



PNEUMAX



SOLENOID VALVES **SERIES 3000**

TECHNOLOGY AND FLEXIBILITY



PNEUMAX



Pneumax S.p.A.

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**



Index

Solenoid valves series 3000



Introduction	3
STAND ALONE solenoid valves version	4
Configurator	5
10mm, M5 - Self feeding	
Solenoid - Spring / Solenoid - Differential	7
Solenoid - Solenoid	7
Solenoid - Solenoid (5/3 Closed centres)	8
Solenoid - Solenoid 2x3/2	8
10mm, M5 - External feeding	
Solenoid - Spring / Solenoid - Differential	9
Solenoid - Solenoid	9
Solenoid - Solenoid (5/3 Closed centres)	10
Solenoid - Solenoid 2x3/2	10
Manifold	11
Installation specifications	12
MANIFOLD version	14
Configurator	15
Configuration examples	16
10mm solenoid valves, Manifold	
Solenoid - Spring / Solenoid - Differential	17
Solenoid - Solenoid	17
Solenoid - Solenoid (5/3 Closed centres)	18
Solenoid - Solenoid 2x3/2	18
Multipoint connections	19
Endplates	20
Accessories	20
Cables	21
Manifold	22
Installation specifications	23
Serial system	
CanOpen® slave modules	25
PROFIBUS DP slave modules	26
Ethernet/IP - EtherCAT® - PROFINET IO RT/IRT slave modules	27
M8 - M12 digital inputs modules	28
M8 - M12 digital outputs modules	29
M8 analogue inputs modules	30
M8 analogue outputs modules	31
Additional power supply module	32
Inputs/outputs expansion kit	33
Solenoid valves expansion kit	34
Signal management	35

Solenoid valves series 3000



- 10 mm size
- Nominal flow rate up to 200 NI/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, if lubricated, the lubrication must be continuous

STAND ALONE solenoid valves version



General

The 10mm solenoid valves range with a flow of 200 NI/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

3115. 52.00 . 39 . 02

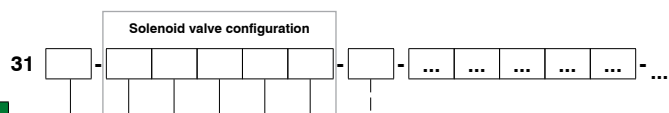
Function
52.00 : Solenoid valve 5/2
53.31 : Solenoid valve 5 way 3 positions
62.44 : 2x Solenoid valve 3/2 N.C.- N.C.
62.55 : 2x Solenoid valve 3/2 N.O.- N.O.
62.45 : 2x Solenoid valve 3/2 N.C.- N.O.
62.54 : 2x Solenoid valve 3/2 N.O.- N.C.
Valves type
36 : Solenoid - Differential self-feeding
39 : Solenoid - 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

AIR DISTRIBUTION



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 : Solenoid valve 5/2 Solenoid-Spring
- B : Solenoid valve 5/2 Solenoid-Differential
- C : Solenoid valve 5/2 Solenoid-Solenoid
- E : Solenoid valve 5/3 C.C. Solenoid-Solenoid
- F : Solenoid valve 2x3/2 N.C.-N.C. (=5/3 O.C.) Solenoid-Solenoid
- G : Solenoid valve 2x3/2 N.O.-N.O. (=5/3 P.C.) Solenoid-Solenoid
- H : Solenoid valve 2x3/2 N.C.-N.O. Solenoid-Solenoid
- I : Solenoid valve 2x3/2 N.O.-N.C. Solenoid-Solenoid

Power supply

- 2 : External feeding
- 3 : Self feeding

Connector type

- H : H 90° connector
- C : 300 mm cables
- M : M8 SPEED UP connector

Voltage

- 1 : 24 VDC

Connections

- 5 : M5

Accessories (optional)

no valve position occupied on the manifold

- T : Closing plate

Accessories (optional)

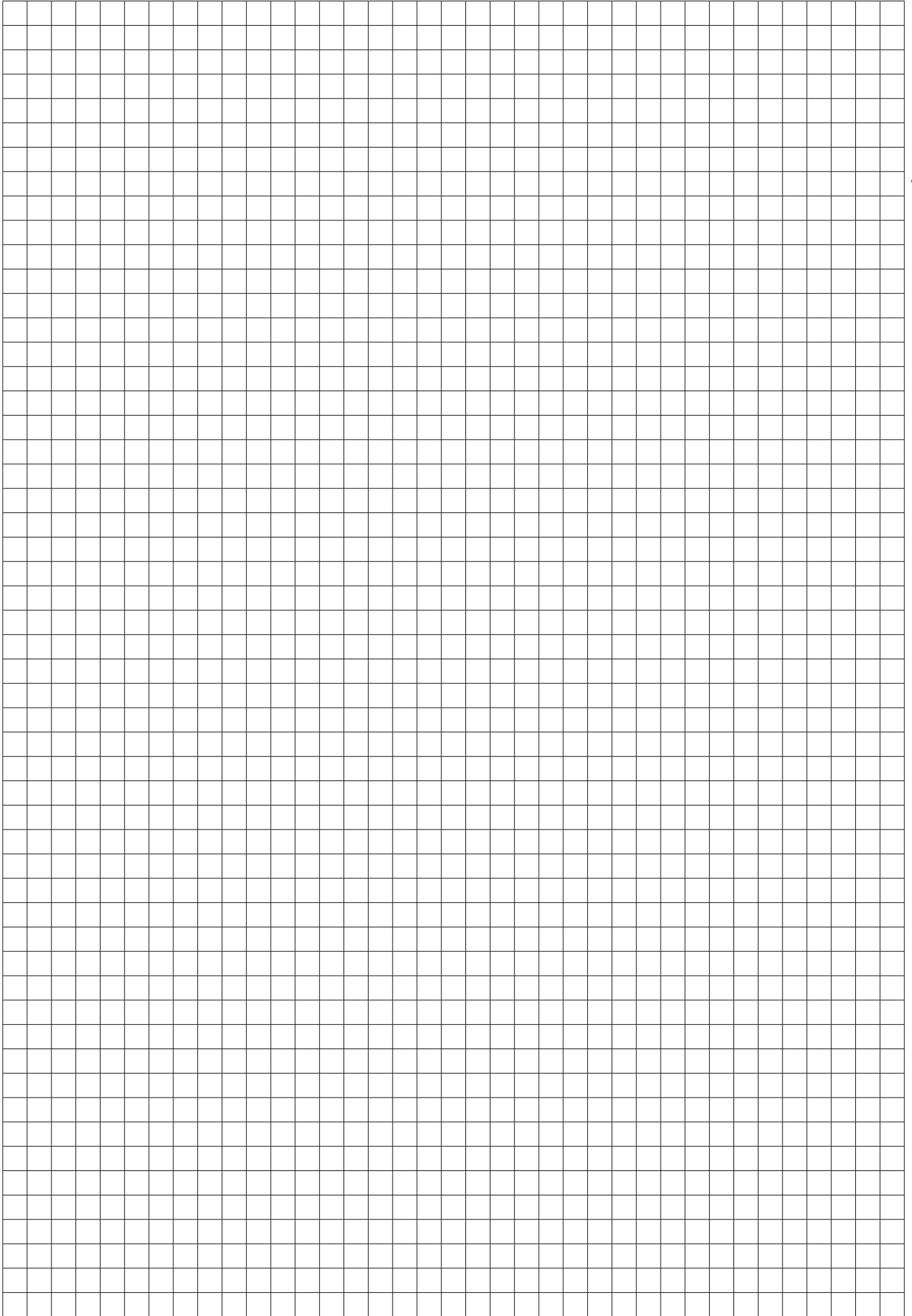
no valve position occupied on the manifold

- 0X0 : Diaphragm plug on pipe 1
- 00Y : Diaphragm plug on pipe 3
- Z00 : Diaphragm plug on pipe 5
- 0XY : Diaphragm plug on pipe 1 and 3
- ZX0 : Diaphragm plug on pipe 5 and 1
- Z0Y : Diaphragm plug on pipe 5, 1 and 3

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

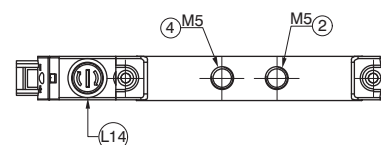
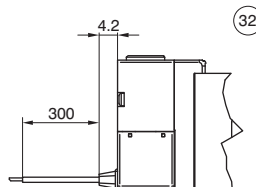
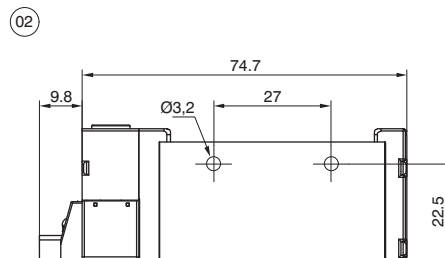
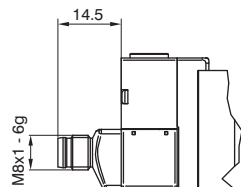
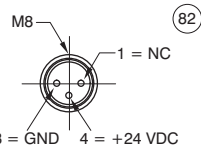
3115.52.00.F.C

FUNCTION

36 = Solenoid-Differential
39 = Solenoid-Spring

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 $\Delta p = 1$ (l/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)
3115.52.00.39.C Solenoid-Spring	Filtered air, if lubricated, the lubrication must be continuous	160	10	20	2,5 - 7	-5 - +50	49
3115.52.00.36.C Solenoid-Differential				15			

Solenoid-Solenoid

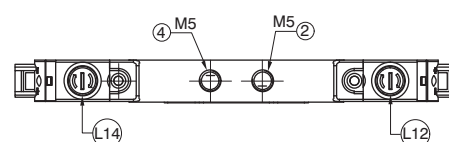
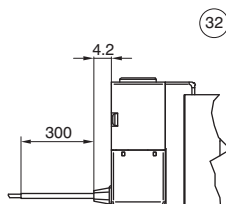
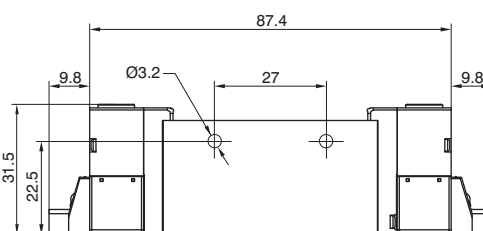
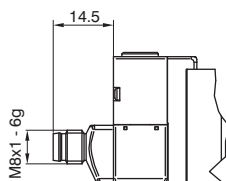
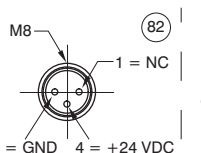
5/2

Ordering code

3115.52.00.35.C

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 $\Delta p = 1$ (l/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)
3115.52.00.35.C Solenoid-Solenoid	Filtered air, if lubricated, the lubrication must be continuous	160	10	10	2,5 - 7	-5 - +50	59

Solenoid-Solenoid (Closed centres)

5/3

Ordering code

3115.53.31.35.Ⓢ

CONNECTIONS

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

M8
1 = NC
3 = GND 4 = +24 VDC

32

14 4 2 513 12

SHORT FUNCTION CODE "E"

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)	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)
3115.53.31.35.Ⓢ Solenoid-Solenoid (Closed centres)		Filtered air, if lubricated, the lubrication must be continuous	150	10	20	2,5 - 7	-5 - +50	59

Solenoid-Solenoid 2x3/2

6/2

Ordering code

3115.62.Ⓢ.35.Ⓢ

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

M8
1 = NC
3 = GND 4 = +24 VDC

32

14 4 2 513 12

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

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 Δp=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)	
3115.62.44.35.☉ NC-NC (5/3 Open Centres)	Filtered air, if lubricated, the lubrication must be continuous	150	10	15	2,5 - 7	-5 - +50	59,4	
3115.62.55.35.☉ NO-NO (5/3 Pressured Centres)								
3115.62.45.35.☉ NC-NO								
3115.62.54.35.☉ NO-NC								



Solenoid valves Series 3000 STAND ALONE - 10mm, M5 - External feeding

Solenoid-Spring / Solenoid-Differential

5/2

Ordering code

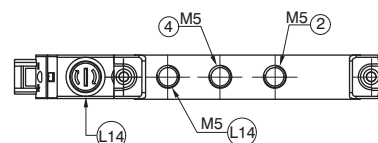
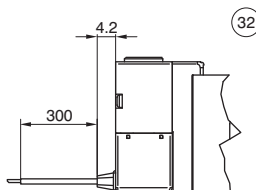
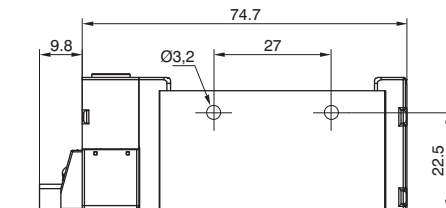
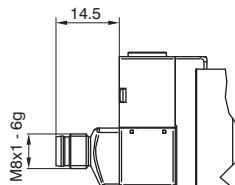
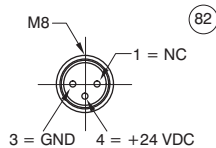
3115.52.00.F.C

FUNCTION

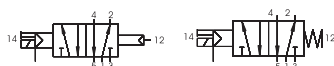
26 = Solenoid-Differential
29 = Solenoid-Spring

CONNECTIONS

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



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)	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)
3115.52.00.29.C Solenoid-Spring	Filtered air, if lubricated, the lubrication must be continuous	160	10	20	From vacuum to 10	2,5 - 7	-5 - +50	49
3115.52.00.26.C Solenoid-Differential				15				

Solenoid-Solenoid

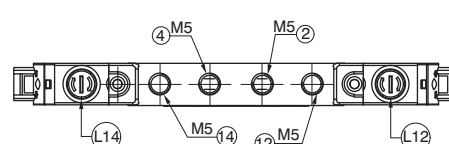
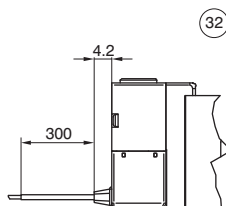
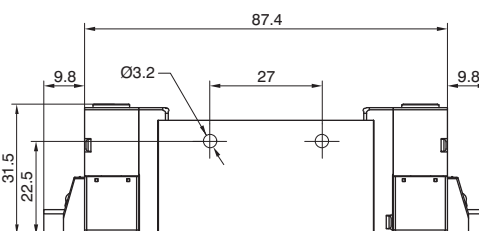
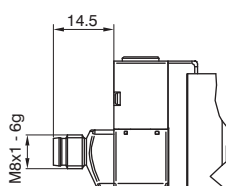
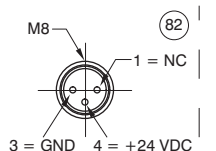
5/2

Ordering code

3115.52.00.25.C

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)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressione di (bar)	Temperature (°C)	Weight (g)
3115.52.00.25.C Solenoid-Solenoid	Filtered air, if lubricated, the lubrication must be continuous	160	10	10	From vacuum to 10	2,5 - 7	-5 - +50	59

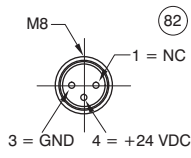
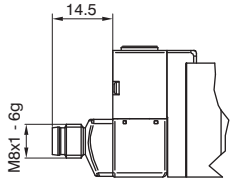
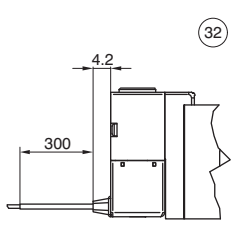
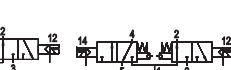
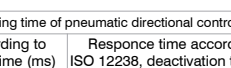
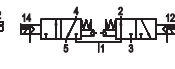
Solenoid-Solenoid 5/3 (Closed centres)

5/3

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

Solenoid-Solenoid 2x3/2

6/2

Ordering code 3115.62.Ⓢ.25.Ⓢ		      																								
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)	Working pressure (bar)	Piloting pressure (bar)	Temperature (°C)	Weight (g)																		
3115.62.44.25.Ⓢ NC-NC (5/3 Open Centres)	Filtered air, if lubricated, the lubrication must be continuous	150	10	15	From vacuum to 10	$\geq 3 + (0.2 \times P_{alim.})$	-5 - +50	59,4																		
3115.62.55.25.Ⓢ NO-NO (5/3 Pressured Centres)																										
3115.62.45.25.Ⓢ NC-NO																										
3115.62.54.25.Ⓢ NO-NC																										



Solenoid valves

Series 3000 STAND ALONE - 10mm, M5 - Manifold

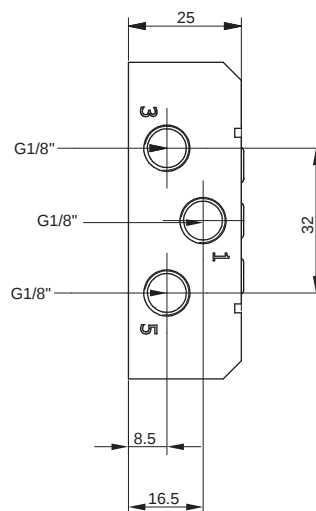
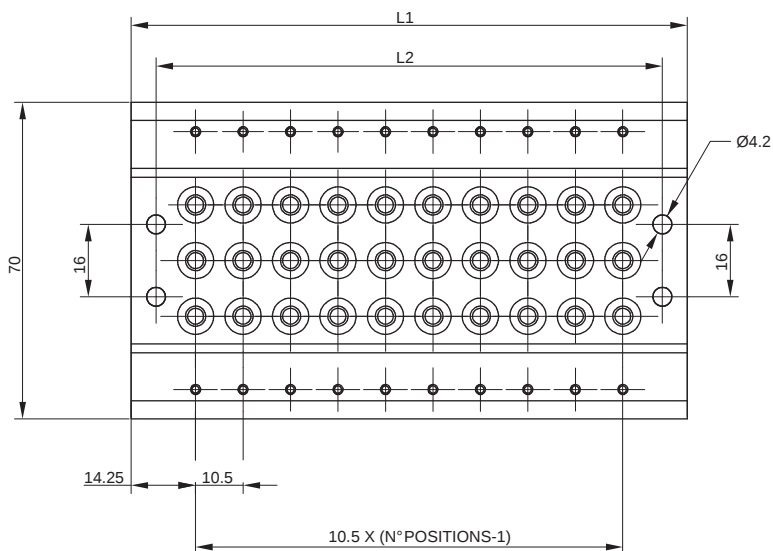
AIR DISTRIBUTION

Manifold

Ordering code

3115.P

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
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

3115.KV

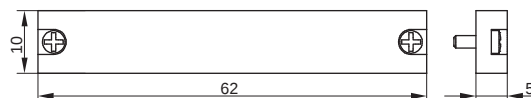


Weight g. 2

Closing plate

Ordering code

3115.00



Weight g. 10

Diaphragm plug

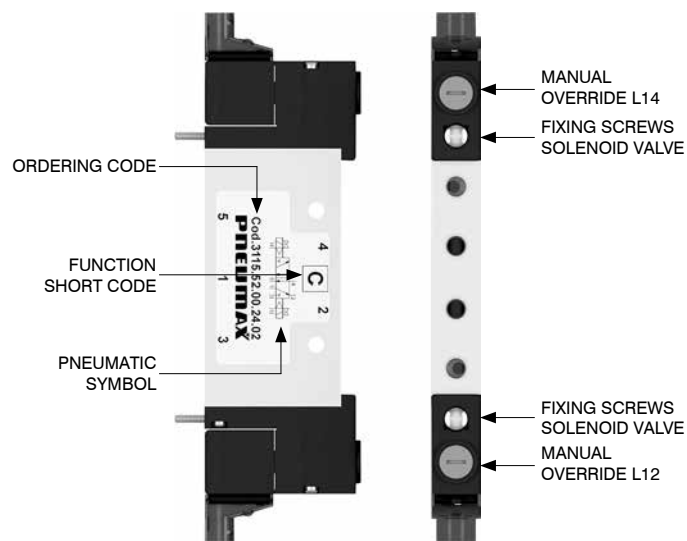
Ordering code

3130.17

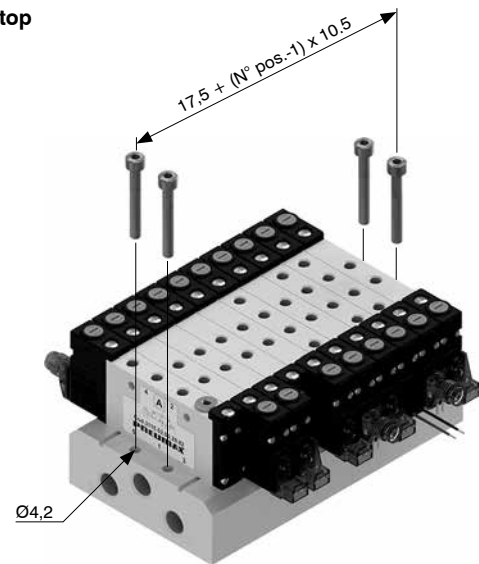


Weight g 1,5

Solenoid valve description

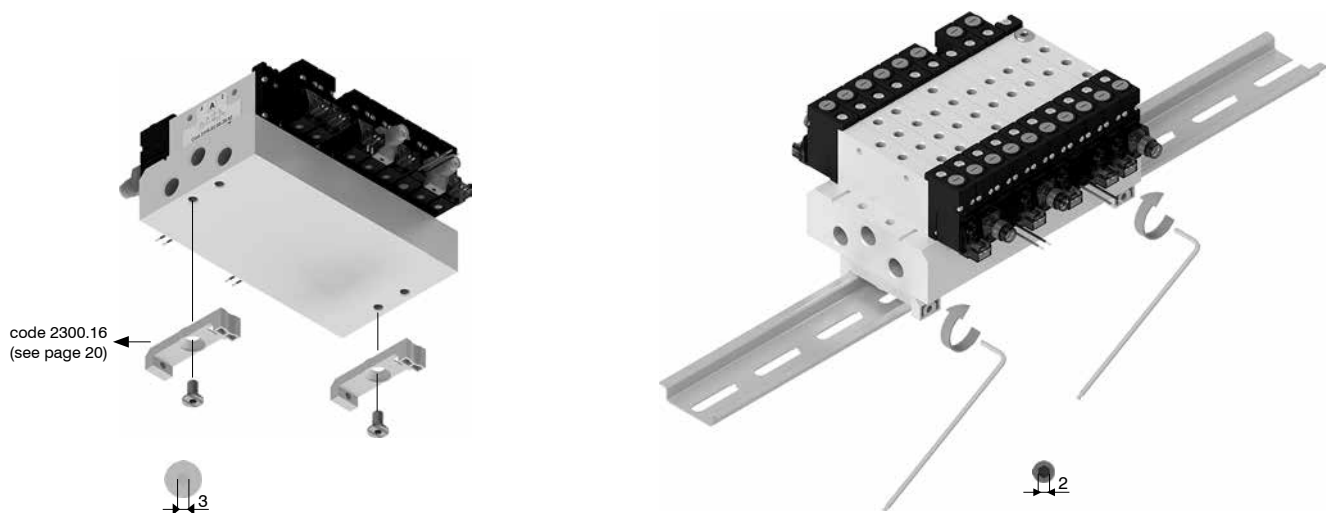


From the top

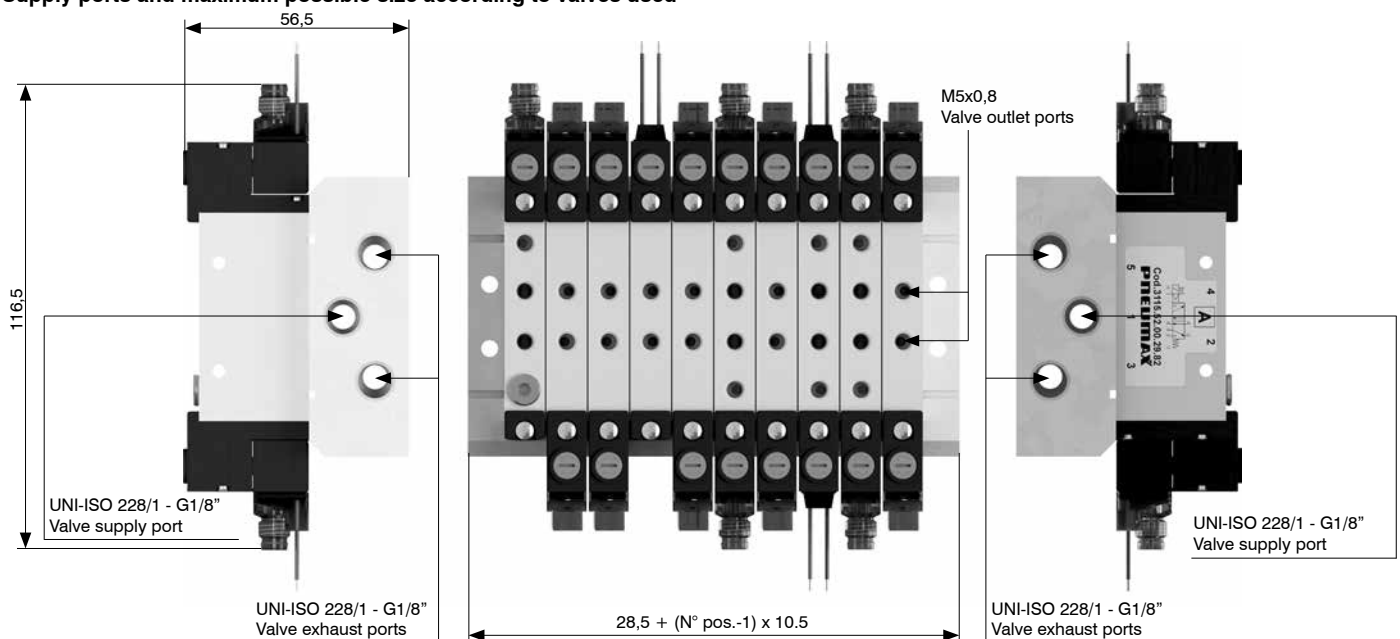


AIR DISTRIBUTION

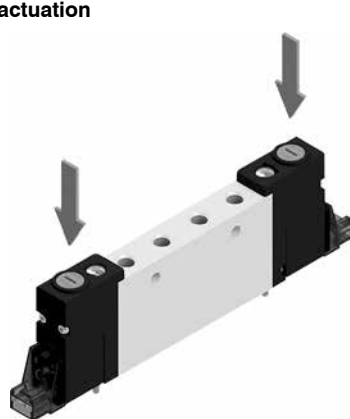
DIN rail fixing



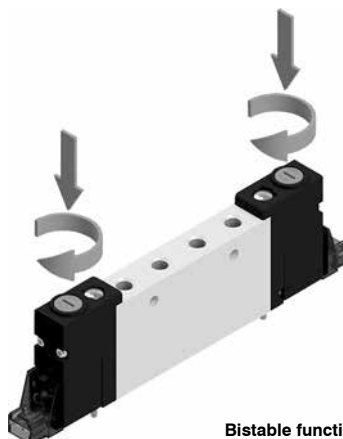
Supply ports and maximum possible size according to valves used



Manual override actuation



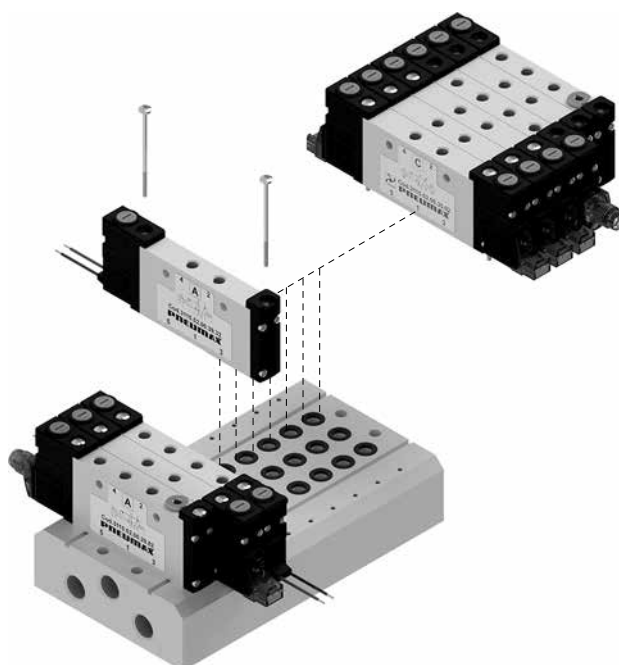
Unstable function:
Push to actuate
(when released it moves back
to the original position)



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

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 vast 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.

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

AIR DISTRIBUTION

31

4 positions expansion module

4

Power supply

- A : Self feeding
- E : External feeding

Electric connection

- MP2 : 25 poles multipoint module
- MP3 : 37 poles multipoint module
- MP4 : 44 poles HD multipoint module
- C3 : CanOpen module 64 IN - 64 OUT (32 fixed)
- C4 : CanOpen module 64 IN - 64 OUT (48 fixed)
- P3 : PROFIBUS DP module 64 IN - 64 OUT (32 fixed)
- P4 : PROFIBUS DP module 64 IN - 64 OUT (48 fixed)
- I4 : EtherNet/IP module 128 IN - 128 OUT (48 fixed)
- A4 : EtherCAT module 128 IN - 128 OUT (48 fixed)
- N4 : PROFINET IO RT/IRT module 128 IN - 128 OUT (48 fixed)

Left endplate (Optional)

- : without endplate
- S1 : left endplate with upper connections

Inputs module - Analog / Digital (Optional)

- D8 : 8 M8 digital inputs module
- D12 : 8 M12 digital inputs module
- 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)

Outputs module - Analog / Digital (Optional)

- M8 : 8 M8 digital outputs module
- M12 : 8 M12 digital outputs module
- 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 power supply module (Optional)

- P12 : M12 additional power supply module

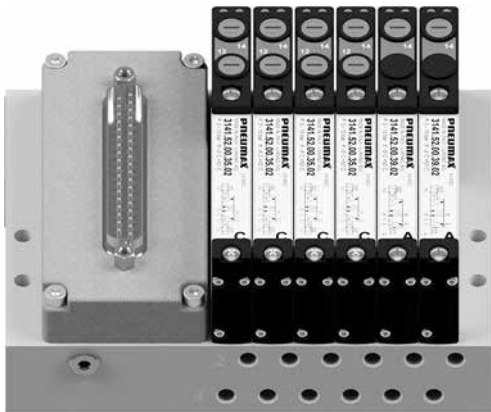
Valves type

- A : Solenoid valve 5/2 Solenoid - Spring
- B : Solenoid valve 5/2 Solenoid - Differential
- C : Solenoid valve 5/2 Solenoid - Solenoid
- E : Solenoid valve 5/3 C.C. Solenoid - Solenoid
- F : Solenoid valve 2X3/2 N.C.-N.C. (=5/3 O.C.) Solenoid - Solenoid
- G : Solenoid valve 2X3/2 N.O.-N.O. (=5/3 P.C.) Solenoid - Solenoid
- H : Solenoid valve 2X3/2 N.C.-N.O. Solenoid - Solenoid
- I : Solenoid valve 2X3/2 N.O.-N.C. Solenoid - Solenoid
- T : Closing plate
- X : Diaphragm plug on pipe 1
- Y : Diaphragm plug on pipe 3
- Z : Diaphragm plug on pipe 5
- W : Intermediate supply and exhaust module

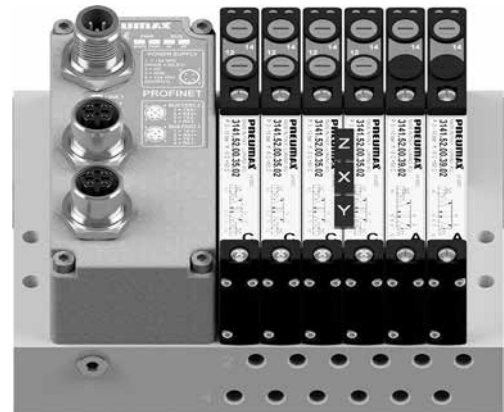
Right endplate (Optional)

- : without endplate
- U1 : right endplate with upper connections

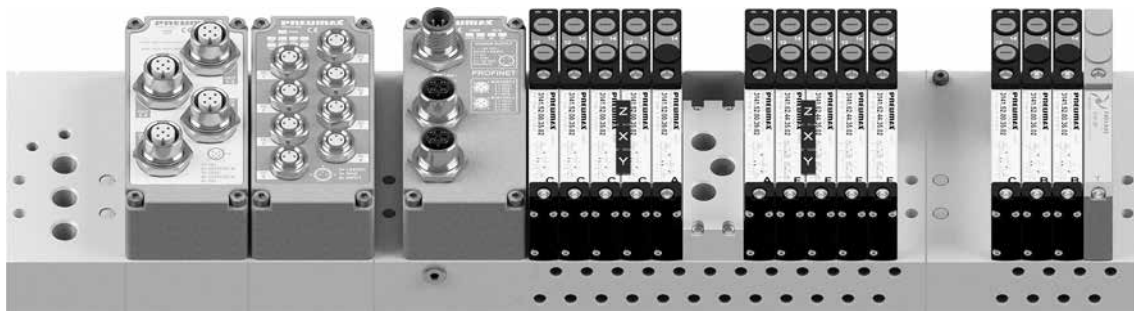
Configuration examples



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 : 31EN4S1D8M12CCCCXYZCAWAEXYZEEE4CBBT
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

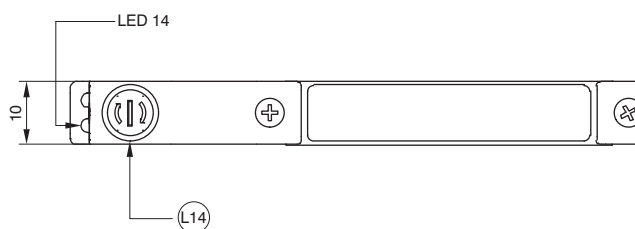
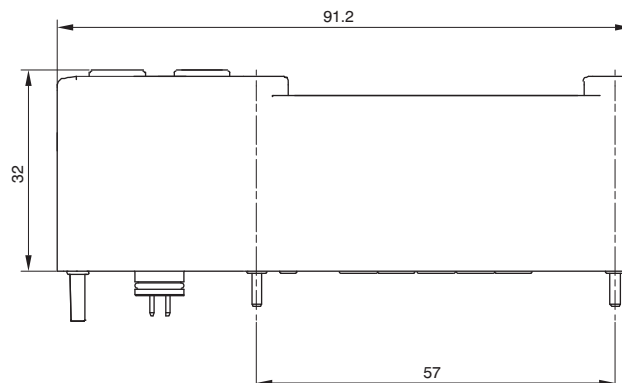
3141.52.00.F.C

FUNCTION

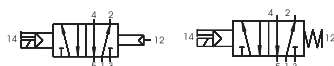
F 36 = Solenoid-Differential
39 = Solenoid-Spring

CONNECTIONS

C 02 = 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)	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)
3141.52.00.39.C Solenoid-Spring	Filtered air, if lubricated, the lubrication must be continuous	200	10	20	From vacuum to 10	2,5 - 7	-5 - +50	55,7
3141.52.00.36.C Solenoid-Differential								

Solenoid-Solenoid

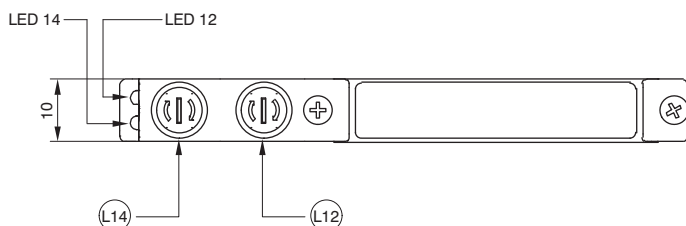
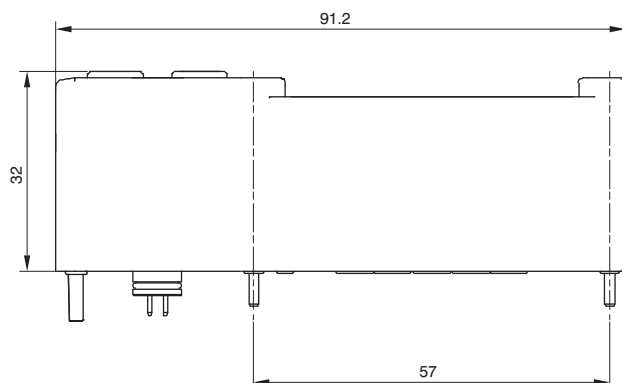
5/2

Ordering code

3141.52.00.35.C

CONNECTIONS

C 02 = 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)	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)
3141.52.00.35.C Solenoid-Solenoid	Filtered air, if lubricated, the lubrication must be continuous	200	10	10	From vacuum to 10	2,5 - 7	-5 - +50	55,7

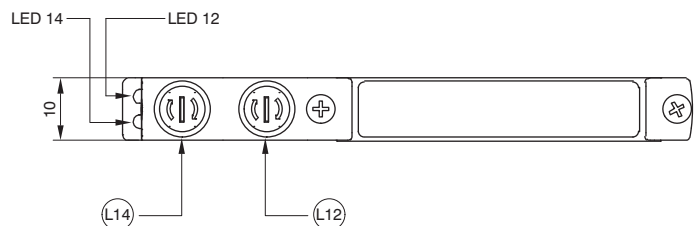
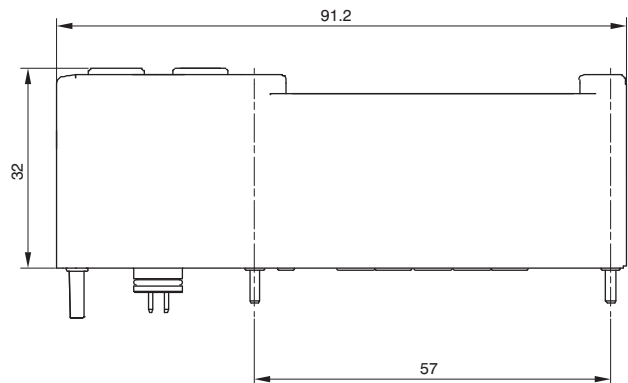
Solenoid-Solenoid 5/3 (Closed centres)

5/3

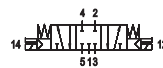
Ordering code

3141.53.31.35.Ⓢ

Ⓢ CONNECTIONS
02=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)
3141.53.31.35.Ⓢ Solenoid-Solenoid 5/3 (Closed centres)	Filtered air, if lubricated, the lubrication must be continuous	170	10	20	From vacuum to 10	2,5 - 7	-5 - +50	60,3

Solenoid-Solenoid 2x3/2

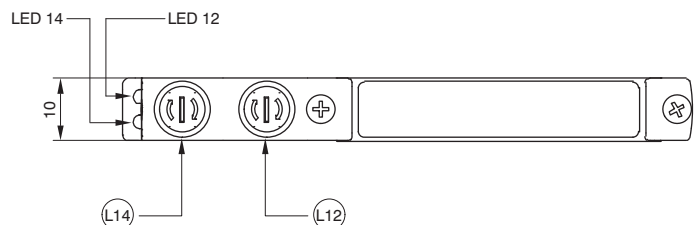
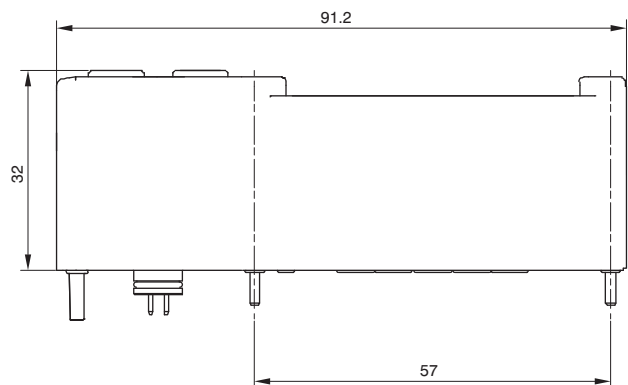
6/2

Ordering code

3141.62.Ⓢ.35.Ⓢ

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)
3141.62.44.35.Ⓢ NC-NC (5/3 Open Centres)	Filtered air, if lubricated, the lubrication must be continuous	170	10	15	From vacuum to 10	$\geq 3 + (0.2 \times P_{alim.})$	-5 - +50	60,7
3141.62.45.35.Ⓢ NC-NO								
3141.62.55.35.Ⓢ NO-NO (5/3 Pressured Centres)								
3141.62.54.35.Ⓢ NO-NC								

Multipoint module

Ordering code

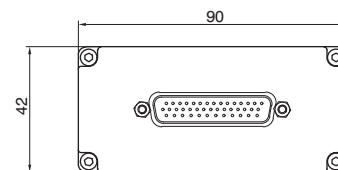
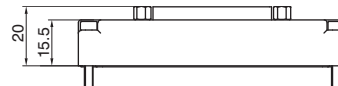
3140.00.0

CONNECTIONS

25P=Connector 25 poles

37P=Connector 37 poles

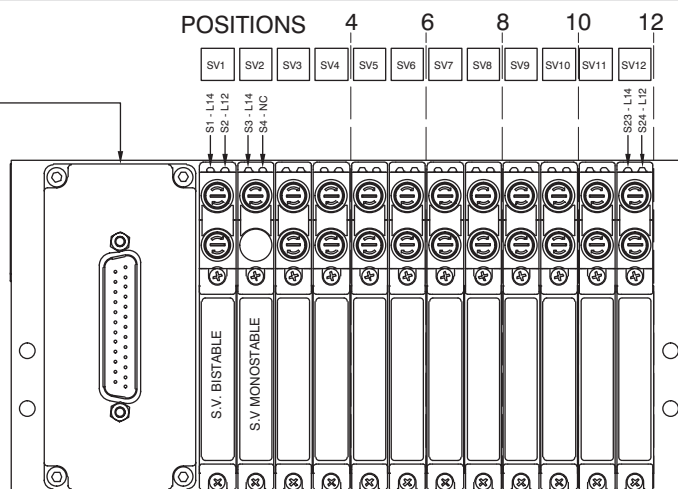
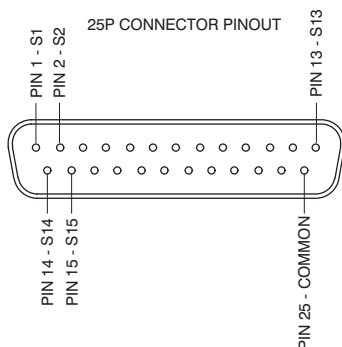
44P=Connector 44 poles



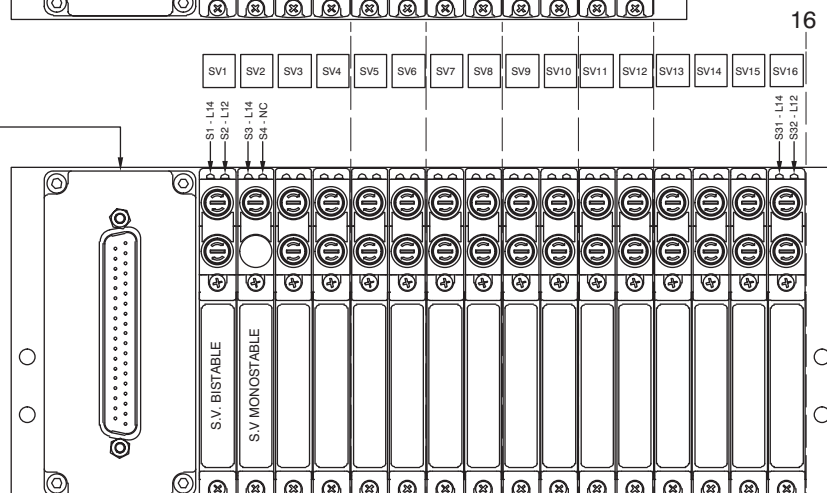
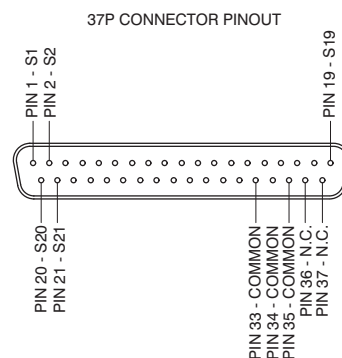
Operational Characteristic

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

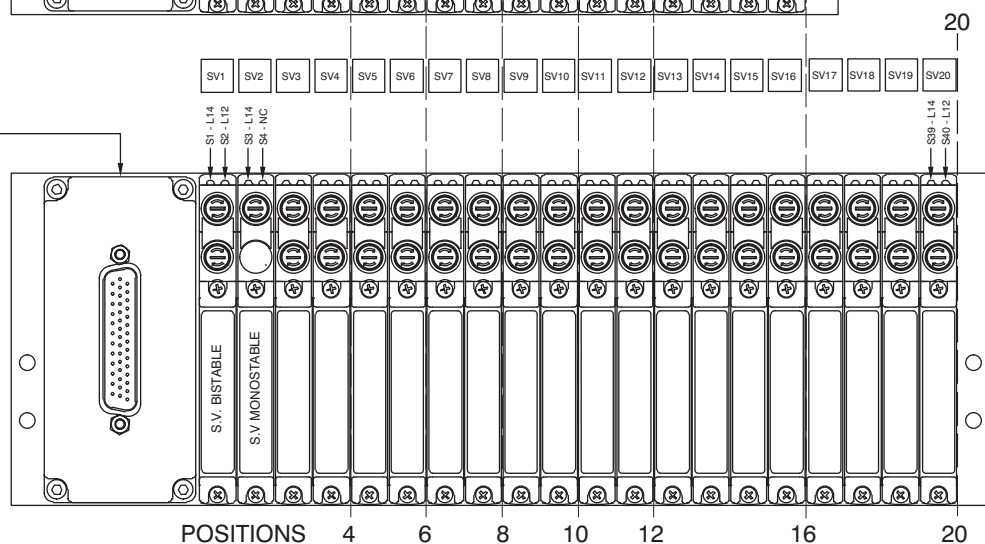
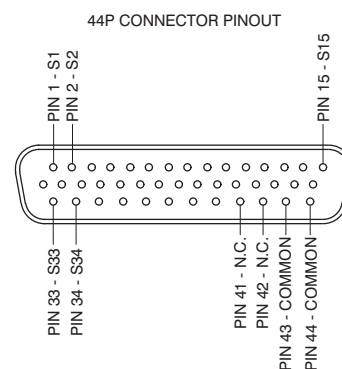
25 POLES MULTIPOINT MODULE
12 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING



37 POLES MULTIPOINT MODULE
16 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING



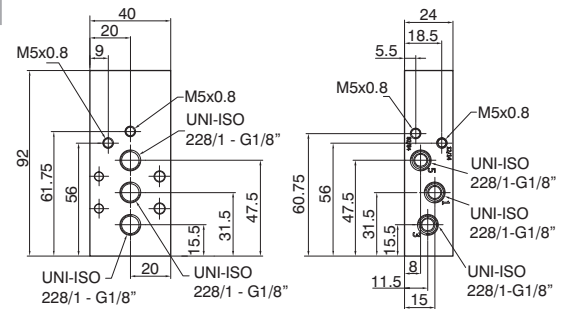
44 POLES MULTIPOINT MODULE
20 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING



Left Endplates, input side

Ordering code

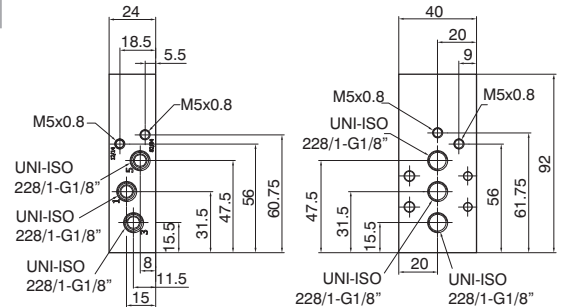
3140.02



Right Endplates, valve side

Ordering code

3140.03

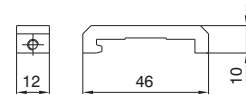


Series 3000 MANIFOLD - 10mm - Accessories

DIN rail adapter

Ordering code

2300.16

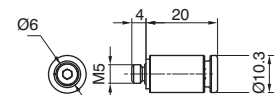


Weight g 12

Fitting M5 Ø6

Ordering code

RDR560

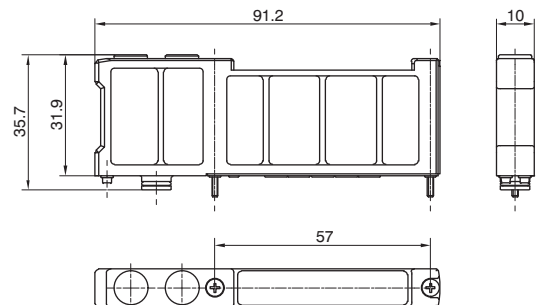


Weight g 7

Closing plate

Ordering code

3140.00

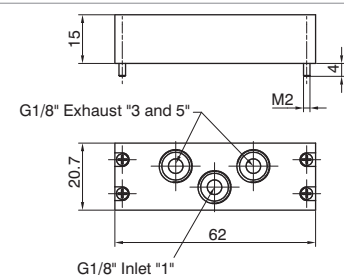


Weight g 21

Inlet/Exhaust module

Ordering code

3140.10



Weight g 50

Diaphragm plug

Ordering code

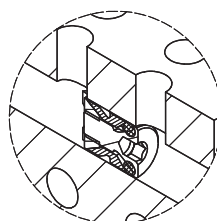
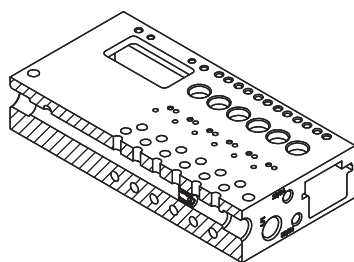
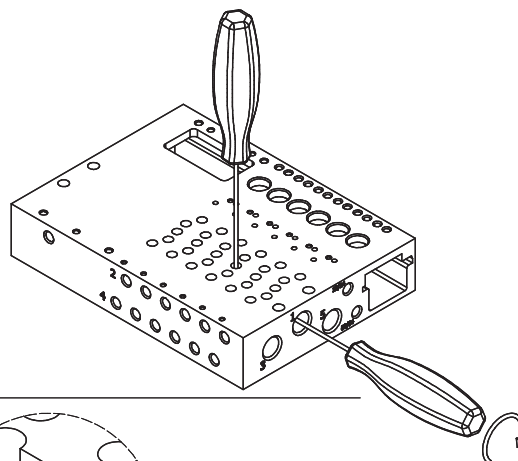
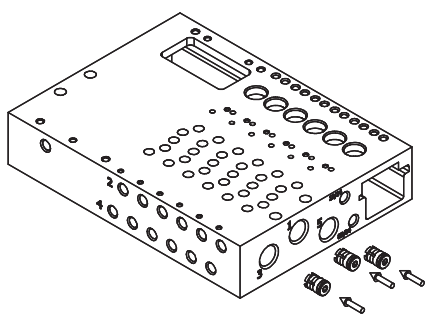
3130.17



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.L.C

CABLE LENGHT

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.L.C

CABLE LENGHT

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.L.C

CABLE LENGHT

03=3 meters

05=5 meters

10=10 meters

CONNECTORS

10=In line

90=90° Angle





Manifold

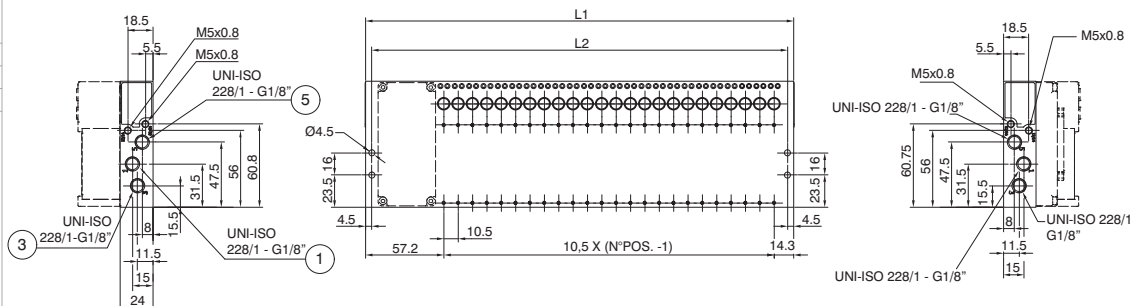
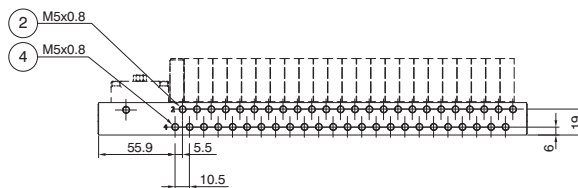
Ordering code

3145.V.P

V 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

1 = Inlet port G1/8
2 e 4 = Outlet port M5
3 e 5 = Exhaust port G1/8"



AIR DISTRIBUTION

Solenoid valve description

PILOT STATE IDENTIFICATION LED L12
(LED "ON" = IDENTIFIES ACTUATED PILOT)

PILOT STATE IDENTIFICATION LED L14
(LED "ON" = IDENTIFIES ACTUATED PILOT)

MANUAL OVERRIDE L14

MANUAL OVERRIDE L12

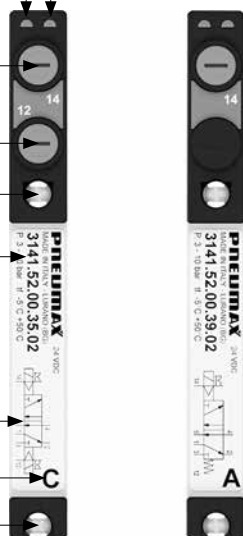
FIXING SCREWS SOLENOID VALVE

ORDERING CODE

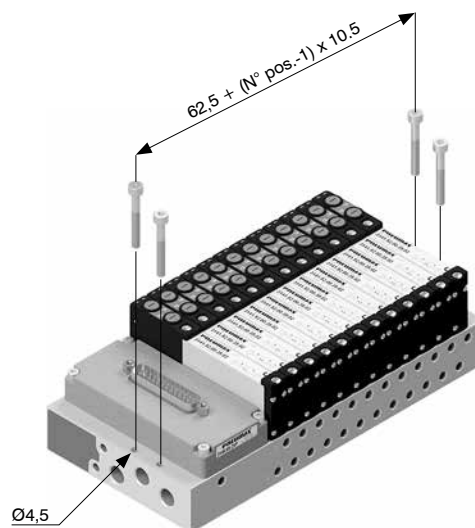
PNEUMATIC SYMBOL

FUNCTION SHORT CODE

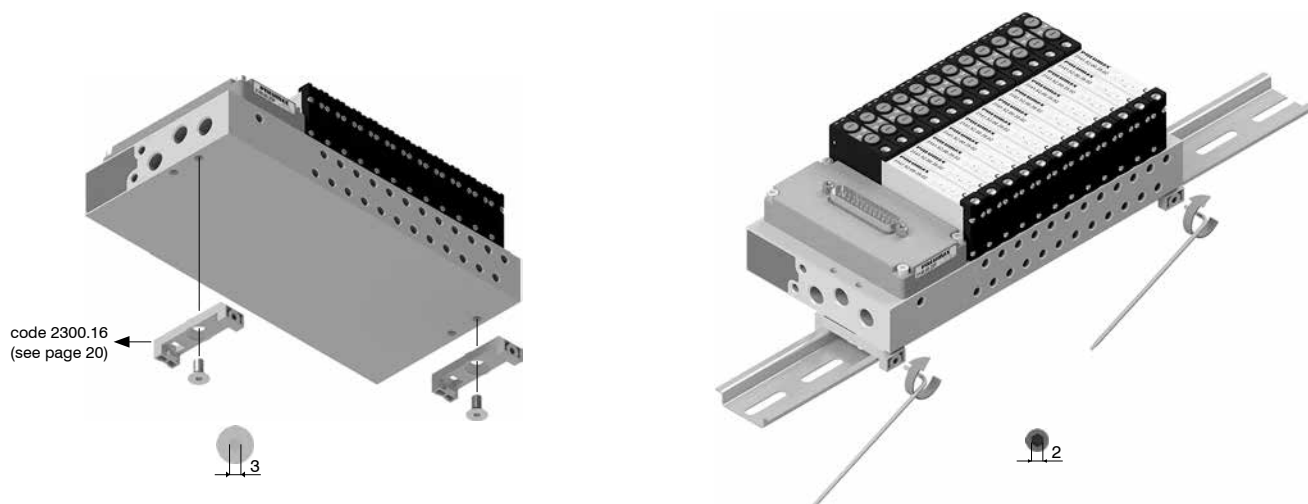
FIXING SCREWS SOLENOID VALVE



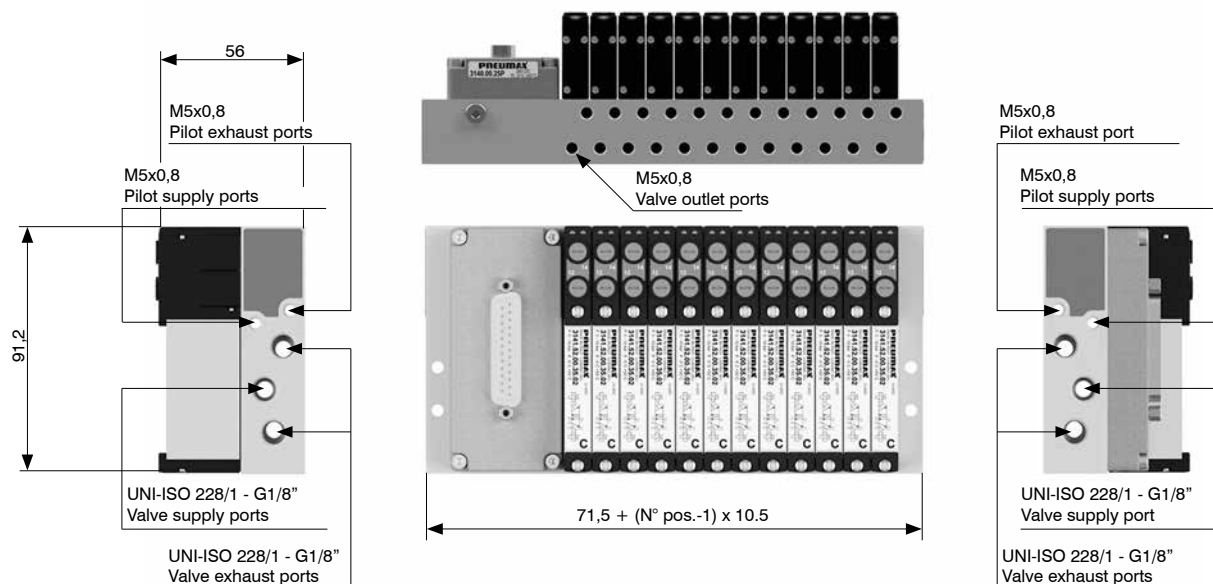
From the top



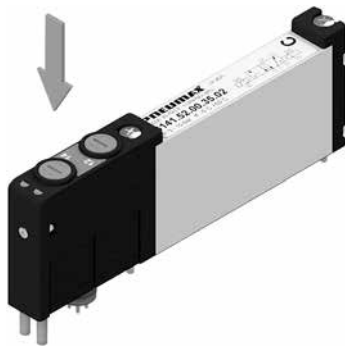
DIN rail fixing



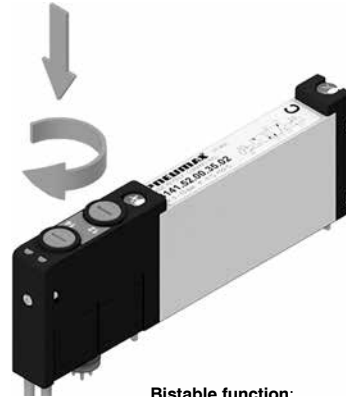
Supply ports and maximum possible size according to valves used



Manual override actuation



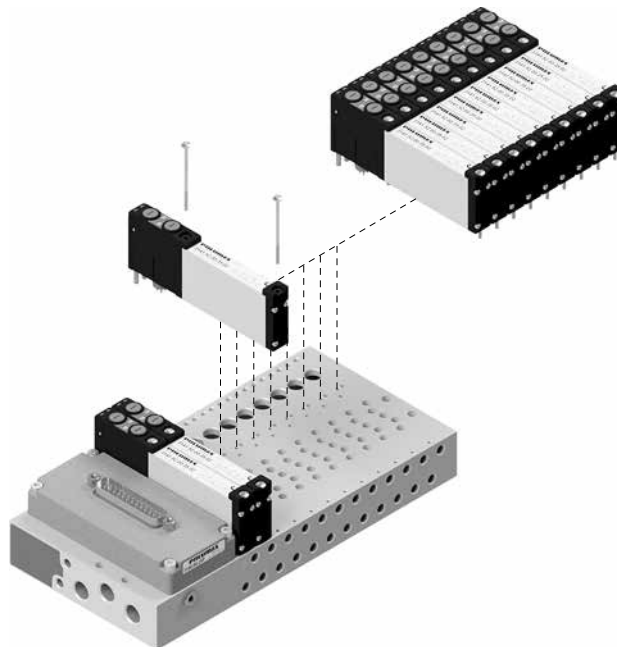
Instable function:
Push to actuate
(when released it moves back
to the original position)



Bistable function:
Push and turn to get the bistable
function

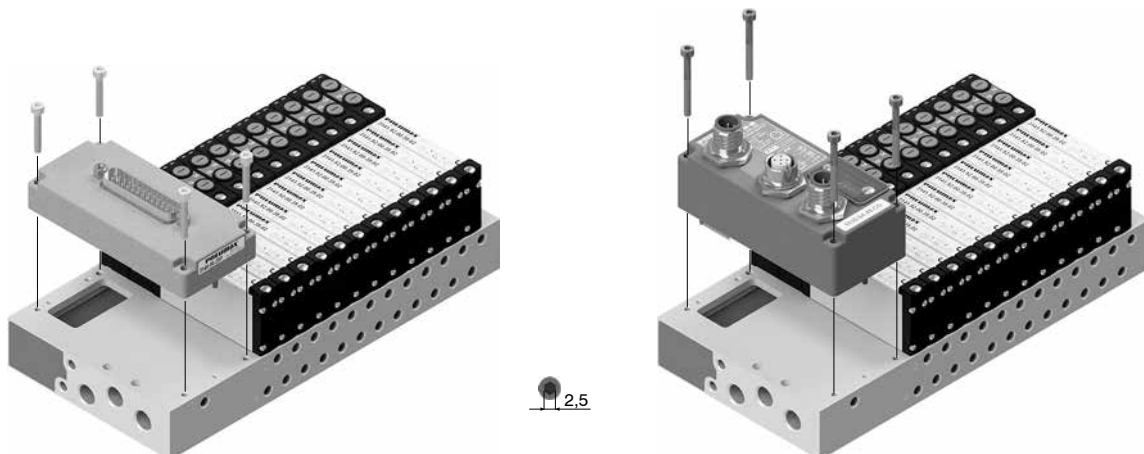
Note: it is strongly suggested to replace the original position after using

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.

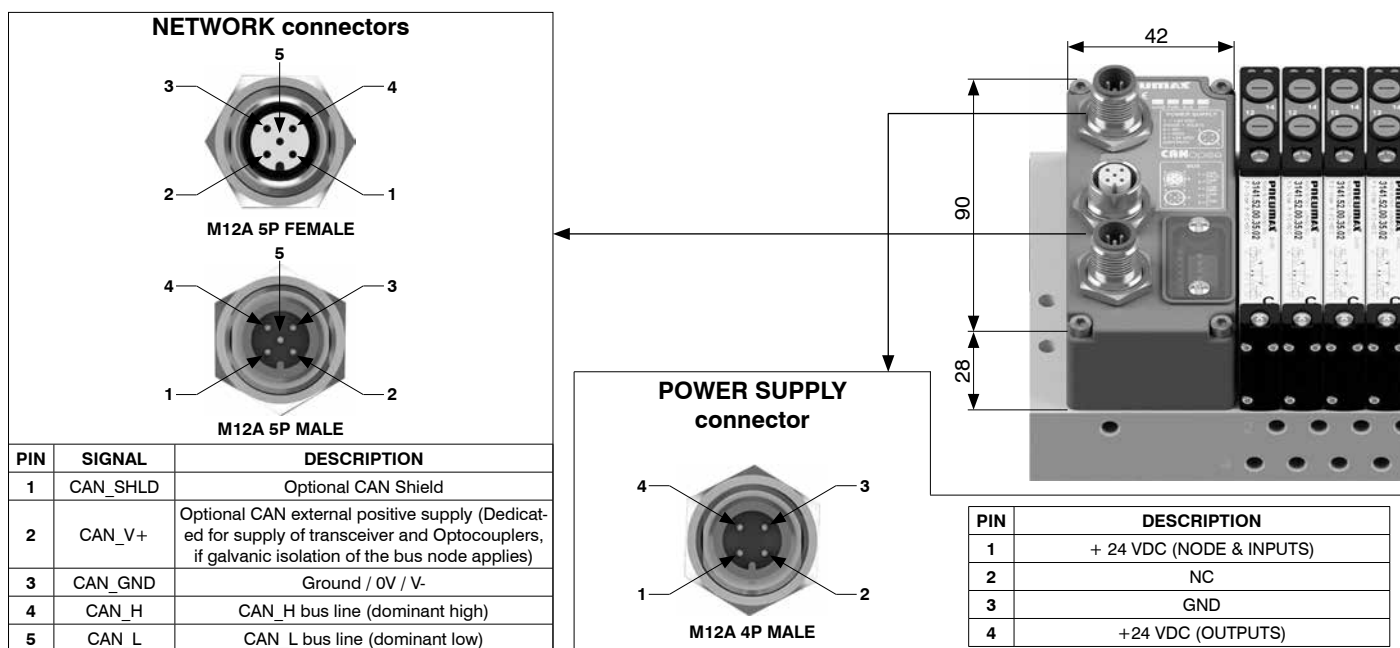
To better understand different possibilities offered during configuration, some examples follow.

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%
	Node consumption (without inputs)	30 mA
Network	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 http://www.pneumaxspa.com
	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

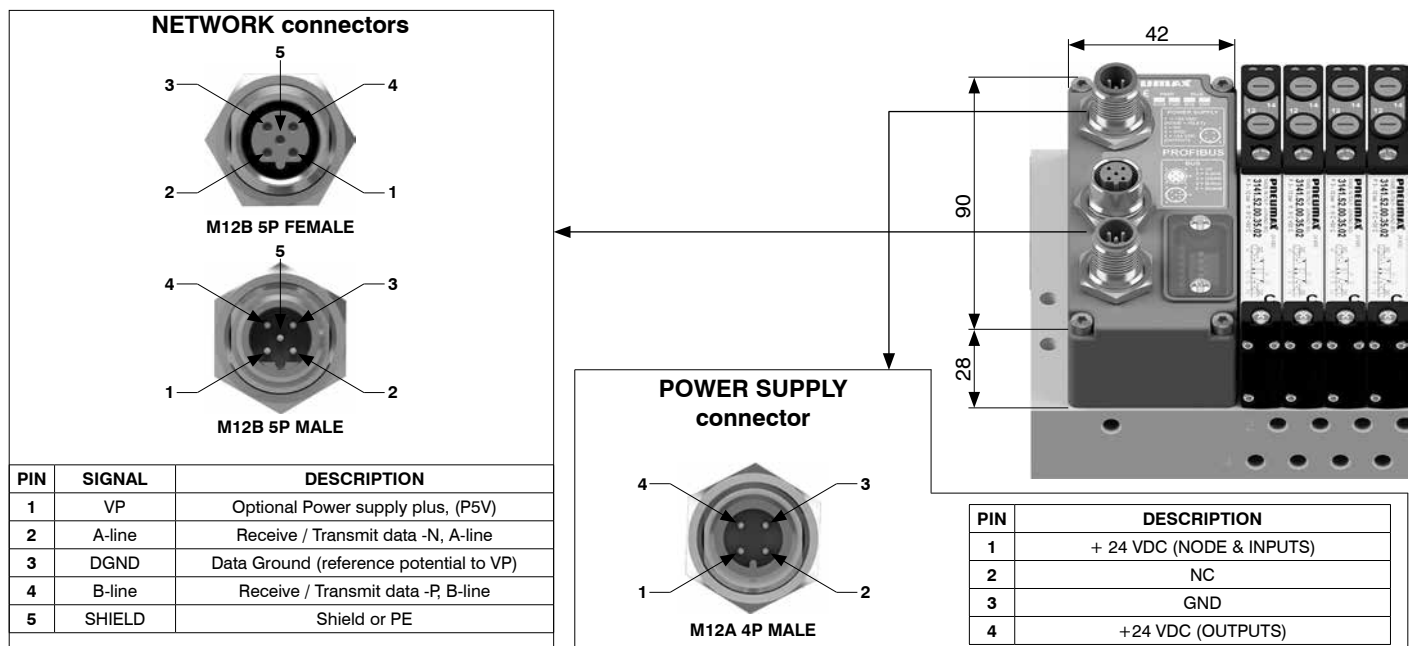
5330.64.32PB

5330.64.48PB



AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics

Power supply	Specifications	PROFIBUS DP
	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)	50 mA
Network	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
	Bus diagnosis	Green LED + red LED
	Configuration file	Available from our web site http://www.pneumaxspa.com
	IP Rating	IP65 when assembled
	Temperature range	From 0°C to +50°C

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.

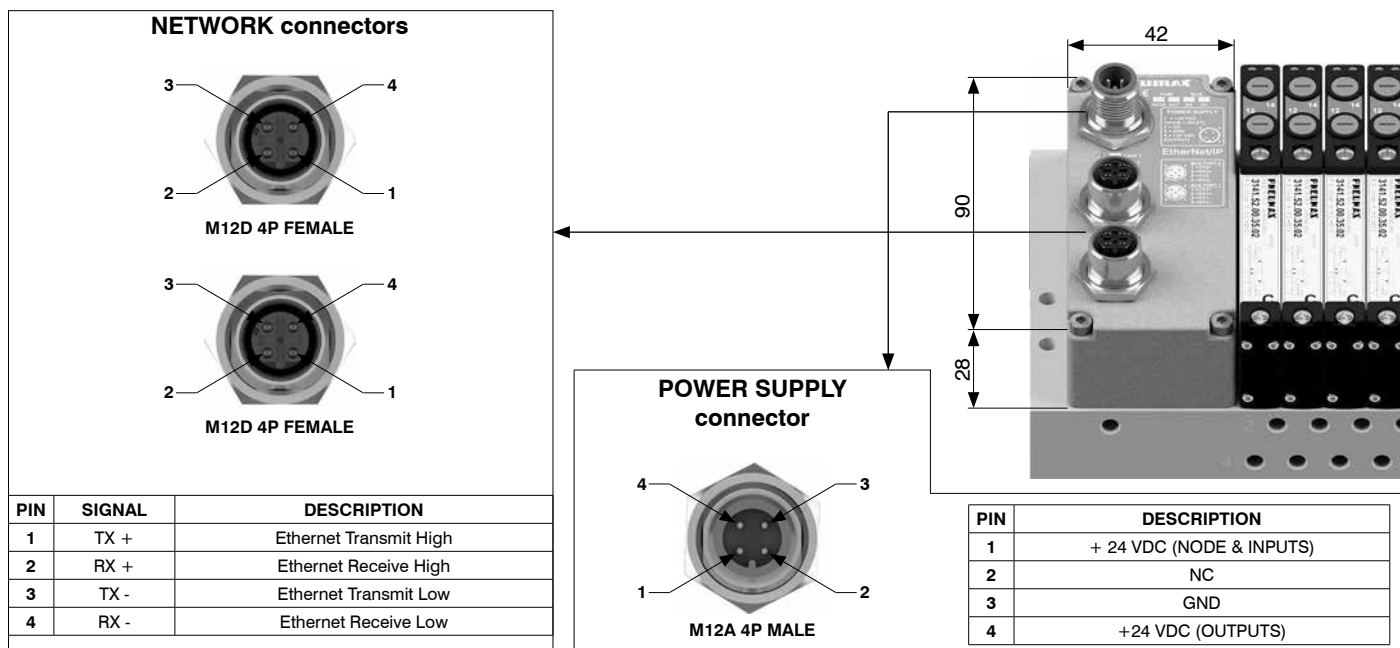
In case only expansion solenoid valves are in use (through solenoid valves expansion kit 3140.KE.04), even exceeding limit of 64 outputs, it is not necessary introduce in the system the 5030.M12 module.

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
Network	Power supply diagnosis	Green LED PWR / Green LED OUT
	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 http://www.pneumaxspa.com
	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.

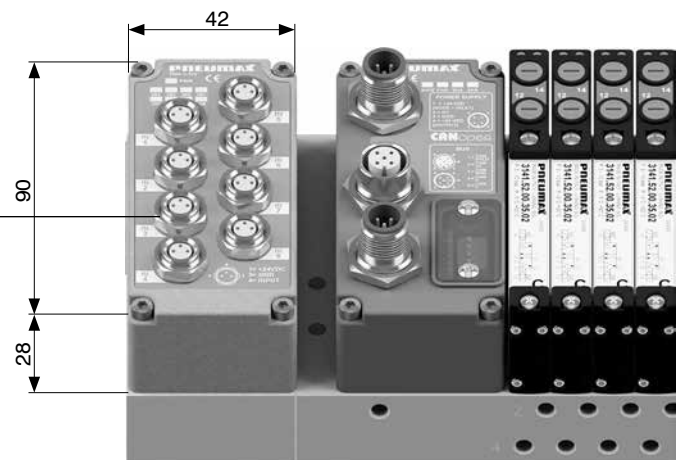
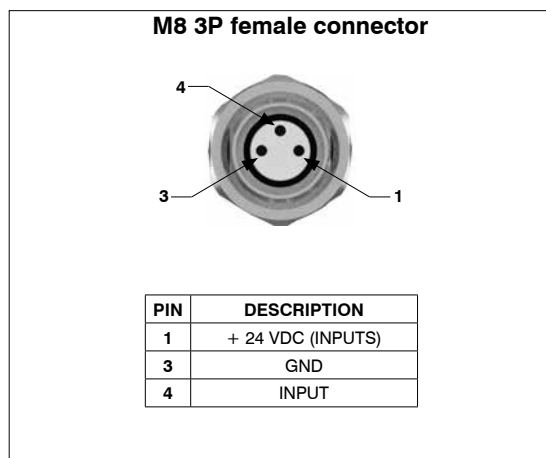
The M8 digital inputs module takes up 8 input bits of the serial node installed on the manifold. To be connected to the manifold, combination with "INPUTS/OUTPUTS EXPANSION KIT" is needed (code 3140.KE.01).

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.

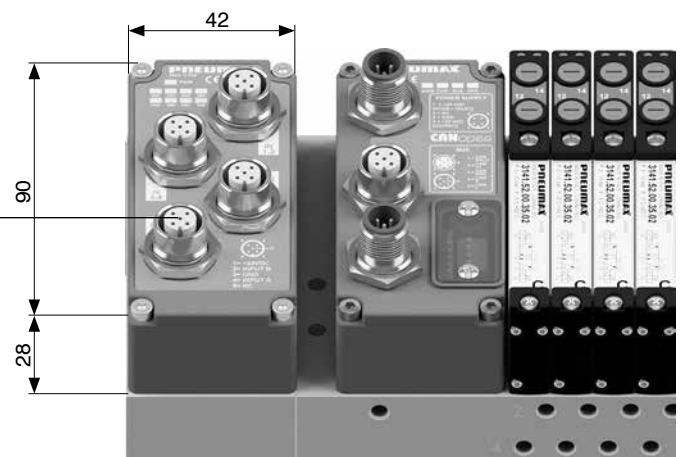
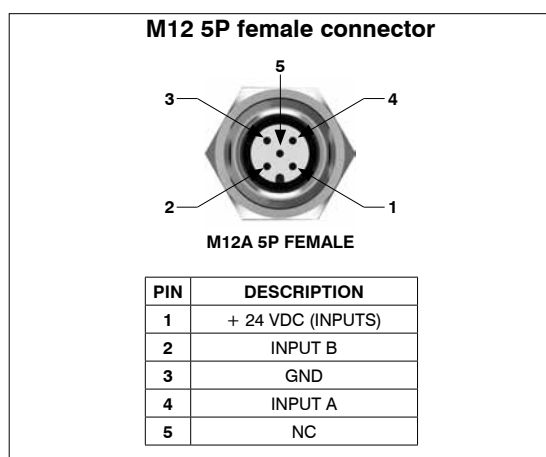
The M12 digital inputs module takes up 8 input bits of the serial node installed on the manifold. To be connected to the manifold, combination with "INPUTS/OUTPUTS EXPANSION KIT" is needed (code 3140.KE.01).

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.

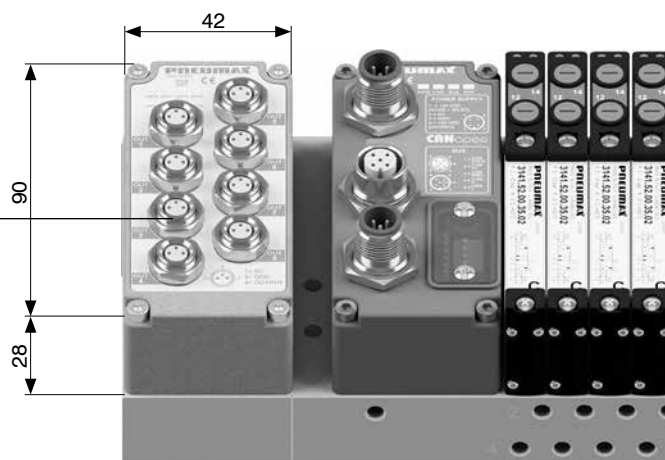
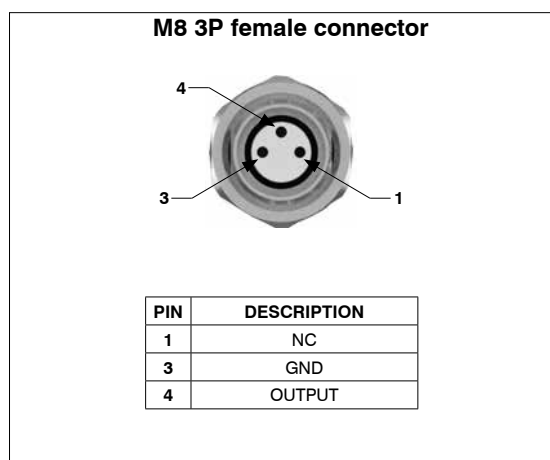
To be connected to the manifold "INPUTS/OUTPUTS EXPANSION KIT" is required (code 3140.KE.01).

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.

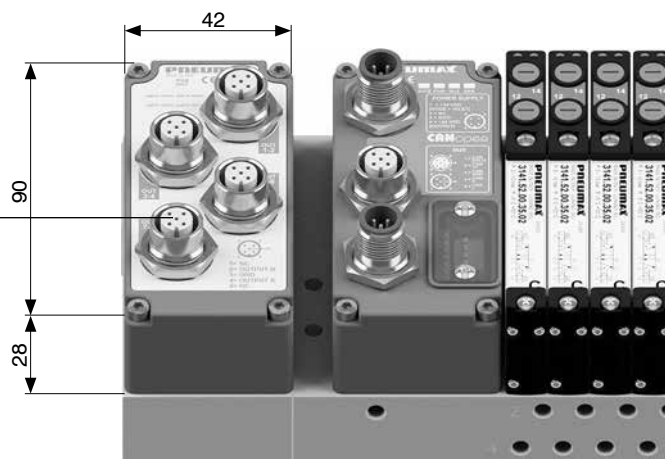
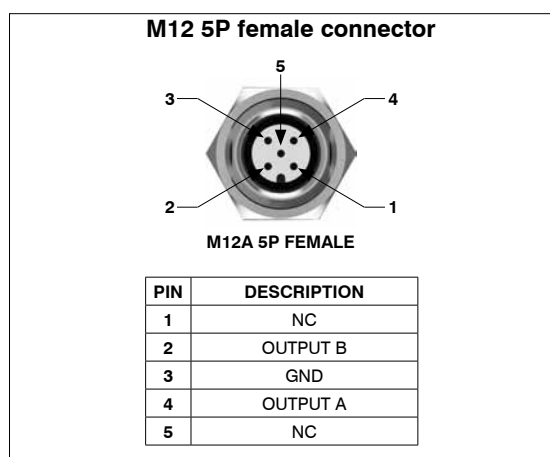
To be connected to the manifold "INPUTS/OUTPUTS EXPANSION KIT" is required (code 3140.KE.01).

Ordering code

5130.08.M12



Scheme / Overall dimensions and I/O layout



General - 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	FIXED 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).

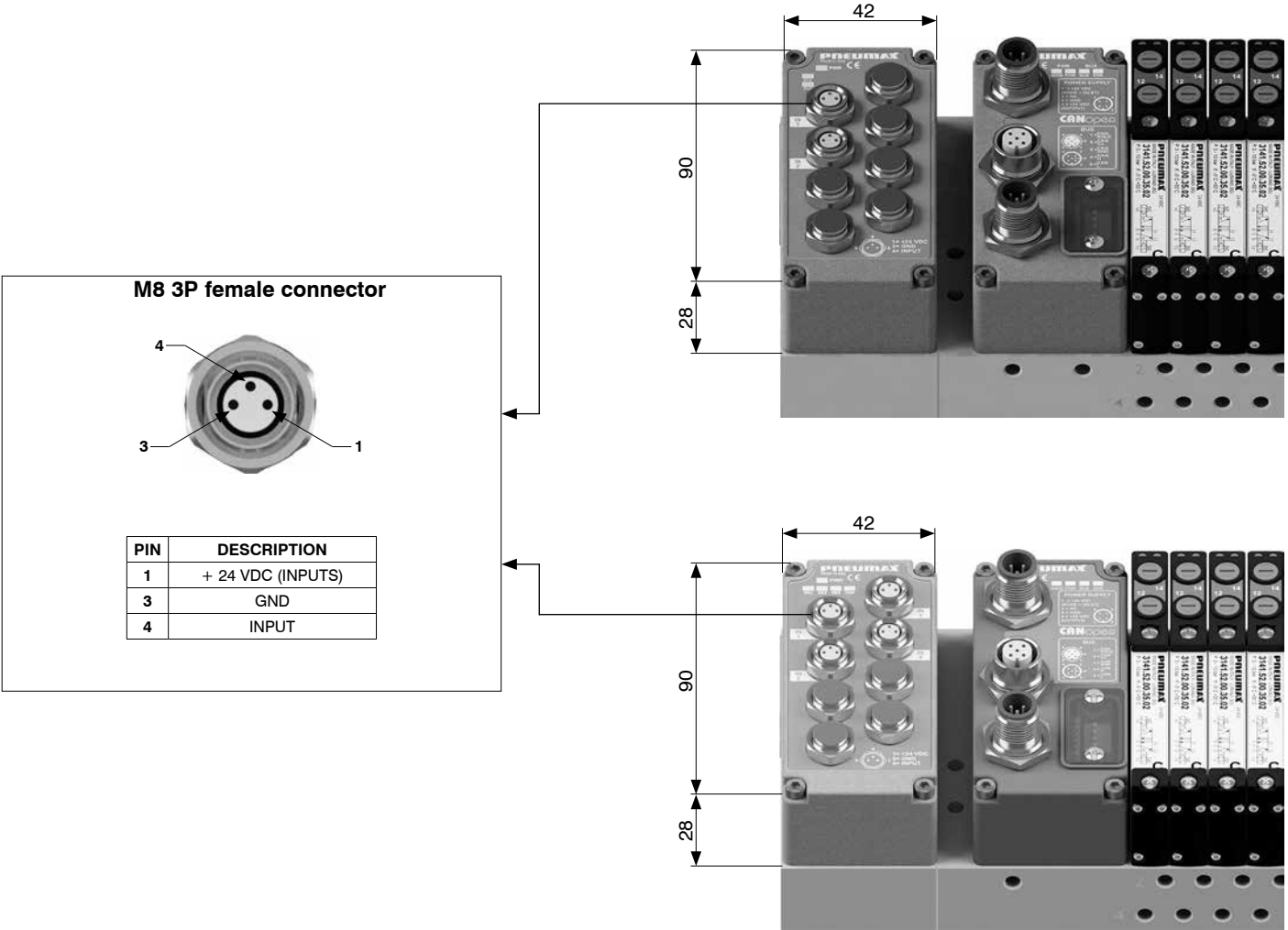
Ordering code

5230. _ _ 0 _



AIR DISTRIBUTION

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:

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)

Ordering code

5130._._0_

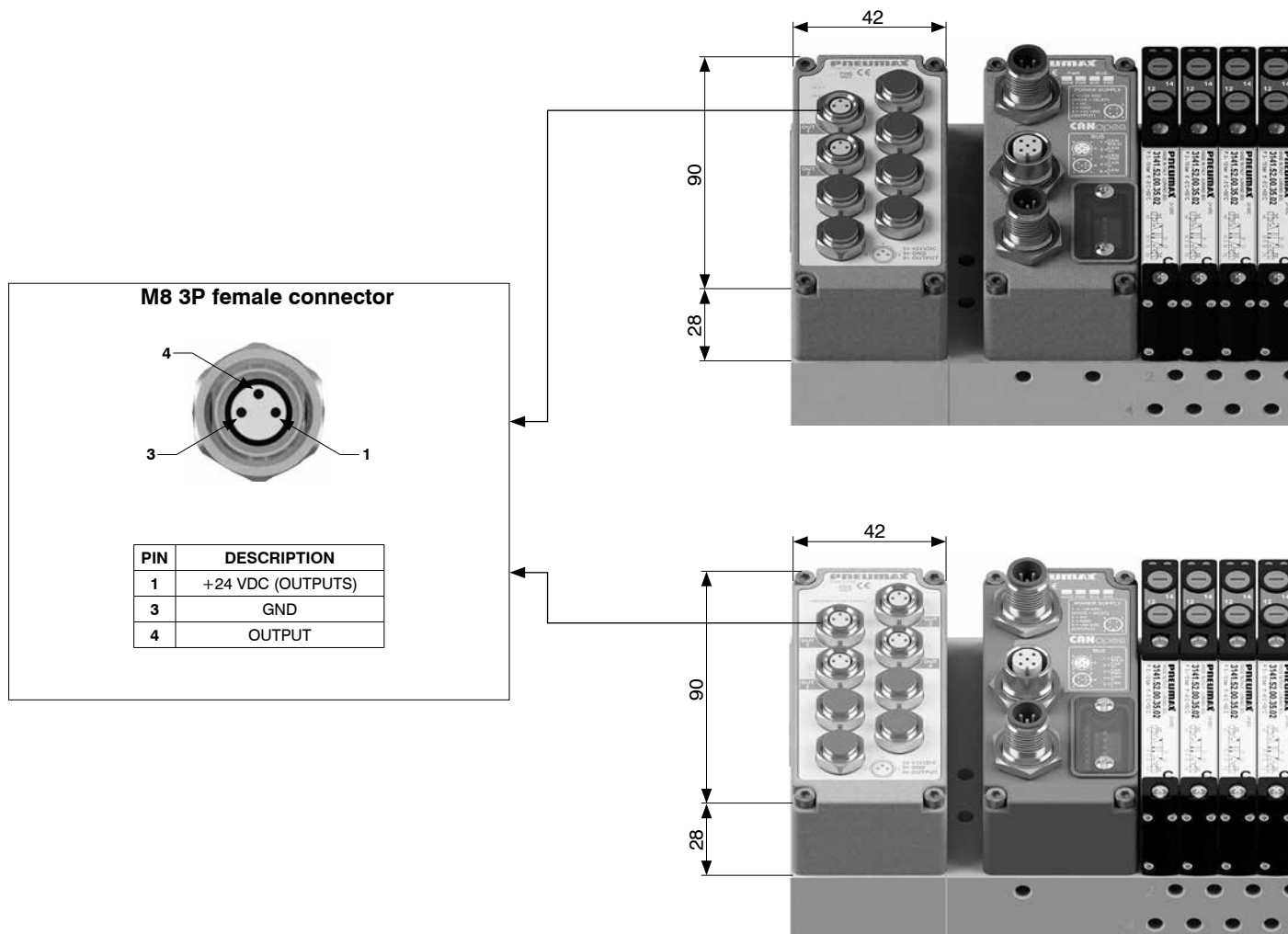


Modules provide M8 3 pins female connectors and one diagnostic LED for every analog output. The diagnostic LED reports eventual overload or short circuit on the corresponding out.

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 inputs modules connected to the manifold remains operational. Removing the fault cause, green PWR LED turns in on status 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).

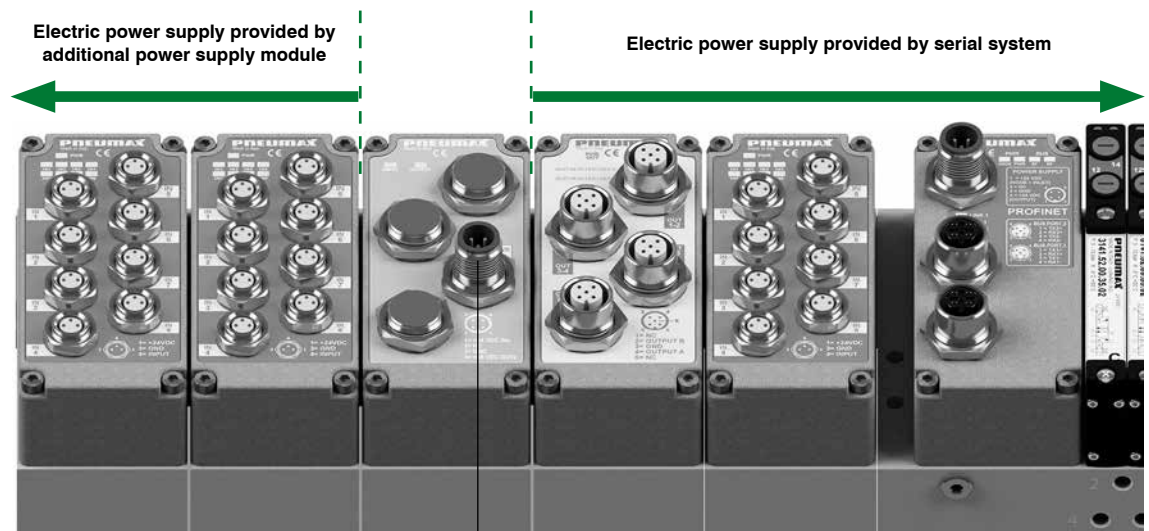
Ordering code

5030.M12

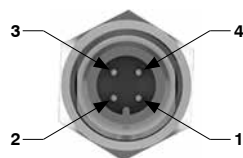


AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



M12 4P male connector



M12A 4P MALE

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

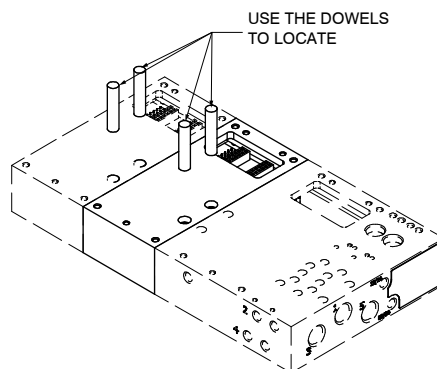
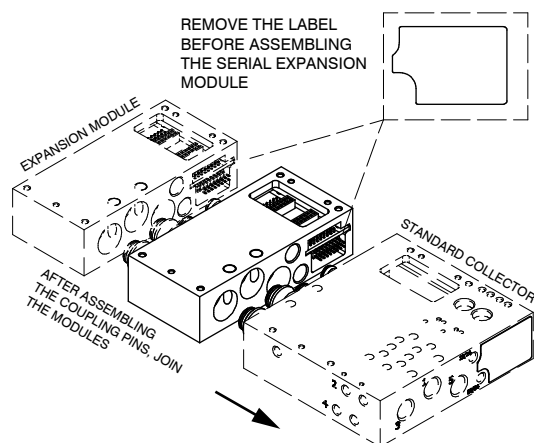
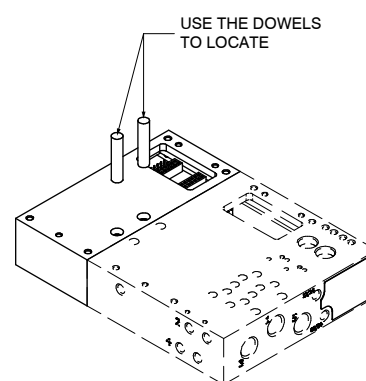
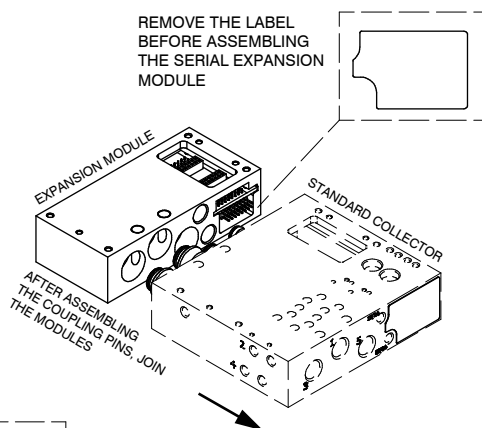
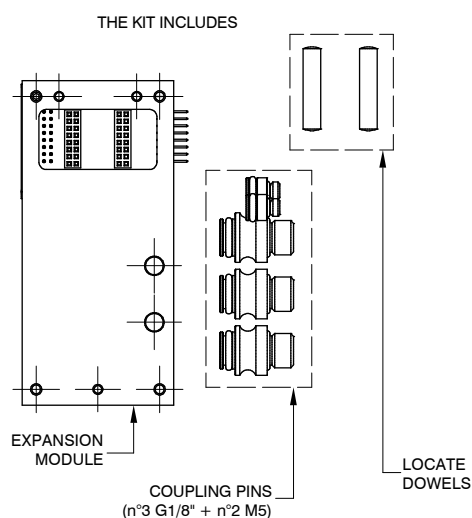
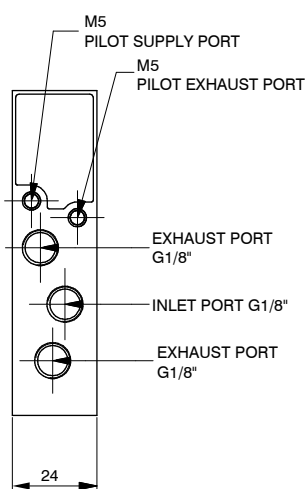
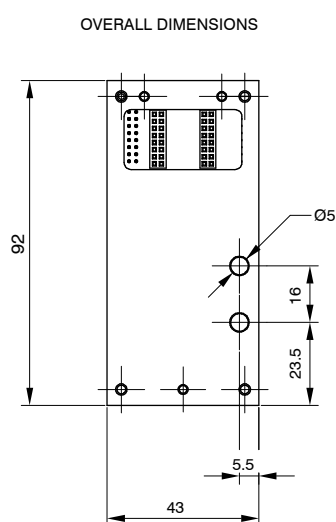
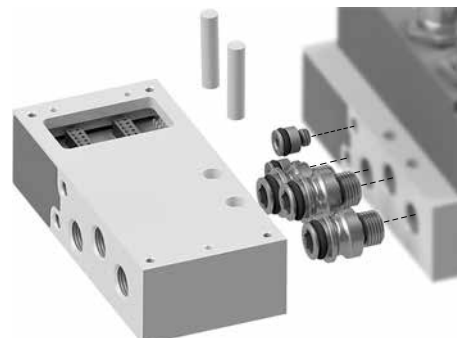
General - Inputs/outputs expansion kit

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

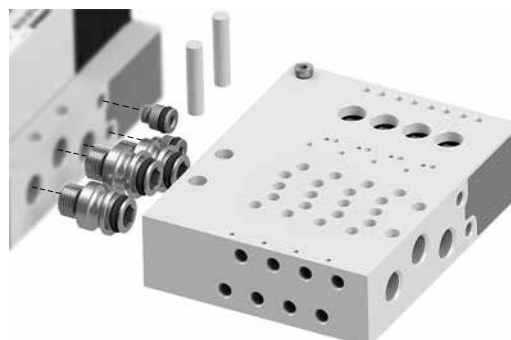


General - Solenoid valves expansion kit

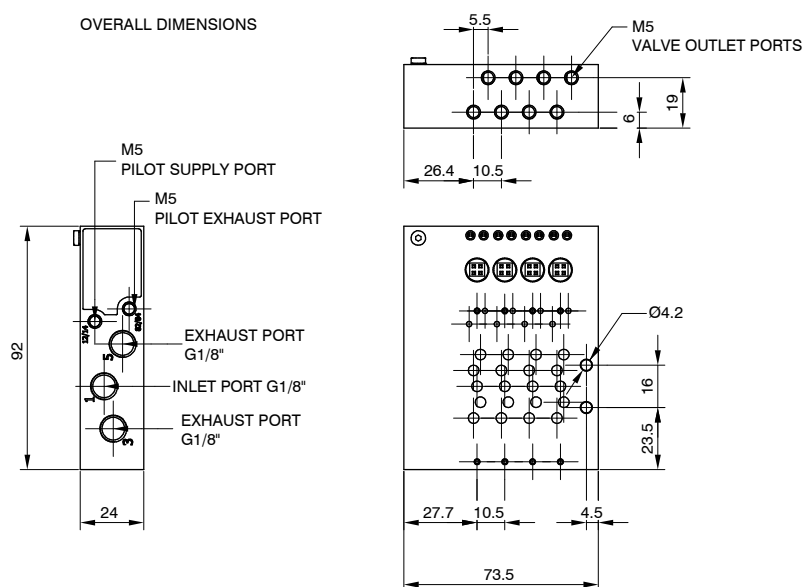
Solenoid valves expansion kit offers the possibility to add 4 solenoid bi-stable valve sockets to the manifold. A couple of red LEDs is associated to every socket, which light-up shows activation of the corresponding output. Every kit takes up 8 bits of output bytes.

Ordering code

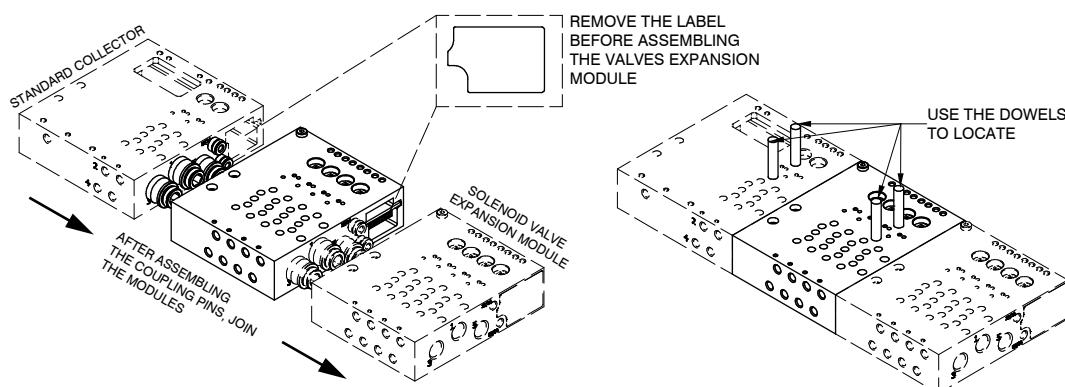
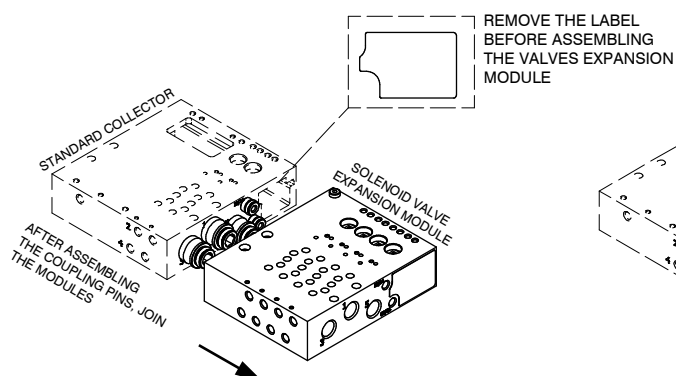
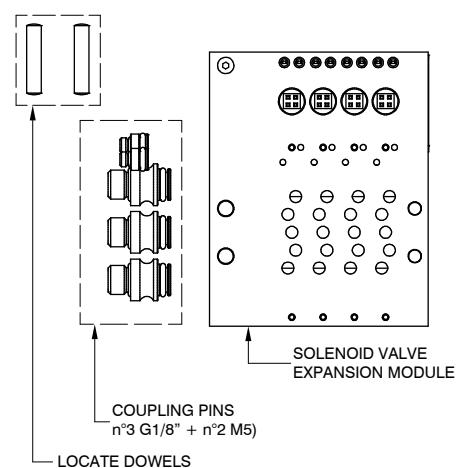
3140.KE.04



OVERALL DIMENSIONS

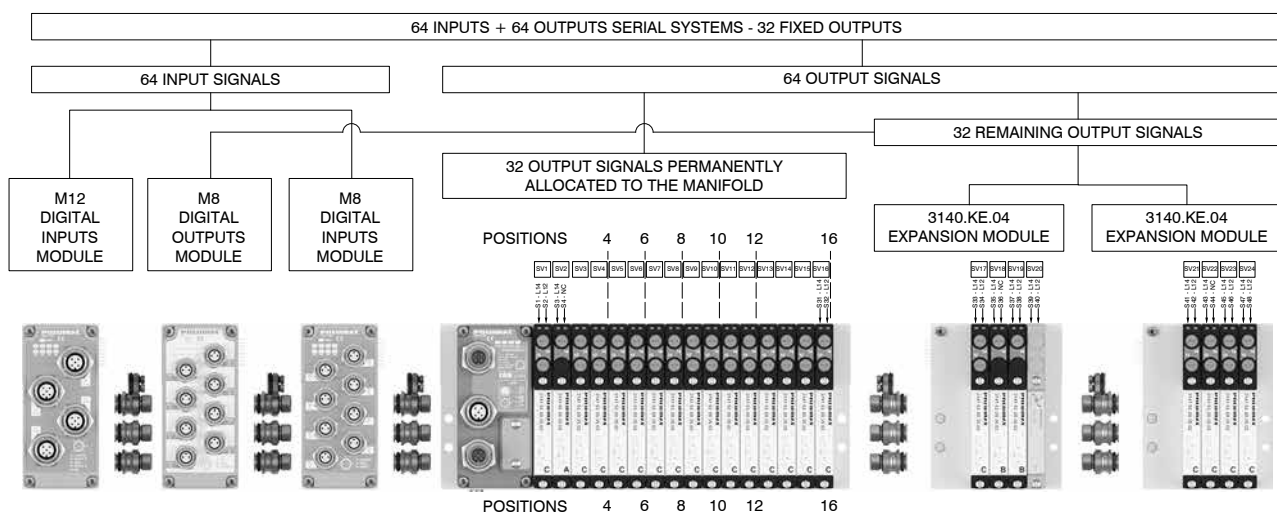


THE KIT INCLUDES

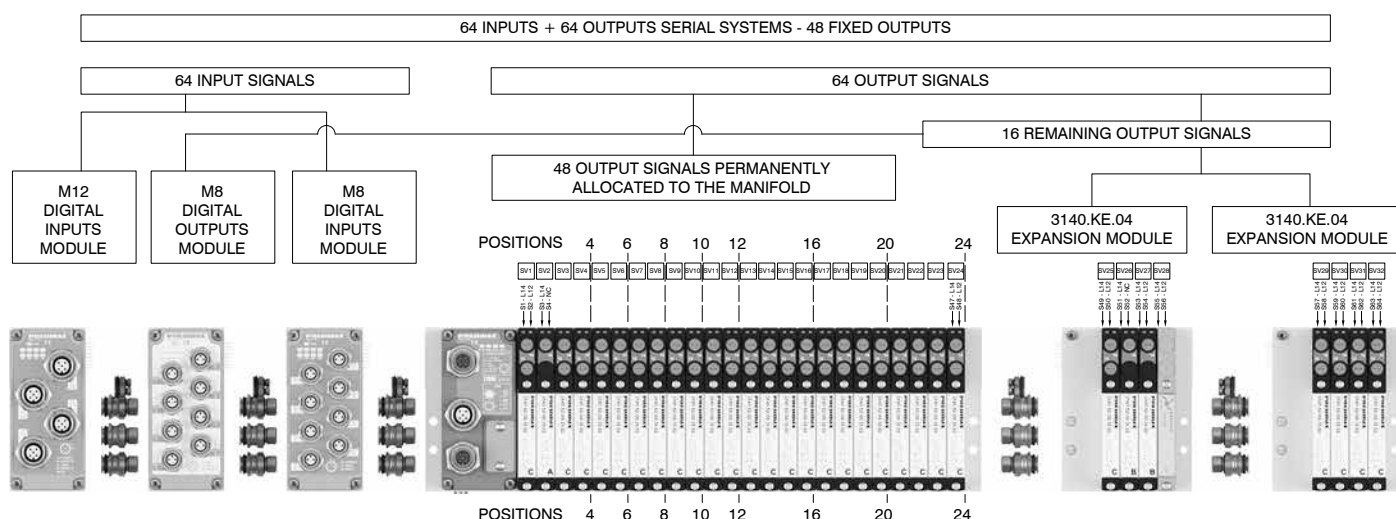


Signal management

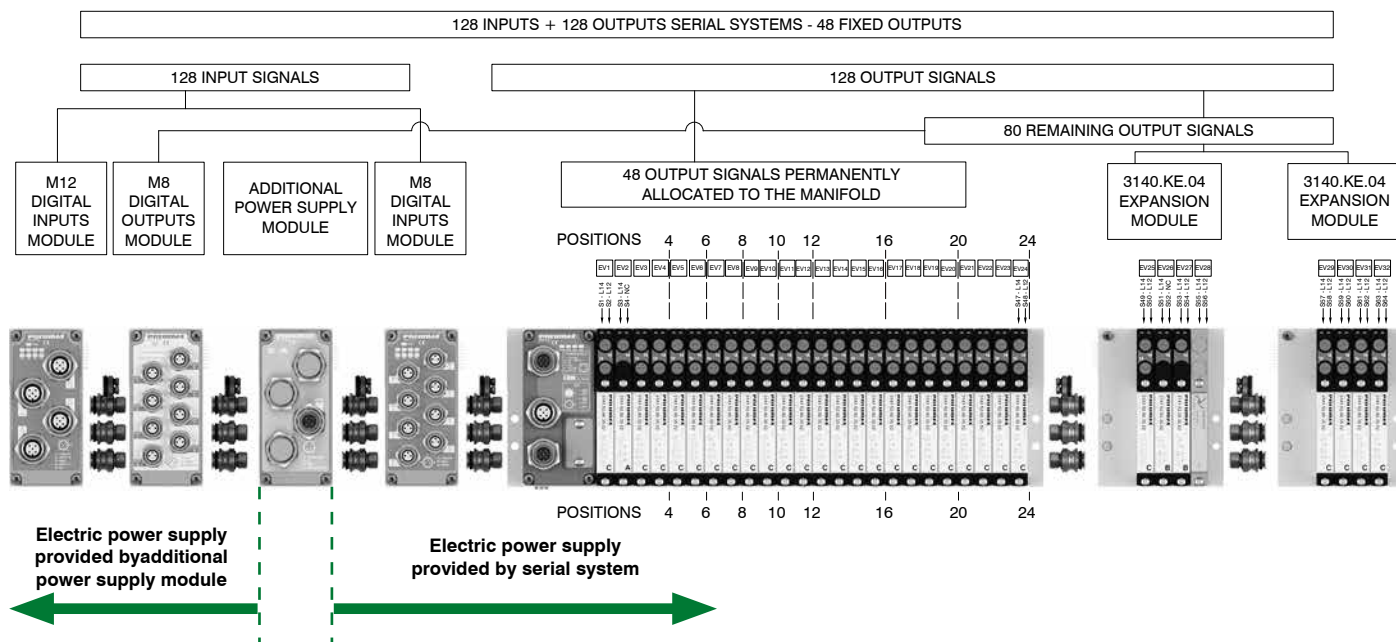
64 INPUT + 64 OUTPUT serial systems- 32 fixed OUTPUT (Ex. PROFIBUS DP and CanOpen®)



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)





PNEUMAX

PNEUMAX S.p.A.

Via Cascina Barbellina, 10
24050 Lurano (BG) - Italy
P. +39 035 41 92 777
info@pneumaxspa.com