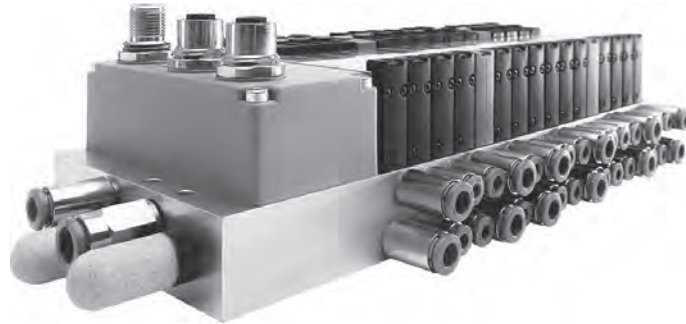


Solenoid valves series 3000



- 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
- 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

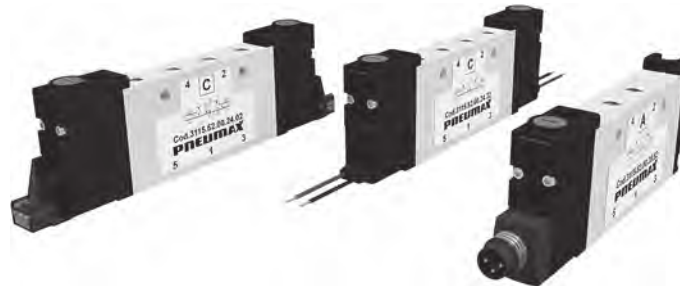
Versatility and maximum reliability: With these prerogatives in mind, new products are being developed dedicated to control in a smarter context. Having the flexibility to be configured within control systems to provide optimal management through a constant interface and communication with the machines 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 |
| Operational 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



1
AIR DISTRIBUTION

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

Solenoid valve ordering code

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 |
| 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

| 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 (only self feeding) |
| 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) | |
|------------------------|-----------------------|
| T: | Free valve space plug |

| 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 plugs on pipes 1 and 3 | |
| ZX0: | Diaphragm plugs on pipes 5 and 1 | |
| Z0Y: | Diaphragm plugs on pipes 5 and 3 | |
| ZXY: | Diaphragm plugs on pipes 5, 1 and 3 | |

Solenoid valve configuration

31

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
- Free valve space plug
- 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

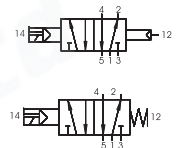
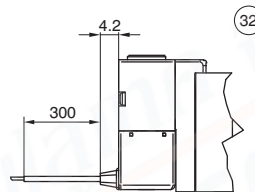
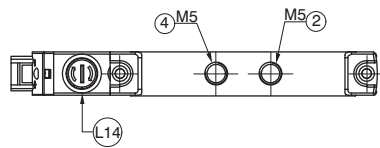
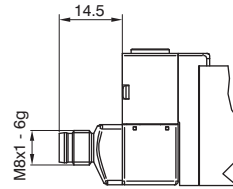
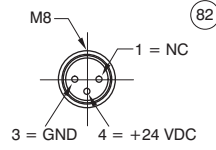
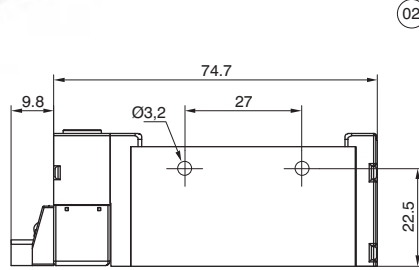


Solenoid valves manifold
Series 3000 STAND ALONE - 10mm, M5 - Self feeding

Solenoid-Spring / Solenoid-Differential

Coding: 3115.52.00. **F**. **C**

| | |
|-------------|--------------------------------|
| FUNCTION | |
| F | 36=Solenoïd-Differential |
| | 39=Solenoïd-Spring |
| CONNECTIONS | |
| | 02=H 90° connector, 24 VDC |
| C | 32=300mm cable, 24 VDC |
| | 82=M8 SPEED UP connector 24VDC |



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

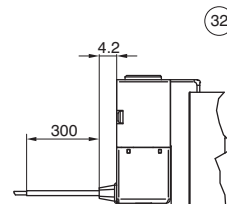
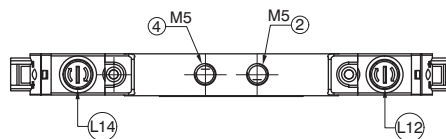
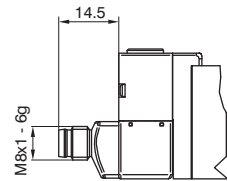
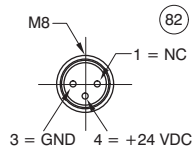
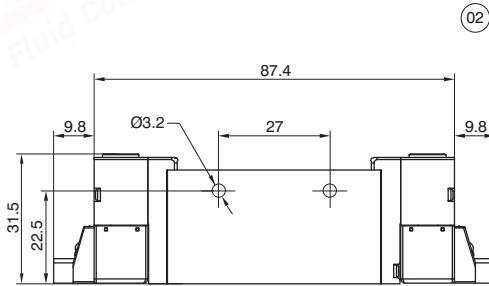
L14 = Manual over ride - Side 14

| Operational characteristics | | "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) |
| 3115.52.00.39. C Solenoid-Spring | Filtered air. No lubrication needed, if applied it shall be continuous | 160 | 10 | 20 | 2.5 - 7 | -5 - +50 | 49 |
| 3115.52.00.36. C Solenoid-Differential | | | | 15 | | | |

Solenoid - Solenoid

Coding: 3115.52.00.35. **C**

| | |
|-------------|--------------------------------|
| CONNECTIONS | |
| | 02=H 90° connector, 24 VDC |
| C | 32=300mm cable, 24 VDC |
| | 82=M8 SPEED UP connector 24VDC |



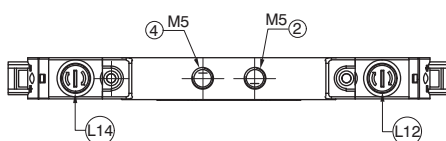
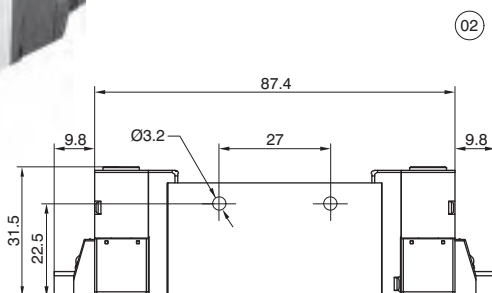
SHORT FUNCTION CODE "C"

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

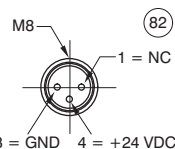
| Operational characteristics | | "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001" | | | | | |
|--|--|--|--|--|-------------------------|----------------|------------|
| Code | Fluid | Flow rate at 6 bar with $\Delta p=1$ (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) |
| 3115.52.00.35. C Solenoid-Differential | Filtered air. No lubrication needed, if applied it shall be continuous | 160 | 10 | 20 | 2.5 - 7 | -5 - +50 | 59 |

Solenoid - Solenoid (Closed centres)

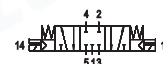
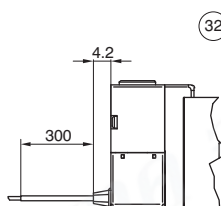
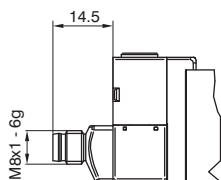
Coding: 3115.53.31.35. **C**



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



| CONNECTIONS | |
|-------------|-----------------------------|
| 02 | H 90° connector, 24 VDC |
| 32 | 300mm cable, 24 VDC |
| 82 | M8 SPEED UP connector 24VDC |

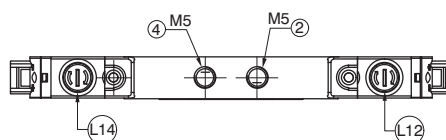
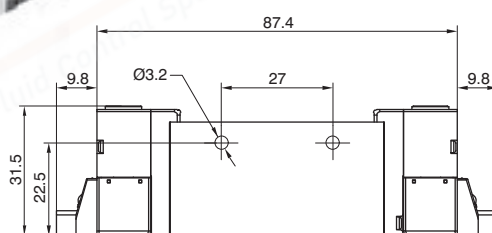


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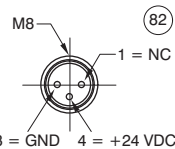
| Operational characteristics | | *Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001* | | | | | |
|---|--|--|--|--|-------------------------|----------------|------------|
| Code | Fluid | Flow rate at 6 bar with $\Delta p=1$ (NI/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. C 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

Coding: 3115.62. **F**.35. **C**

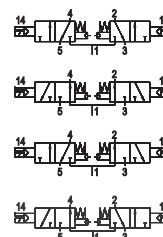
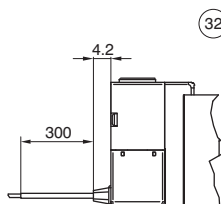
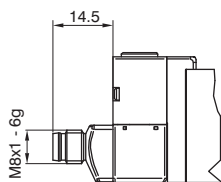


L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14



| FUNCTION | |
|-------------|-------------------------------|
| 44 | NC-NC (5/3 Open centres) |
| F 45 | NC-NO |
| 55 | NO-NO (5/3 Pressured centres) |
| 54 | NO-NC |

| CONNECTIONS | |
|-------------|-----------------------------|
| 02 | H 90° connector, 24 VDC |
| C 32 | 300mm cable, 24 VDC |
| 82 | M8 SPEED UP connector 24VDC |



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

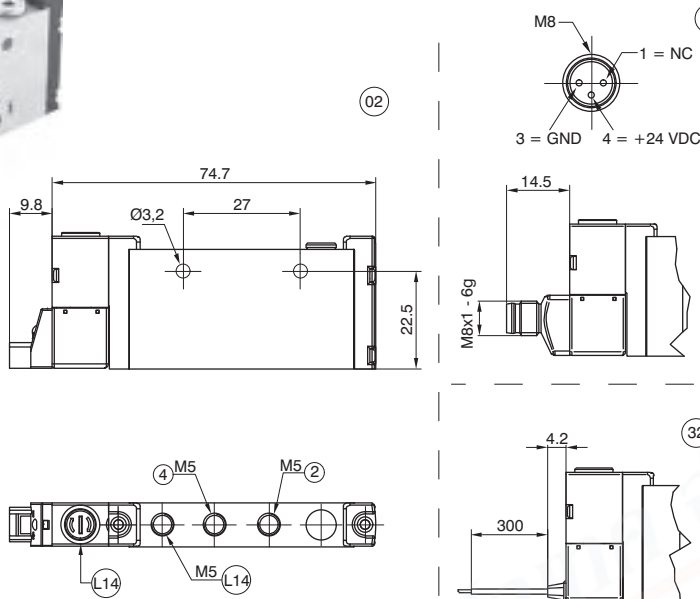
| Operational characteristics | | *Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001* | | | | | |
|--|--|--|--|--|-------------------------|----------------|------------|
| Code | Fluid | Flow rate at 6 bar with $\Delta p=1$ (NI/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. C 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 |
| 3115.62.55.35. C NO-NO (5/3 Pressured centres) | | | | | | | |
| 3115.62.45.35. C NC-NO | | | | | | | |
| 3115.62.54.35. C NO-NC | | | | | | | |



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

AIR DISTRIBUTION

Solenoid-Spring



Coding: 3115.52.00.29. **C**

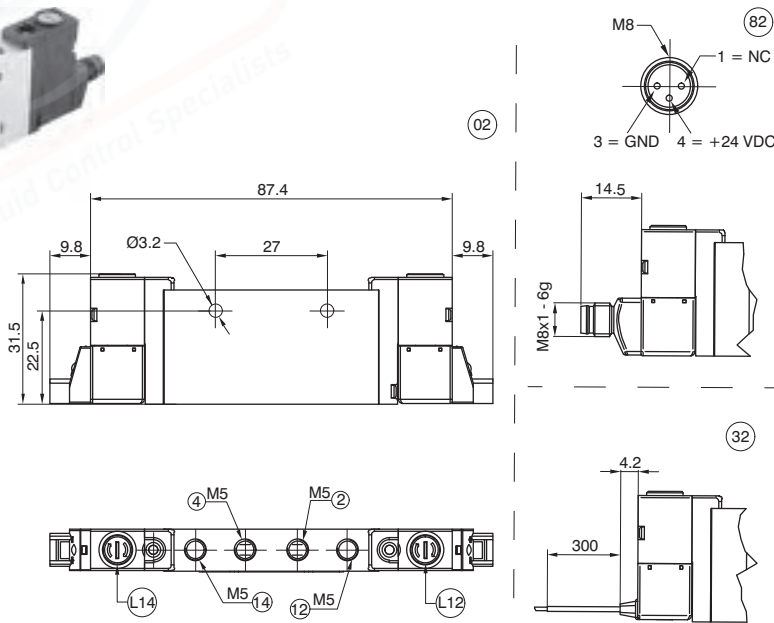
| CONNECTIONS | |
|-------------|------------------------------|
| 02 | =H 90° connector, 24 VDC |
| C 32 | =300mm cable, 24 VDC |
| 82 | =M8 SPEED UP connector 24VDC |

SHORT FUNCTION CODE *A* (29)

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

| Operational characteristics | | *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 $\Delta p=1$ (NI/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. No lubrication needed, if applied it shall be continuous | 160 | 10 | 20 | From vacuum to 10 | 2,5 - 7 | -5 - +50 | 49 |

Solenoid - Solenoid



Coding: 3115.52.00.25. **C**

| CONNECTIONS | |
|-------------|------------------------------|
| 02 | =H 90° connector, 24 VDC |
| C 32 | =300mm cable, 24 VDC |
| 82 | =M8 SPEED UP connector 24VDC |

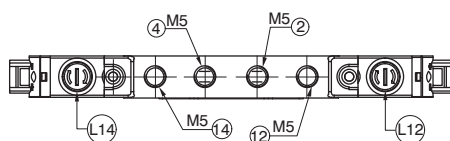
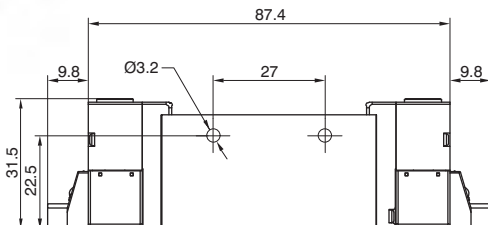
SHORT FUNCTION CODE *C*

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

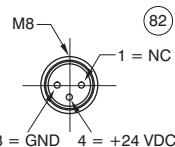
| Operational characteristics | | *Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001* | | | | | | |
|--|--|--|--|--|------------------------|-------------------------|----------------|------------|
| Code | Fluid | Flow rate at 6 bar with $\Delta p=1$ (NI/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) |
| 3115.52.00.25. C 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)

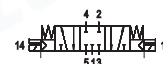
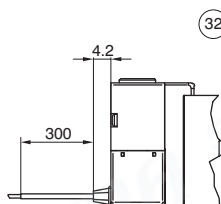
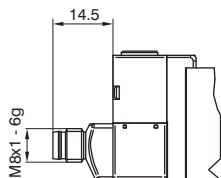
Coding: 3115.53.31.25. **C**



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



| CONNECTIONS | |
|-------------|--------------------------------|
| 02 | H 90° connector, 24 VDC |
| C | 32=300mm cable, 24 VDC |
| | 82=M8 SPEED UP connector 24VDC |

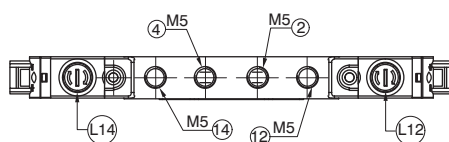
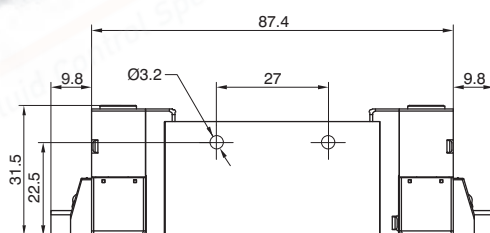


SHORT FUNCTION CODE "E"

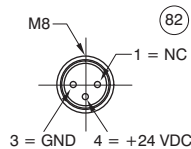
| Operational characteristics | | "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001" | | | | | | |
|---|--|--|--|--|------------------------|-------------------------|----------------|------------|
| Code | Fluid | Flow rate at 6 bar with $\Delta p=1$ (NI/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) |
| 3115.53.31.25. C 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

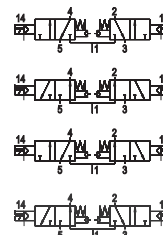
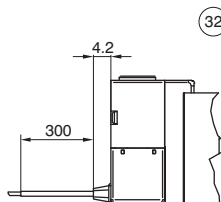
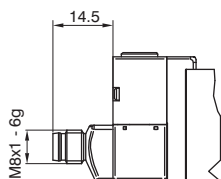
Coding: 3115.62. **F**.25. **C**



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



| FUNCTION | |
|-------------|----------------------------------|
| 44 | NC-NC (5/3 Open centres) |
| F | 45=NC-NO |
| | 55=NO-NO (5/3 Pressured centres) |
| | 54=NO-NC |
| CONNECTIONS | |
| 02 | H 90° connector, 24 VDC |
| C | 32=300mm cable, 24 VDC |
| | 82=M8 SPEED UP connector 24VDC |



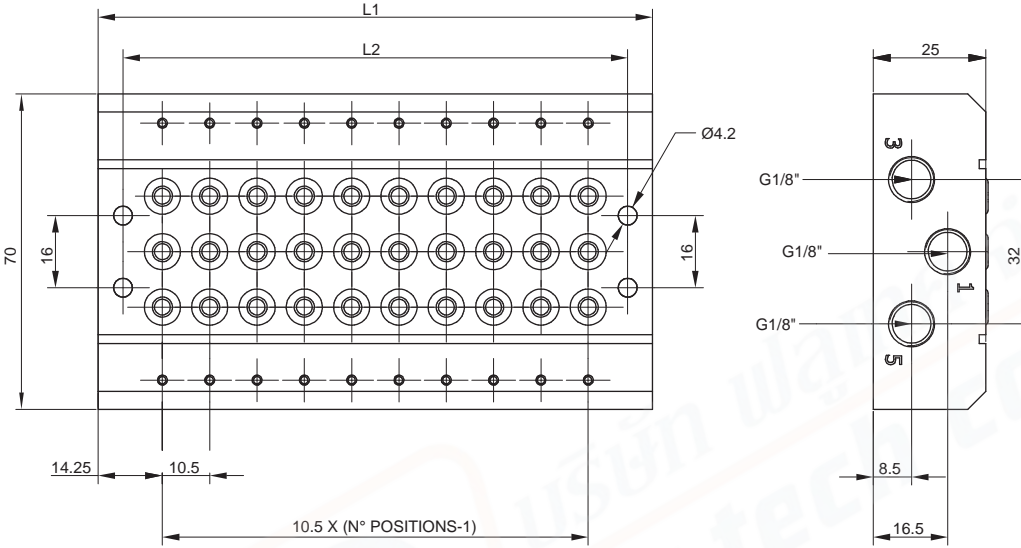
SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
NO-NO (5/3 Pressured centres) = "G"
NC-NO = "H"
NO-NC = "I"

| Operational characteristics | | "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 $\Delta p=1$ (NI/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. C NC-NC (5/3 Open centres) | Filtered air. No lubrication needed, if applied it shall be continuous | 150 | 10 | 15 | From vacuum to 10 | ≥3+ (02x Inlet press.) | -5 - +50 | 59,4 |
| 3115.62.55.25. C NO-NO (5/3 Pressured centres) | | | | | | | | |
| 3115.62.45.25. C NC-NO | | | | | | | | |
| 3115.62.54.25. C NO-NC | | | | | | | | |



Solenoid valves manifold
Series 3000 STAND ALONE - 10mm, M5 - Accessories

Manifold



Coding: 3115.P

| POSITIONS | L1 | L2 |
|---|-------|-------|
| 02=2 POSITIONS (weight 150 g) | 39 | 29 |
| 03=3 POSITIONS (weight 200 g) | 49,5 | 39,5 |
| 04=4 POSITIONS (weight 250 g) | 60 | 50 |
| 05=5 POSITIONS (weight 300 g) | 70,5 | 60,5 |
| P 06=6 POSITIONS (weight 350 g) | 81 | 71 |
| 07=7 POSITIONS (weight 400 g) | 91,5 | 81,5 |
| 08=8 POSITIONS (weight 450 g) | 102 | 92 |
| 09=9 POSITIONS (weight 500 g) | 112,5 | 102,5 |
| 10=10 POSITIONS (weight 550 g) | 123 | 113 |

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Assembling kit

Coding: 3115.KV



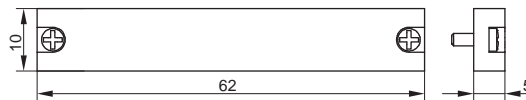
Weight 2 g

Closing plate

Coding: 3115.00



Weight 10 g



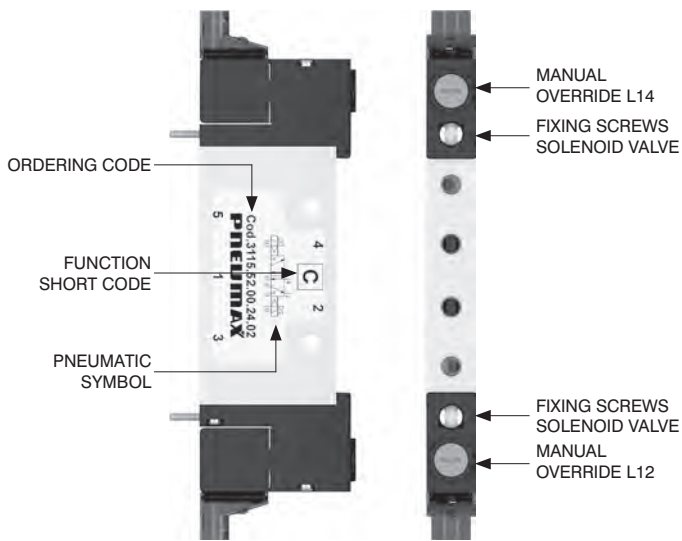
Diaphragm plug

Coding: 3130.17

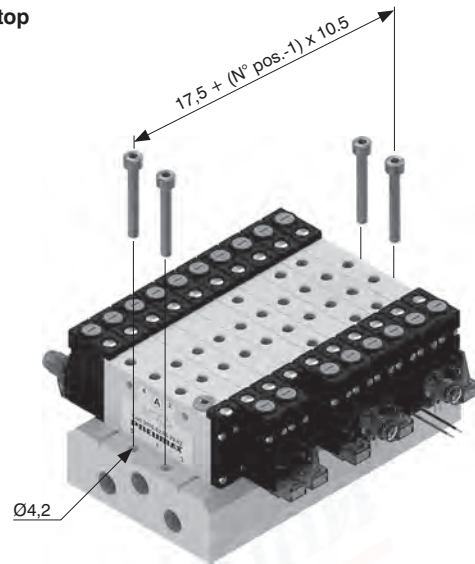


Weight 1,5 g

Solenoid valve description

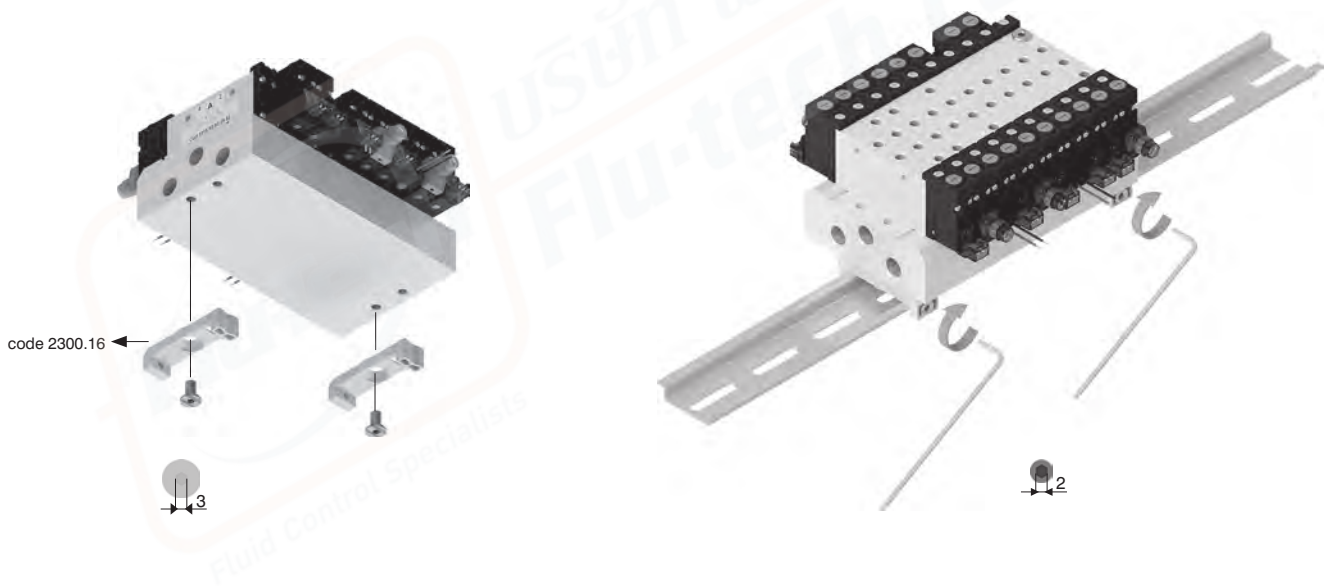


From the top

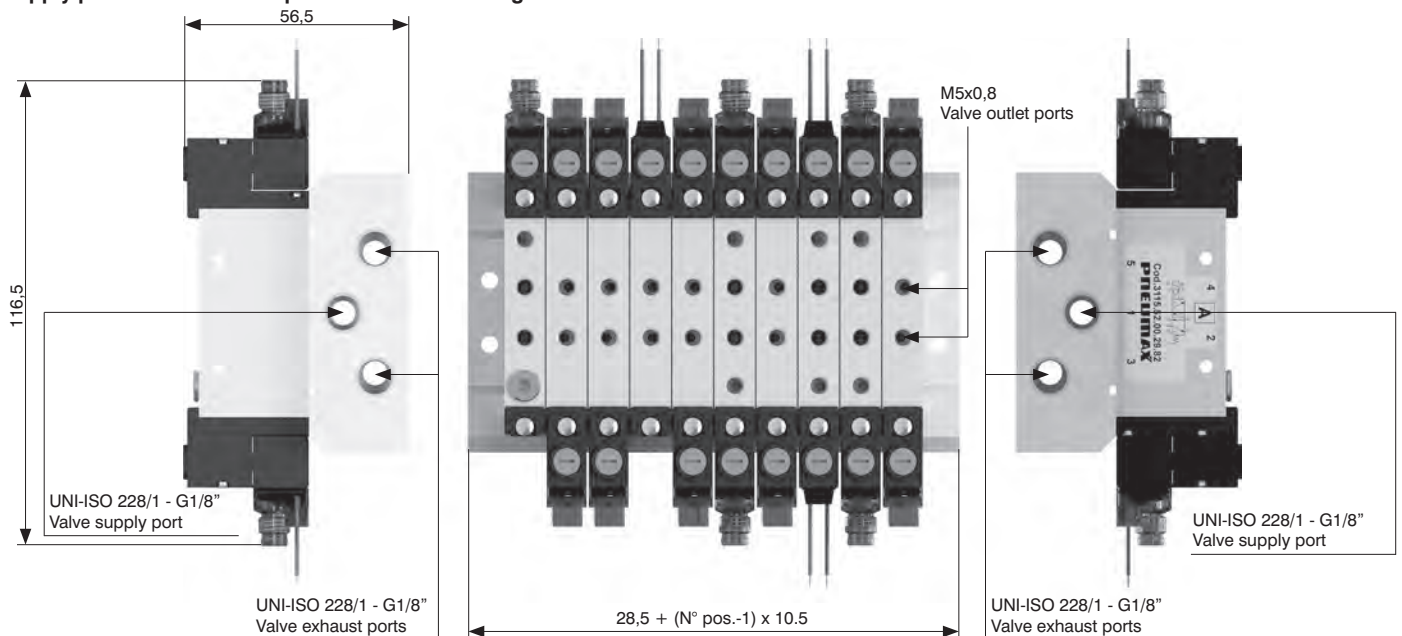


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DIN rail fixing

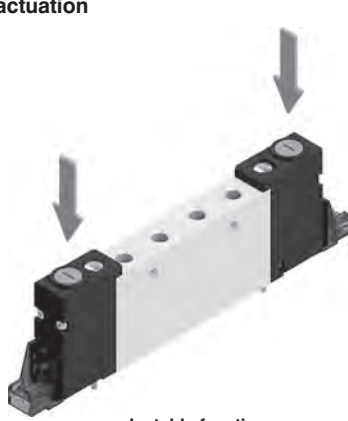


Supply ports and maximum possible size according to valves used

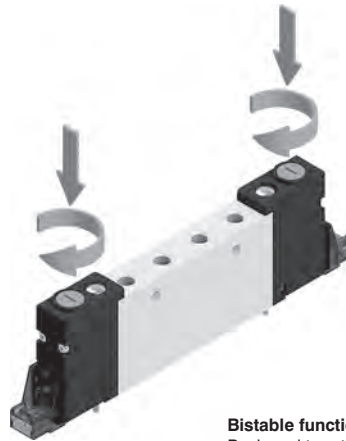




Manual override actuation



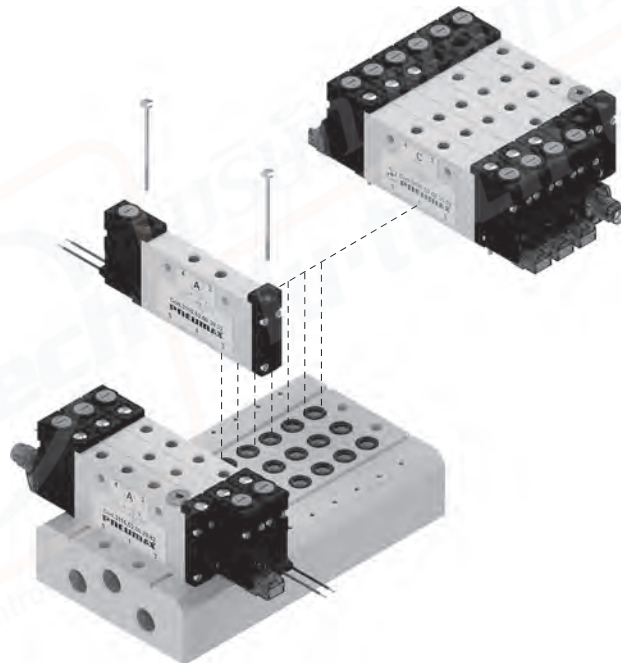
Instable function:
Push to actuate
(when released it moves back
to the original position)



Bistable function:
Push and turn to get the bistable
function

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

Solenoid valves installation

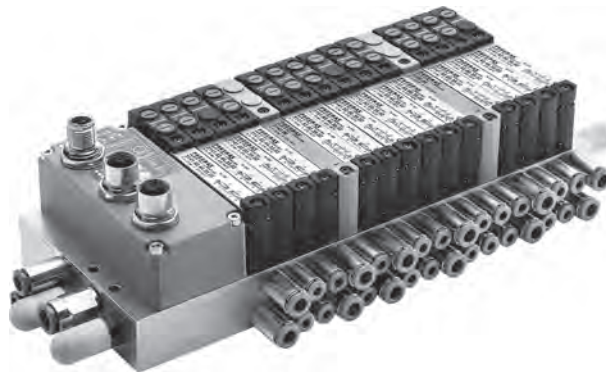


Max. torque moment: 0,2 Nm

AIR DISTRIBUTION

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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 accessories. 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

1
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31

| Power supply | |
|--------------|------------------|
| A: | Self-feeding |
| E: | External feeding |

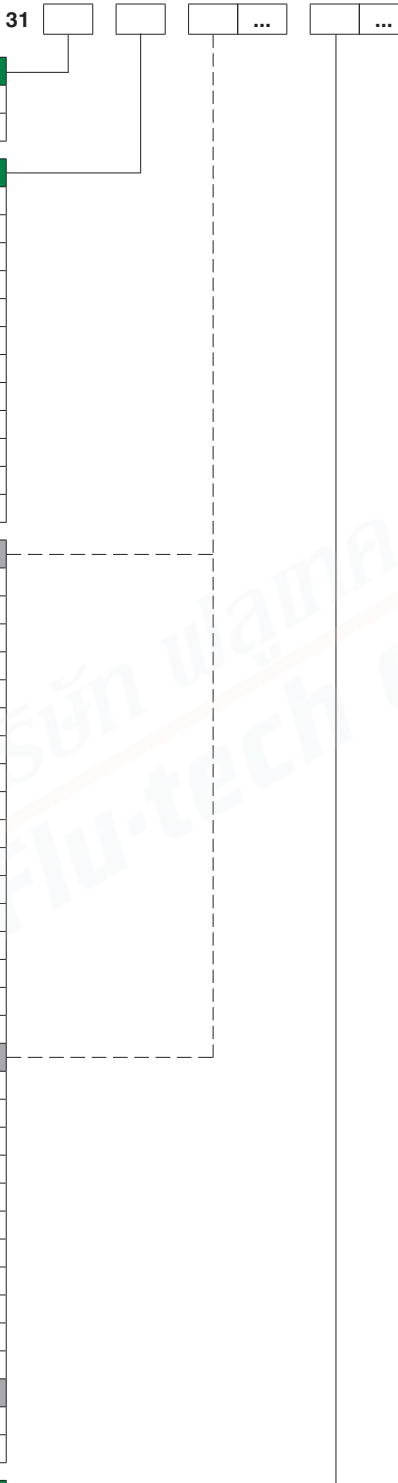
| Electric connection | |
|---------------------|---|
| MP2: | 25 poles multipoint module |
| MP3: | 37 poles multipoint module |
| MP4: | 44 poles HD multipoint module |
| C3: | CANopen® module 64 IN - 64 OUT (32 fixed) |
| C4: | CANopen® module 64 IN - 64 OUT (48 fixed) |
| P3: | PROFIBUS DP module 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) |
| K3: | IO-Link module 64 IN - 64 OUT (32 fixed) |
| K4: | IO-Link module 64 IN - 64 OUT (48 fixed) |

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

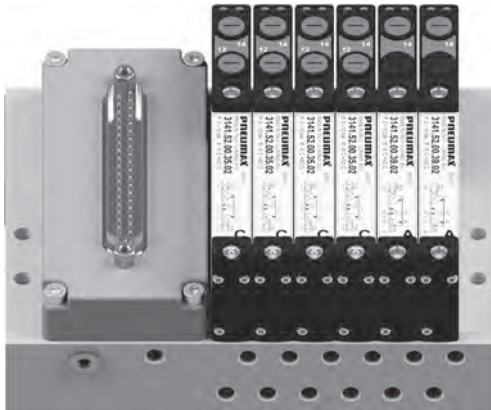
| Outputs module - Analog / Digital (Optional) | |
|--|---|
| M8: | 8 M8 digital outputs module |
| M12: | 8 M12 digital outputs module |
| M3: | 32 digital outputs SUB-D 37 pins |
| V1: | 2 analogue outputs 0-5V module (voltage signal) |
| V2: | 2 analogue outputs 0-10V module (voltage signal) |
| V3: | 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 |
| J0: | Optional position module |

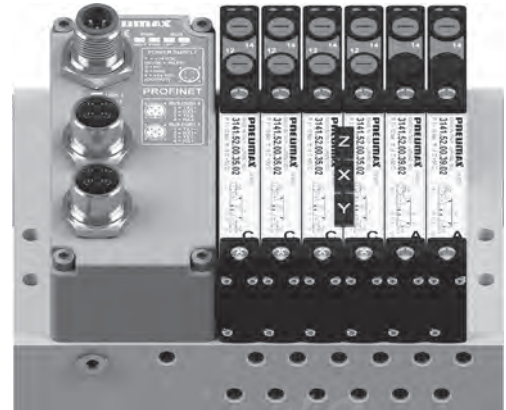
| Valves type | |
|-------------|--|
| A: | Solenoid valve 5/2 Solenoid - Spring |
| B: | Solenoid valve 5/2 Solenoid - Differential |
| C: | Solenoid valve 5/2 Solenoid - Solenoid |
| E: | Solenoid valve 5/3 C.C. Solenoid - Solenoid |
| F: | Solenoid valve 2X3/2 N.C.-N.C. (=5/3 O.C.) Solenoid - Solenoid |
| 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 |



Configuration examples

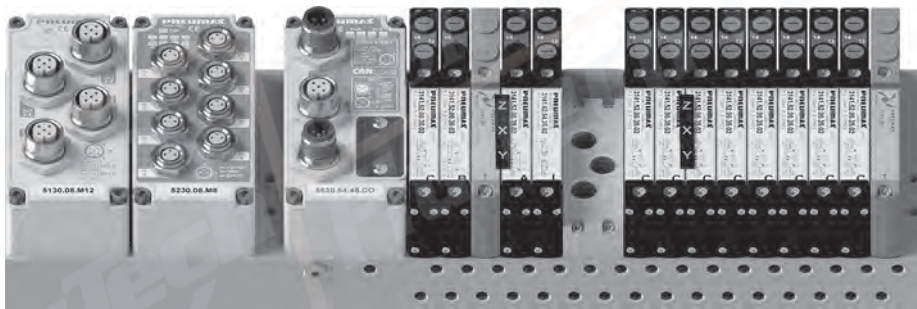


Example shown : 31EMP3CCCCAA
Manifold with external feeding, multipolar; 37 poles and solenoid valves.



Example shown : 31EN4CCCXYZCAA
Manifold with external feeding, serial module, solenoid valves and diaphragm plugs.

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Example shown : 31EC4D8M12CBTXYZAIWCCXYZCCCCCT
Manifold with external feeding, serial module, M8 input module, M12 output module; solenoid valves, multi-position diaphragm plugs, additional power supply module.



Example shown : 31AC4D8D8M12J0CBIIIITT
Self-feeding manifold with serial module, M8 input module, M12 output module, optional position module, solenoid valves.

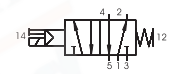
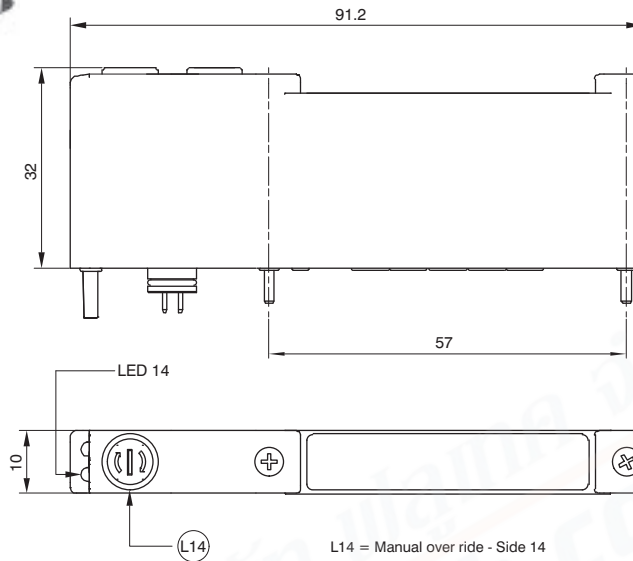


Solenoid valves manifold Series 3000 MANIFOLD - 10mm

Solenoid - Spring / Solenoid - Differential

Coding: 3141.52.00. **F** **C**

| | |
|-------------|--|
| FUNCTION | |
| F | 36=Solenoïd - Differential 39=Solenoïd-Spring |
| CONNECTIONS | |
| C | 02=24VDC |



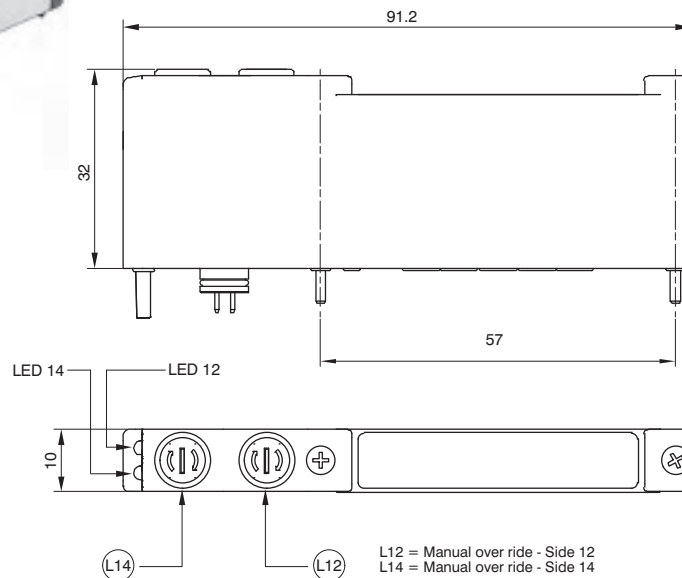
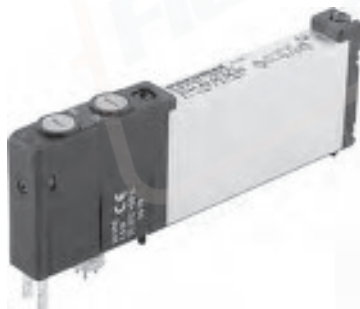
SHORT FUNCTION CODE "A" (39)
SHORT FUNCTION CODE "B" (36)

| Operational characteristics | | "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 $\Delta p=1$ (NI/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. No lubrication needed, if applied it shall 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

Coding: 3141.52.00.35. **C**

| | |
|-------------|----------|
| CONNECTIONS | |
| C | 02=24VDC |



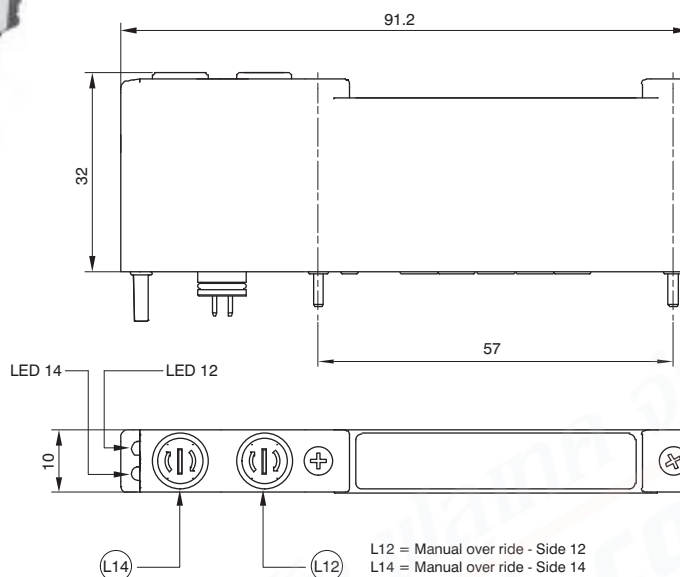
SHORT FUNCTION CODE "C"

| Operational characteristics | | "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 $\Delta p=1$ (NI/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. 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)

Coding: 3141.53.31.35. **C**

| | |
|----------|-------------|
| C | CONNECTIONS |
| | 02=24VDC |



SHORT FUNCTION CODE "E"

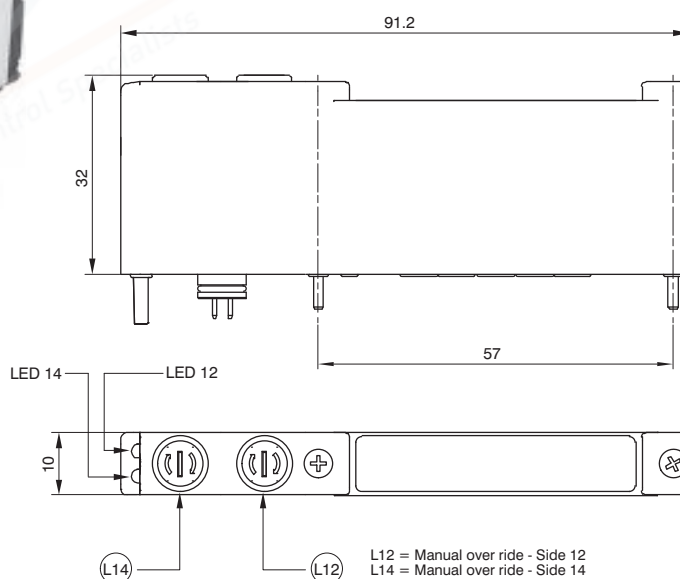
L12 = Manual over ride - Side 12
L14 = Manual over ride - Side 14

| Operational characteristics | | *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 $\Delta p=1$ (NI/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. C 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

Coding: 3141.62. **F**.35. **C**

| | |
|----------|----------------------------------|
| F | FUNCTION |
| | 44=NC-NC (5/3 Open centres) |
| | 45=NC-NO |
| | 55=NO-NO 5/3 (Pressured centres) |
| | 54=NO-NC |
| C | 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 characteristics | | *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 $\Delta p=1$ (NI/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. C NC-NC (5/3 Open centres) | Filtered air. No lubrication needed, if applied it shall be continuous | 170 | 10 | 15 | From vacuum to 10 | $\geq 3+$ (02x Inlet press.) | -5 - +50 | 60,7 |
| 3141.62.45.35. C NC-NO | | | | | | | | |
| 3141.62.55.35. C NO-NO (5/3 Pressured centres) | | | | | | | | |
| 3141.62.54.35. C NO-NC | | | | | | | | |

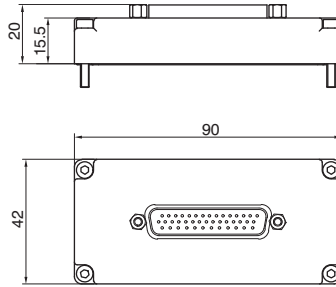


Multipoint module

Codifica: 3140.00.C

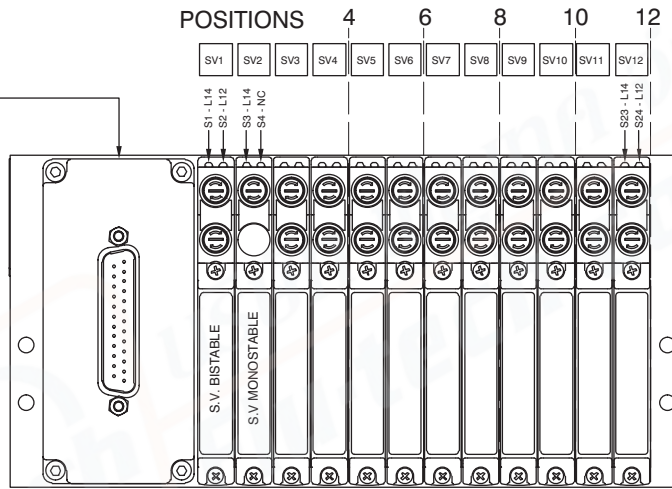
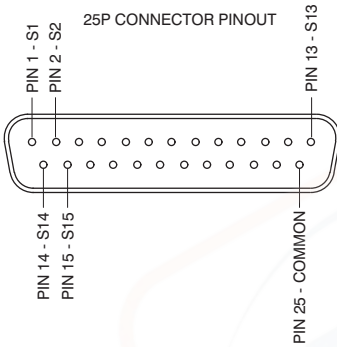
| Operational characteristics | | | |
|-----------------------------|------------------------|------------------------|------------------------|
| Code | 3140.00.25P (25 poles) | 3140.00.37P (37 poles) | 3140.00.44P (44 poles) |
| Temperature °C | -5 - +50 | | |
| Weight (g) | 47,4 | 51,3 | 49,1 |

| ELECTRICAL CONNECTIONS | |
|------------------------|------------------------|
| ● | 25P=Connector 25 poles |
| | 37P=Connector 37 poles |
| | 44P=Connector 44 poles |

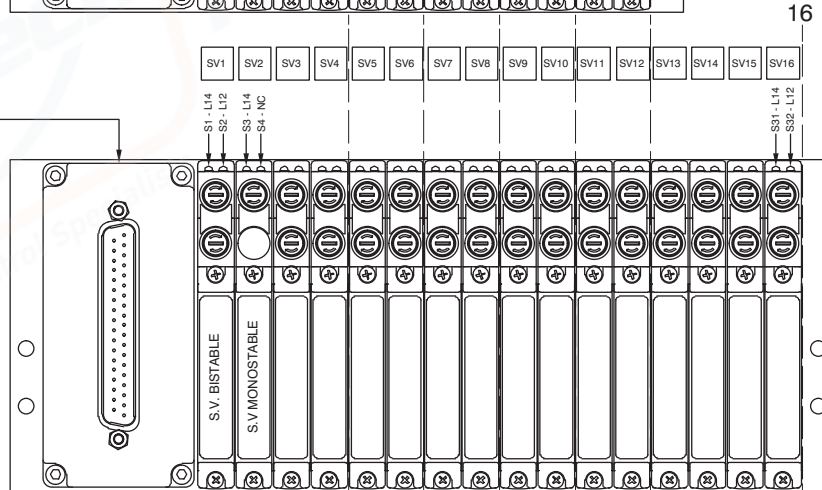
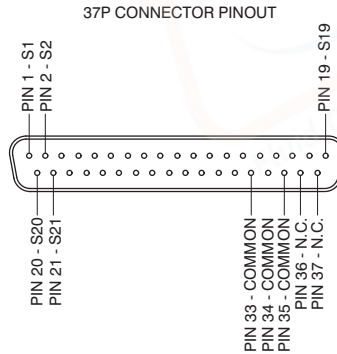


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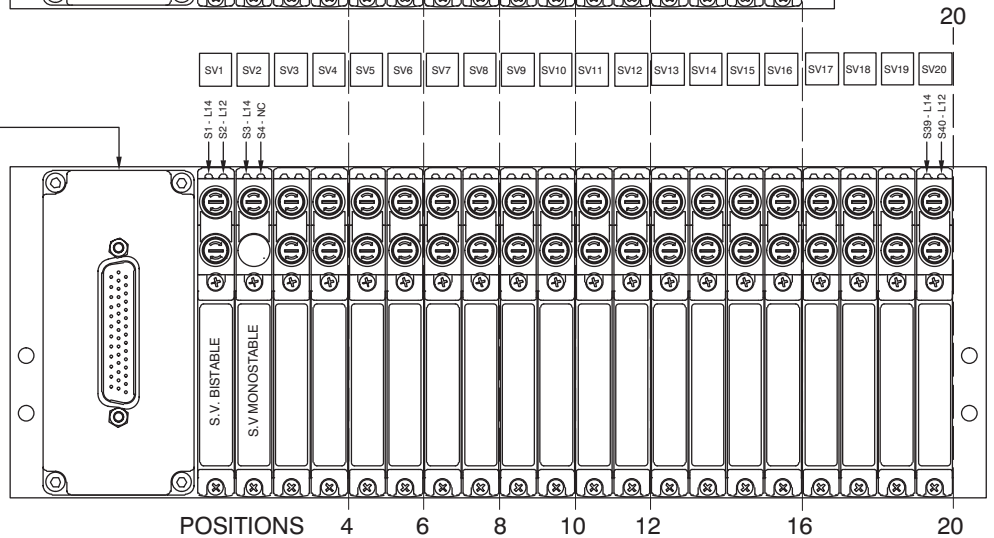
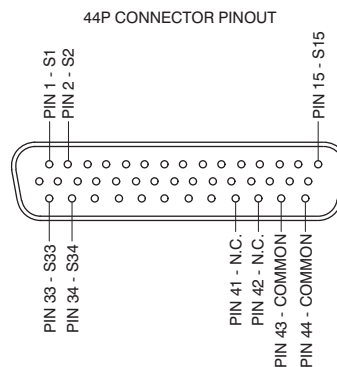
25 POLES MULTIPOINT MODULE
12 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING



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

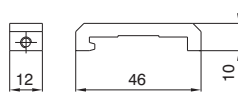


44 POLES MULTIPOINT MODULE
20 SOLENOID VALVES
PNP OR NPN SELF CONFIGURING
ENERGY SAVING



► DIN rail adapter

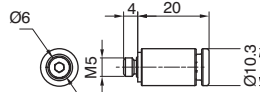
Coding: 2300.16



Weight 12 g

► Fitting M5 Ø6

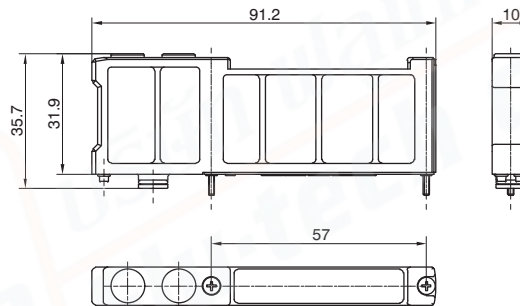
Coding: RDR560



Weight 7 g

► Free valve space plug

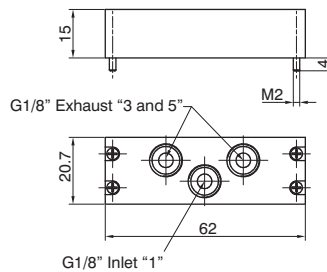
Coding: 3140.00



Weight 21 g

► Inlet/Exhaust module

Coding: 3140.10



Weight 50 g



▶ Diaphragm plug

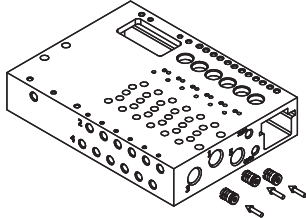
Coding: 3130.17



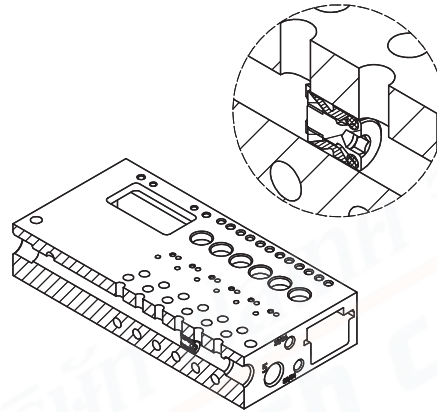
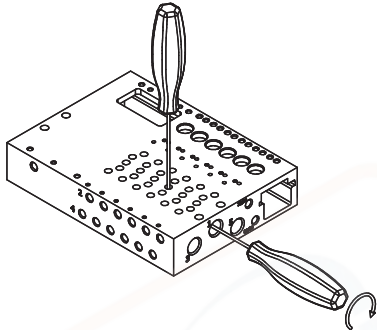
Weight 1,5 g

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Diaphragm plug installation



Diaphragm plug fixing



▶ Cable complete with connector, 25 poles, IP65

Coding: 2300.25.L.C



| | |
|---|--------------|
| | CABLE LENGTH |
| L | 03=3 meters |
| | 05=5 meters |
| | 10=10 meters |
| | CONNECTORS |
| C | 10=In line |
| | 90=90° angle |

▶ Cable complete with connector 37 poles, IP65

Coding: 2400.37.L.C



| | |
|---|--------------|
| | CABLE LENGTH |
| L | 03=3 meters |
| | 05=5 meters |
| | 10=10 meters |
| | CONNECTORS |
| C | 10=In line |
| | 90=90° angle |

▶ Cable complete with connector 44 poles, IP65

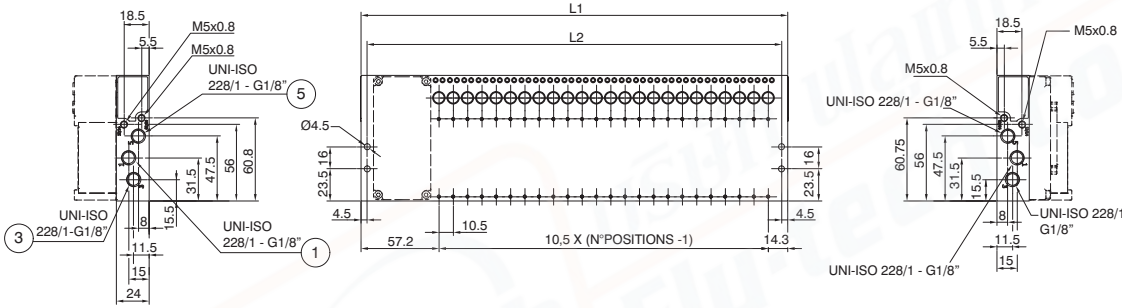
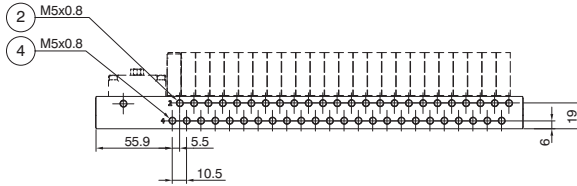
Coding: 2300.44.L.C



| | |
|---|--------------|
| | CABLE LENGTH |
| L | 03=3 meters |
| | 05=5 meters |
| | 10=10 meters |
| | CONNECTORS |
| C | 10=In line |
| | 90=90° angle |



Manifold



Coding: 3145.V.P

| VERSION | | |
|------------------------------------|-----------------------|-----|
| V | 02 = External feeding | |
| | 12 = Self feeding | |
| POSITIONS | | |
| | L1 | L2 |
| 04=4 Positions (weight 432 g) | 103 | 94 |
| 06=6 Positions (weight 518 g) | 124 | 115 |
| 08=8 Positions (weight 604 g) | 145 | 136 |
| P | | |
| 10=10 Positions (weight 690 g) | 166 | 157 |
| 12=12 Positions (weight 776 g) | 187 | 178 |
| 16=16 Positions (weight 948 g) | 229 | 220 |
| 20=20 Positions (weight 1120 g) | 271 | 262 |
| 24=24 Positions (weight 1280 g) | 313 | 304 |

1

AIR DISTRIBUTION

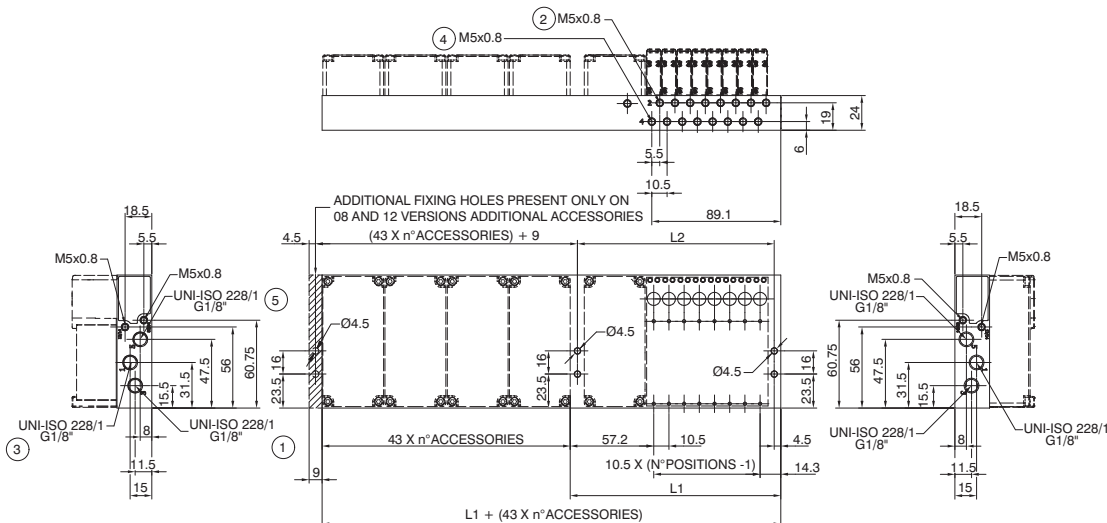
Manifold with accessories



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

Coding: 3145.V.P.A

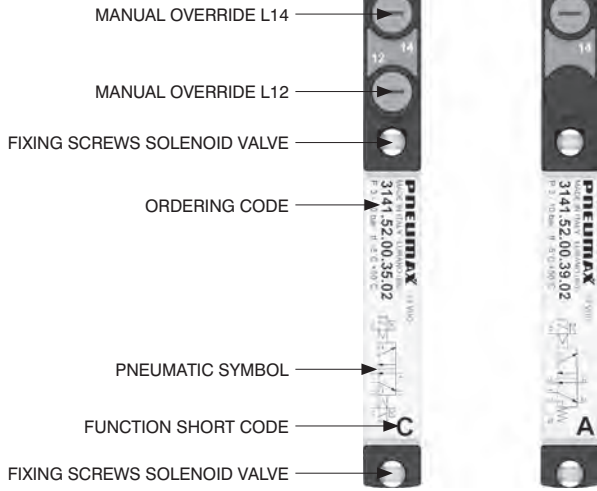
| VERSION | | |
|------------------------------------|----------------------------|-----|
| V | 02 = External feeding | |
| | 12 = Self feeding | |
| POSITIONS | | |
| | L1 | L2 |
| 04=4 Positions (weight 432 g) | 103 | 94 |
| 06=6 Positions (weight 518 g) | 124 | 115 |
| 08=8 Positions (weight 604 g) | 145 | 136 |
| P | | |
| 10=10 Positions (weight 690 g) | 166 | 157 |
| 12=12 Positions (weight 776 g) | 187 | 178 |
| 16=16 Positions (weight 948 g) | 229 | 220 |
| 20=20 Positions (weight 1120 g) | 271 | 262 |
| 24=24 Positions (weight 1280 g) | 313 | 304 |
| ACCESSORIES | | |
| | 01 = 1 optional position | |
| | 02 = 2 optional positions | |
| A | | |
| | 04 = 4 optional positions | |
| | 08 = 8 optional positions | |
| | 12 = 12 optional positions | |



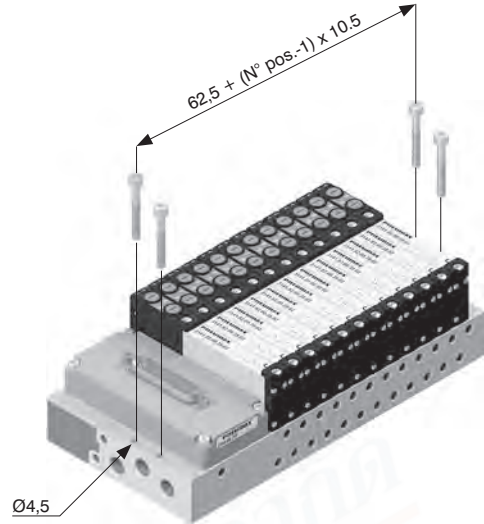


Solenoid valve description

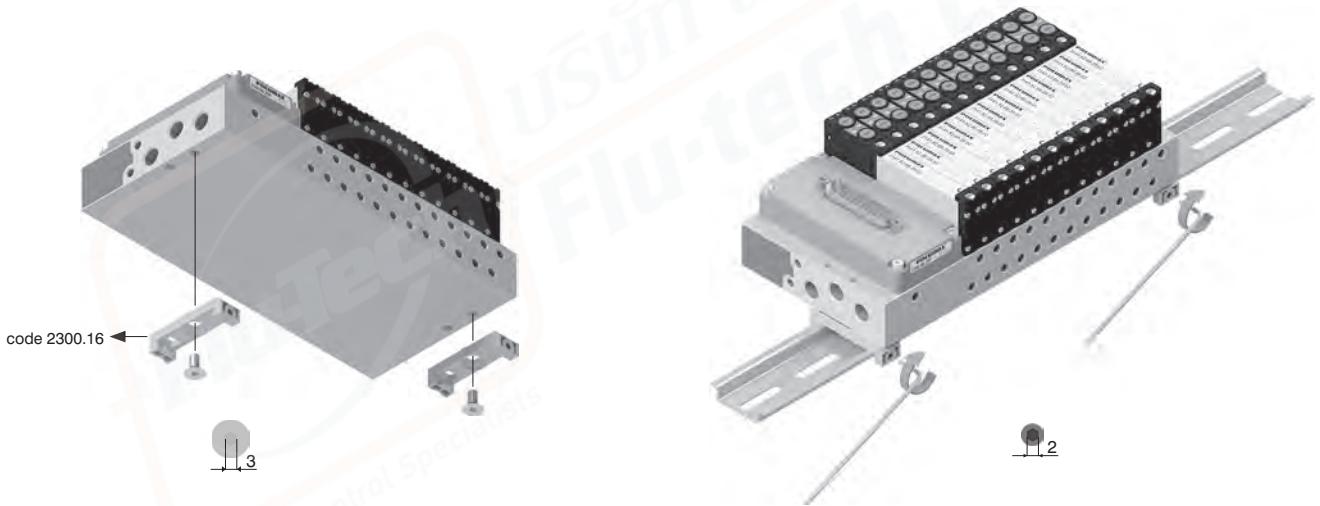
PILOT STATE IDENTIFICATION LED L12
(LED "ON" = IDENTIFIES ACTUATED PILOT)
PILOT STATE IDENTIFICATION LED L14
(LED "ON" = IDENTIFIES ACTUATED PILOT)



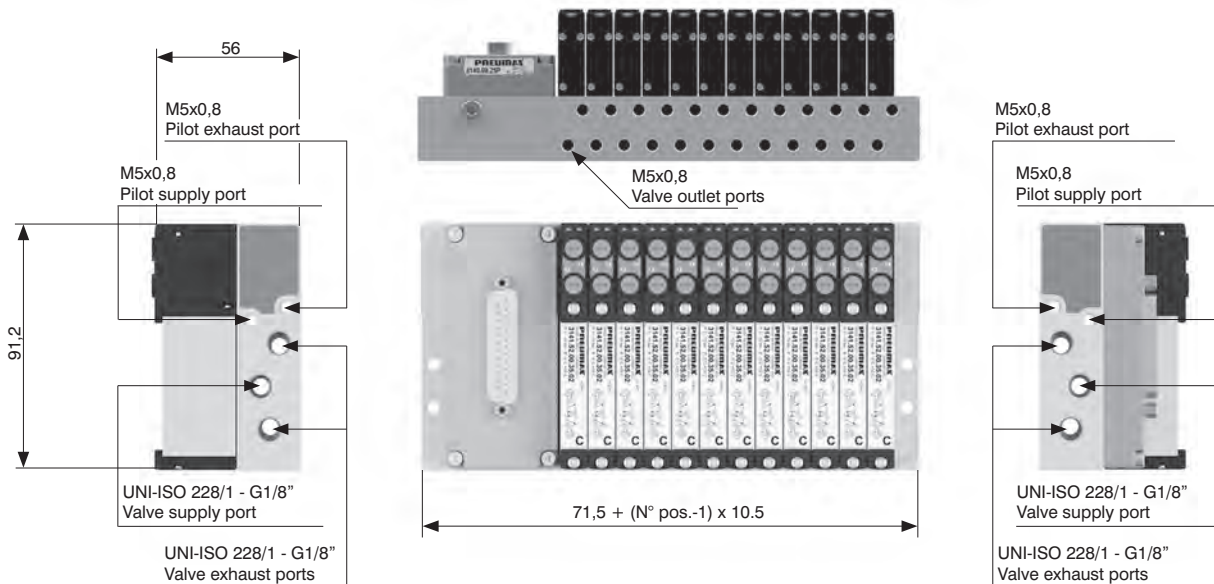
From the top



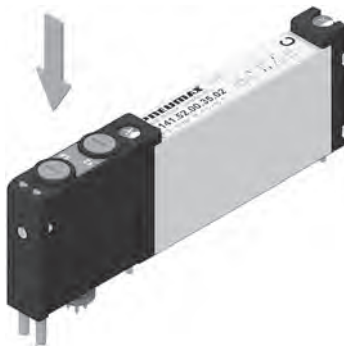
DIN rail fixing



Supply ports and maximum possible size according to valves used



Manual override actuation



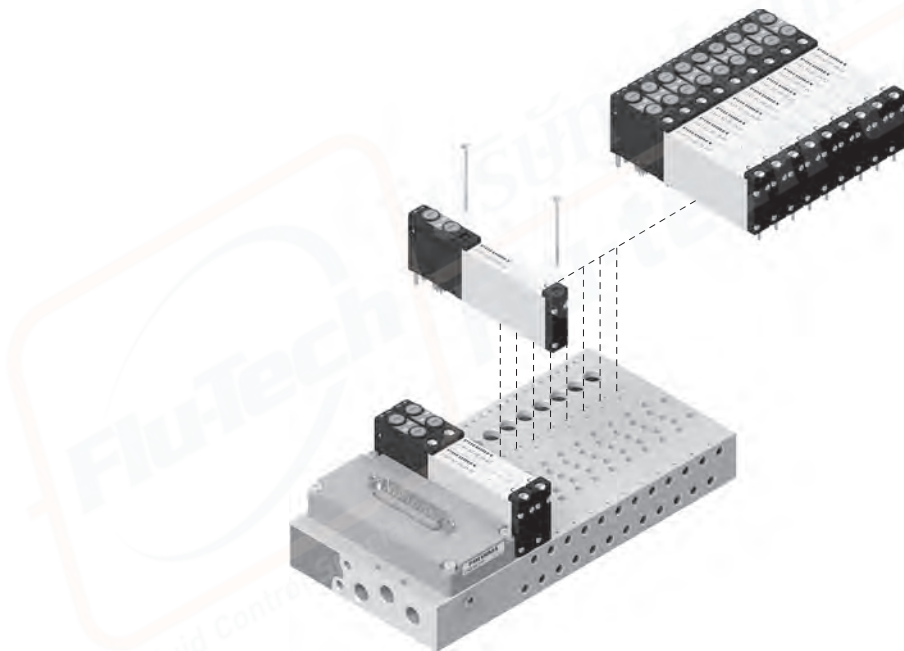
Instable function:
Push to actuate
(when released it moves back
to the original position)



Bistable function:
Push and turn to get the bistable
function

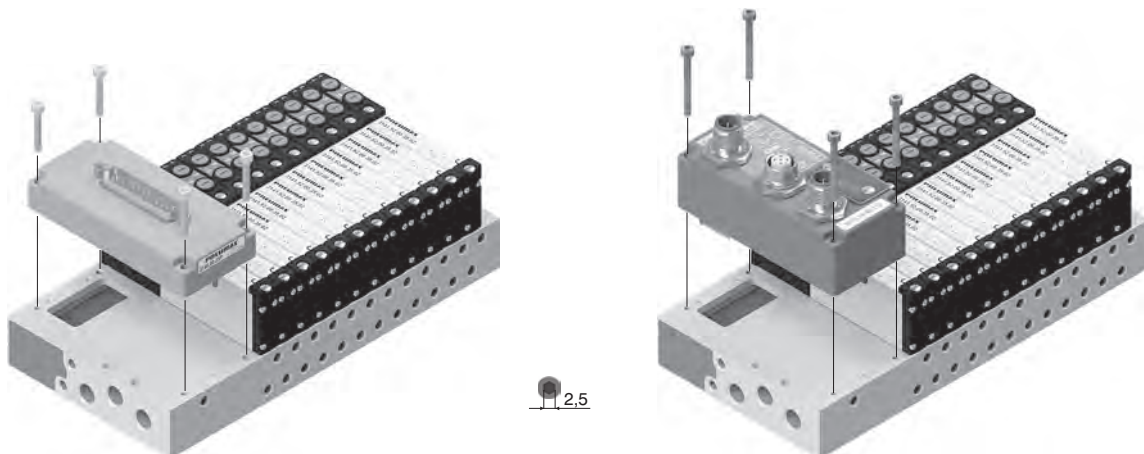
Note: it is strongly suggested to replace the original position after using

Solenoid valves installation



Max. torque moment: 0,2 Nm

Serial systems and multipoint system installation



Max. torque moment: 0,5 Nm

General - CANopen® slave modules

CANopen® node handles up to 64 inputs and outputs, both divided into 8 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable inputs typologies include digital inputs modules (e.g. 5230.08.M8), analog input modules (e.g. 5230.2T.00), and Pt100 inputs modules (e.g. 5230.4P.02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end.

Electrical power must be supplied via circular M12 4 pins type A male connector. The separation between 24VDC supply of the node and 24VDC of the outputs allows to turn off outputs leaving the node and eventual inputs operational.

CANopen® network connection is achieved 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 via DIP-switch.

Internal termination resistance is on-board and can be enabled via DIP-switch as well.

There are two CANopen® node versions: they differ by number of outputs directly allocated to solenoid valve positions.

5530.64.32CO part number provides the first 32 out of 64 outputs, corresponding to less significant 4 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 32 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

5530.64.48CO part number provides the first 48 out of 64 outputs, corresponding to less significant 6 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 16 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

Two part-numbers have been provided to tailor configuration on your needs. 5530.64.48CO part number is recommended in case several solenoid valves must be handled, whilst ensuring room for future expansions.

5530.64.32CO part number is recommended in case increased flexibility is needed for digital outputs.

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

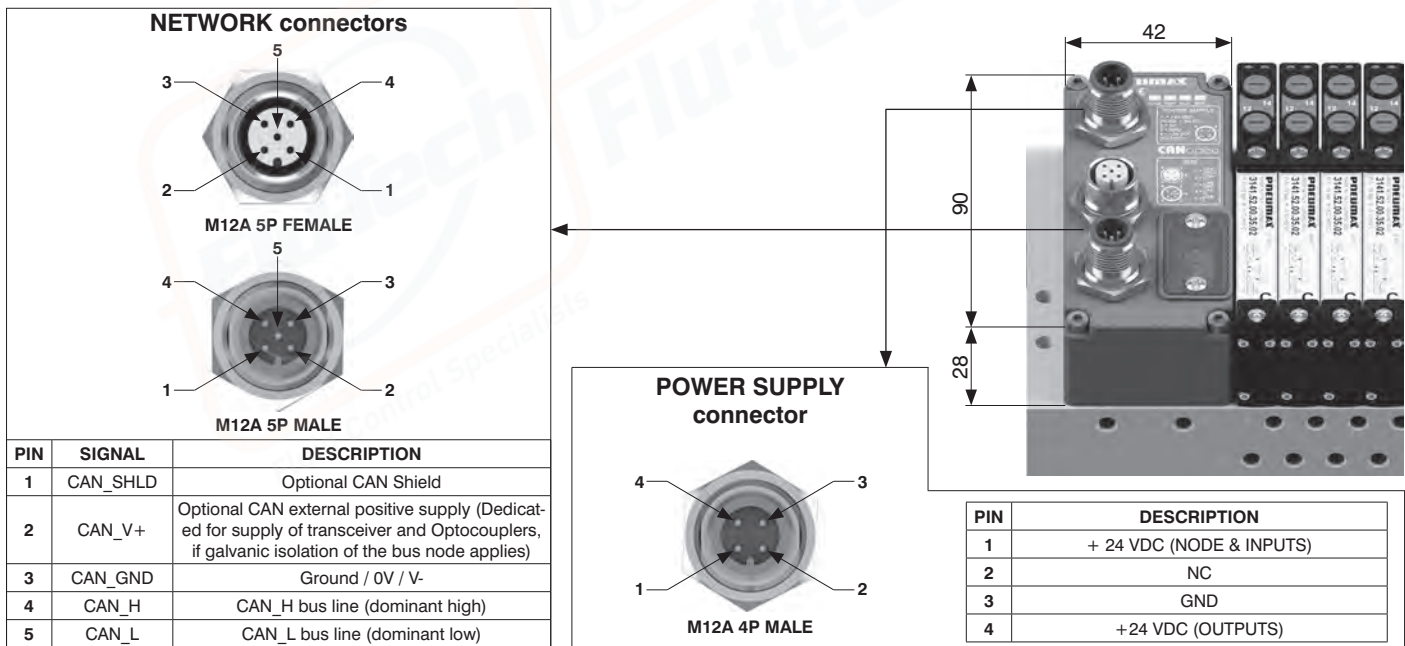
Ordering code

5530.64.32CO
5530.64.48CO



1 AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics

| | | |
|---------------------|-----------------------------------|---|
| | Specifications | CiA Draft Standard Proposal 301 V 4.10 (15 August 2006) |
| | Case | Reinforced technopolymer |
| Power supply | Power supply connection | M12 4 P male connector (IEC 60947-5-2) |
| | Power supply voltage | +24 VDC +/- 10% |
| | Node consumption (without inputs) | 30 mA |
| | Power supply diagnosis | Green LED PWR / Green LED OUT |
| Network | 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 node handles up to 64 inputs and outputs, both divided into 8 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable inputs typologies include digital inputs modules (e.g. 5230.08.M8), analog input modules (e.g. 5230.2T.00), and Pt100 inputs modules (e.g. 5230.4P02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end. Electrical power must be supplied via circular M12 4 pins type A male connector. The separation between 24VDC supply of the node and 24VDC of the outputs allows to turn off outputs leaving the node and eventual inputs operational.

PROFIBUS DP network connection is achieved via two circular male-female M12 5 pins type B connectors, connected in parallel; connector pinout is PROFIBUS Interconnection Technology compliant (Version 1.1 August 2001). Network node address is set via DIP-switch.

Internal termination resistance is on-board and can be enabled via DIP-switch as well.

There are two PROFIBUS DP node versions: they differ by number of outputs directly allocated to solenoid valve positions.

5330.64.32PB part number provides the first 32 out of 64 outputs, corresponding to less significant 4 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 32 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

5330.64.48PB part number provides the first 48 out of 64 outputs, corresponding to less significant 6 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 16 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

Two part-numbers have been provided to tailor configuration on your needs. 5330.64.48PB part number is recommended in case several solenoid valves must be handled, whilst ensuring room for future expansions. 5330.64.32PB part number is recommended in case increased flexibility is needed for digital outputs.

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

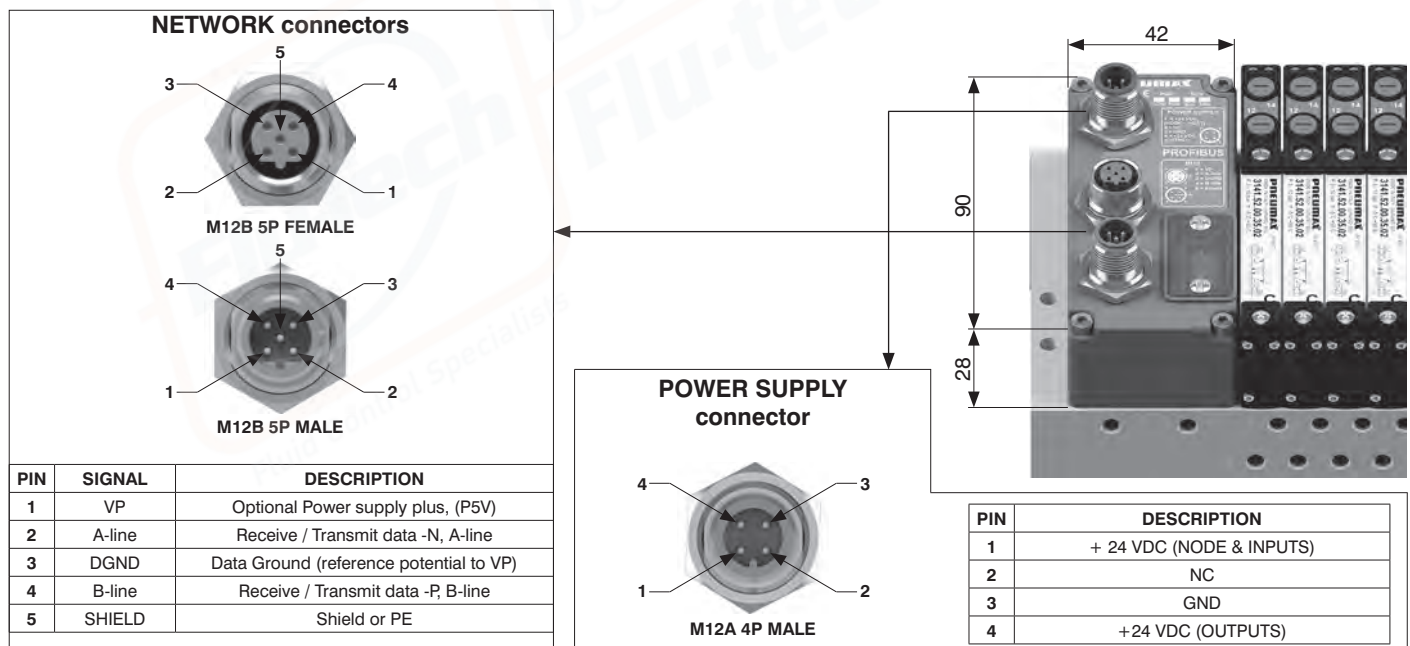
Ordering code

5330.64.32PB
5330.64.48PB



1
AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



Technical characteristics

| | Specifications | PROFIBUS DP |
|---------------------|-----------------------------------|---|
| | Case | Reinforced technopolymer |
| Power supply | Power supply connection | M12 4 P male connector (IEC 60947-5-2) |
| | Power supply voltage | +24 VDC +/- 10% |
| | Node consumption (without inputs) | 50 mA |
| | Power supply diagnosis | Green LED PWR / Green LED OUT |
| Network | 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 slave modules

5730.128.48PN, 5730.128.48EC e 5730.128.48EI nodes handle up to 128 inputs and outputs, both divided into 16 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable input types include digital inputs modules (e.g. 5230.08.M8), analog inputs modules (e.g. 5230.2T.00) and Pt100 inputs modules (e.g. 5230.4P.02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end.

Electric power must be supplied via circular M12 4 pins male type A connector. The separation between 24VDC supply of the node and 24VDC of the outputs allows to turn off outputs leaving the node and eventual inputs operational.

The network connection is achieved via two circular female connectors (M12 4 pins, type D); these two circular connectors belong to two separate communication ports; hence they are not connected in parallel.

In 5730.128.48PN, 5730.128.48EC and 5730.128.48EI part numbers the first 48 out of 128 outputs, corresponding to less significant 6 bytes, are permanently allocated to the solenoid valve positions, regardless how many they are and how many valves are installed. The remaining 80 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

When more than 64 inputs are needed and current coming from 24VDC rail is higher than 2.5A, the use of additional power supply module (part number 5030.M12) is mandatory. 5030.M12 additional power supply module must be plugged-in upstream to the modules exceeding the above stated current limit, therefore close to the network node.

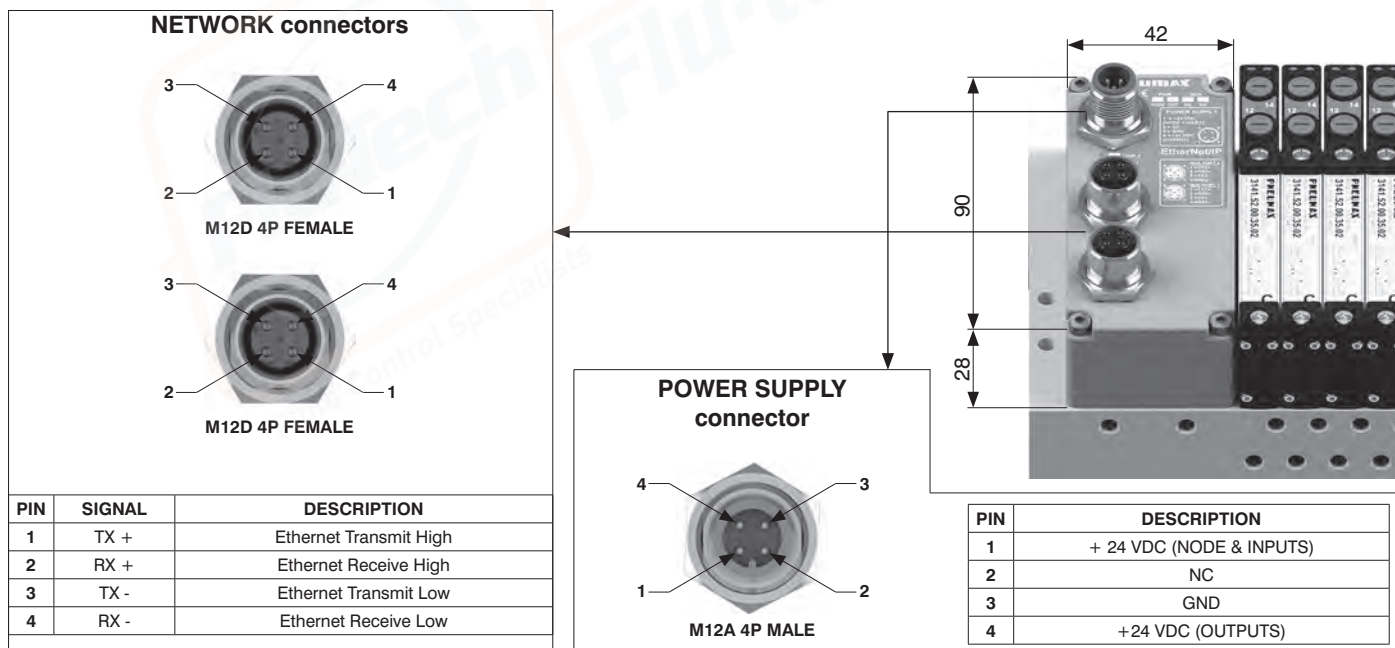
On the other hand, whenever 64 outputs are used and further optional outputs modules are required, if total computed simultaneous current is higher than 2A, the 5030.M12 module is mandatory. 5030.M12 module is plugged-in upstream to additional modules; it will supply electrical power to downstream modules. If 5030.M12 module has been already integrated to supply inputs modules, it is not necessary to install a second one, since it already supplies outputs modules.

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 - IO-Link slave modules

IO-Link node handles up to 64 inputs and outputs, both divided into 8 bytes. Output typologies include solenoid valves, digital outputs (e.g. 5130.08.M8) and analog outputs (e.g. 5130.2T.00). Connectable inputs typologies include digital inputs modules (e.g. 5230.08.M8), analog input modules (e.g. 5230.2T.00), and Pt100 inputs modules (e.g. 5230.4P02). Optional modules can be connected to the manifold in any order and configuration, provided that modules are installed starting from the node and optional position modules left to furthest end.

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

IO-Link node exists in two versions: they differ by number of outputs directly allocated to solenoid valve positions. 5830.64.32IK part number provides the first 32 out of 64 outputs, corresponding to less significant 4 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 32 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

5830.64.48IK part number provides the first 48 out of 64 outputs, corresponding to less significant 6 bytes, are permanently allocated to solenoid valve positions, regardless how many they physically are and how many valves are installed. The remaining 16 outputs can be used to handle optional output modules. Bytes allocation to optional modules is done automatically.

Two part-numbers have been provided to tailor configuration on your needs. 5830.64.48IK part number is recommended in case several solenoid valves must be handled, whilst ensuring room for future expansions. 5830.64.32IK part number is recommended in case increased flexibility is needed for digital outputs.

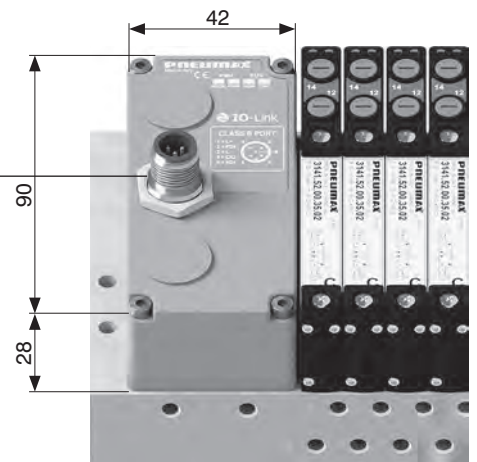
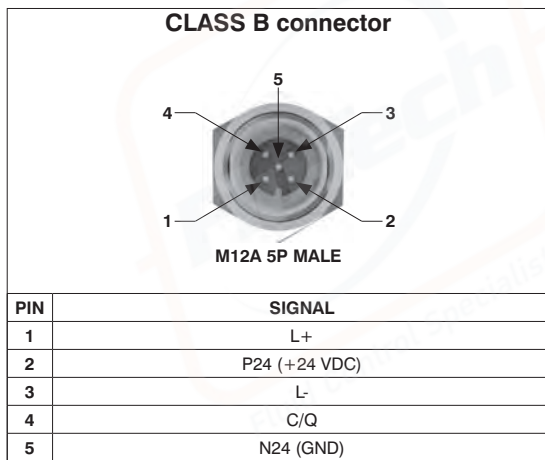
Ordering code

5830.64.32IK
5830.64.48IK



1
AIR DISTRIBUTION

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% |
| | Maximum output number | 64 |
| | Maximum output simultaneously actuated | 64 |
| Network | Network connectors | Class B port |
| | Communication speed | COM2 |
| | Maximum distance from Master | 20 m |
| | Bus diagnosis | 1 green and 1 red LED di stato for status |
| | Vendor ID / Device ID | 1257 (hex 0x04E9) / 3000 (hex 0x0BB8) |
| | Configurations file IODD | 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 have PNP logic, 24VDC ± 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 stays operational. Removing fault cause, green PWR LED gets back in on status and module becomes operational again.

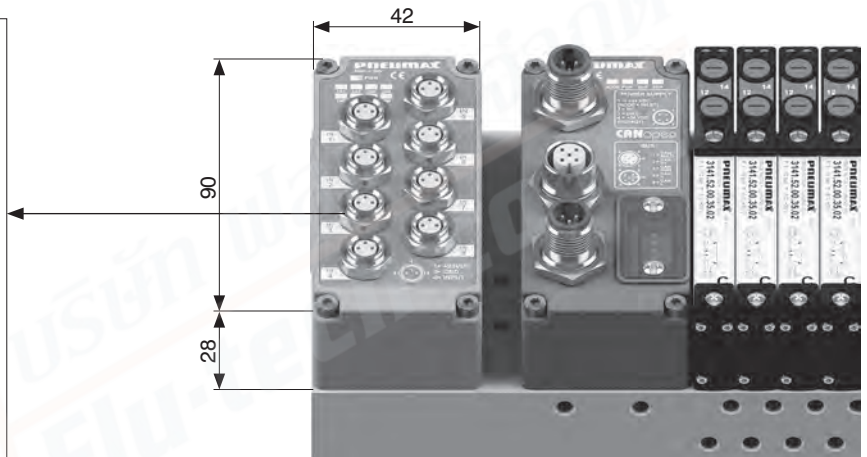
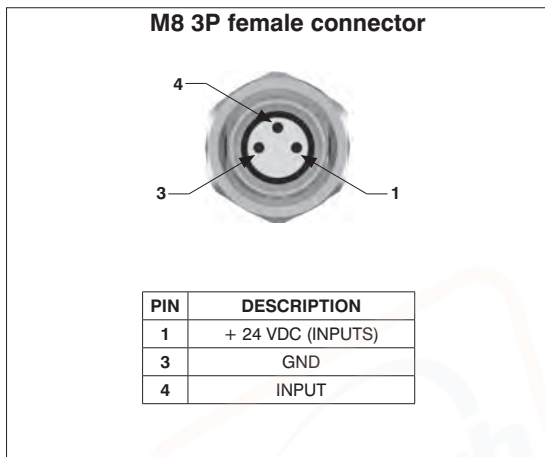
The M8 digital inputs module takes up 8 input bits of the serial node installed on the manifold.

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 have PNP logic, 24VDC ± 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.

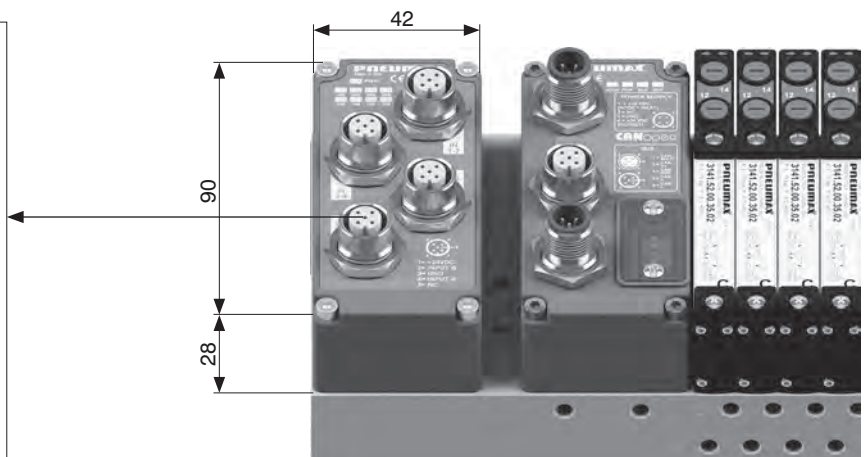
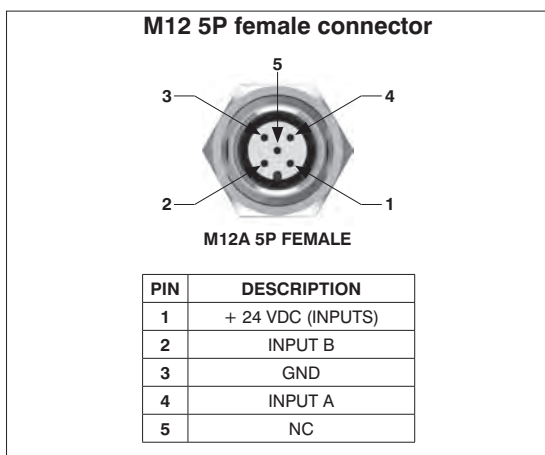
The M12 digital inputs module takes up 8 input bits of the serial node installed on the manifold.

Ordering code

5230.08.M12



Scheme / Overall dimensions and I/O layout



General - 8 M8 digital outputs module

Module has 8 M8 female connectors.

Outputs have PNP logic, 24VDC ± 10%.

Maximum available current per output is 100mA.

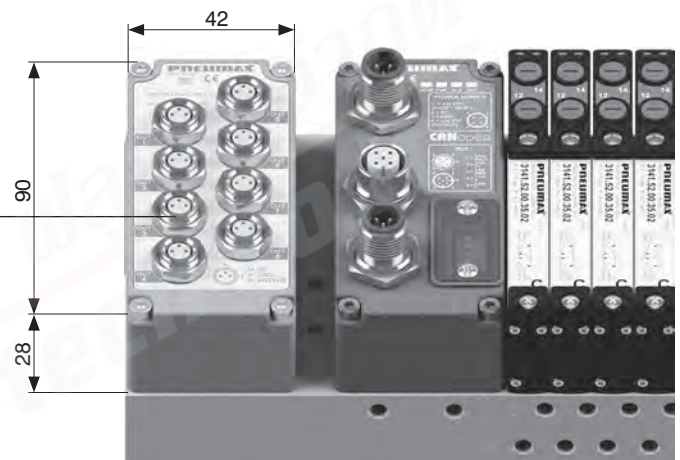
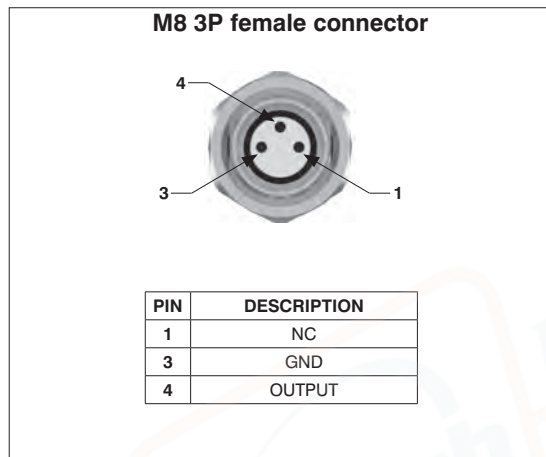
Electric power on outputs module is supplied by pin 4 of the M12 power connector on the network node or by the expansion module (5030.M12 part number). Power supply presence is displayed by "PWR OUT" green LED light-on. The module takes up 8 outputs (8 bits of the output bytes) of the serial node.

Ordering code

5130.08.M8



Scheme / Overall dimensions and I/O layout



General - 8 M12 digital outputs module

Module has 4 M12 female connectors.

Outputs have PNP logic, 24VDC ± 10%.

Maximum available current per output is 100mA.

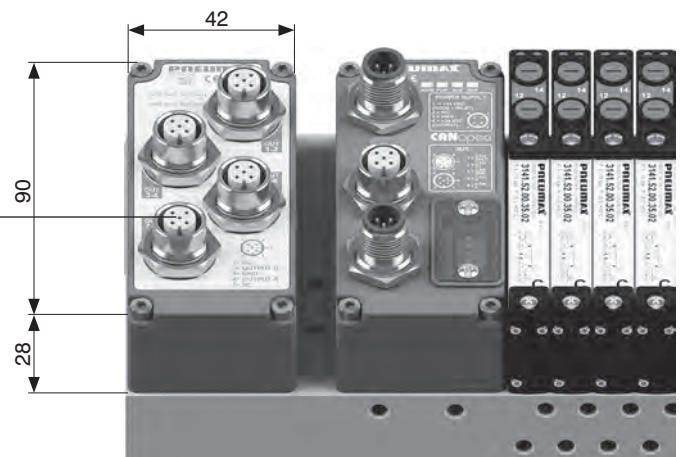
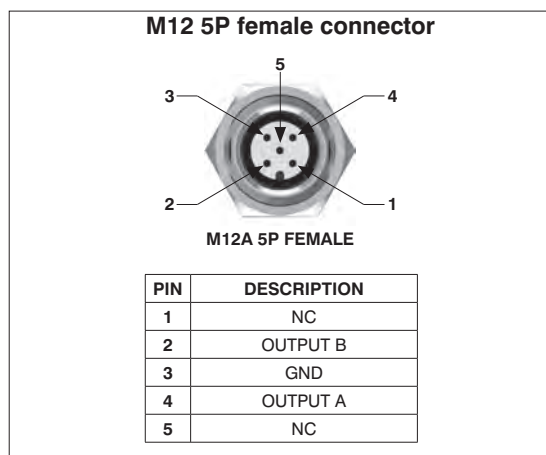
Electric power on outputs module is supplied by pin 4 of the M12 power connector on the network node or by the expansion module (5030.M12 part number). Power supply presence is displayed by "PWR OUT" green LED light-on. The module takes up 8 outputs (8 bits of the output bytes) of the serial node.

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 have PNP logic, 24VDC ± 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.

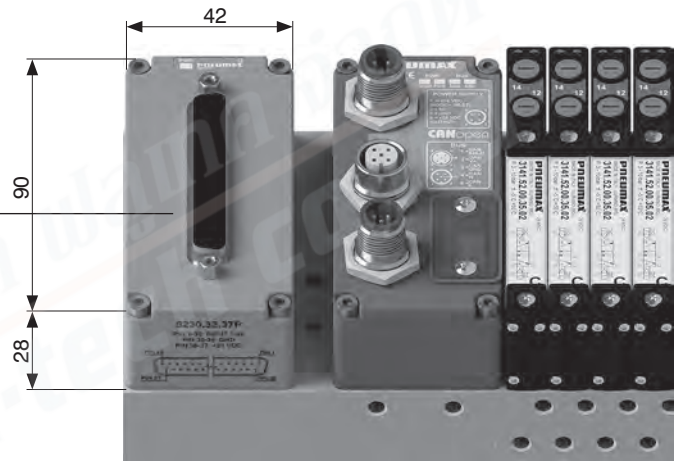
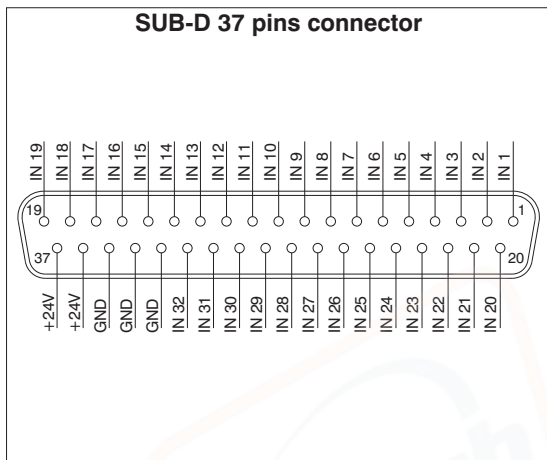
The module takes up 32 bits on the input data of the serial node installed.

Ordering code

5230.32.37P



Scheme / Overall dimensions and I/O layout



General - 32 digital outputs SUB-D 37 pins module

Module has a SUB-D 37 pins female connector.

Outputs have PNP logic, 24VDC ± 10%.

Maximum available current per 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 (5030.M12 part number). Power supply presence is displayed by "PWR OUT" green LED light-on.

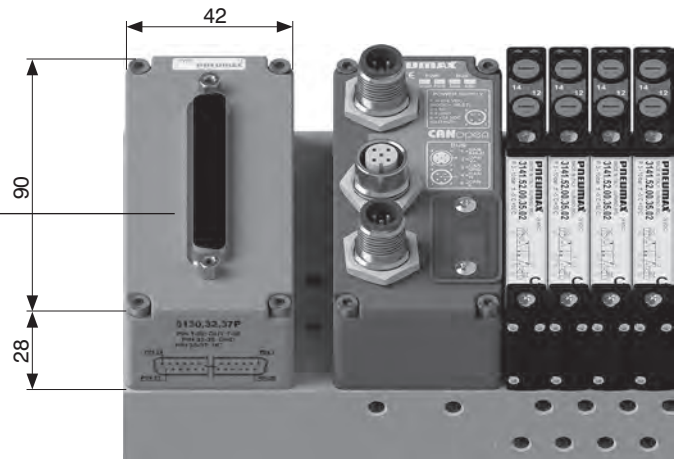
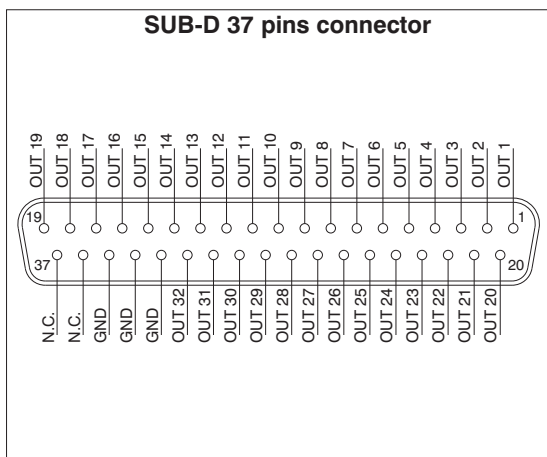
The module takes up 32 outputs (32 bits of the output bytes) of the serial node.

Ordering code

5130.32.37P



Scheme / Overall dimensions and I/O layout



General - M8 analogue inputs modules

M8 analog inputs module digitizes analog signals and transfer acquired data to field bus, via network node. Each input is sampled at 12 bits and transmitted, for convenience, at 16 bit, whose less significant bits padded to 0. Therefore, each digitized signal takes 16 inputs (2 bytes) of the serial node. During the ordering process, it is necessary to verify that the serial node has enough 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) |

Power supply of the M8 analog inputs module 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. Modules provide M8 3 pins female connectors and a diagnostic LED for every analog input. The LED indicates signal presence (green) or signal out of range (red). Maximum available current for each channel on 24VDC rail (pin 1) is reported in the table. Each module provides an internal resettable fuse, which cuts 24VDC power supply to every M8 connector and turning off green PWR LED when thresholds are exceeded. 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.

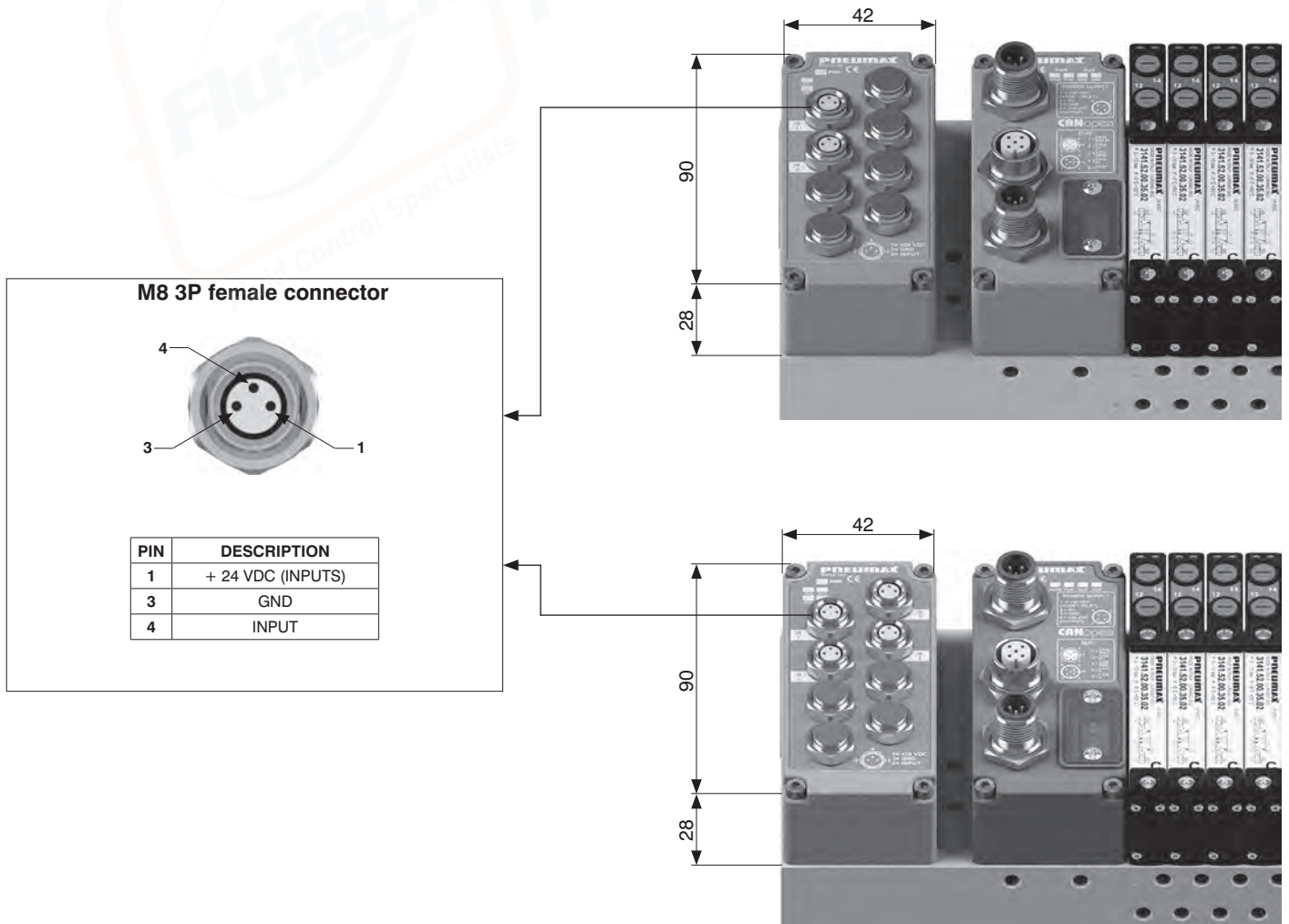
Ordering code

5230._._0_



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AIR DISTRIBUTION

Scheme / Overall dimensions and I/O layout



General - M8 analogue outputs modules

M8 analog outputs module converts output data, received from field bus via network node, into analog signal. Each analog output has a resolution of 12 bits, processed from 16 outputs (2 bytes), ignoring 4 less significant bits. During the ordering process, it is necessary to verify that the serial node has enough free outputs. Different models are available:

Ordering code

5130._._0_



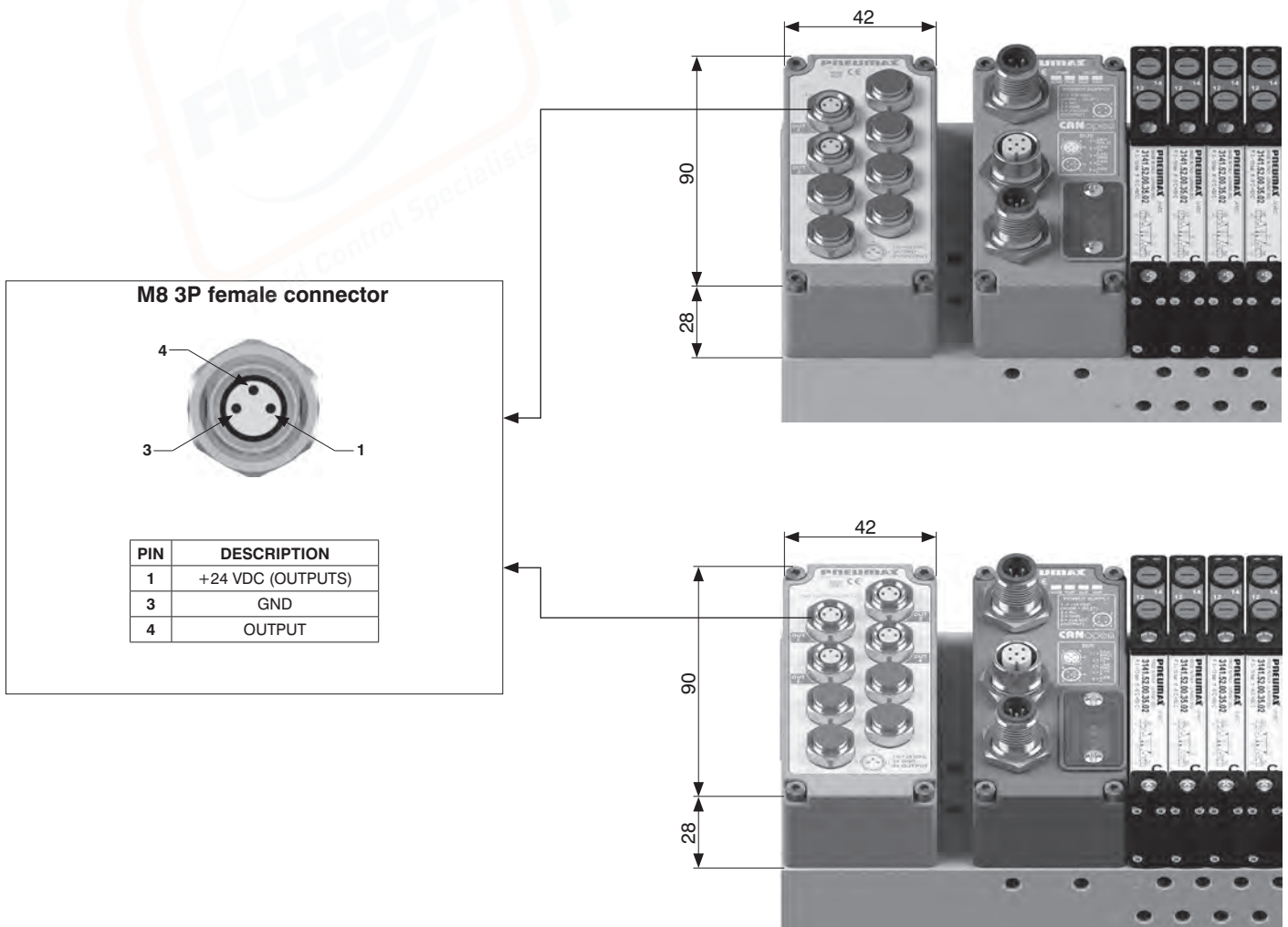
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| CODE | SIGNAL | ANALOGUE OUTPUTS | MAXIMUM CURRENT ON + 24 VDC RAIL | OCCUPIED OUTPUTS |
|------------|----------------|------------------|-----------------------------------|------------------|
| 5130.2T.00 | VOLTAGE 0-10V | 2 | 1 A | 32 (4 Byte) |
| 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) |

Power supply of the M8 analog outputs module is provided by 24VDC power input on the serial system (type A, 4 pin M12 power connector, pin 4) or by module 5030.M12, in case it were installed upstream of the outputs module. Modules provide M8 3 pins female connectors and a diagnostic LED for every analog input. The LED indicates signal presence (green) or overload fault (red).

Maximum available current for each channel on 24VDC rail (pin 1) is reported in the table. Each module provides an internal resettable fuse, which cuts 24VDC power supply to every M8 connector and turning off green PWR LED when thresholds are exceeded. Outputs 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.

Scheme / Overall dimensions and I/O layout



General - Pt100 inputs modules

Pt100 inputs module digitizes signals from Pt100 sensors and transfers acquired data to field bus, via network node. Each input is sampled at 12 bits and transmitted, for convenience, at 16 bits, whose less significant bits padded to 0. Therefore, each digitized signal takes 16 inputs (2 bytes) of the serial node. During the ordering process, it is necessary to verify that the serial node has enough free inputs.

It is possible to connect two, three or four wire sensors.
Temperature range is from -100°C to 300°C.
When sensor is not connected, it is returned a value corresponding to -100°C.

Temperature can be obtained from node read value (in points) using this formula:

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

Following table reports available models:

| CODE | MODEL | INPUTS NUMBER | OCCUPIED INPUTS |
|-----------|---------------|---------------|-----------------|
| 5230.2P00 | Pt100 2 wires | 2 | 32 (4 Byte) |
| 5230.2P01 | Pt100 3 wires | 2 | 32 (4 Byte) |
| 5230.2P02 | Pt100 4 wires | 2 | 32 (4 Byte) |
| 5230.4P00 | Pt100 2 wires | 4 | 64 (8 Byte) |
| 5230.4P01 | Pt100 3 wires | 4 | 64 (8 Byte) |
| 5230.4P02 | Pt100 4 wires | 4 | 64 (8 Byte) |

Module provides M8 4 pins female connectors and a diagnostic LED for every input.
The LED indicates the presence of the PT100 sensor or the overcoming of set temperature threshold.

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.
Presence of power supply +24VDC is indicated by a PWR green LED.

Ordering code

5230._._0_



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Scheme / Overall dimensions and I/O layout

M8 4P female connector

Connection scheme 2 wires probe

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

Connection scheme 3 wires probe

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

Connection scheme 4 wires probe

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

General - Additional power supply module

Additional power supply module 5030.M12 supplies additional electric power for downstream optional modules, where "downstream" means farther from serial node.

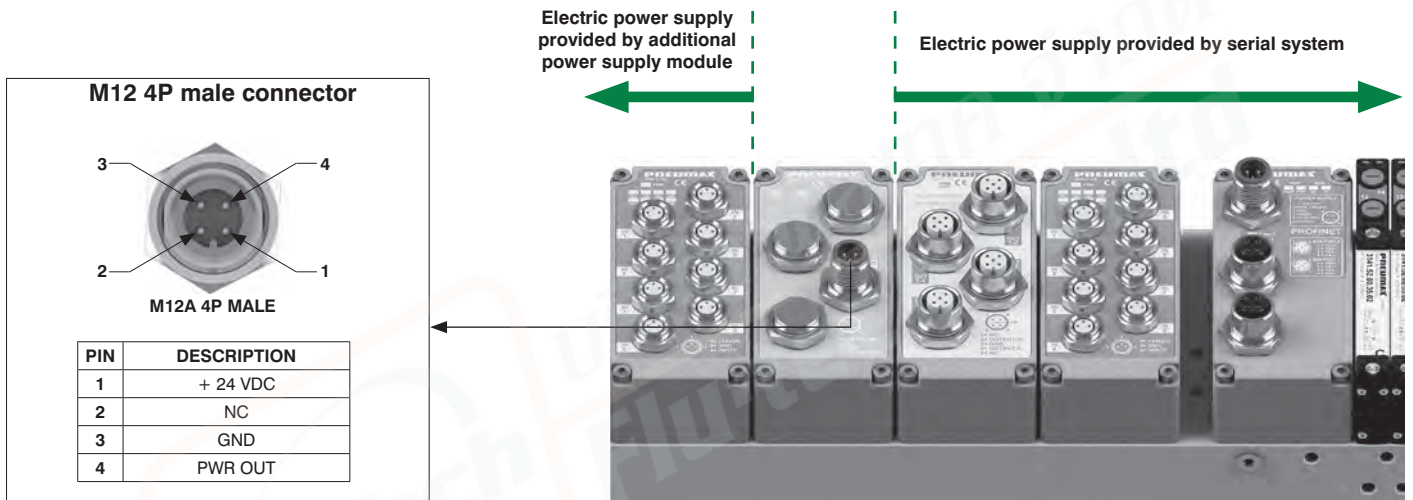
Electric connection of the module to external power supply unit occurs via an M12 4 pins type A male connector. M12 connector has two different pins to power up inputs (pin 1) and outputs (pin 4). Presence of each power supply rail is indicated by corresponding green LED.

Ordering code

5030.M12



Scheme / Overall dimensions and I/O layout



General - Optional position module

Optional position module is employed to protect manifold connections where no module has yet been installed. Optional position modules must be installed at the left end of the system, that is downstream the other modules.

Ordering code

5030.T00



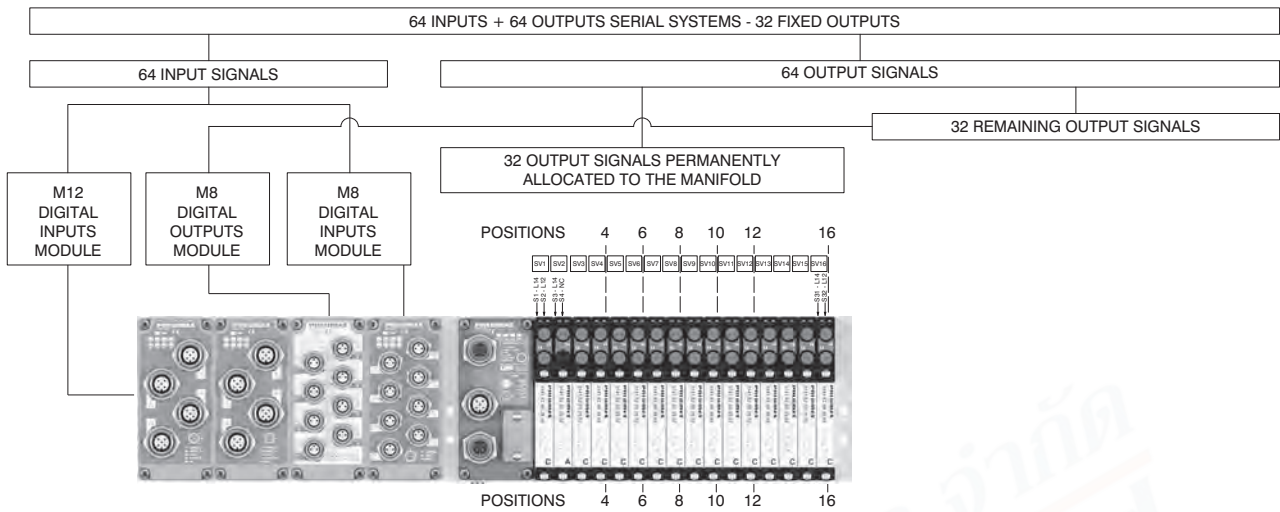
Configuration example

The code 5030.T00 can be replaced by any of the modules presented in the previous pages, as long as the availability of the necessary inputs or outputs is checked on the node.

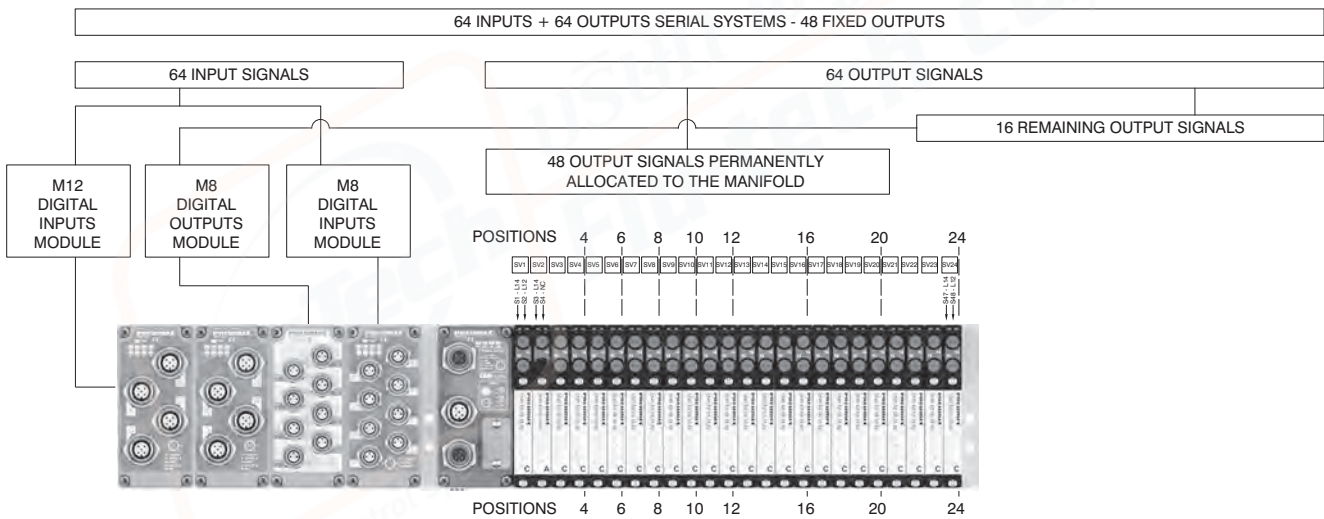


Signal management

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)

