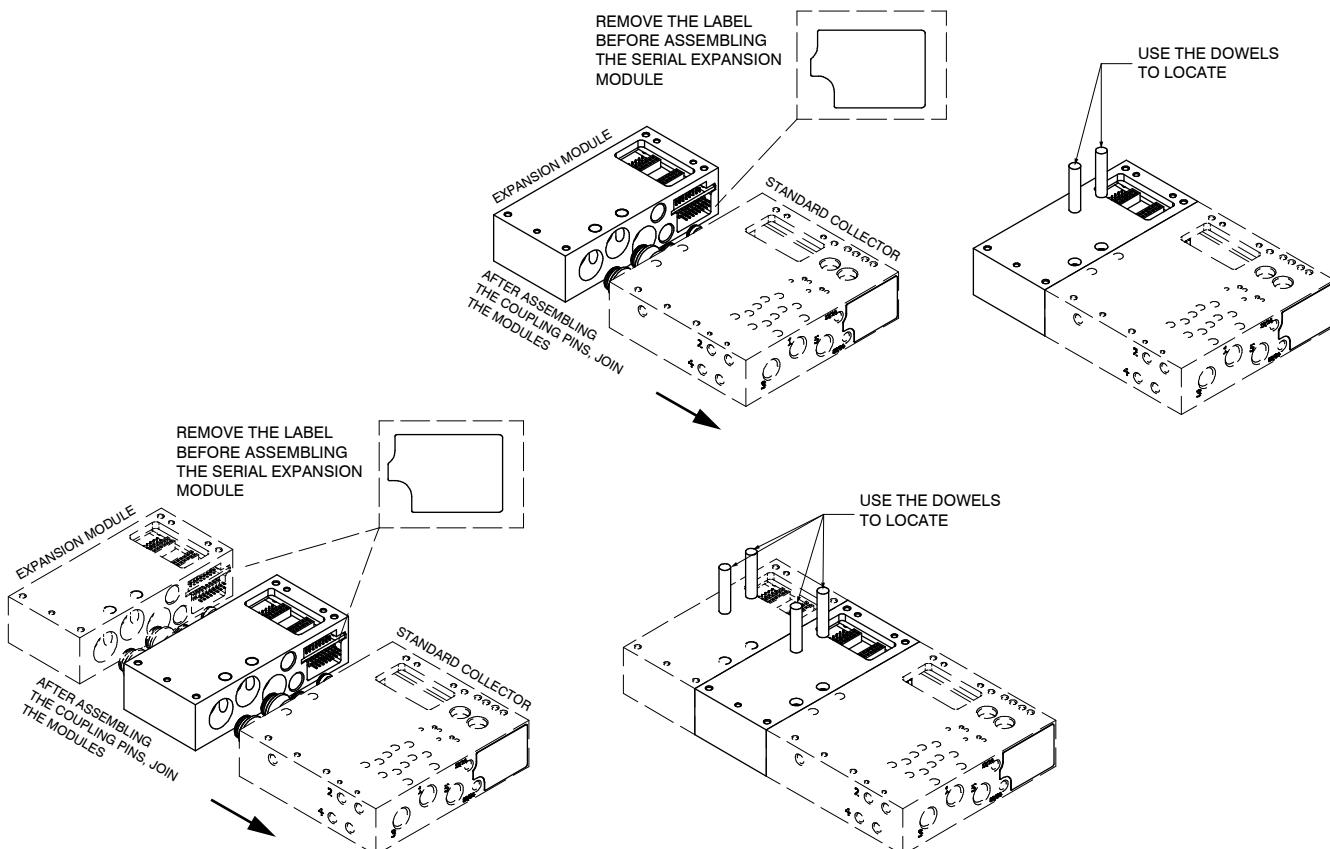
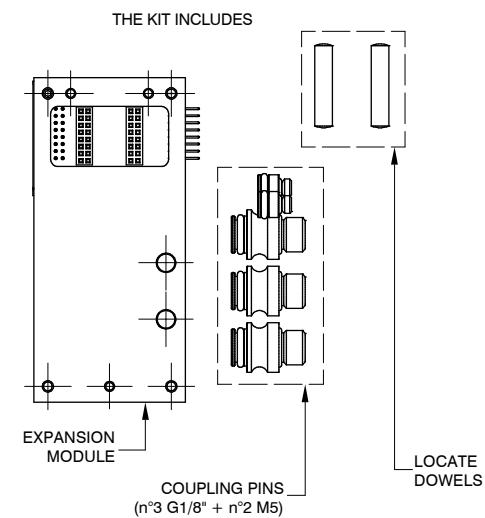
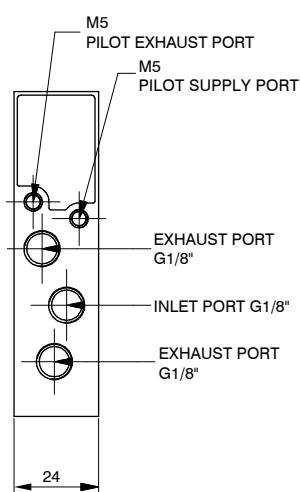
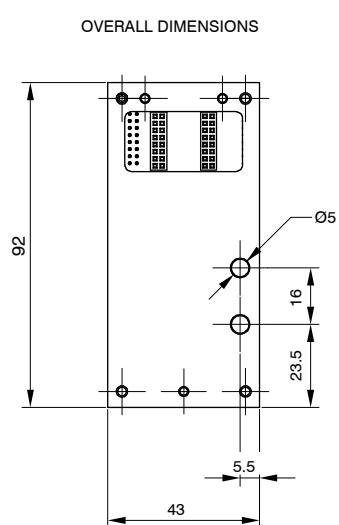
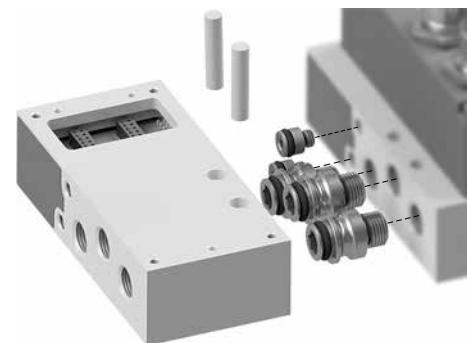
### General - Inputs/outputs expansion kit

Inputs/outputs expansion kit allows inputs modules connection (e.g. 5230.08.M8) as well as outputs (e.g. 5130.08.M8) to the manifold.

Whenever it were not installed any module (inputs or outputs) to the Inputs/outputs expansion kit, electric power supply to downstream modules is interrupted.

### Ordering code

3140.KE.01





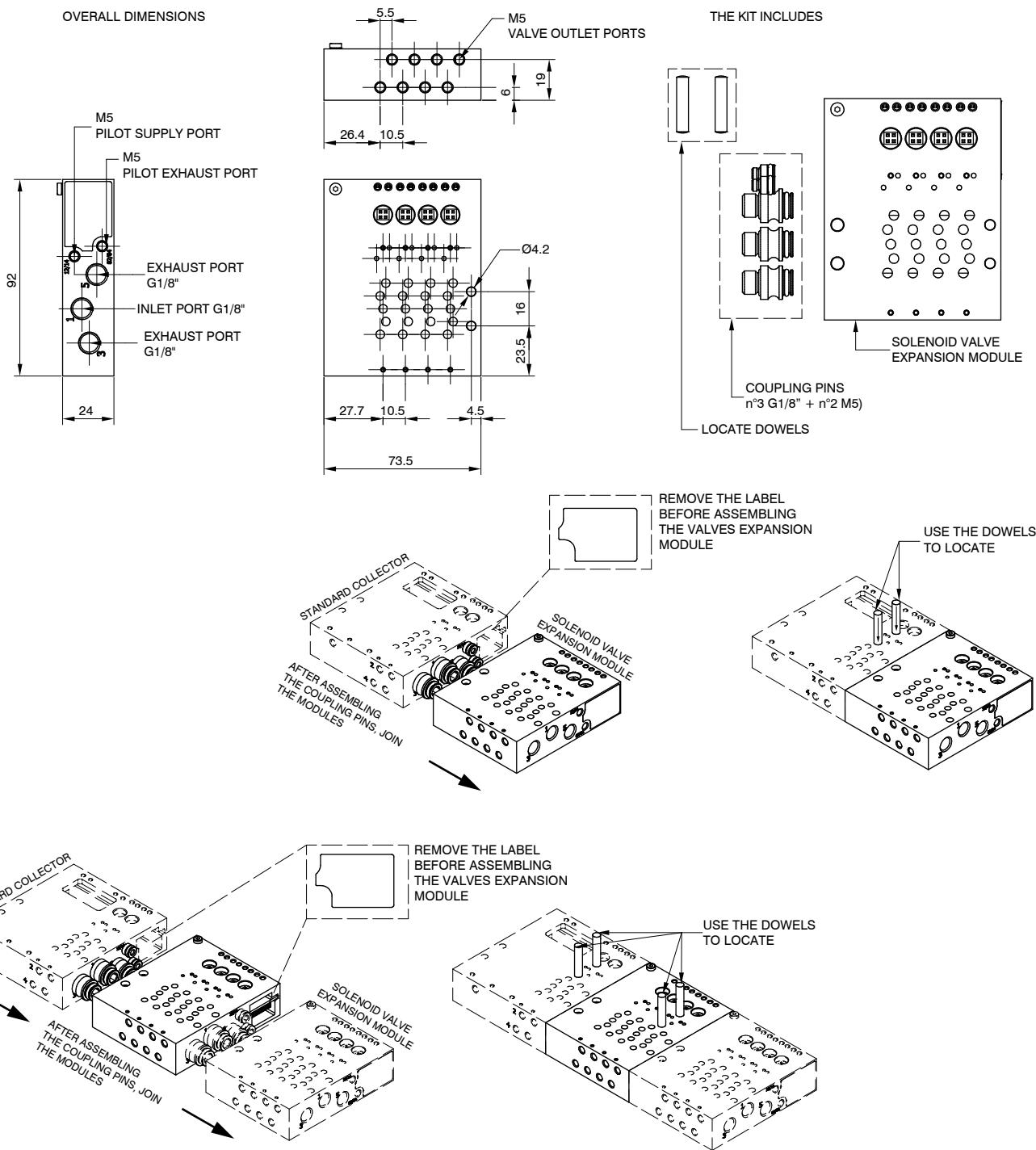
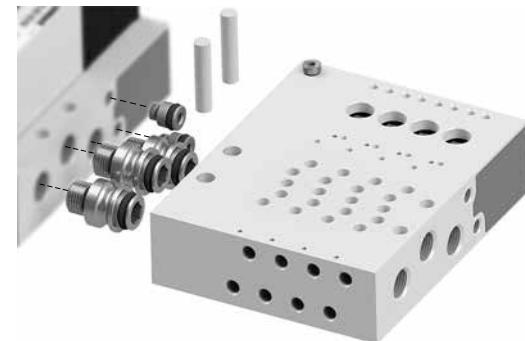
**General - Solenoid valves expansion kit**

Solenoid valves expansion kit offers the possibility to add 4 solenoid bi-stable valve sockets to the manifold. A couple of red LEDs is associated to every socket, which light-up shows activation of the corresponding output. This kit can be used only if a serial system (for example CANopen®, PROFINET IO RT/IRT or the others illustrated in this catalogue) is installed on the manifold; hence it can't be used if a Multipoint connection is installed on the manifold.

Every kit takes up 8 bits of output bytes.

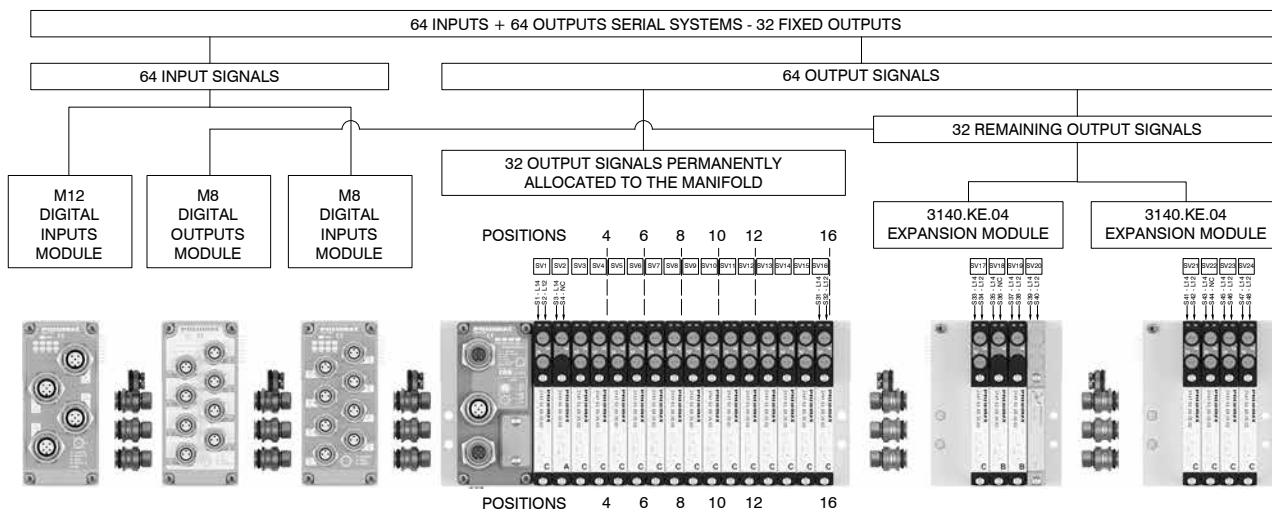
**Ordering code**

3140.KE.04

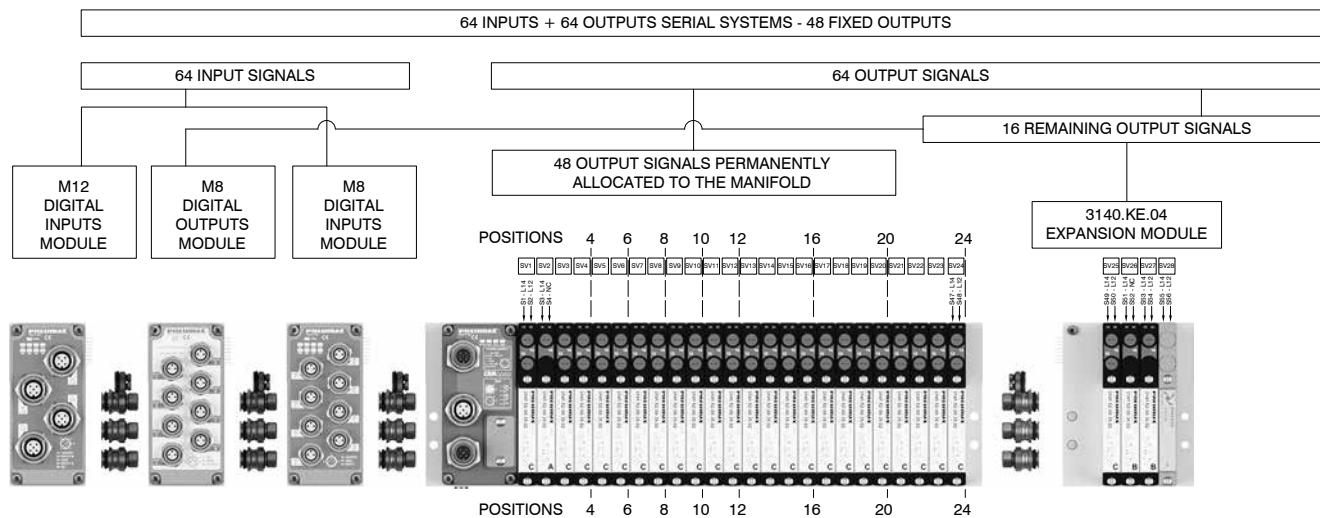


## Signal management

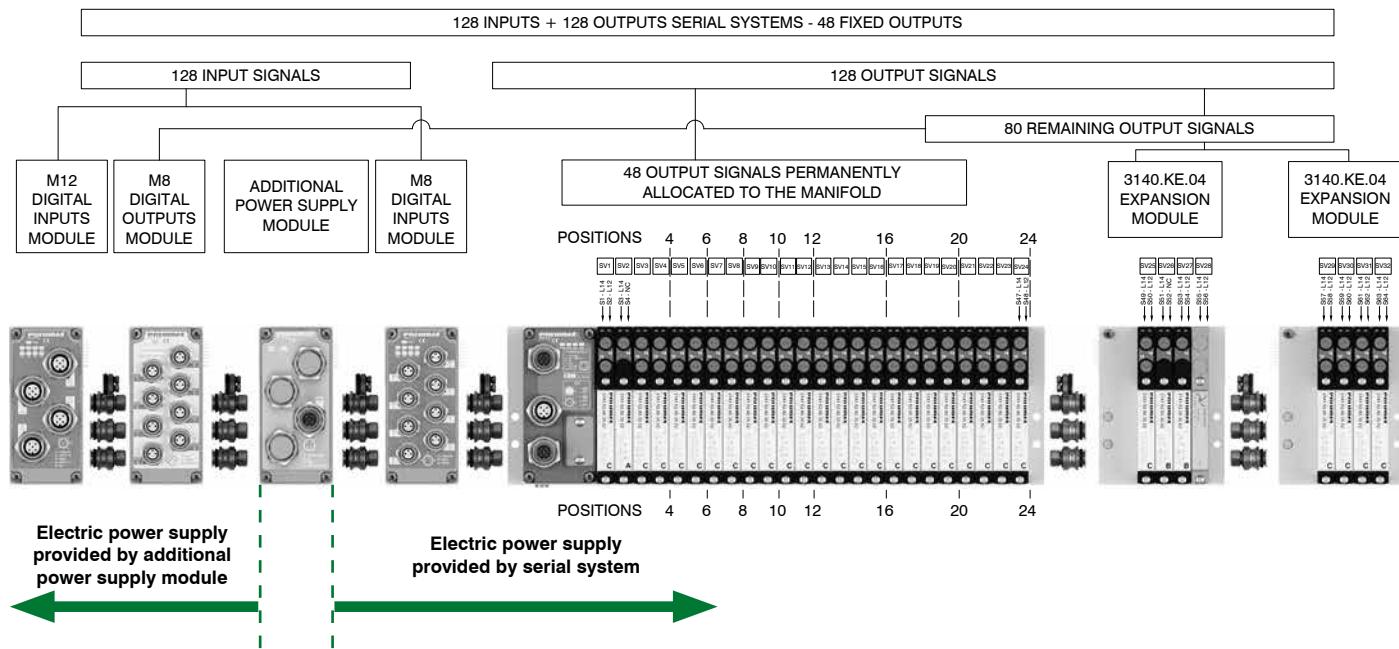
### 64 INPUT + 64 OUTPUT serial systems - 32 fixed OUTPUT (Ex. PROFIBUS DP and CANopen®)



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

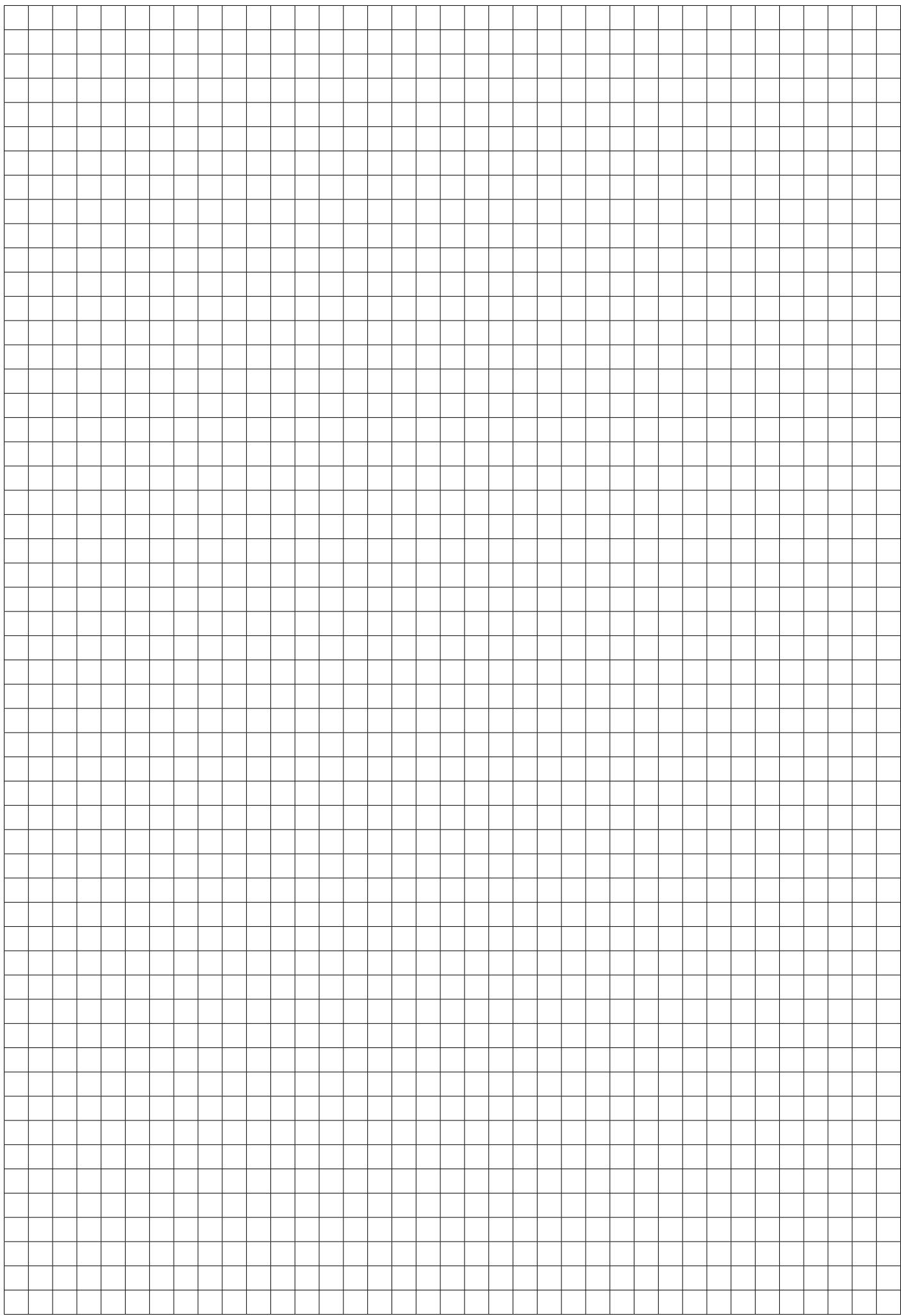


### 128 INPUT + 128 OUTPUT serial systems - 48 fixed OUTPUT (Ex. EtherNet/IP - EtherCAT® - PROFINET IO RT/IRT)





## AIR DISTRIBUTION



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