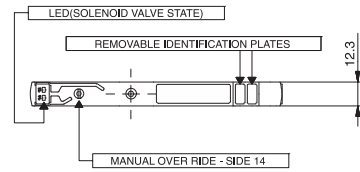
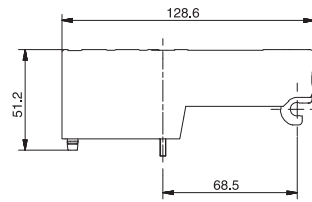


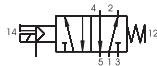


**Solenoid - Spring**

Ordering code
<b>2241.52.00.39. V</b>
VOLTAGE
V 02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC



Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2244.01 tube  $\varnothing 4= 140$   
 Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2246.01 tube  $\varnothing 6= 400$   
 \*Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2248.01 tube  $\varnothing 8= 550$

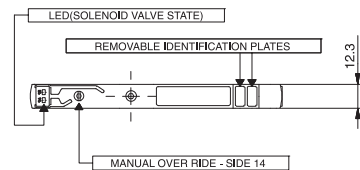
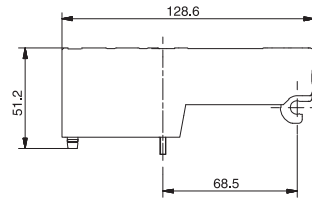
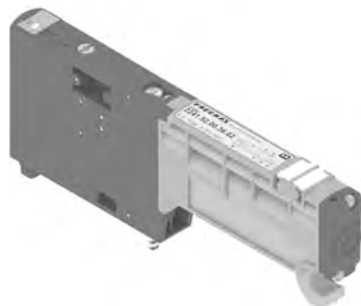


SHORT FUNCTION CODE "A"  
 "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time."

Operational characteristic							
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)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	550	12	20	From vacuum to 10	2,5 - 7	-5° / +50°	67

**Solenoid - Differential**

Ordering code
<b>2241.52.00.36. V</b>
VOLTAGE
V 02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC



Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2244.01 tube  $\varnothing 4= 140$   
 Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2246.01 tube  $\varnothing 6= 400$   
 \*Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2248.01 tube  $\varnothing 8= 550$

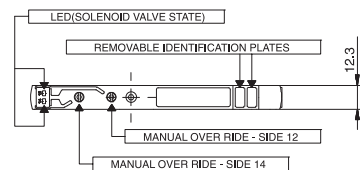
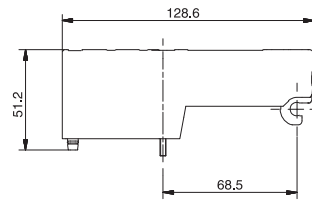


SHORT FUNCTION CODE "B"  
 "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time."

Operational characteristic							
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)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	550	20	25	From vacuum to 10	2,5 - 7	-5° / +50°	67

**Solenoid - Solenoid**

Ordering code
<b>2241.52.00.35. V</b>
VOLTAGE
V 02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC



Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2244.01 tube  $\varnothing 4= 140$   
 Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2246.01 tube  $\varnothing 6= 400$   
 \*Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2248.01 tube  $\varnothing 8= 550$



SHORT FUNCTION CODE "C"  
 "Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time."

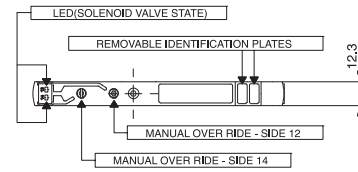
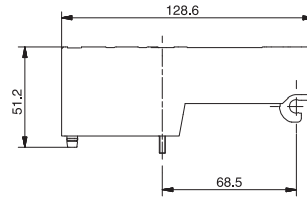
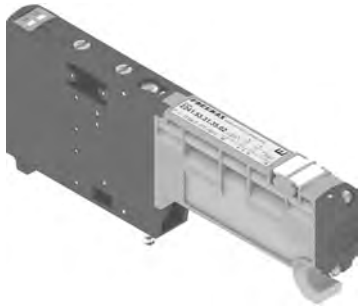
Operational characteristic							
Fluid	*Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	550	10	10	From vacuum to 10	2,5 - 7	-5° / +50°	67



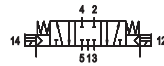
**Solenoid - Solenoid - (5/3 Closed centres)**

Ordering code  
**2241.53.31.35.V**

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



Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2244.01 tube  $\varnothing 4=140$   
 Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2246.01 tube  $\varnothing 6=300$   
 \*Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2248.01 tube  $\varnothing 8=400$



SHORT FUNCTION CODE "E"  
 \*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time.\*

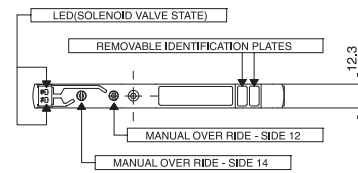
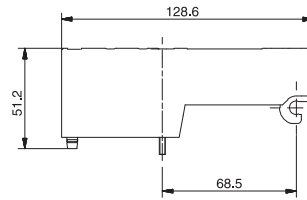
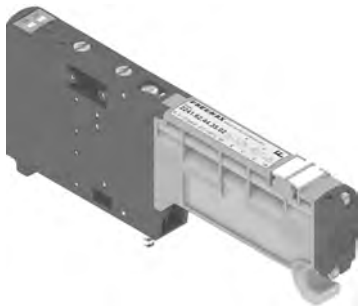
Operational characteristic		*Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Fluid	Filtered air, with or without lubrication	400	15	20	From vacuum to 10	2,5 - 7	-5° / +50°	83

**Solenoid - Solenoid 2x3/2**

Ordering code  
**2241.62.F.35.V**

FUNCTION  
 44 = NC - NC (5/3 Open centres)  
 55 = NO - NO (5/3 Pressured centres)

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



Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2244.01 tube  $\varnothing 4=140$   
 Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2246.01 tube  $\varnothing 6=360$   
 \*Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2248.01 tube  $\varnothing 8=420$



SHORT FUNCTION CODE:  
 NC-NC (5/3 Open centres) = "F"  
 NO-NO (5/3 Pressured centres) = "G"  
 \*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time.\*

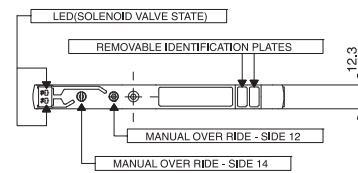
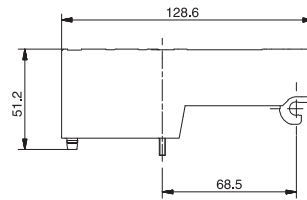
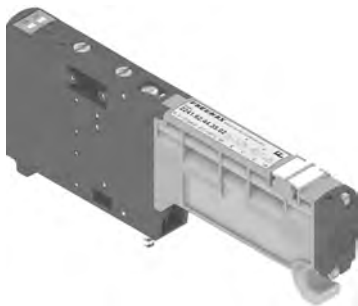
Operational characteristic		*Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Response time according to ISO 12238, activation time (ms)	Response time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Fluid	Filtered air, with or without lubrication	420	15	25	From vacuum to 10	$\geq 3+(0,2xP.alim.)$	-5° / +50°	75

**Solenoid - Solenoid 2x3/2**

Ordering code  
**2241.62.F.35.V**

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

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



Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2244.01 tube  $\varnothing 4=140$   
 Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2246.01 tube  $\varnothing 6=360$   
 \*Flow rate at 6 bar with  $\Delta p=1$  (NI/min) with Base cod. 2248.01 tube  $\varnothing 8=420$

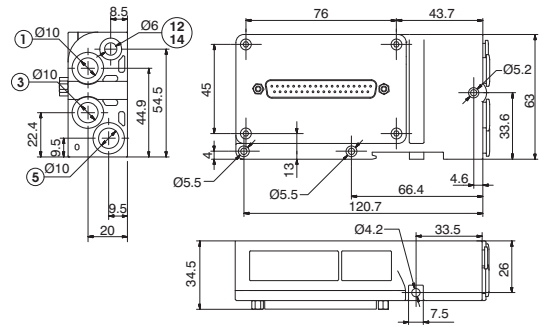


SHORT FUNCTION CODE:  
 NC-NA = "H"  
 NA-NC = "I"  
 \*Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power - Directional control valves - Measurement of shifting time.\*

Operational characteristic		*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)	Pressure range (bar)	Temperature °C	Weight (gr.)
Fluid	Filtered air, with or without lubrication	420	15	25	From vacuum to 10	$\geq 3+(0,2xP.alim.)$	-5° / +50°	75

**Left Endplates - External pilot base**

Ordering code	<b>2240.02.⊙</b>
CONNECTIONS	37P = Connectors 37 poles PNP 25P = Connectors 25 poles PNP 37N = Connectors 37 poles NPN 25N = Connectors 25 poles NPN 37A = Connectors 37 poles AC 25A = Connectors 25 poles AC

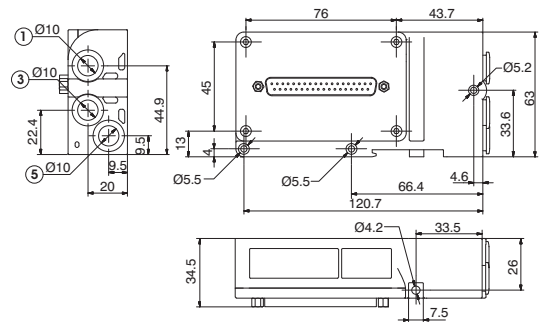


12/14 separated from port 1

Operational characteristic	Fluid	Pressure range (bar)	Pilot working pressure (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	From vacuum to 10	2,5 - 7	-5 - +50	174

**Left Endplates - Self-feeding base**

Ordering code	<b>2240.12.⊙</b>
CONNECTIONS	37P = Connectors 37 poles PNP 25P = Connectors 25 poles PNP 37N = Connectors 37 poles NPN 25N = Connectors 25 poles NPN 37A = Connectors 37 poles AC 25A = Connectors 25 poles AC

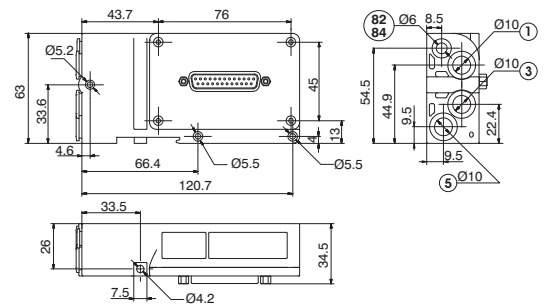


12/14 connected to port 1

Operational characteristic	Fluid	Pressure range and pilot working pressure (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	2,5 - 7	-5 - +50	174

**Right Endplates**

Ordering code	<b>2240.03.⊙</b>
CONNECTIONS	00 = Exhaust electrical connection closed 25P = Connectors 25 poles PNP

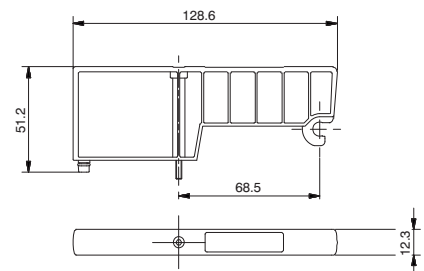


PORT 82/84 = DO NOT PRESSURIZE, SOLENOID PILOTS EXHAUST

Operational characteristic	Fluid	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	From vacuum to 10	-5 - +50	174

**Closing plate**

Ordering code	<b>2240.00</b>
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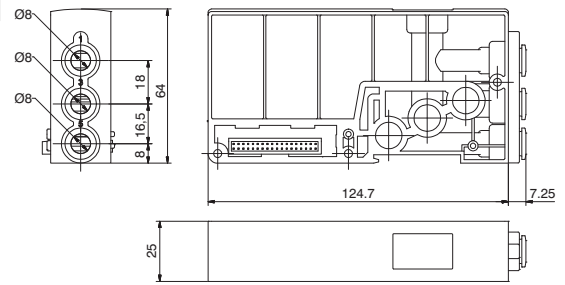


SHORT FUNCTION CODE "T"

Operational characteristic	Fluid	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	From vacuum to 10	-5 - +50	30

**Intermediate Inlet/Exhaust module**

Ordering code
<b>2240.10</b>

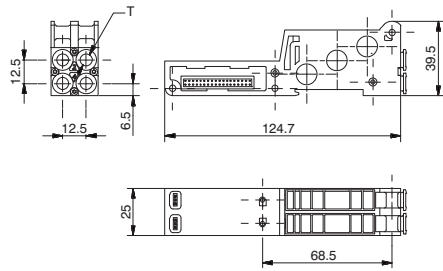


SHORT FUNCTION CODE "W"

Operational characteristic	Fluid	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	From vacuum to 10	-5 - +50	105

**Modular base (2 places) Quick fitting tube Ø4**

Ordering code
<b>2244.FV</b>
FUNCTION
01 = Opened port
06 = Separated ports
07 = Port 1 separated
08 = Ports 3-5 separated
VERSION
M = Monostable
B = Bistable



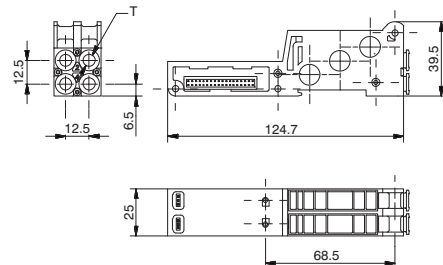
SHORT FUNCTION CODE "3" (Monostable) Opened ports  
SHORT FUNCTION CODE "36" (Monostable) Separated ports  
SHORT FUNCTION CODE "37" (Monostable) port 1 separated  
SHORT FUNCTION CODE "38" (Monostable) Ports 3-5 separated

SHORT FUNCTION CODE "4" (Bistable) Opened ports  
SHORT FUNCTION CODE "46" (Bistable) Separated ports  
SHORT FUNCTION CODE "47" (Bistable) Port 1 separated  
SHORT FUNCTION CODE "48" (Bistable) Ports 3-5 separated

Operational characteristic	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	140	From vacuum to 10	-5 - +50	75

**Modular base (2 places) Quick fitting tube Ø6**

Ordering code
<b>2246.FV</b>
FUNCTION
01 = Opened port
06 = Separated ports
07 = Port 1 separated
08 = Ports 3-5 separated
VERSION
M = Monostable
B = Bistable



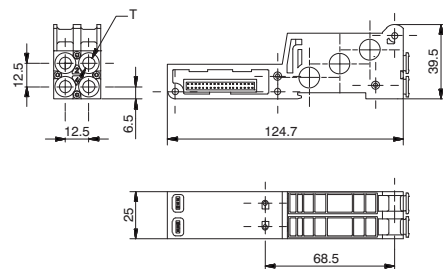
SHORT FUNCTION CODE "5" (Monostable) Opened ports  
SHORT FUNCTION CODE "56" (Monostable) Separated ports  
SHORT FUNCTION CODE "57" (Monostable) Port 1 separated  
SHORT FUNCTION CODE "58" (Monostable) Ports 3-5 separated

SHORT FUNCTION CODE "6" (Bistable) Opened ports  
SHORT FUNCTION CODE "66" (Bistable) Separated ports  
SHORT FUNCTION CODE "67" (Bistable) Port 1 separated  
SHORT FUNCTION CODE "68" (Bistable) Ports 3-5 separated

Operational characteristic	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	400	From vacuum to 10	-5 - +50	75

**Modular base (2 places) Quick fitting tube Ø8**

Ordering code
<b>2248.FV</b>
FUNCTION
01 = Opened port
06 = Separated ports
07 = Port 1 separated
08 = Ports 3-5 separated
VERSION
M = Monostable
B = Bistable



SHORT FUNCTION CODE "7" (Monostable) Opened ports  
SHORT FUNCTION CODE "76" (Monostable) separated ports  
SHORT FUNCTION CODE "77" (Monostable) Port 1 separated  
SHORT FUNCTION CODE "78" (Monostable) Ports 3-5 separated

SHORT FUNCTION CODE "8" (Bistable) Opened ports  
SHORT FUNCTION CODE "86" (Bistable) Separated ports  
SHORT FUNCTION CODE "87" (Bistable) Port 1 separated  
SHORT FUNCTION CODE "88" (Bistable) Ports 3-5 separated

Operational characteristic	Fluid	Flow rate at 6 bar with $\Delta p=1$ (NI/min)	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	550	From vacuum to 10	-5 - +50	75

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

Ordering code
<b>2300.25.L.P</b>
CABLE LENGTH
<b>L</b> 03 = 3 meters
05 = 5 meters
10 = 10 meters
CONNECTORS
<b>P</b> 10 = In line
90 = 90° Angle

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

Ordering code
<b>2400.37.L.P</b>
CABLE LENGTH
<b>L</b> 03 = 3 meters
05 = 5 meters
10 = 10 meters
CONNECTORS
<b>P</b> 10 = In line
90 = 90° Angle

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

Ordering code
<b>2400.25.L.25</b>
CABLE LENGTH
<b>L</b> 03 = 3 meters
05 = 5 meters
10 = 10 meters

**Polyethylene Silencer Series SPL-R**

Ordering code
<b>SPLR.F</b>
TUBE DIAMETER
<b>F</b> 6 = 6 mm
10 = 10 mm

**Diaphragm plug**

Ordering code
<b>2230.17</b>

Weight gr. 6,5

**Nut**

Ordering code
<b>2240.KD.00</b>

The Kit includes 6 pieces

**Tie-rod M3**

Ordering code
<b>2240.KT.P</b>
N. POSITIONS
02=Nr. 2 Position
04=Nr. 4 Positions
06=Nr. 6 Positions
08=Nr. 8 Positions
10=Nr. 10 Positions
12=Nr. 12 Positions
14=Nr. 14 Positions
<b>P</b> 16=Nr. 16 Positions
18=Nr. 18 Positions
20=Nr. 20 Positions
22=Nr. 22 Positions
24=Nr. 24 Positions
26=Nr. 26 Positions
28=Nr. 28 Positions
30=Nr. 30 Positions
32=Nr. 32 Positions
The Kit includes 3 pieces

CODE LIST	Description	L* Dimension
	2240.KT.02	68 mm
	2240.KT.04	93mm
	2240.KT.06	118mm
	2240.KT.08	143mm
	2240.KT.10	168mm
	2240.KT.12	193mm
	2240.KT.14	218mm
	2240.KT.16	243mm
	2240.KT.18	268mm
	2240.KT.20	293mm
	2240.KT.22	318mm
	2240.KT.24	343mm
	2240.KT.26	368mm
	2240.KT.28	393mm
	2240.KT.30	418mm
	2240.KT.32	443mm

**Accessories table for manifolds**

Set of N° positions	Ordering code
	2240.KD.00
2	2240.KD.00 + 2240.KT.02
4	2240.KD.00 + 2240.KT.04
6	2240.KD.00 + 2240.KT.06
8	2240.KD.00 + 2240.KT.08
10	2240.KD.00 + 2240.KT.10
12	2240.KD.00 + 2240.KT.12
14	2240.KD.00 + 2240.KT.14
16	2240.KD.00 + 2240.KT.16
18	2240.KD.00 + 2240.KT.18
20	2240.KD.00 + 2240.KT.20
22	2240.KD.00 + 2240.KT.22
24	2240.KD.00 + 2240.KT.24
26	2240.KD.00 + 2240.KT.26
28	2240.KD.00 + 2240.KT.28
30	2240.KD.00 + 2240.KT.30
32	2240.KD.00 + 2240.KT.32

Nr. 6 pieces

Nr. 3 pieces



**General :**

Using the 2240.03.25P output terminal it is possible to make any electrical signals not used by valves available on a 25 sub-D female connector at the right end of the manifold.  
It is possible to then join a multi-core cable to link to the next manifold, or connect directly to one or two I/O modules.  
The I/O modules can accept input or output signals, depending upon what is connected.

**Please note:** If the manifold is connected by a multi-core connection, each connection can be used as either an input or an output, while if the manifold is connected to a serial node the connections can only be used as an output.

It is possible to connect the manifold to up to two I/O modules.

Each I/O module includes 8 diagnostic LEDs which indicate the presence of an Input / Output signal for each connector.

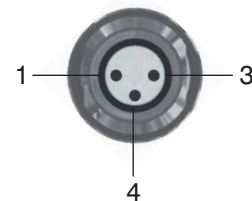
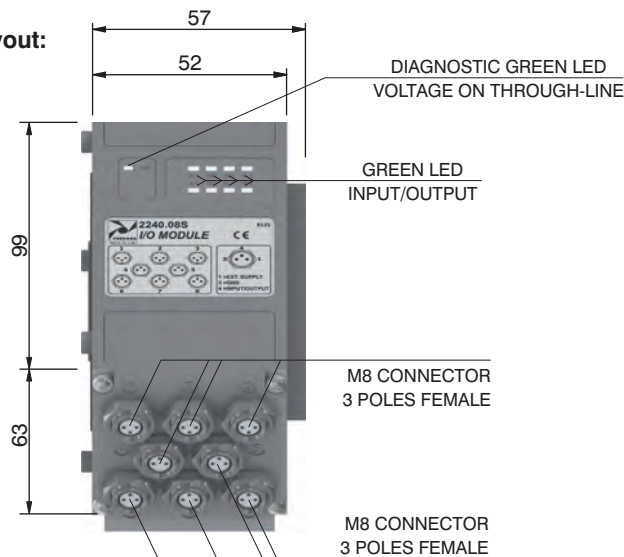
**Please note:** For an LED to function, a signal of at least +15VDC must be present on pin 4 of the connector. If this signal is lower, the LED will not light, this does not compromise the normal Input / Output function of the unit.

**Ordering code**

**2240.08S**



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



PIN	DESCRIPTION
1	+24 VDC
4	INPUT/OUTPUT
3	GND

**Input features:**

Each connection can accept either two wire (switches, magnetic switches, pressure switches, etc.) or three wire connections (photocells, electronic end of stroke sensors, etc.) if +24VDC is required on at Pin 1 of each connector, it is possible to provide this via the through-line pin of the multi-pole connector.

I.E :

Pin 25 of the 25 pin multi-pole connector (code 2240.02.25P or 2240.12.25P)

Pin 36-37 of the 37 pin multi-pole connector (code 2240.02.37P or 2240.12.37P)

**Output features:**

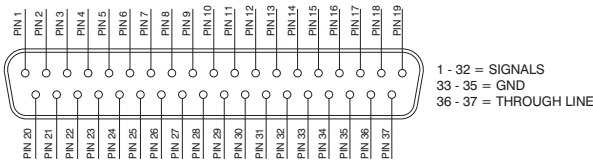


**Attention:** The output connections are not protected against short-circuit. Please pay attention when wiring (avoid Pin 4 being connected to Pin 3 or Pin 1).

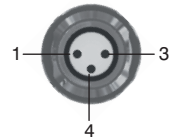
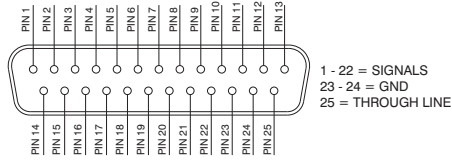
<b>General characteristics</b>	Model	2240.08S
	Case	Reinforced technopolymer
	I/O Connector	M8 connector 3 poles female (IEC 60947-5-2)
	PIN 1 voltage (connector used as Input)	by the user
	PIN 4 voltage diagnosis	Green Led
	Node consumption (Outlets excluded)	7mA per each LED with 24 VDC signal
	Outlets voltage	+23,3 VDC (serial) /by the user (multipolar)
	Input voltage	Depend by the using
	Maximum outlet current	100 mA (serial) / 400 mA (multipolar)
	Maximum Input/Output	8 per module
	Multiconnector max. Current	100 mA
	Connections to manifold	Direct connection to 25 poles connector
	Maximum n. of moduls	2
	Protection degree	IP65 when assembled
Ambient temperature	from -0° to +50° C	

CORRESPONDENCE BETWEEN MULTI-POLE SIGNAL AND CONNECTOR

SUB-D TYPE 37 POLE MALE CONNECTOR



SUB-D TYPE 25 POLE MALE CONNECTOR



PIN	DESCRIPTION
1	THROUGH LINE
4	SIGNAL
3	GND

Connection modes:

The I/O module changes its operation depending on the way the manifold is controlled. There are two possible modes:

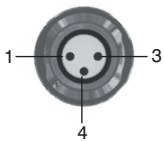
- A) Control via multi-pole connection
- B) Control via fieldbus

A) Control via multi-pole :

M8 connector used as Input:



**Attention:** Voltage applied to each connector is passed to multi-pole connector pin.



PIN	DESCRIPTION
1	THROUGH LINE
4	SIGNAL
3	GND

In order to use the I/O module, the correct right hand endplate with 25 pole female outlet connector must be used. (Code 2240.03.25P).

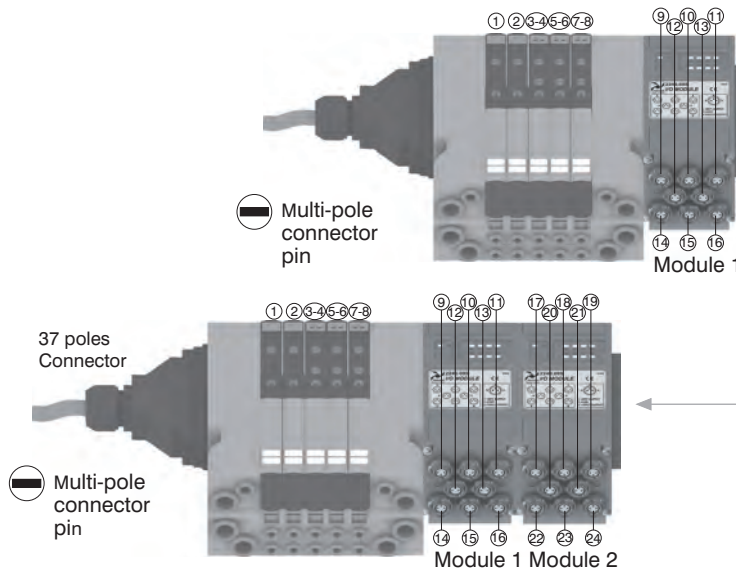


M8 connector used as Output:

Output voltage will be the same as is applied at the multi-pole connector pin. The maximum output current depends upon the power unit used, but we recommend no more than 250mA.



**Attention:** Since every cable has a degree of resistance, there will always be a voltage drop depending on the cable's length, sectional area and the current.

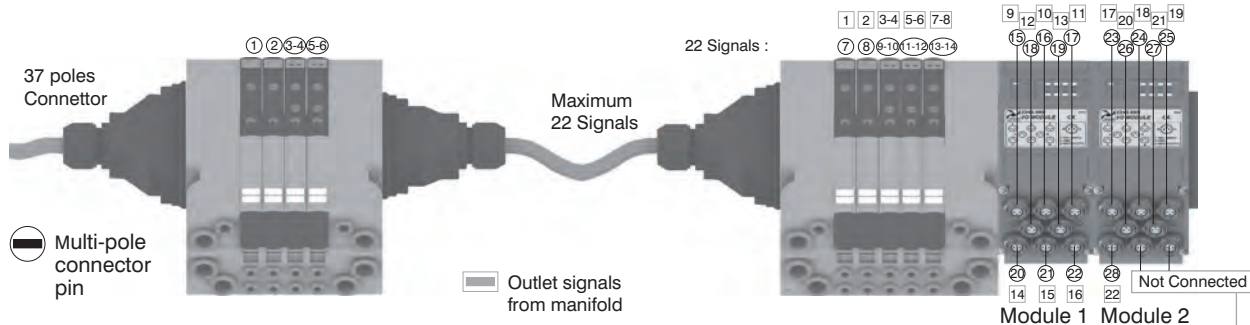


**Attention:** Only one more I/O module can be added.

**Attention:** No more additions are possible

**Attention :** Optyma 32-S solenoid valve manifolds permit up to 22 electrical signals that are not used by manifolds to be made available: these signals can be managed by another manifold and / or by I/O modules.

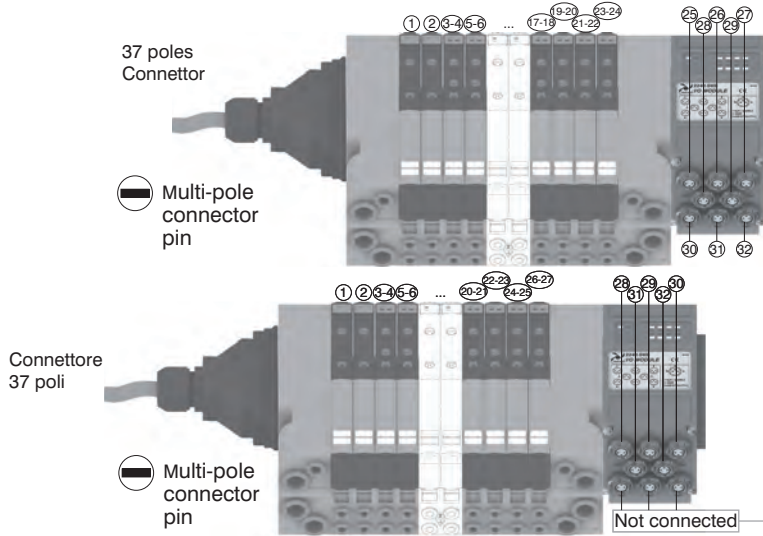
The I/O module will manage these unused signals. Connections that are not managing useful signals will remain unconnected.



**Attention:** Signal Not connected  
GND Connected  
Through line Connected

**Please note:** this example considers a 37 pin multi-pole connector. The same configuration managed by a 25 pin multi-pole connector will stop at number 22 of multi-pole connector and at number 17 of the manifold. 22 16

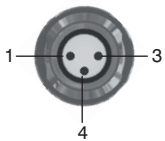
**Please note:** Optyima 32-S solenoid valve manifolds manage up to 32 signals. If the manifold uses more than 24 signals the I/O module will manage only the remainder. Connections that are not managing useful signals will remain unconnected.



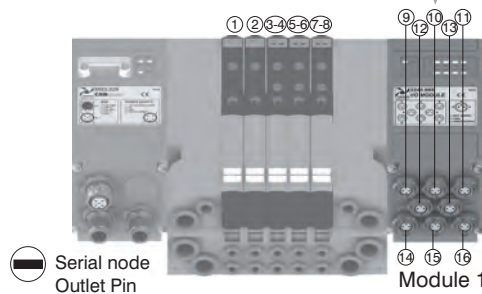
**Attention:**  
Signal Not connected  
GND Connected  
Through line Connected

**B) Control via fieldbus:**

With this kind of control the I/O module can only be used as an output. Pin 1 of each connector is not connected. The output voltage will be 0.7V lower than that applied to Pin 4 of the connector. The maximum output current for each output is 100mA. The correspondence between control byte and each single output depends on how many electrical signals are used by the manifold and by the relative position of the I/O module.

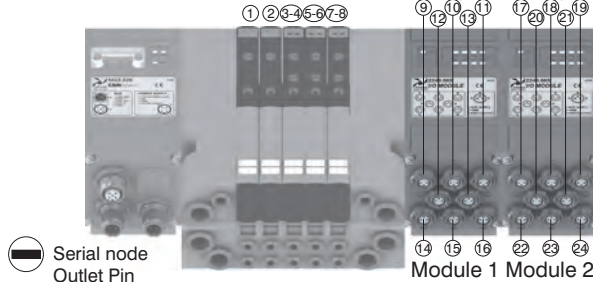


PIN	DESCRIPTION
1	NOT CONNECTED
4	SIGNAL
3	GND



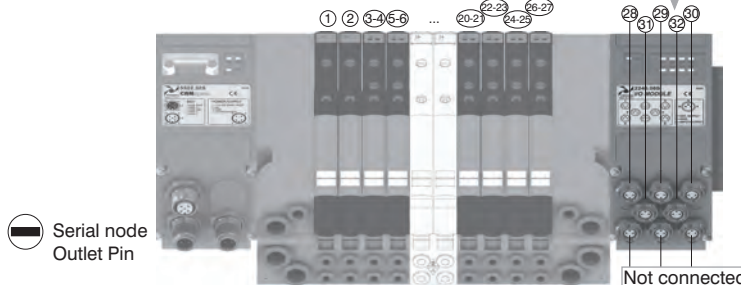
**Attention:**  
Output only

**Attention:**  
Only one more I/O module can be added.



**Attention:**  
Output only

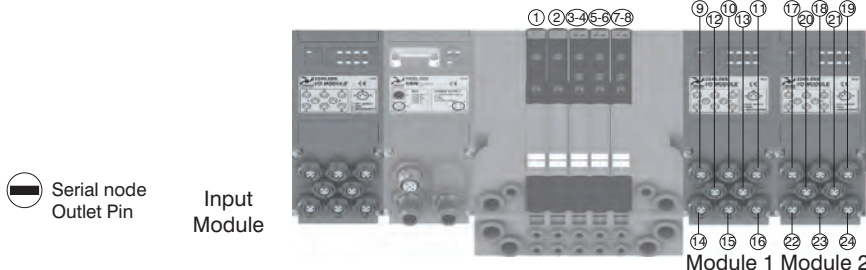
**Attention:**  
No more additions are possible



**Attention:**  
Output only

**Attention:**  
Signal Not connected  
GND Connected

**Please note:** I/O modules don't allow to connect any additional valves manifold after them.



**Attention:**  
Output only

**Attention:**  
No more additions are possible



## Electrical connection

The electrical connection is made using a 37 pin connector and can manage up to 32 electrical signals. Alternatively a 25 pin connector can be used which is suitable for up to 22 electrical signals. The distributions of the electrical signals between sub-bases achieved thanks to a dedicated electrical connector positioned in each sub-base which diverts the signals needed to operate the solenoid pilots of the valve mounted on the sub-base and passing unused signals forward to the next base.

The Optyma-S sub-bases are designed to carry two valves and are available in the following configurations:

Sub-base configurations	Signals used for the single position	Total number of used signal
Sub-base for 2 bistable valves	2 signals used for the first position	4
	2 signals used for the second position	
Sub-base for 2 monostable valves	1 signal used for the first position	2
	1 signal used for the second position	

### Sub-base for 2 bistable valves

On the sub base for 2 bistable valves the first electrical signal is used to actuate the solenoid pilot on side 14 of the first position, the second signal is used to actuate the solenoid pilot on side 12 of the first position. Each sub base uses 4 electric signals. The same layout applies to the following position therefore the third signal is used to actuate the solenoid pilot on side 14 of the second position and the fourth signal is used to actuate the solenoid pilot on side 12 of the second position.

The remaining signals are transferred downstream.

On a bistable sub base it is possible to mount both bistable or monostable valves (in the second case 1 electrical signal for each valve is wasted). This solutions enables the user to change the manifold layout without the need to re-configure the output correspondence on the PLC. The use of bistable sub-bases reduces the maximum number of valves that can be mounted on the manifold: If the 37 pole connector is used the maximum number of valves is 16 If the 25 pole connector is used the maximum number of valves is 10.

### Sub-base for 2 monostable valves

On the sub base for 2 monostable valves the first electrical signal is used to actuate the solenoid pilot on side 14 of the first position, the second signal is used to actuate the solenoid pilot on side 12 of the second position. Each sub base uses 2 electric signals.

The remaining signals are transferred downstream. On a monostable sub base it is possible to mount only monostable valves (shoud a bistable valve be mounted on a monostable sub base it will not be possible to actuate the solenoid pilot on side 12). This solutions enables the user to maximise the manifold lay out using all the electrical signals available.

If the 37 pole connector is used the maximum number of valves is 32

If the 25 pole connector is used the maximum number of valves is 22



**Note:**

Monostable valves, which are fitted with only one solenoid pilot can be mounted on both monostable or bistable sub bases.

Bistable valves ,5/3; 2x3/2;2x2/2, which are fitted with 2 solenoid pilots and therefore always use two electrical signals must always be mounted on bistable subbases.

### Additional exhaust and air supply modules:

The Additional exhaust and air supply module is fitted with a dedicated electrical connector which does not use any electric signal but simply carries forward all signals which have not been used by the valves mounted before it.

This enables its use in any position of the manifold.

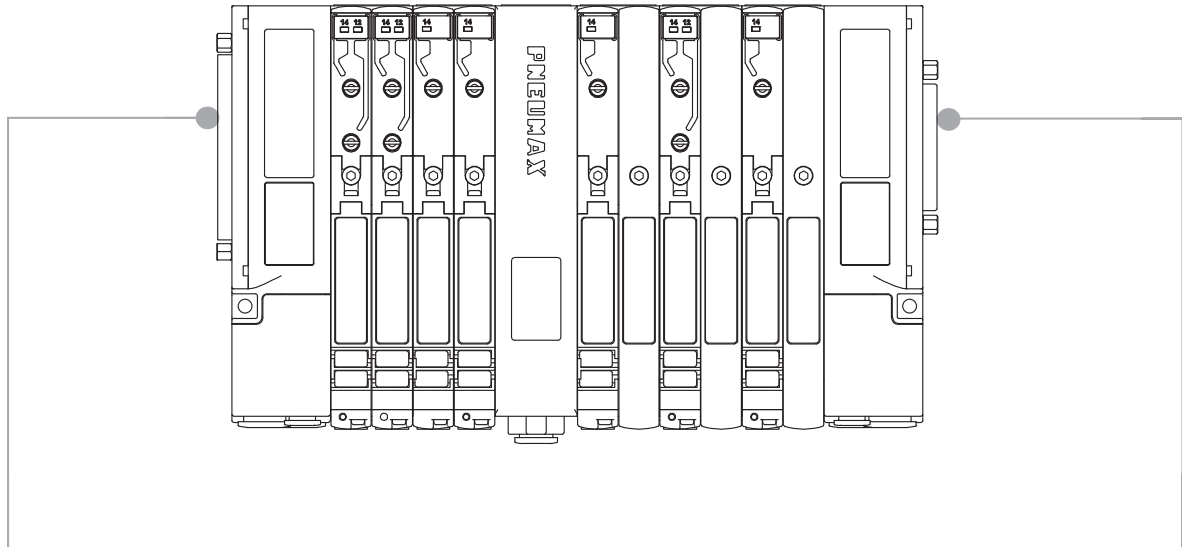
### Unused electrical signals

The electrical signals which have not been used in the manifold can be made available by using the end plate fitted with the 25 pole connector.

The number of electric signals available depends on the type of connector mounted on the inlet plate and on the number of signals used in the manifold:

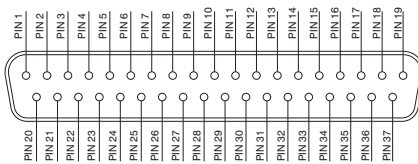
- 37 pole Inlet connector : N. of outputs= 32 – used signals (max 22)
- 25 pole Inlet connector : N. of outputs= 22 – used signals

Here are some examples of possible configurations and the corresponding pin layout both on the inlet and end plate :



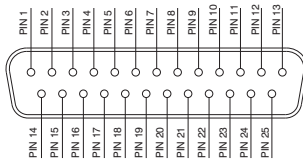
#### INLET ELECTRIC CONNECTIONS

##### SUB-D 37 POLE MALE CONNECTOR



- 1 - 32 = Solenoid valves signals
- 33 - 35 = GND
- 36 - 37 = Through line

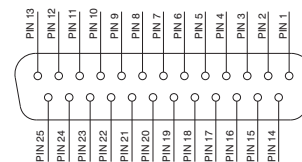
##### SUB-D 25 POLE MALE CONNECTOR



- 1 - 22 = Solenoid valves signals
- 23 - 24 = GND
- 25 = Through line

#### OUTLET ELECTRIC CONNECTIONS (IF PRESENT)

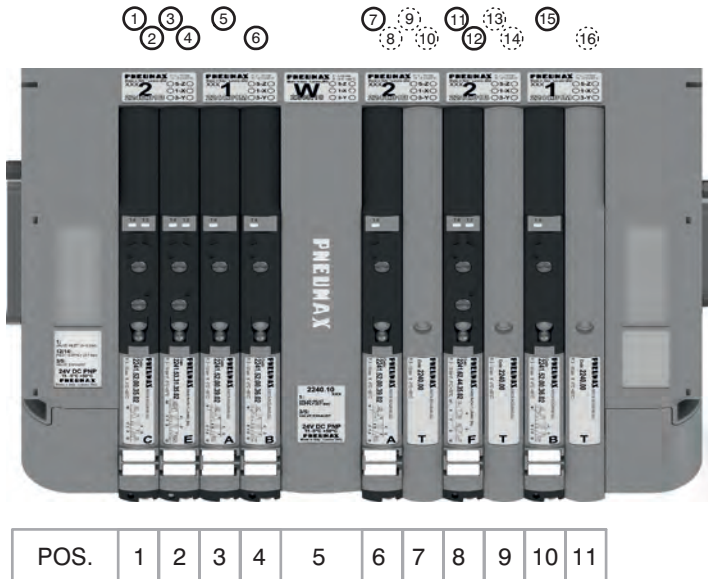
##### SUB-D 25 POLE FEMALE CONNECTOR



- 1 - 22 = Solenoid valves signals
- 23 - 24 = GND
- 25 = Through line

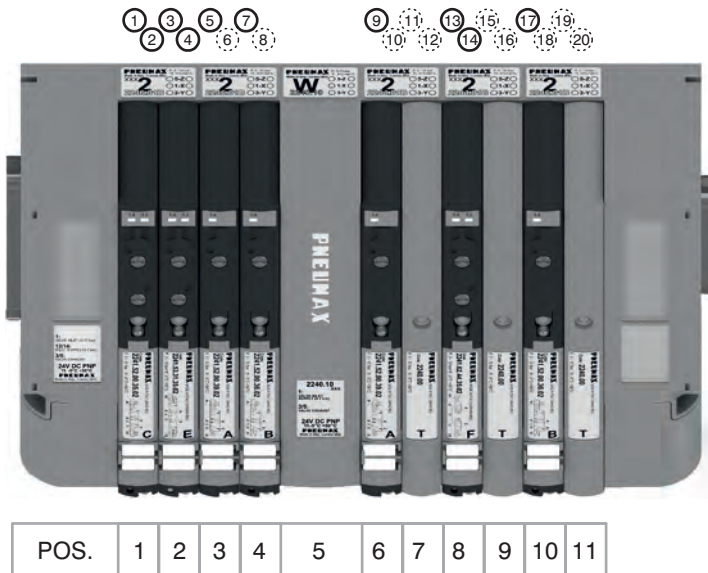


37 PIN Connector correspondence for valves assembled on mixed bases



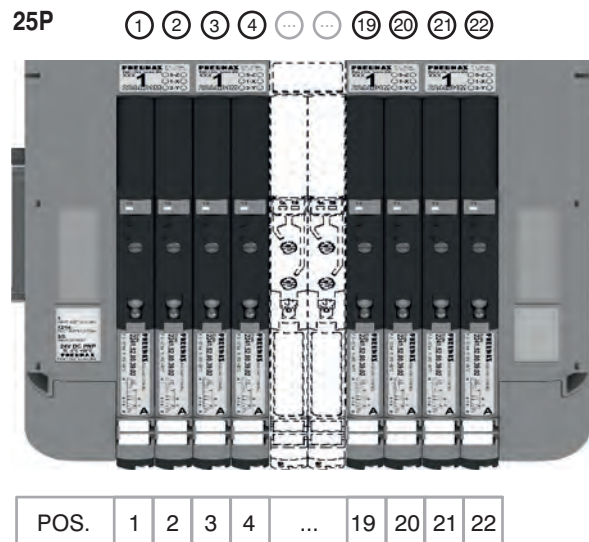
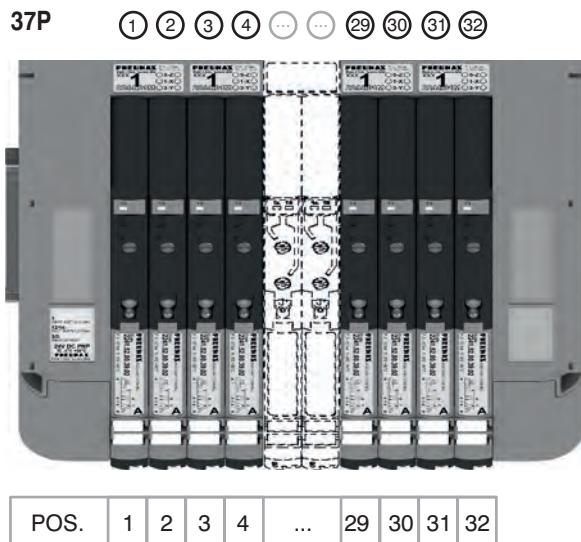
- PIN 1 = PILOT 14 EV POS.1
- PIN 2 = PILOT 12 EV POS.1
- PIN 3 = PILOT 14 EV POS.2
- PIN 4 = PILOT 12 EV POS.2
- PIN 5 = PILOT 14 EV POS.3
- PIN 6 = PILOT 14 EV POS.4
- PIN 7 = PILOT 14 EV POS.6
- PIN 8 = NOT CONNECTED
- PIN 9 = NOT CONNECTED
- PIN 10 = NOT CONNECTED
- PIN 11 = PILOT 14 EV POS.8
- PIN 12 = PILOT 12 EV POS.8
- PIN 13 = NOT CONNECTED
- PIN 14 = NOT CONNECTED
- PIN 15 = PILOT 14 EV POS.10
- PIN 16 = NOT CONNECTED

37 PIN Connector correspondence for manifold mounted on bases for bistable valves

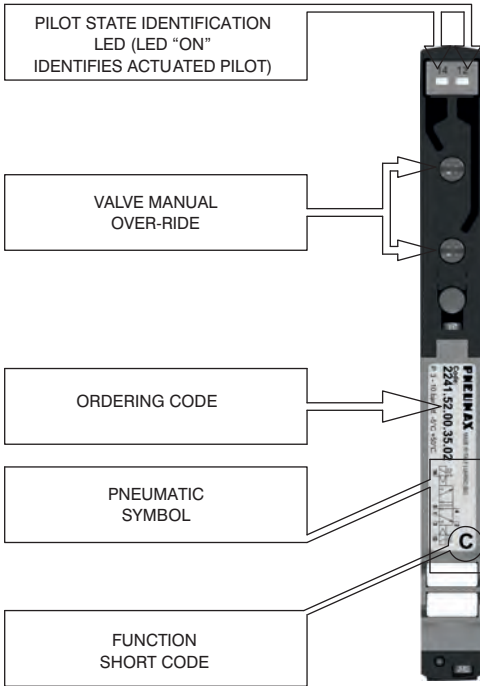


- PIN 1 = PILOT 14 EV POS.1
- PIN 2 = PILOT 12 EV POS.1
- PIN 3 = PILOT 14 EV POS.2
- PIN 4 = PILOT 12 EV POS.2
- PIN 5 = PILOT 14 EV POS.3
- PIN 6 = NOT CONNECTED
- PIN 7 = PILOT 14 EV POS.4
- PIN 8 = NOT CONNECTED
- PIN 9 = PILOT 14 EV POS.6
- PIN 10 = NOT CONNECTED
- PIN 11 = NOT CONNECTED
- PIN 12 = NOT CONNECTED
- PIN 13 = PILOT 14 EV POS.8
- PIN 14 = PILOT 12 EV POS.8
- PIN 15 = NOT CONNECTED
- PIN 16 = NOT CONNECTED
- PIN 17 = PILOT 14 EV POS.10
- PIN 18 = NOT CONNECTED
- PIN 19 = NOT CONNECTED
- PIN 20 = NOT CONNECTED

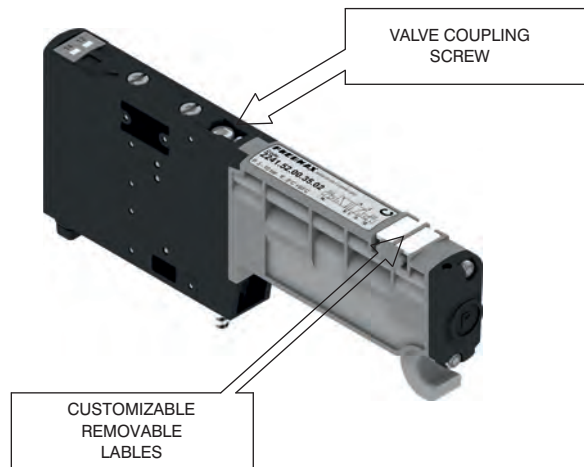
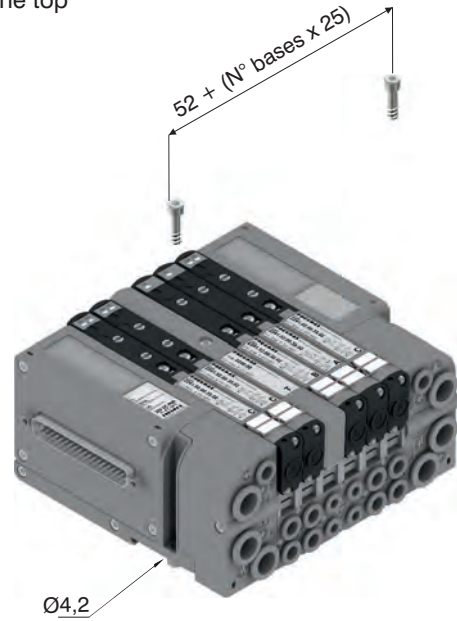
37 PIN Connector correspondence for manifold for 32 position manifold with monostable valves on double bases



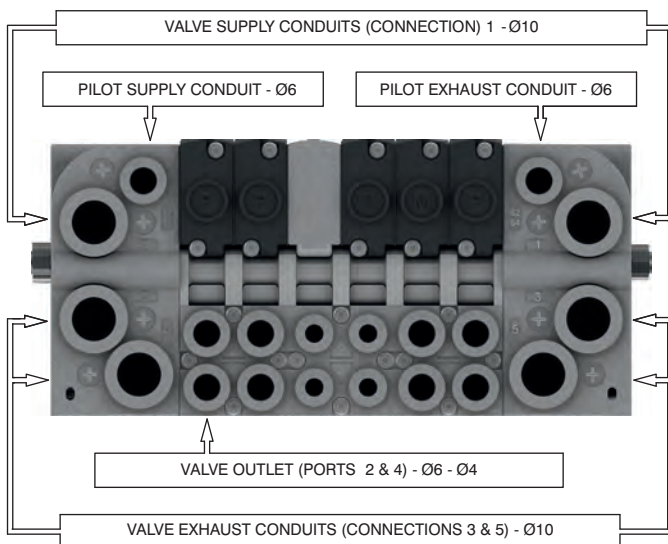
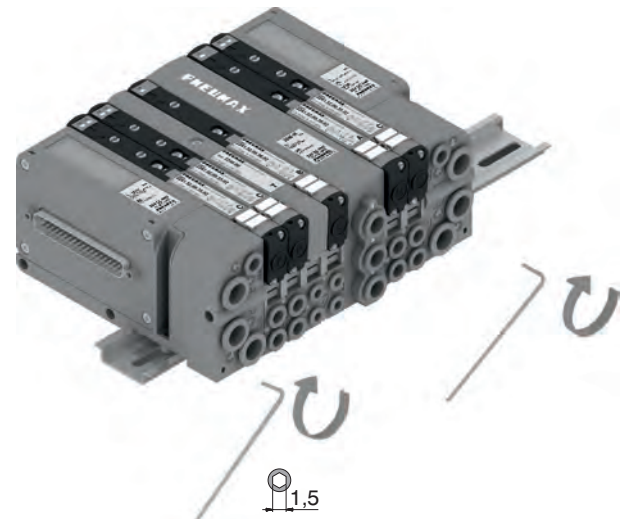
2



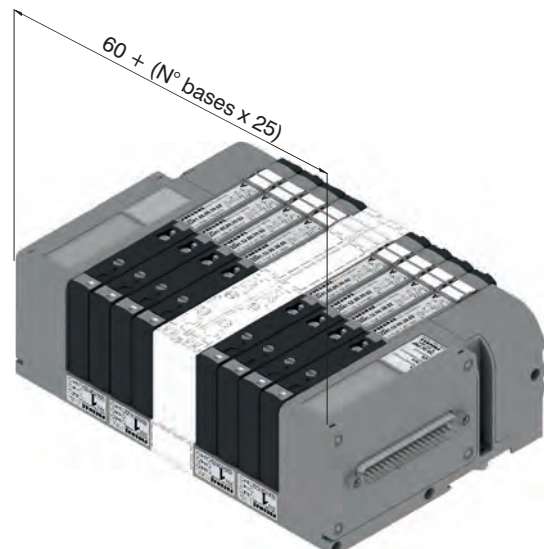
From the top



DIN rail fixing

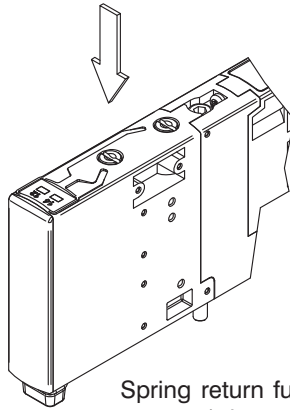
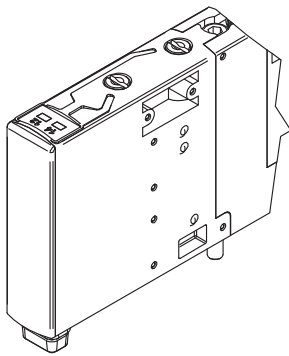


Maximum possible size  
According to valves used

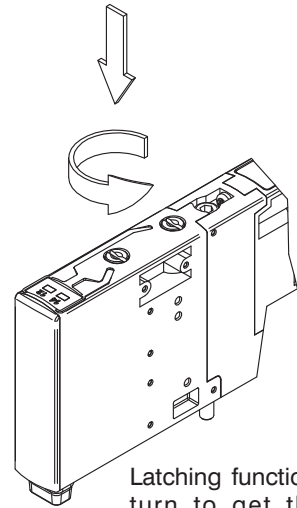




Manual override actuation



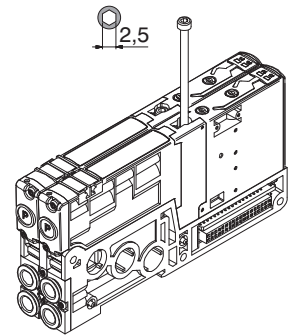
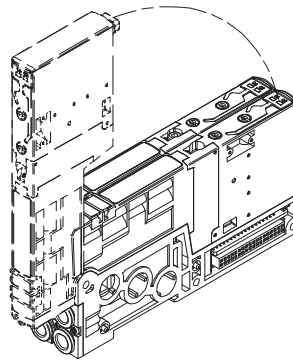
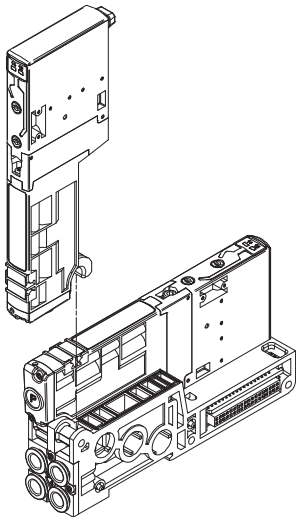
Spring return function: push to actuate (when released it moves back to the original position).



Latching function: push and turn to get the latching function

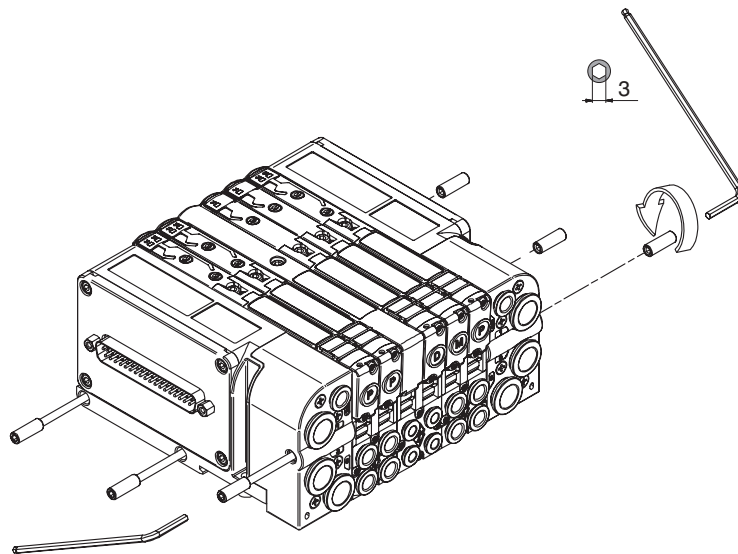
NOTE : It is strongly suggested to replace the original position after using

Valve Installation



Torque moment (Nm) : 0,8

Manifold assembly



Min. torque moment : 2 Nm  
Max. torque moment: 2,5 Nm

Manifold Layout configuration

**MULTIPOINT CONNECTION**

MP = PNP 24 V DC  
 MN = NPN 24 V DC  
 MA = 24 V AC

**LEFT ENDPLATE**

A2 = 25 poles - Self feeding  
 A3 = 37 poles - Self feeding  
 E2 = 25 poles - External feeding  
 E3 = 37 poles - External feeding

**RIGHT ENDPLATE**

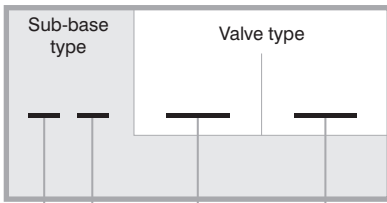
U0 = Closed  
 U2 = 25 Poles  
 U3 = 37 Poles

**I/O MODULE**

M8  
 (Requires 25 poles right endplate)



**MODUL CONFIGURATION**



**ACCESSORIES CONFIGURATION**



**SUB-BASE TYPE**

- 3 = 2 Position Monostable sub base ø4 (2 electric signal used)
- 4 = 2 Position Bistable sub base ø4 (4 electric signals used)
- 5 = 2 Position Monostable sub base ø6 (2 electric signal used)
- 6 = 2 Position Bistable sub base ø6 (4 electric signals used)
- 7 = 2 Position Monostable sub base ø8 (2 electric signal used)
- 8 = 2 Position Bistable sub base ø8 (4 electric signals used)

**VALVES TYPE**

- A = 5/2 Solenoid - Spring
- B = 5/2 Solenoid - Differential
- C = 5/2 Solenoid - Solenoid
- E = 5/3 CC Solenoid - Solenoid
- F = 2x3/2 NC-NC (= 5/3 OC) Solenoid - Solenoid
- G = 2x3/2 NO-NO (= 5/3 PC) Solenoid - Solenoid
- H = 2x3/2 NC-NO Solenoid - Solenoid
- I = 2x3/2 NO-NC Solenoid - Solenoid
- T = Free valve space plug

**ACCESSORIES**

- W00 = Intermediate supply & exhaust module
- 0X0 = Diaphragm plug on pipe 1
- 00Y = Diaphragm plug on pipe E 3
- Z00 = Diaphragm plug on pipe 5
- 0XY = Diaphragm plug on pipe 1 & 3
- ZX0 = Diaphragm plug on pipe 5 & 1
- Z0Y = Diaphragm plug on pipe 5 & 3
- ZXY = Diaphragm plug on pipe 5,1 & 3

**SUB-BASE VARIANTS**

- EMPTY = No variants (SUB-BASE STANDARD)
- 6 = Diaphragm Plug on pipe 1, 3 and 5
- 7 = Diaphragm Plug on pipe 1
- 8 = Diaphragm Plug on pipe 3 and 5

**NOTE:**

While configuring the manifold always be careful that the maximum number of electrical signals available is 32  
 The use of monostable valve mounted on a bistable base ( 2 electrical signals occupied for each position) causes the loss of one electric signal.  
 In this case the monostable valve can be replaced by a bistable valve without reconfiguring the PLC.  
 The diaphragms plugs are used to intercept the conduits 1,3 & 5 of the base.  
 Should one or more conduits be cut more than one time it is necessary to add the relevant intermediate Supply/Exhaust module.

Series 2200 OPTYMA-S solenoid valve manifolds managed by multipoint connection are "well tried components"

	<b>Well-tryed component</b>	- The product is a well-tryed product for a safety-related application according to ISO 13849-1.
<b>B<sub>10d</sub></b>	50.000.000	- The relevant basic and well-tryed safety principles according ISO 13849-2 for this product are fulfilled.
		- The suitability of the product for a precise application must be verified and confirmed by the user.