OPTYMA 32 -S

General characteristics

Optyma32-S has been designed in order to complete the Optyma series of valves.
Optyma –S ,12.5mm size, integrates all the technical features already developed and implemented on the Optima T & F such as the integrated electrical connection. Further technical specifications are:

- Flow rate: up to 550[Nl/min], using the modular base with Ø8 quick fitting tube
- Modular base available with Ø4, Ø6, Ø8 quick fitting tube
- The solenoid pilots are low consumption and fitted on the same side of the valve
- Mono and bi-stable valves have the same dimension
- Easy and fast assembly on the sub base thanks to the “one screw” mounting solution
- Possibility to replace a valve without the need of disconnecting the pneumatic pipes
- Electrical and pneumatic connections positioned on the same side
- Possibility to operate with different pressures and vacuum
- Quick coupling connections for consumption, exhaust and air supply all on the same side
- Management of 32electrical signals,(16 bi-stable or any combination off mono and bi-stable vales up to max 32 signals).
- The electrical connection is achieved thanks to a 37 pole connector, as an alternative it is possible to use a 25 pole connector which can handle a maximum of 22 electrical signals.
- The protection grade is IP65 directly integrated in the manifold components.
- Manifolds can be directly integrated with the most common field bus systems.

"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"

Main characteristics

One size: 12.5mm thick
Monostable and bistable valves with same dimensions
Modular subbase with two positions
Modular subbases assembled via tie rods
Quick coupling connections directly integrated in the sub base
Integrated and optimized electrical connections as standard
IP65 protection grade as standard

Construction characteristics

Body	Technopolymer
Operators	Technopolymer
Spools	AISI 303 stainless steel
Spacers	Technopolymer
Seals	NBR
Piston seals	NBR
Springs	AISI 302 stainless steel
Pistons	Technopolymer

Functions

EV 5/2 MONOST. SOL. SPRING
EV 5/2 MONOST. SOL. DIFFERENTIAL
EV 5/2 BISTABLE SOL. SOL.
EV 5/3 CC SOL. SOL.
EV 2x3/2 NC-NC (= 5/3 OC) SOL. SOL.
EV 2x3/2 NO-NO (= 5/3 PC) SOL. SOL.
EV 2x3/2 NC-NO SOL. SOL.
EV 2x3/2 NO-NC SOL. SOL.

Technical characteristics

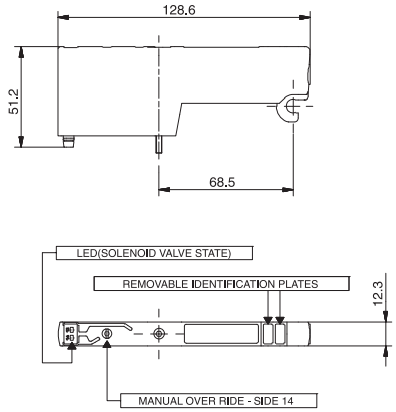
Voltage	24 VDC ±10% PNP (NPN and AC on request)
Pilot consumption	0,5 Watt
Valve working pressure [1]	from vacuum to 10 bar max.
Pilot working pressure [12-14]	from 2,5 to 7 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP65
Life (standard operating conditions)	50.000.000
Fluid	Filtered and lubricated air or not (if lubricated air, the lubrication must be continuous)

Solenoid - Spring

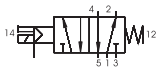
Ordering code

2241.52.00.39.Ⓥ

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



Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2244.01Ⓥ tube Ø4= 140
Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2246.01Ⓥ tube Ø6= 400
*Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2248.01Ⓥ tube Ø8= 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

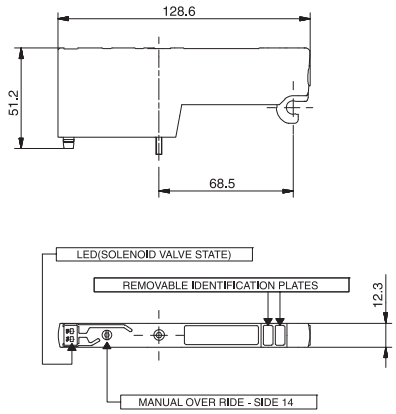
Fluid	*Flow rate at 6 bar with Δp=1 (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	550	12	20	From vacuum to 10	2,5 - 7	-5° / +50°	67

Solenoid - Differential

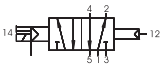
Ordering code

2241.52.00.36.Ⓥ

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



Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2244.01Ⓥ tube Ø4= 140
Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2246.01Ⓥ tube Ø6= 400
*Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2248.01Ⓥ tube Ø8= 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

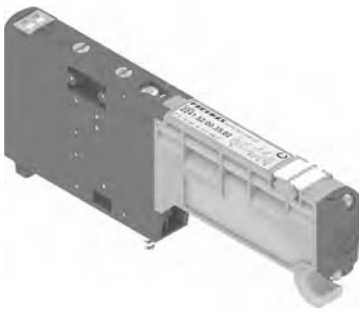
Fluid	*Flow rate at 6 bar with Δp=1 (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	550	20	25	From vacuum to 10	2,5 - 7	-5° / +50°	67

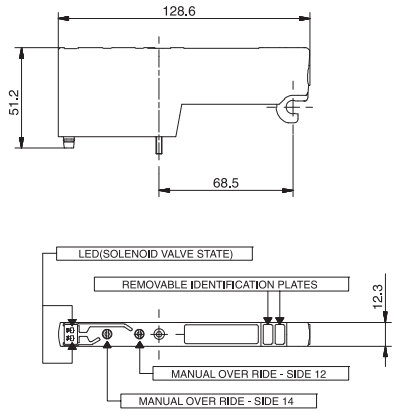
Solenoid - Solenoid

Ordering code

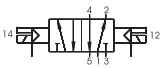
2241.52.00.35.Ⓥ

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





Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2244.01Ⓥ tube Ø4= 140
Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2246.01Ⓥ tube Ø6= 400
*Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2248.01Ⓥ tube Ø8= 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

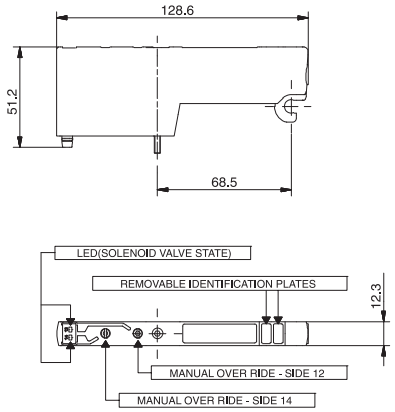
Fluid	*Flow rate at 6 bar with Δp=1 (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	550	10	10	From vacuum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

Solenoid - Solenoid - (5/3 Closed centres)

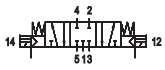
Ordering code

2241.53.31.35.Ⓥ

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



Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2244.01Ⓥ tube Ø4= 140
Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2246.01Ⓥ tube Ø6= 300
*Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2248.01Ⓥ tube Ø8= 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

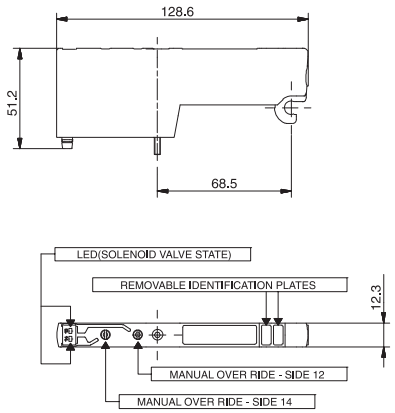
Fluid	*Flow rate at 6 bar with Δp=1 (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	400	15	20	From vacuum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

Solenoid - Solenoid 2x3/2

Ordering code

2241.62.Ⓕ.35.Ⓥ

Ⓕ	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 Δp=1 (Nl/min) with Base cod. 2244.01Ⓥ tube Ø4= 140
Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2246.01Ⓥ tube Ø6= 360
*Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2248.01Ⓥ tube Ø8= 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 "Example: If inlet pressure is set at 5bar then pilot pressure must be at least Pp=3+(0.2*5)= 4bar"

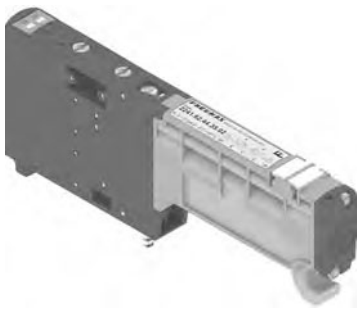
Fluid	*Flow rate at 6 bar with Δp=1 (Nl/min)	Responce time according to ISO 12238, activation time (ms)	Responce time according to ISO 12238, deactivation time (ms)	Working pressure (bar)	Pressure range (bar)	Temperature °C	Weight (gr.)
Filtered air, with or without lubrication	420	15	25	From vacuum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

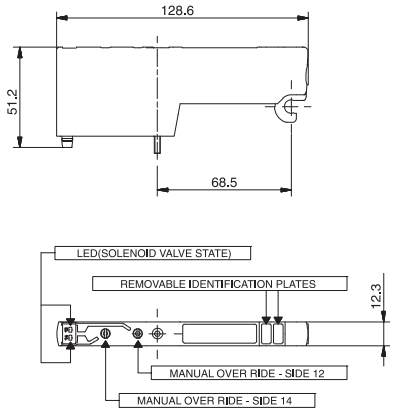
Solenoid - Solenoid 2x3/2

Ordering code

2241.62.Ⓕ.35.Ⓥ

Ⓕ	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 Δp=1 (Nl/min) with Base cod. 2244.01Ⓥ tube Ø4= 140
Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2246.01Ⓥ tube Ø6= 360
*Flow rate at 6 bar with Δp=1 (Nl/min) with Base cod. 2248.01Ⓥ tube Ø8= 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."

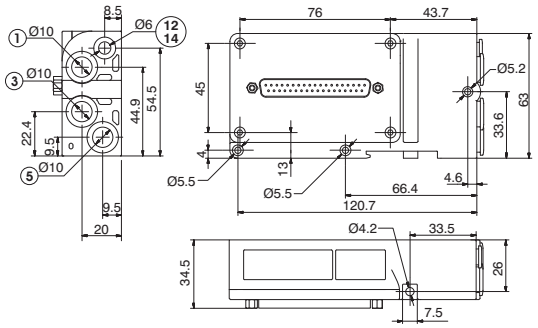
Operational characteristic "Example: If inlet pressure is set at 5bar then pilot pressure must be at least Pp=3+(0.2*5)= 4bar"

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

Left Endplates - External pilot base

Ordering code
2240.02.Ⓒ

Ⓒ	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



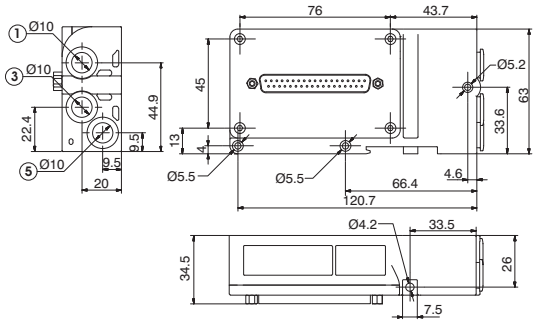
12/14 separated from port 1

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
2240.12.Ⓒ

Ⓒ	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



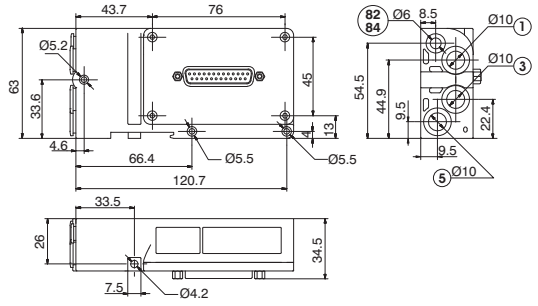
12/14 connected to port 1

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
2240.03.Ⓒ

Ⓒ	CONNECTIONS
	00 = Exhaust electrical connection closed
	25P = Connectors 25 poles PNP

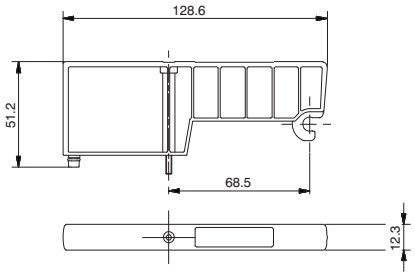


PORT 82/84= DO NOT PRESSURIZE, SOLENOID PILOTS EXHAUST

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
2240.00



SHORT FUNCTION CODE "T"

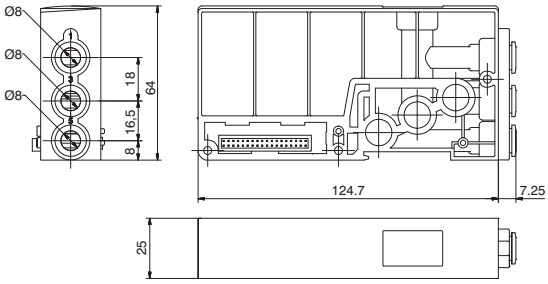
Operational characteristic	Fluid	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	From vacuum to 10	-5 - +50	30

2

Intermediate Inlet/Exhaust module

Ordering code

2240.10



SHORT FUNCTION CODE "W"

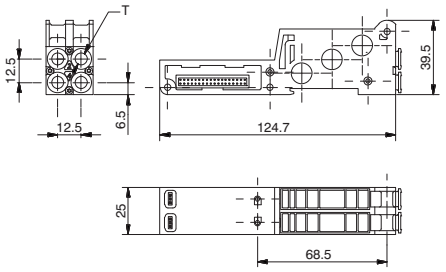
Operational characteristic	Fluid	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	From vacuum to 10	-5 - +50	105

Modular base (2 places) Quick fitting tube Ø4

Ordering code

2244.ⒻⓋ

	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

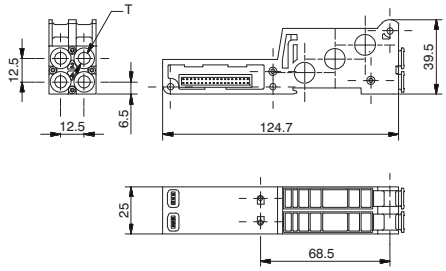
Operational characteristic	Fluid	Flow rate at 6 bar with Δp=1 (Nl/min)	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	140	From vacuum to 10	-5 - +50	75

Modular base (2 places) Quick fitting tube Ø6

Ordering code

2246.ⒻⓋ

	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

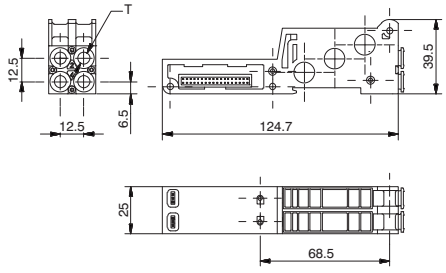
Operational characteristic	Fluid	Flow rate at 6 bar with Δp=1 (Nl/min)	Pressure range (bar)	Temperature °C	Weight (gr.)
	Filtered air, with or without lubrication	400	From vacuum to 10	-5 - +50	75

Modular base (2 places) Quick fitting tube Ø8

Ordering code

2248.ⒻⓋ

	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) Sepatared 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 Δp=1 (Nl/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

2300.25.L.P

	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	CONNECTORS
P	10 = In line
	90 = 90° Angle

Cable complete with connector, 37 Poles IP65

Ordering code

2400.37.L.P

	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters
	CONNECTORS
P	10 = In line
	90 = 90° Angle

Cable complete with connector, 25 Poles IP65

Ordering code

2400.25.L.25

	CABLE LENGTH
L	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

Polyethylene Silencer Series SPL-R

Ordering code

SPLR.F

	TUBE DIAMETER
F	6 = 6 mm
	10 = 10 mm

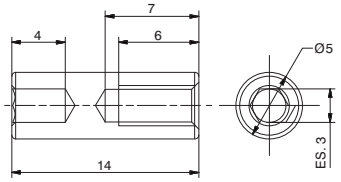
Diaphragm plug

Ordering code

2230.17

Weight gr. 6,5

Nut



Ordering code

2240.KD.00

The Kit includes 6 pieces

Tie-rod M3

Ordering code

2240.KT.P

	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
P	16=Nr. 16 Positions
	18=Nr. 18 Positions
	20=Nr. 20 Positions
	22=Nr. 22 Positions
	24=Nr. 24 Positions
	26=Nr. 26 Positions
	28=Nr. 28 Positions
	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
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

2240.KD.00

Nr. 6 pieces

2240.KT.XX

Nr. 3 pieces

2

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.

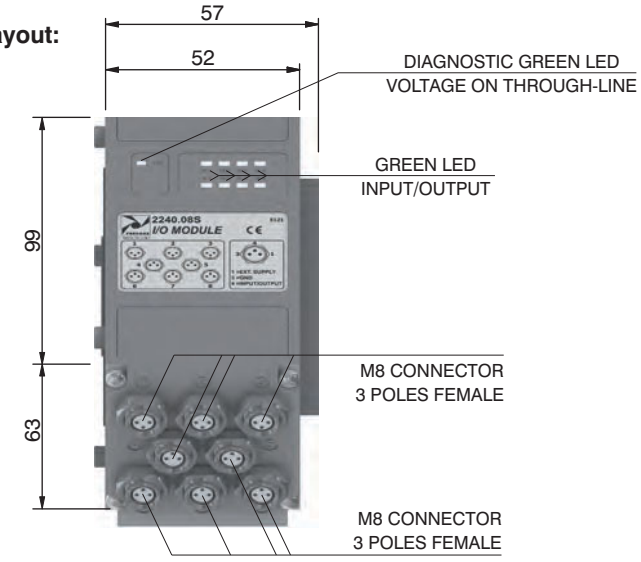
Each I/O module includes 8 diagnostic LEDs which indicate the presence of an Input / Output signal for each connector.

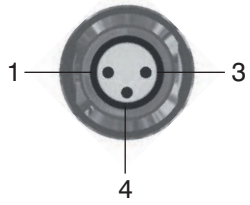
Please note: For an LED to function, a signal of at least +15VDC must be present on pin 4 of the connector. If this signal is lower, the LED will not light, this does not compromise the normal Input / Output function of the unit.

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)

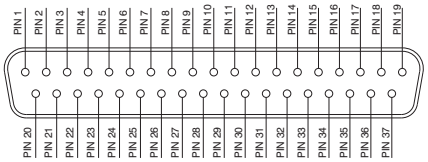
Output features:

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).

	Model	2240.08S
	Case	Reinforced technopolymer
General characteristics	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

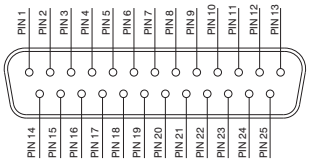
CORRESPONDENCE BETWEEN MULTI-POLE SIGNAL AND CONNECTOR

SUB-D TYPE 37 POLE MALE CONNECTOR

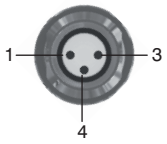


1 - 32 = SIGNALS
33 - 35 = GND
36 - 37 = THROUGH LINE

SUB-D TYPE 25 POLE MALE CONNECTOR



1 - 22 = SIGNALS
23 - 24 = GND
25 = THROUGH LINE



PIN	DESCRIPTION
1	THROUGH LINE
4	SIGNAL
3	GND

Connection modes:

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

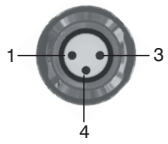
A) Control via multi-pole connection
B) Control via fieldbus

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).

A) Control via multi-pole :

M8 connector used as Input:

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

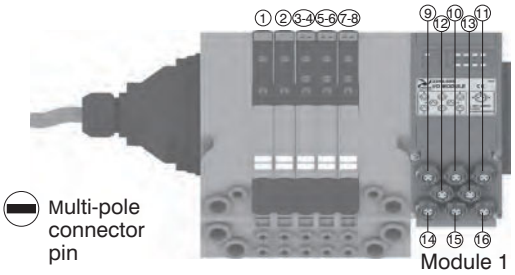


PIN	DESCRIPTION
1	THROUGH LINE
4	SIGNAL
3	GND

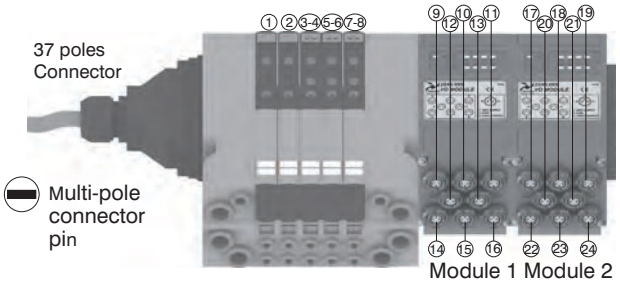
M8 connector used as Output:

Output voltage will 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.

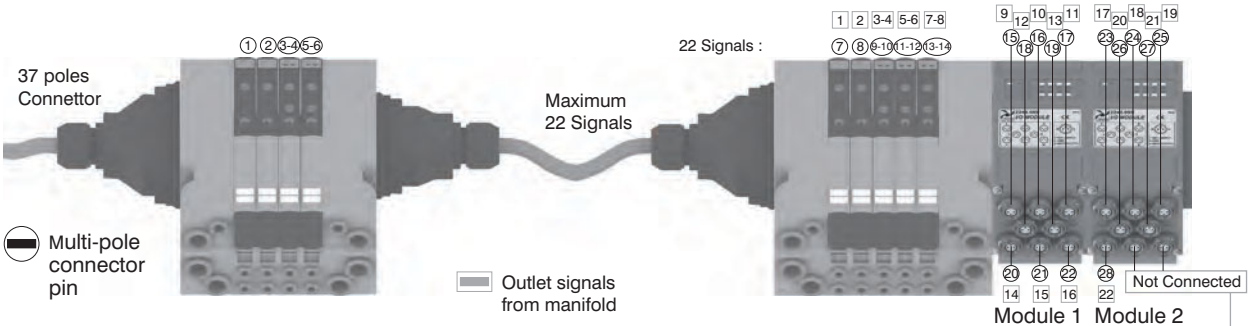


Attention: Only one more I/O module can be added.



Attention: No more additions are possible

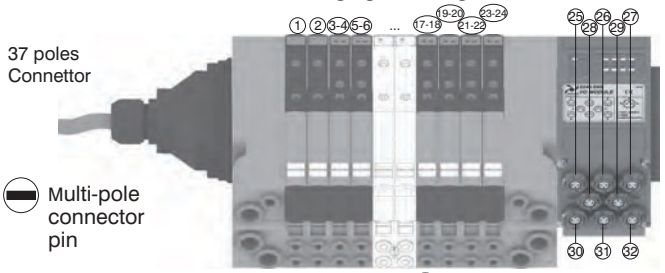
Attention : Optyma 32-**S** solenoid valve manifolds permit up to 22 electrical signals that are not used by manifolds to be made available: these signals can be managed by another manifold and / or by I/O modules.
The I/O module will manage these unused signals. Connections that are not managing useful signals will remain unconnected.

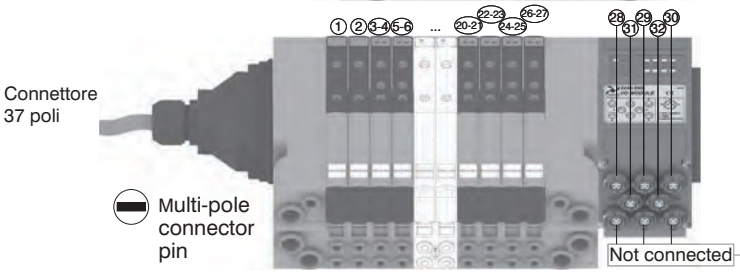


Please note: this example considers a 37 pin multi-pole connector.
The same configuration managed by a 25 pin multi-pole connector will stop at number 22 of multi-pole connector and at number 17 of the manifold. 22 16

Attention:
Signal Not connected
GND Connected
Through line Connected

Please note: Optyma 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.

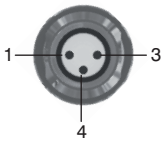




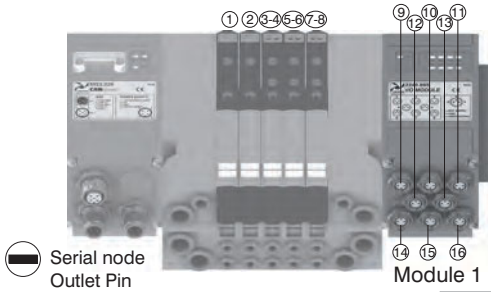
Attention:
Signal Not connected
GND Connected
Through line Connected

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. Te 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.

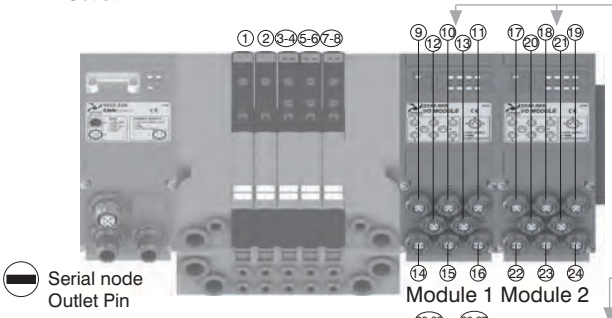


PIN	DESCRIPTION
1	NOT CONNECTED
4	SIGNAL
3	GND



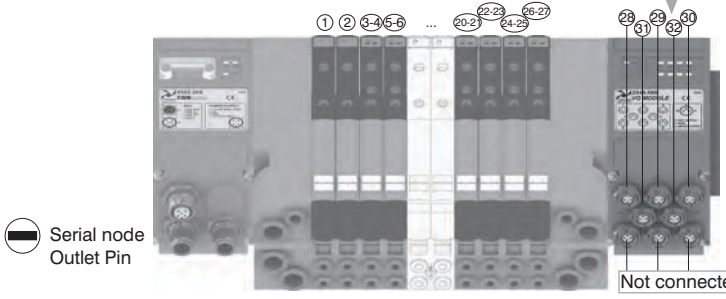
Attention:
Output only

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



Attention:
Output only

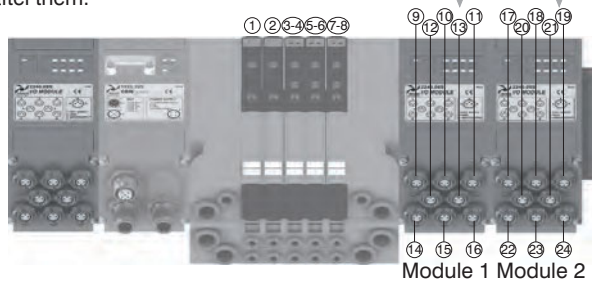
Attention:
No more additions
are possible



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 sun-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:

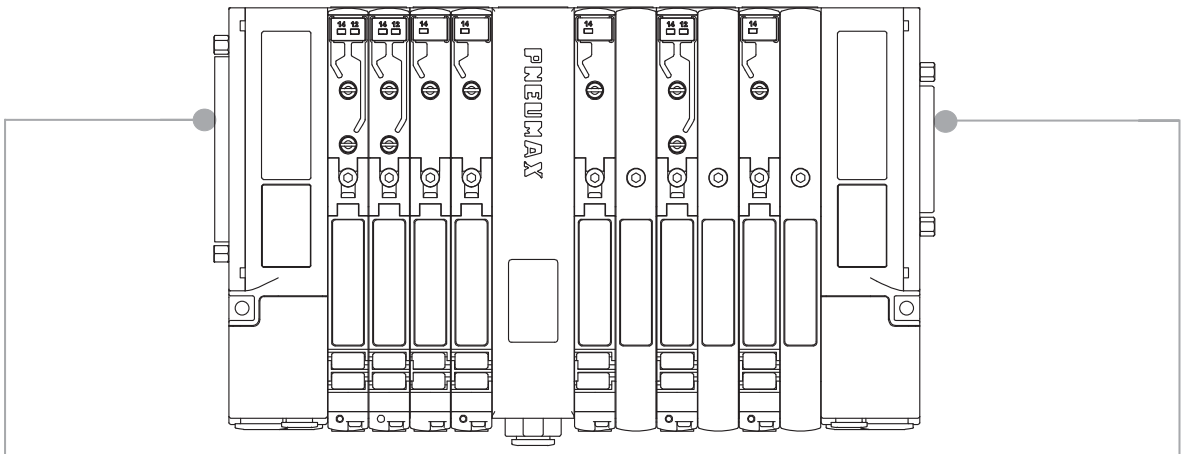
The Additional exhaust and air supply module is fitted with a dedicated electrical connector which does not use any electric signal but simply carries forward all signals which have not been used by the valves mounted before it.
This enables its use in any position of the manifold.

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:

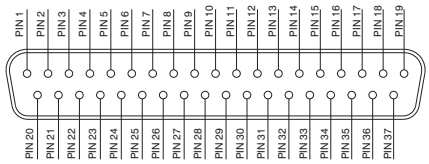
37 pole Inlet connector : N. of outputs= 32 – used signals (max 22)
25 pole Inlet connector : N. of outputs= 22 – used signals

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



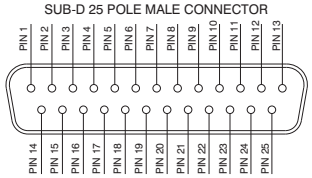
INLET ELECTRIC CONNECTIONS

SUB-D 37 POLE MALE CONNECTOR



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

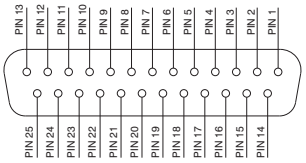
SUB-D 25 POLE MALE CONNECTOR



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

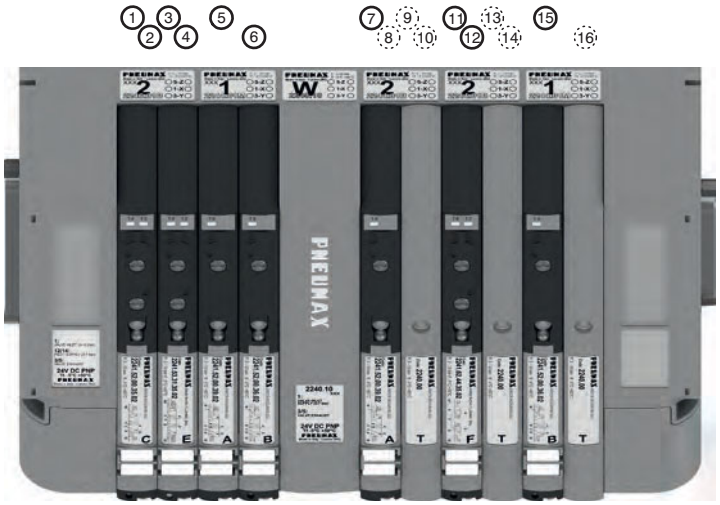
OUTLET ELECTRIC CONNECTIONS (IF PRESENT)

SUB-D 25 POLE FEMALE CONNECTOR



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

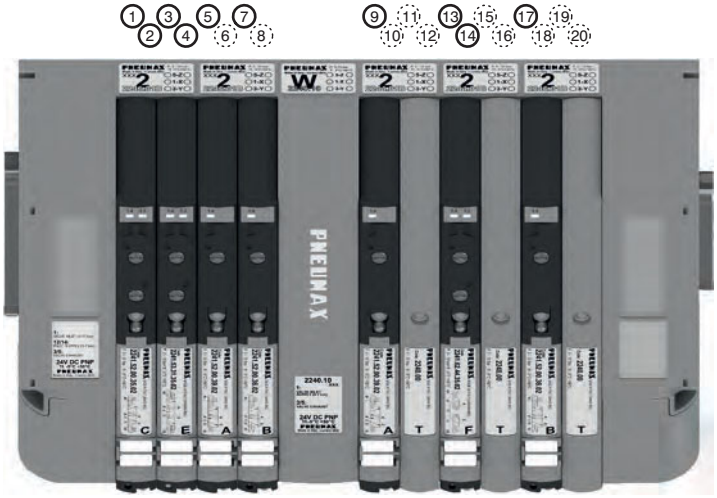
37 PIN Connector correspondence for valves assembled on mixed bases



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

POS.	1	2	3	4	5	6	7	8	9	10	11

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

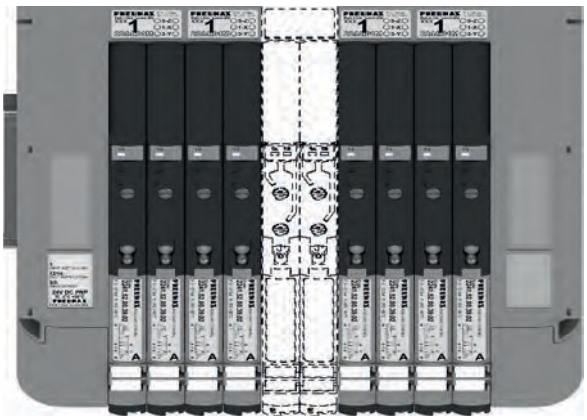


PIN 1 = PILOT 14 EV POS.1
PIN 2 = PILOT 12 EV POS.1
PIN 3 = PILOT 14 EV POS.2
PIN 4 = PILOT 12 EV POS.2
PIN 5 = PILOT 14 EV POS.3
PIN 6 = NOT CONNECTED
PIN 7 = PILOT 14 EV POS.4
PIN 8 = NOT CONNECTED
PIN 9 = PILOT 14 EV POS.6
PIN 10 = NOT CONNECTED
PIN 11 = NOT CONNECTED
PIN 12 = NOT CONNECTED
PIN 13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

POS.	1	2	3	4	5	6	7	8	9	10	11

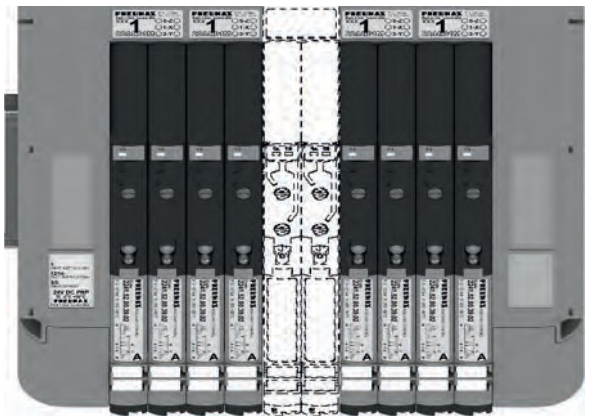
37 PIN Connector correspondence for manifold for 32 position manifold with monostable valves on double bases

37P



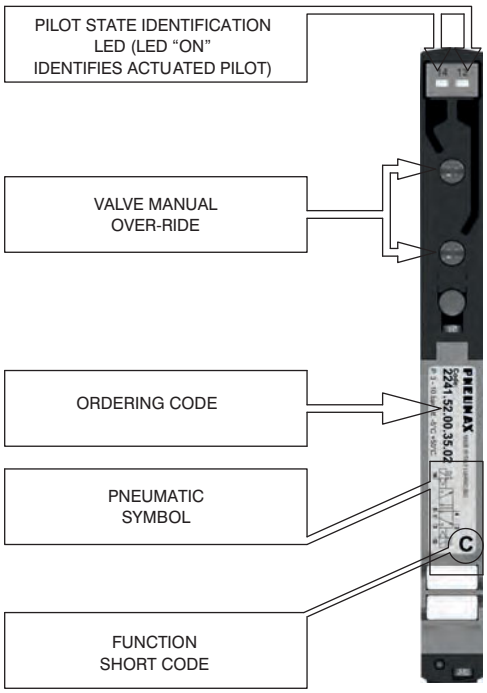
POS.	1	2	3	4	...	29	30	31	32

25P

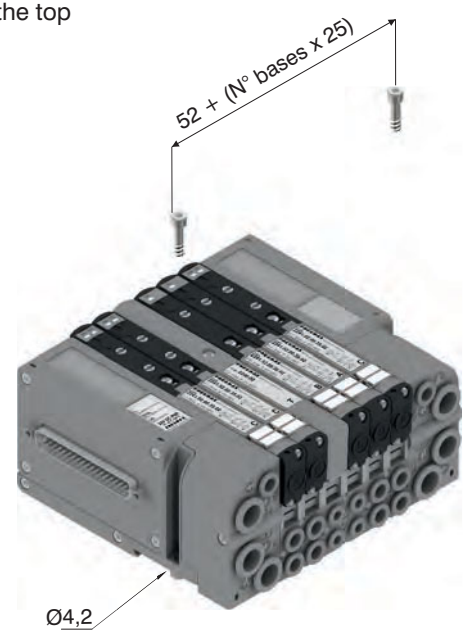


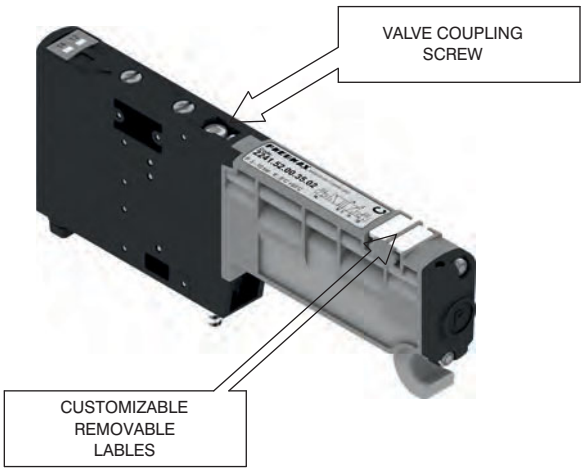
POS.	1	2	3	4	...	19	20	21	22

2

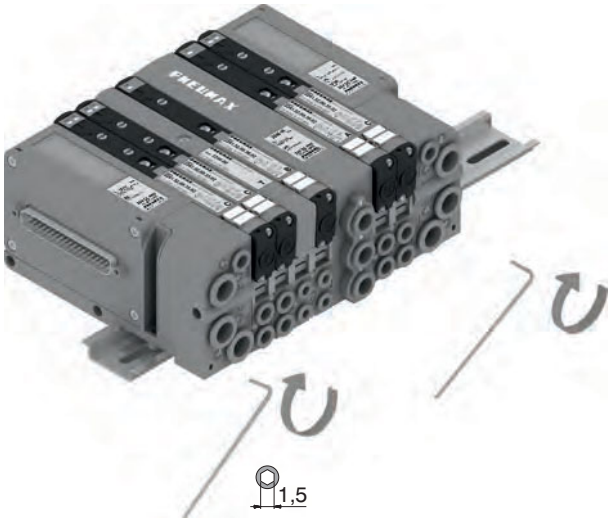


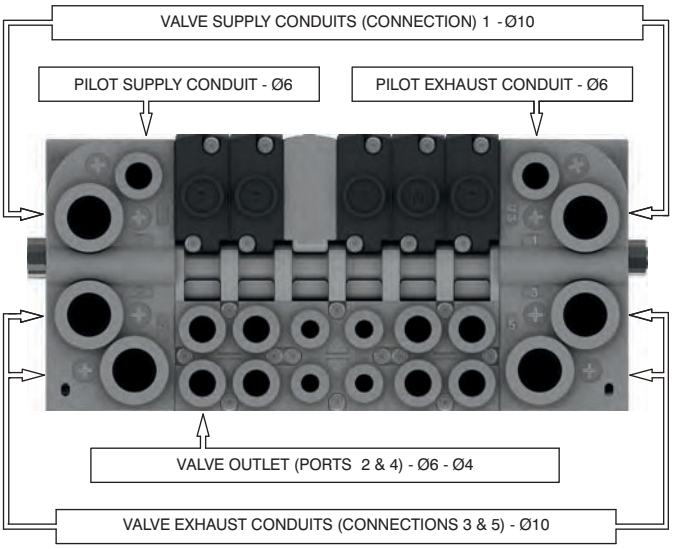
From the top



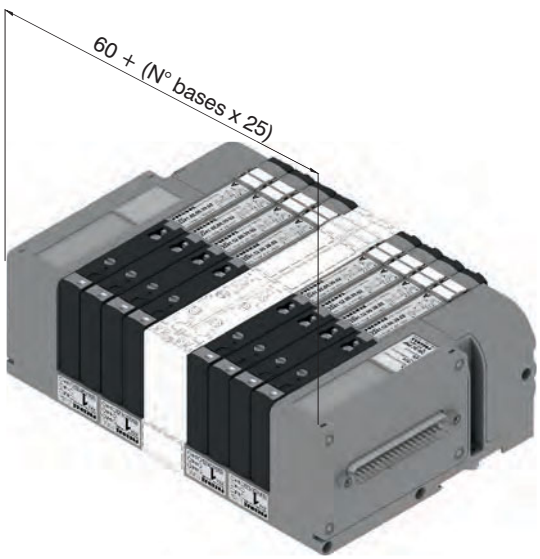


DIN rail fixing

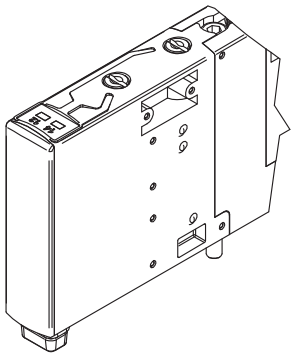


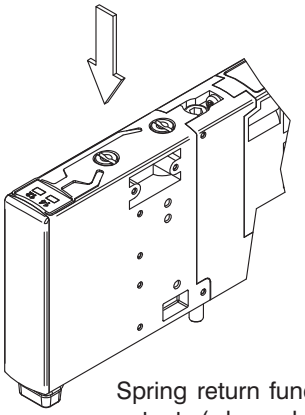


Maximum possible size
According to valves used

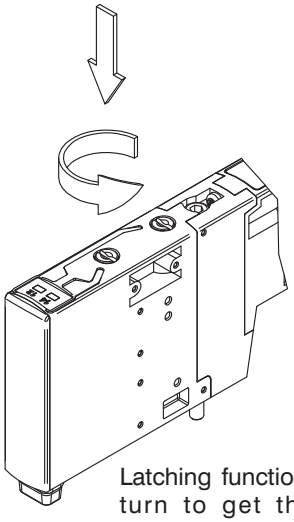


Manual override actuation





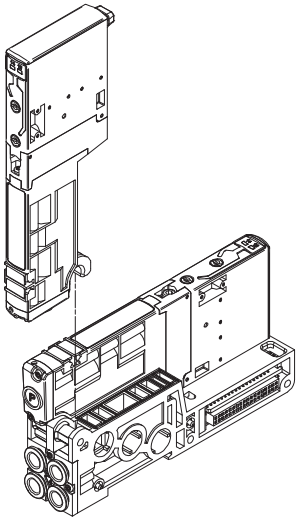
Spring return function: push to actuate (when released it moves back to the original position).

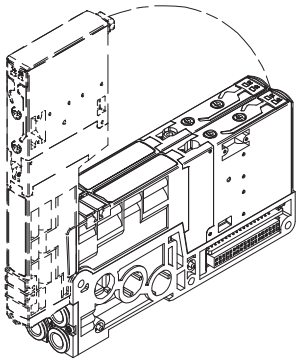


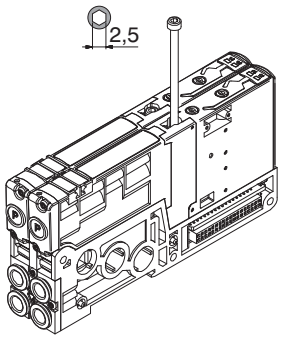
Latching function: push and turn to get the latching function

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

Valve Installation

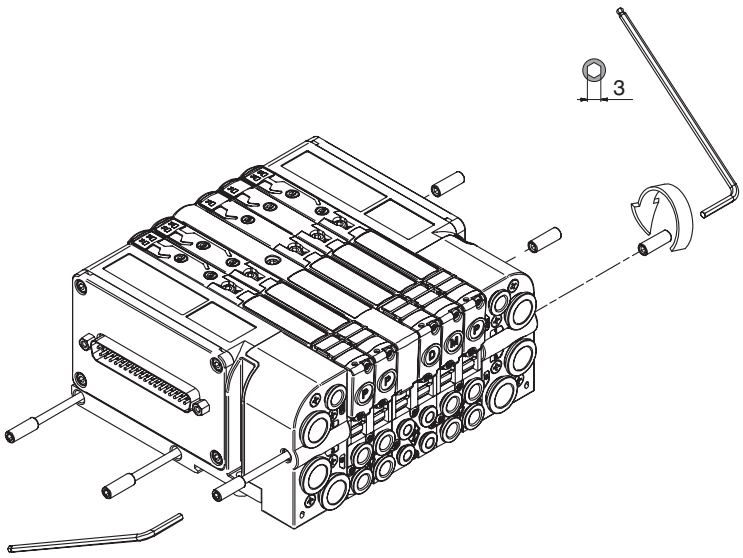






Torque moment (Nm) : 0,8

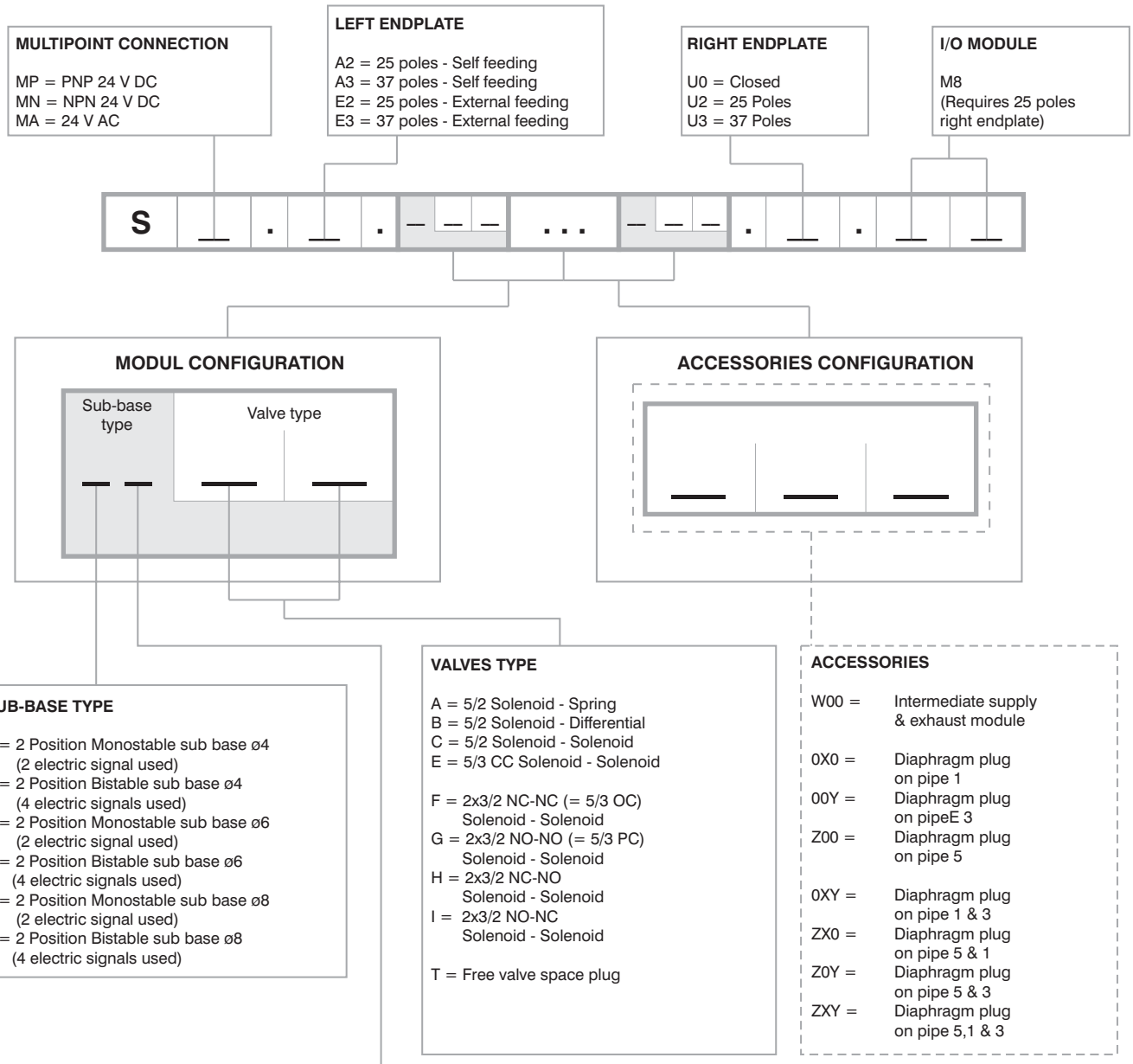
Manifold assembly



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

2

Manifold Layout configuration



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"

	Well-tried component	- The product is a well-tried product for a safety-related application according to ISO 13849-1. - The relevant basic and well-tried 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.
B_{10d}	50.000.000	

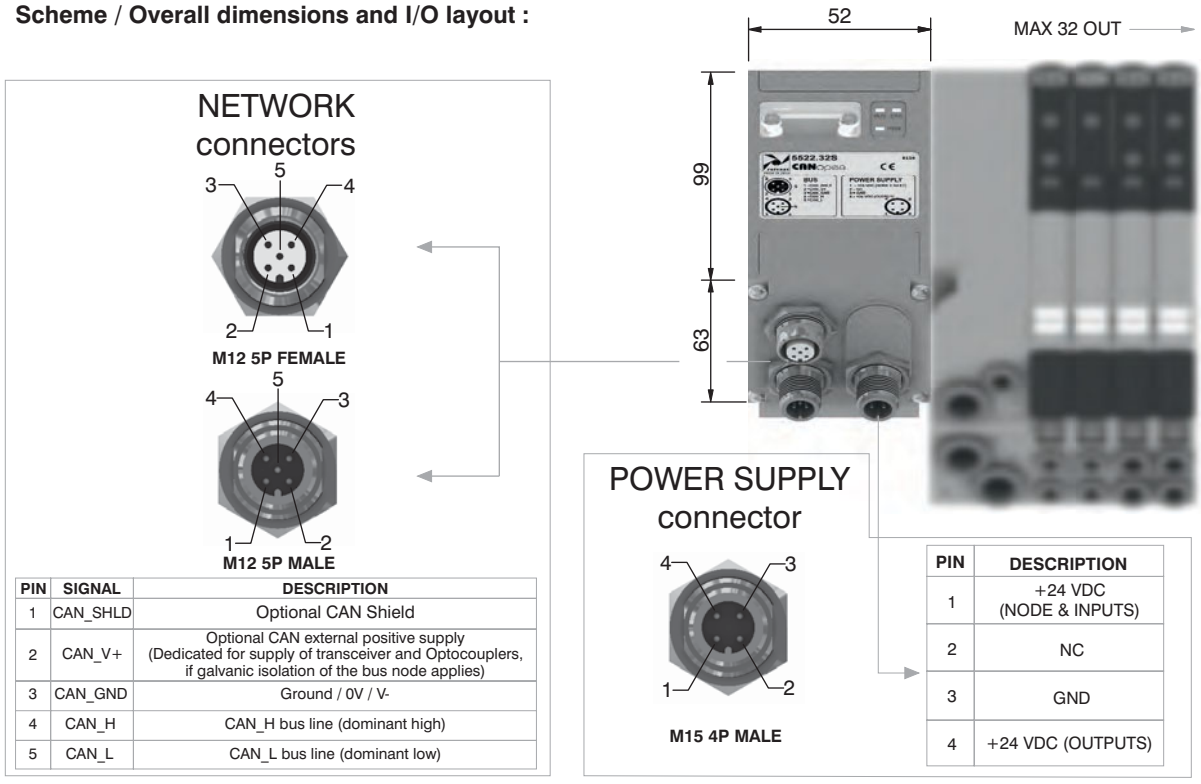
General:

CANopen® module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
CANopen® module recognizes automatically the presence of the Input modules on power on.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus CANopen® is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to CiA Draft Recommendation 303-1 (V. 1.3 : 30 December 2004).
Transmission speed can be set by 3 dip-switches.
The node address can be set by 6 dip-switches using BCD numeration.
The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

5522.32S

Scheme / Overall dimensions and I/O layout :



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

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

Technical characteristics

	Model	5522.32S
	Specifications	CiA Draft Standard Proposal 301 V 4.10 (15 August 2006)
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P 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 nodes 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 protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

2

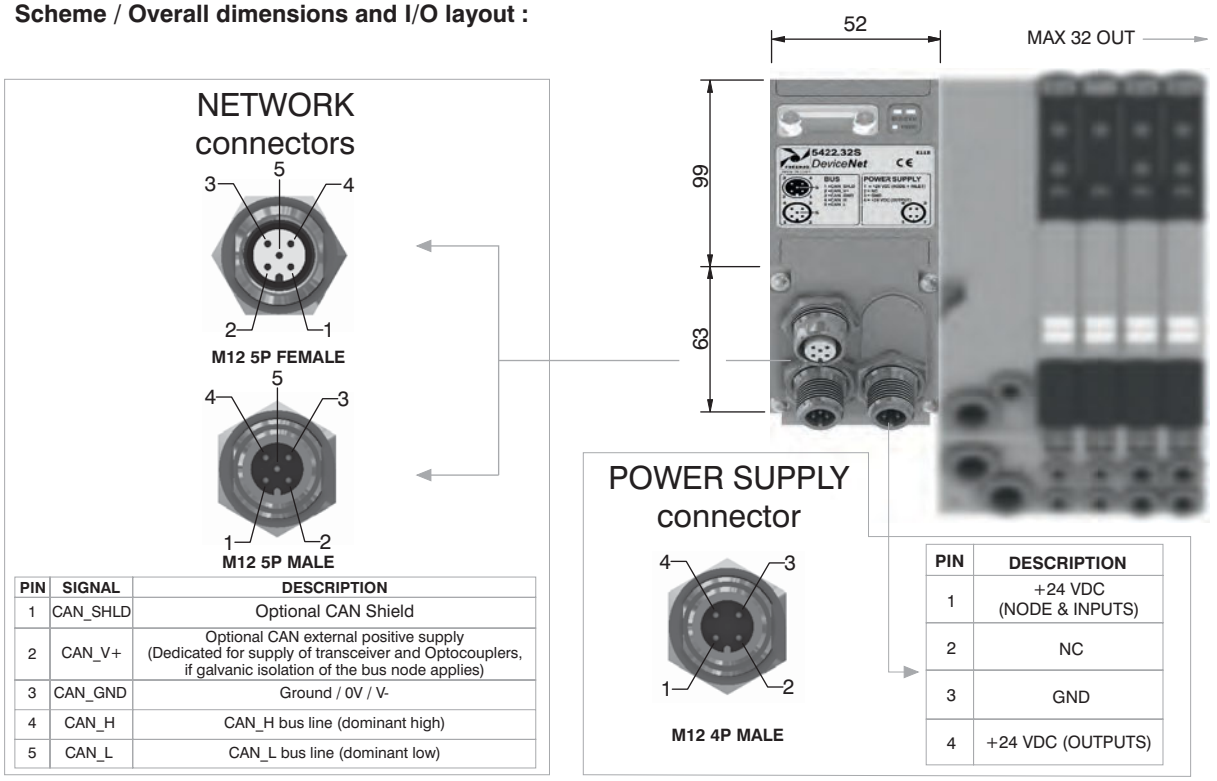
General:

DeviceNet module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
DeviceNet module recognizes automatically the presence of the Input modules on power on.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus DeviceNet is possible via 2 M12 5P male - female circular connectors; these two are connected in parallel and according to DeviceNet Specifications Volume I, release 2.0.
Transmission speed can be set by 3 dip-switches.
The node address can be set by 6 dip-switches using BCD numeration.
The module includes an internal terminating resistance that can be activated by a dip-switch.

Ordering code

5422.32S

Scheme / Overall dimensions and I/O layout :



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

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

Technical characteristics

	Model	5422.32S
	Specifications	DeviceNet Specifications Volume I, release 2.0.
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	30 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P connectors male-female Type A (IEC 60947-5-2)
	Baud rate	125 - 250 - 500 Kbit/s
	Addresses, possible numbers	From 1 to 63
	Max nodes 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 protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

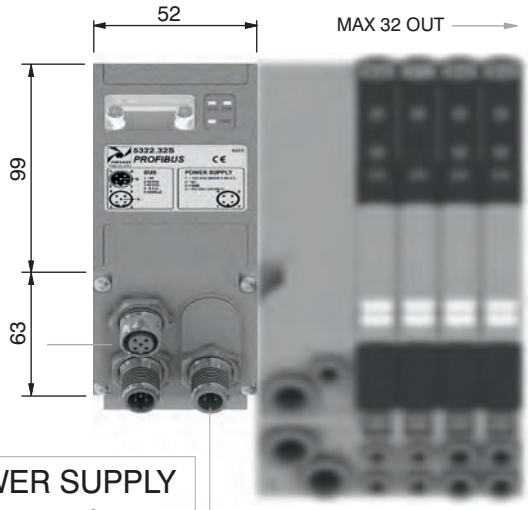
General:

PROFIBUS DP module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
PROFIBUS DP module recognizes automatically the presence of the Input modules on power on.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus PROFIBUS DP is possible via 2 M12 type B 5P male - female circular connectors; these two are connected in parallel and according to PROFIBUS Interconnection Technology (Version 1.1 : August 2001).
The node address can be set using BCD numeration: 4 dip-switches for the units and 4 dip-switches for the tens.
The module includes an internal terminating resistance that can be activated by a dip-switch.

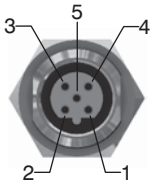
Ordering code

5322.32S

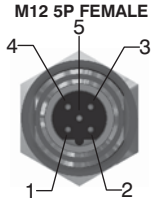
Scheme / Overall dimensions and I/O layout :



NETWORK connectors



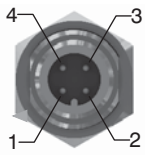
M12 5P FEMALE



M12 5P MALE

PIN	SIGNAL	DESCRIPTION
1	VP	Power supply plus, (P5V)
2	A-line	Receive / Transmit data -N, A-line
3	DGND	Data Ground (reference potential to VP)
4	B-line	Receive / Transmit data -plus, B-line
5	SHIELD	Shield or PE

POWER SUPPLY connector



M12 4P MALE

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

Technical characteristics

	Model	5322.32S
	Specifications	PROFIBUS DP
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	50 mA
	Power supply diagnosis	Green LED PWR
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 5P male-female connectors Type B
	Baud rate	9,6 - 19,2 - 93,75 - 187,5 - 500 - 1500 - 3000 - 6000 - 12000 Kbit/s
	Addresses, possible numbers	From 1 to 99
	Max nodes 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 protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

2

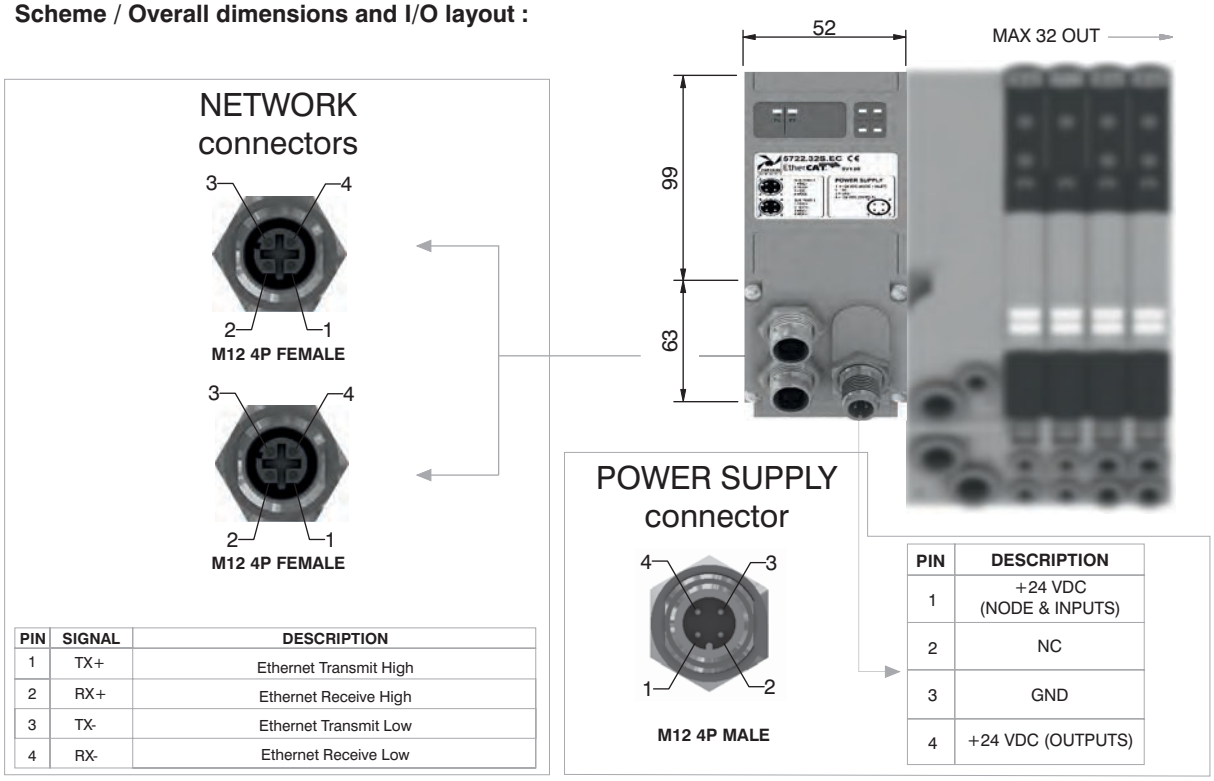
General:

EtherCAT® module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
The EtherCAT® module, regardless the number of Input module connected, reports to have connected 4 Input modules.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus EtherCAT® is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.
The node address is assigned during configuration.
Note: 5700 series has a different configuration file from series 5600.

Ordering code

5722.32S.EC

Scheme / Overall dimensions and I/O layout :



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

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

Technical characteristics

	Model	5722.32S.EC
	Specifications	EtherCAT® Specifications ETG.1000 series
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	From 1 to 65535
	Max nodes in net	65536 (Master + Slave)
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

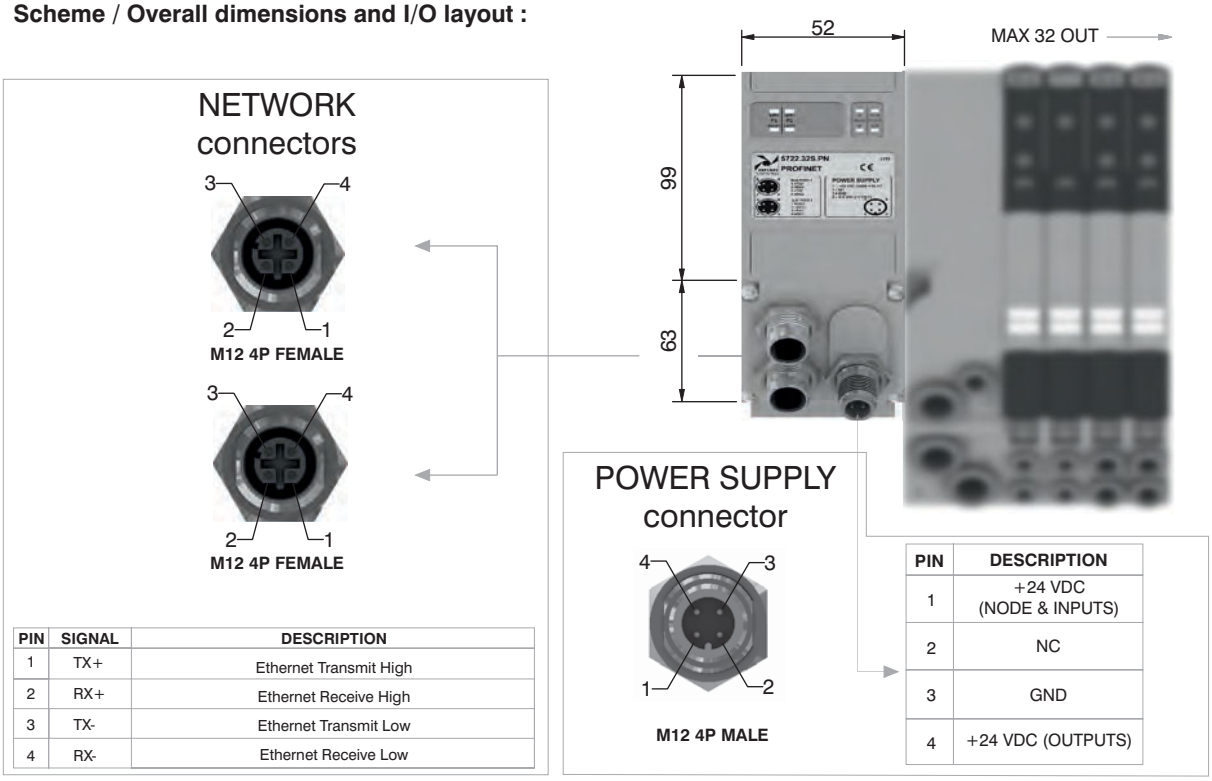
General:

PROFINET IO RT/IRT module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
The PROFINET IO RT/IRT module, regardless the number of Input module connected, reports to have connected 8 Input modules.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus PROFINET IO RT/IRT is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.
The node address is assigned during configuration.

Ordering code

5722.32S.PN

Scheme / Overall dimensions and I/O layout :



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

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

Technical characteristics

	Model	5722.32S.PN
	Specifications	PROFINET IO RT/IRT
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

2

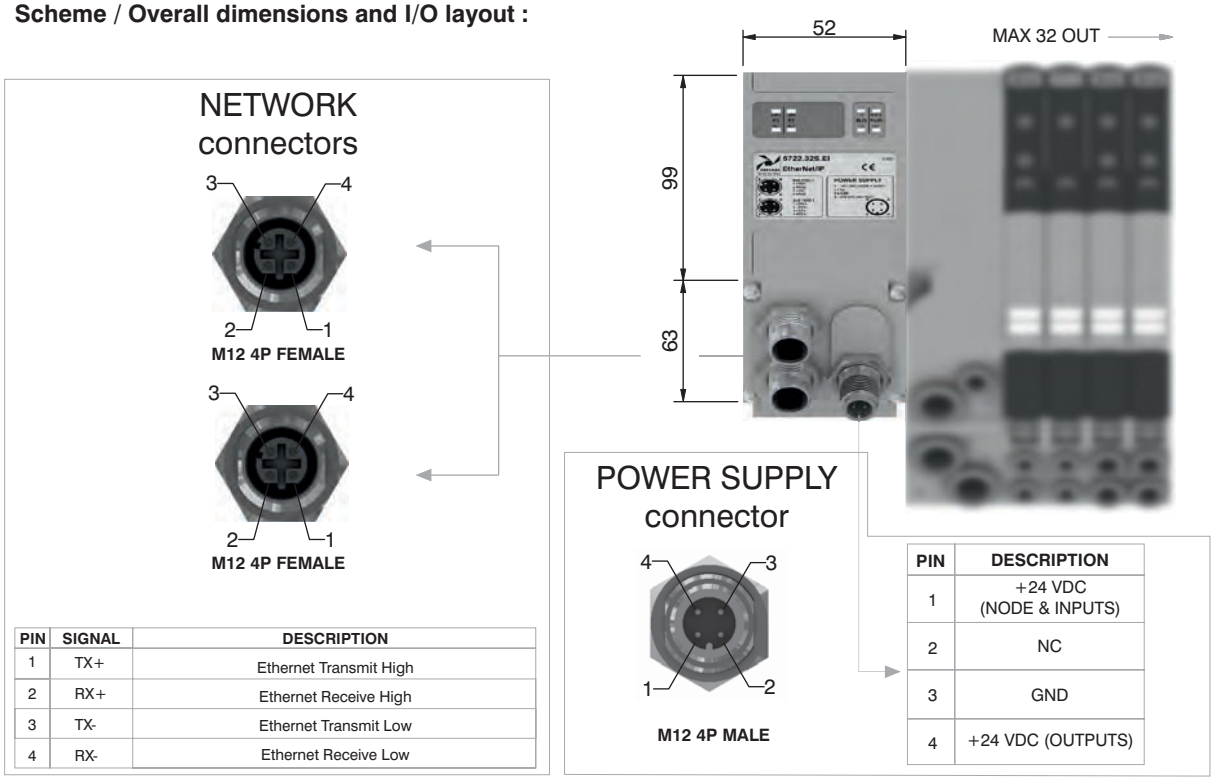
General:

EtherNet/IP module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
The EtherNet/IP module, regardless the number of Input module connected, reports to have connected 8 Input modules.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus EtherNet/IP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.
The node address is assigned during configuration.

Ordering code

5722.32S.EI

Scheme / Overall dimensions and I/O layout :



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

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

Technical characteristics

	Model	5722.32S.EI
	Specifications	The EtherNet/IP Specification
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	As an IP address
	Max nodes in net	As an Ethernet Network
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 4 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

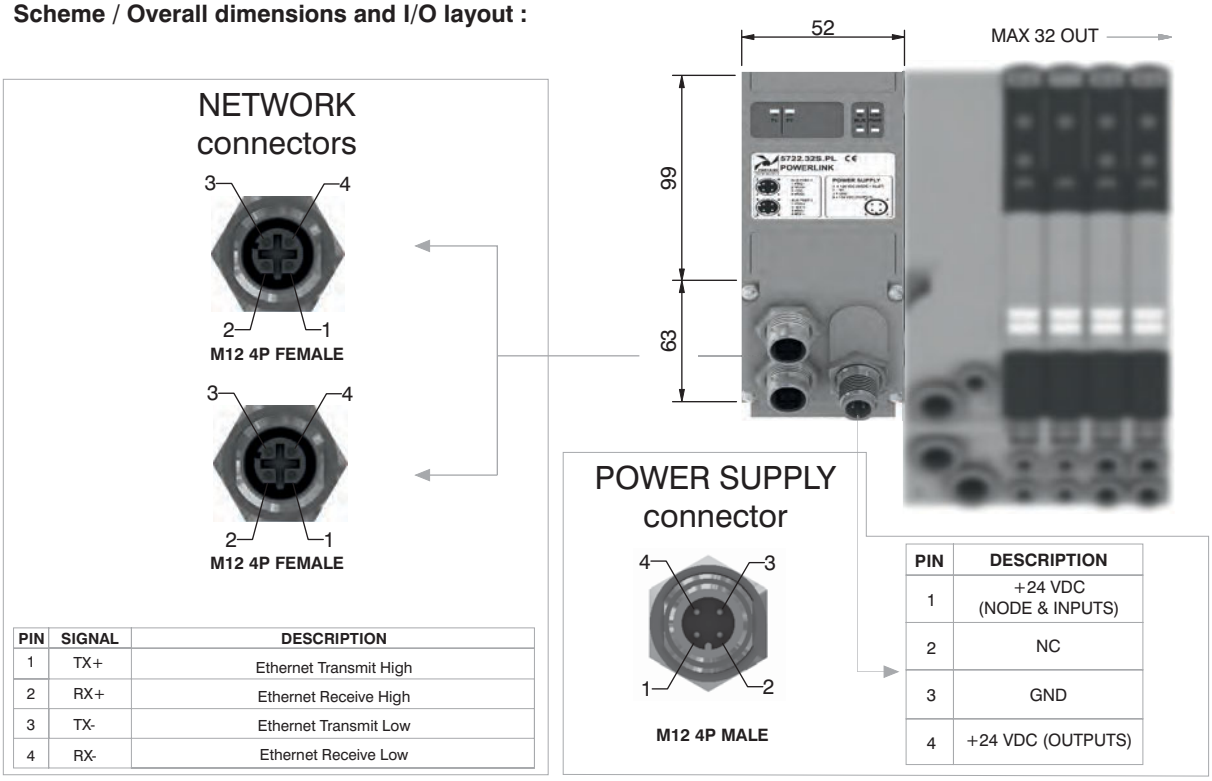
General:

Powerlink module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
The Powerlink module, regardless the number of Input module connected, reports to have connected 8 Input modules.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus Powerlink is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.
The node address is assigned during configuration.

Ordering code

5722.32S.PL

Scheme / Overall dimensions and I/O layout :



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

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

Technical characteristics

	Model	5722.32S.PL
	Specifications	Ethernet POWERLINK Communication Profile Specifications
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	239
	Max nodes in net	240
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Available from our web site: http://www.pneumaxspa.com
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

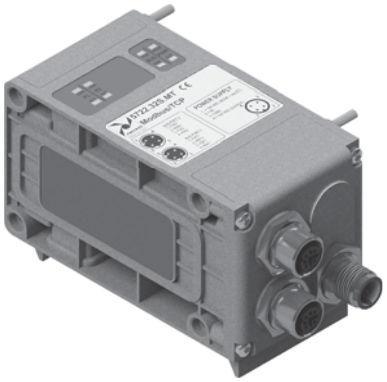
2

General:

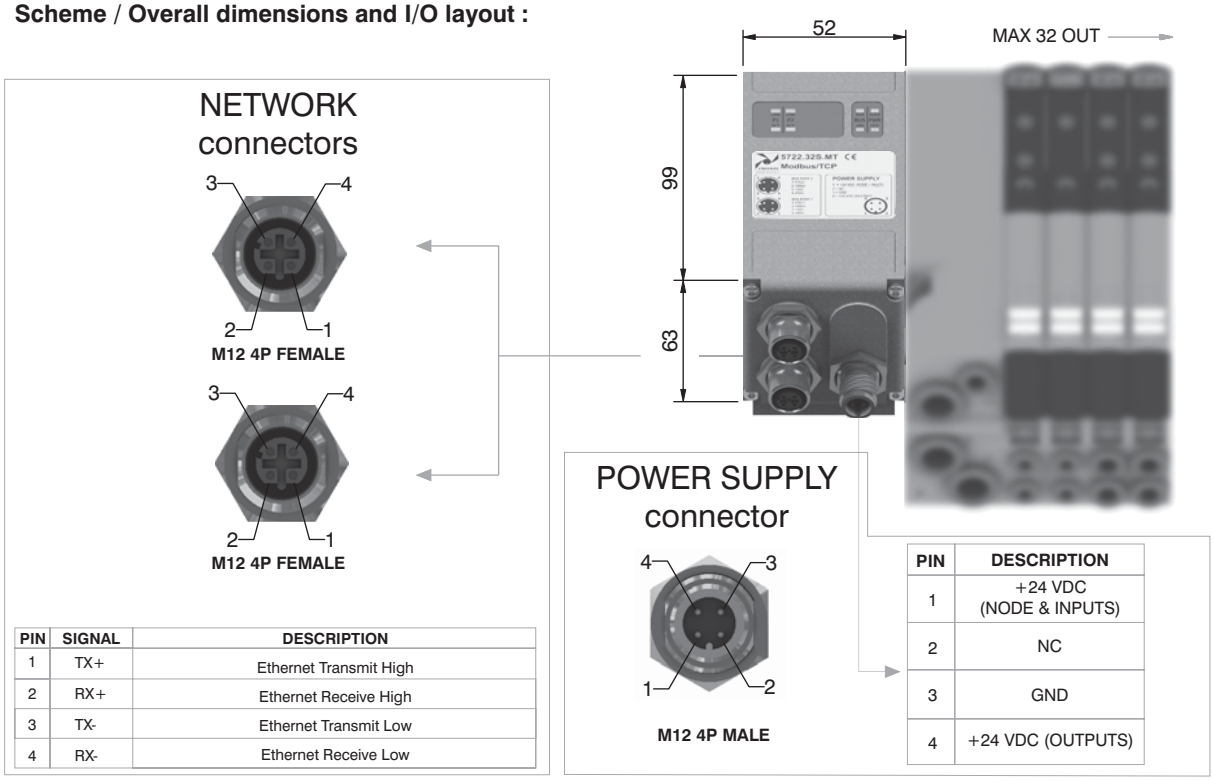
Modbus/TCP module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
The Modbus/TCP module, regardless the number of Input module connected, reports to have connected 8 Input modules.
Regardless of the number of Input modules connected, the managable solenoid valves are 32.
Node power supply is made by a M12 4P male circular connector.
The separation between node 24 VDC Power supply and outputs 24 VDC allows to switch off the outputs maintaning powered the node and inputs, if present.
Connection to Bus Modbus/TCP is possible via 2 M12 4P type D female circular connectors. These two connectors lead the signal to two different communication ports, so they are not connected in parallel.
The node address is assigned during configuration.

Ordering code

5722.32S.MT



Scheme / Overall dimensions and I/O layout :



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

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

Technical characteristics

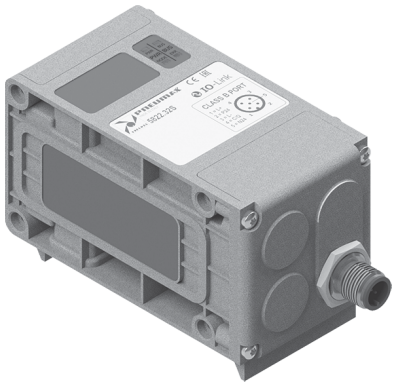
	Model	5722.32S.MT
	Specifications	MODBUS Application Protocol Specification V1.1a, June 4, 2004
	Case	Reinforced technopolymer
Power supply	Power supply connection	M12 4P male connector (IEC 60947-5-2)
	Power supply voltage	+24 VDC +/- 10%
	Node consumption (without inputs)	400 mA
	Power supply diagnosis	Green LED PWR / Green LED OUT
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Max output simultaneously actuated	32
Network	Network connectors	2 M12 4P female connectors Type D (IEC 61076-2-101)
	Baud rate	100 Mbit/s
	Addresses, possible numbers	248
	Max nodes in net	248
	Maximum distance between 2 nodes	100 m
	Bus diagnosis	1 green and 1 red LED for status + 2 LEDs for link & activity
	Configuration file	Modbus/TCP nodes don't require configuration file
	IP protection grade	IP65 when assembled
	Temperature range	From 0° to +50° C

General :

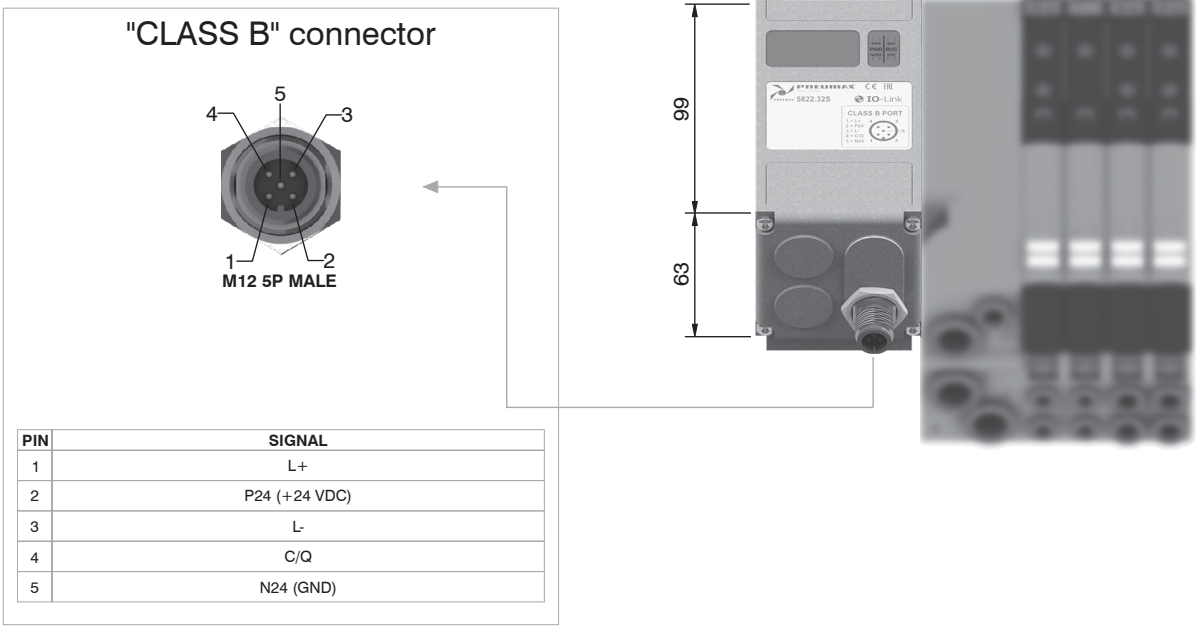
IO-Link module is directly integrated on Optyma-S solenoid valves manifold via a 37 poles connector, normally used for multipolar cable connection.
Optyma-S solenoid valves connected to node must be PNP equivalent (final 02 in ordering code).
The node can be easily installed also on solenoid valves manifold already mounted on equipment.
Module can manage up to 32 solenoid valves, and, in the same time, a max number of 4 Input modules 5222.08S.
Regardless of the number of Input modules connected, the manageable solenoid valves are 32.
Pneumax IO-Link module is equipped with a M12, 5P, "CLASS B" communication connector; valve electric power supply is provided directly through the "CLASS B" communication connector.
It supports IO-Link communications speed COM2.
IODD configuration files is provided by Pneumax.

Ordering code

5822.32S



Scheme / Overall dimensions and I/O layout:



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

Technical characteristics

	Specifications	IO-Link Specification v1.1
	Case	Reinforced technopolymer
Outputs	PNP equivalent outputs	+24 VDC +/- 10%
	Maximum current for each output	100 mA
	Maximum output number	32
	Maximum output simultaneously actuated	32
Network	Network connectors	"Class B" port
	Communication speed	COM2
	Maximum distance from Master	20 m
	Bus diagnosis	1 green and 1 red LED for status
	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:

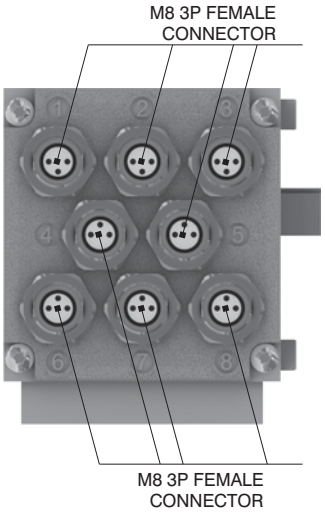
Modules have 8 connectors M8 3P female.

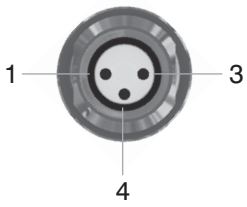
The Inputs are PNP equivalent 24 VDC ±10%.
To each connector it is possible to plug both 2 wires Inputs (switches, magnetic switches pressure switches, etc) or 3 wires Inputs (proximity, photocells, electronic sensors, etc).
The maximum current available for all 8 Inputs is 300 mA.
Each module includes a 300 mA self-mending fuse. If a short circuit or a overcharge (overall current >300mA) occur the safety device acts cutting the 24 VDC power supply to all M8 connectors on the module and switching off the green LED PWR. Any other Input module connected to the node will remain powered and will function correctly.
Once the cause of the fault disappears the green LED PWR lights up indicating the ON state and the node will re-start to operate.
The maximum number of Input modules supported is 4.

Ordering code

5222.08S

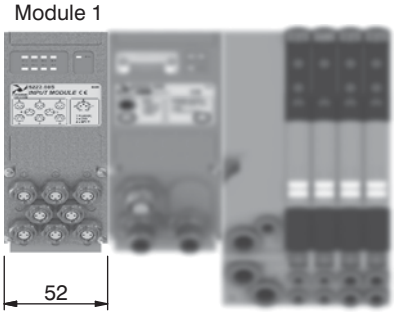
Scheme / Overall dimensions and I/O layout :



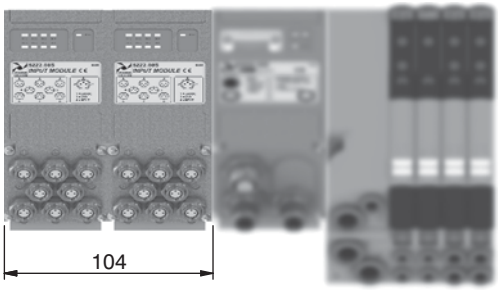


PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

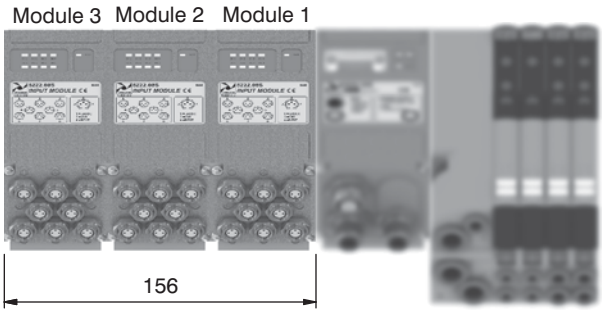
Module 1



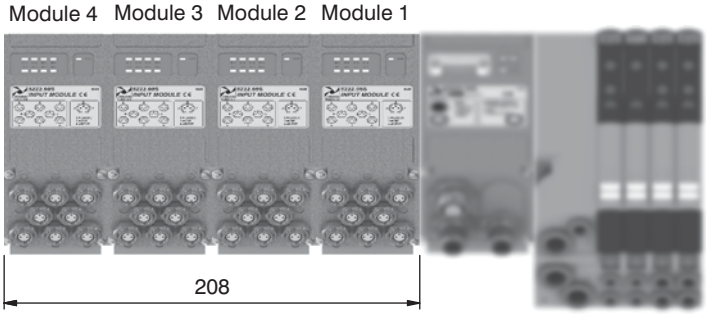
Module 2 Module 1



Module 3 Module 2 Module 1



Module 4 Module 3 Module 2 Module 1



2

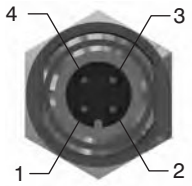
M12A 4P female Socket

Ordering code

5312A.F04.00

Power supply straight connector.

Upper view Slave connector



PIN	DESCRIPTION
1	+24 VDC Node
2	
3	0 V
4	+24 VDC Output

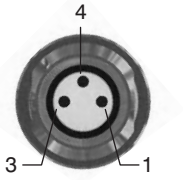
M8 3P male Plug

Ordering code

5308A.M03.00

Input straight connector.

Upper view Slave connector



PIN	DESCRIPTION
1	+24 VDC
4	INPUT
3	GND

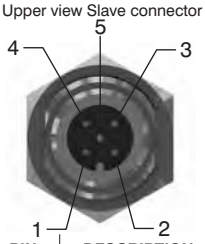
M12A 5P female Socket

Ordering code

5312A.F05.00

Network straight connector: for Bus CANOpen®, DeviceNet.

Upper view Slave connector



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

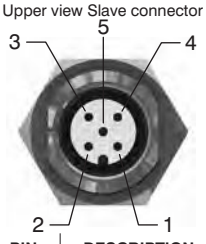
M12A 5P male Plug

Ordering code

5312A.M05.00

Network straight connector: for BUS CANOpen®, DeviceNet.

Upper view Slave connector



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

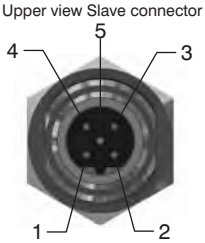
M12B 5P female Plug

Ordering code

5312B.F05.00

Network straight connector: for Bus PROFIBUS DP.

Upper view Slave connector



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

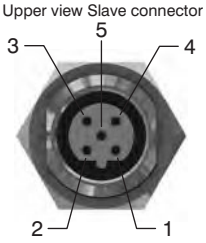
M12B 5P male Plug

Ordering code

5312B.M05.00

Network straight connector: for BUS PROFIBUS DP.

Upper view Slave connector



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

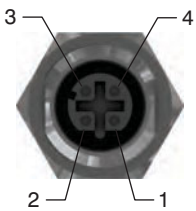
M12D 4P male Plug

Ordering code

5312D.M04.00

Network straight connector: for Ether-CAT®, PROFINET IO RT/IRT, Ether-Net/Ip, Powerlink and Modbus/TCP.

Upper view Slave connector



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

M12 Plug

Ordering code

5300.T12

M8 Plug

Ordering code

5300.T08

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

Manifold Layout configuration with serial systems

32 OUT VERSION

C3=CANopen® 32OUT
D3=DeviceNet 32OUT
P3=PROFIBUS 32OUT
A3=EtherCAT® 32OUT (5700 Series)
I3=EtherNet / IP 32OUT
N3=PROFINET IO RT/IRT 32OUT
L3=Powerlink 32OUT
M3=Modbus/TCP 32OUT

INPUT MODULES

A = No module
D1= 8 M8 digital inputs module

RIGHT ENDPLATE

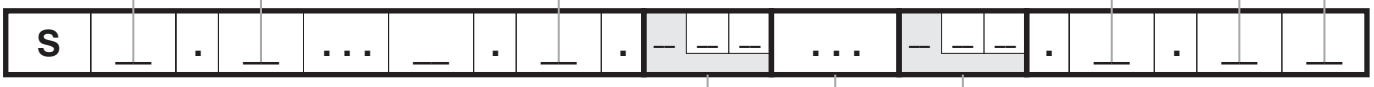
U0 = Closed
U2 = 25 Poles
U3 = 37 Poles

LEFT ENDPLATE

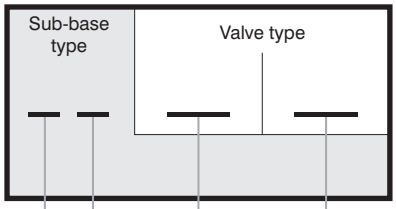
A3 = 37 poles - Self feeding
E3 = 37 poles - External feeding

I/O MODULE

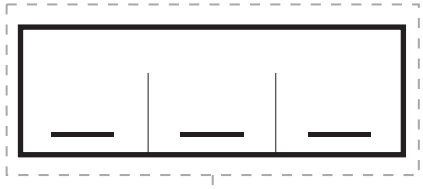
M8
(Requires 25 poles right endplate)



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 pipeE 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)

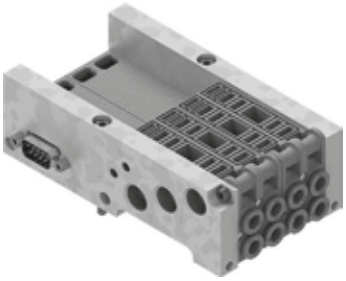
6 = Diaphragm Plug on pipe 1 and 3
7 = Diaphragm Plug on pipe 1
8 = Diaphragm Plug on pipe 3 and 5

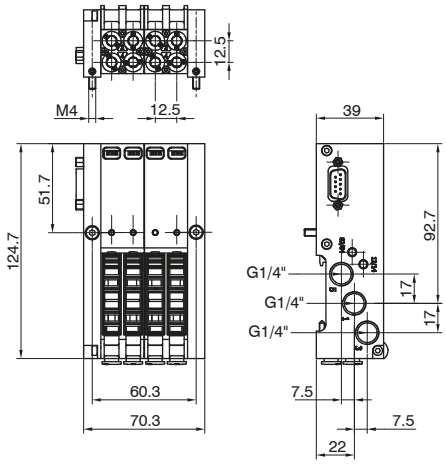
NOTE:
While configuring the manifold always be careful that the maximum number of electrical signals available is 32
The use of monostable valve mounted on a bistable base (2 electrical signals occupied for each position) causes the loss of one electric signal.
In this case the monostable valve can be 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.

Bases only kit

Ordering code: CMP(V)(C)P0

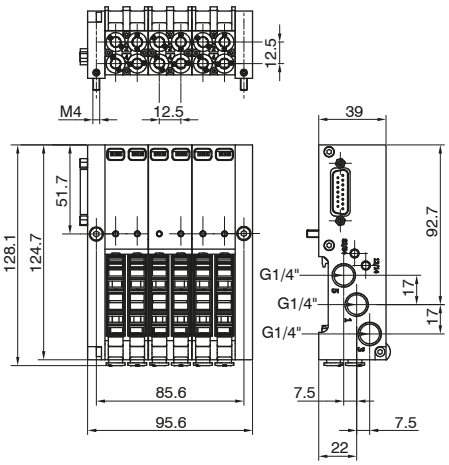
(V)	VERSION
	9E = 9 poles kit
	1E = 15 poles kit
(C)	TUBE CONNECTIONS
	44 = Ø4-4 (9 poles)
	66 = Ø6-6 (9 poles)
	88 = Ø8-8 (9 poles)
	444 = Ø4-4-4 (15 poles)
	666 = Ø6-6-6 (15 poles)
	888 = Ø8-8-8 (15 poles)





CMP9E(C)P0

Weight 400 g

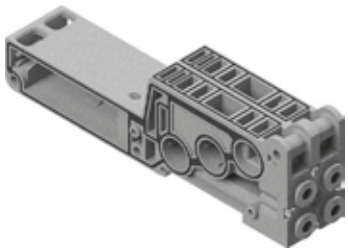


CMP1E(C)P0

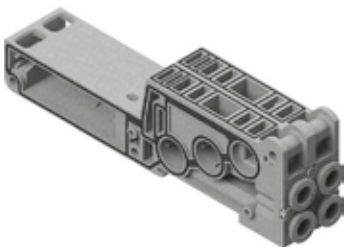
Weight 500 g

Available bases

Tube Ø4



Tube Ø6

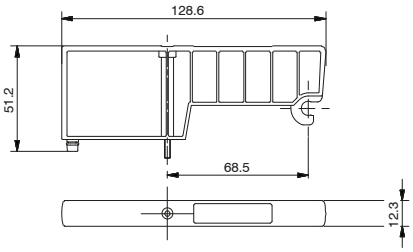


Tube Ø8

Closing plate

Ordering code: 2240.00

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



Weight 30 g
SHORT FUNCTION CODE "T"

2240.00

Cable complete with connector, 9 Poles, IP40

Ordering code: 2400.09.Ⓛ.00

Ⓛ	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

2400.09.Ⓛ.00

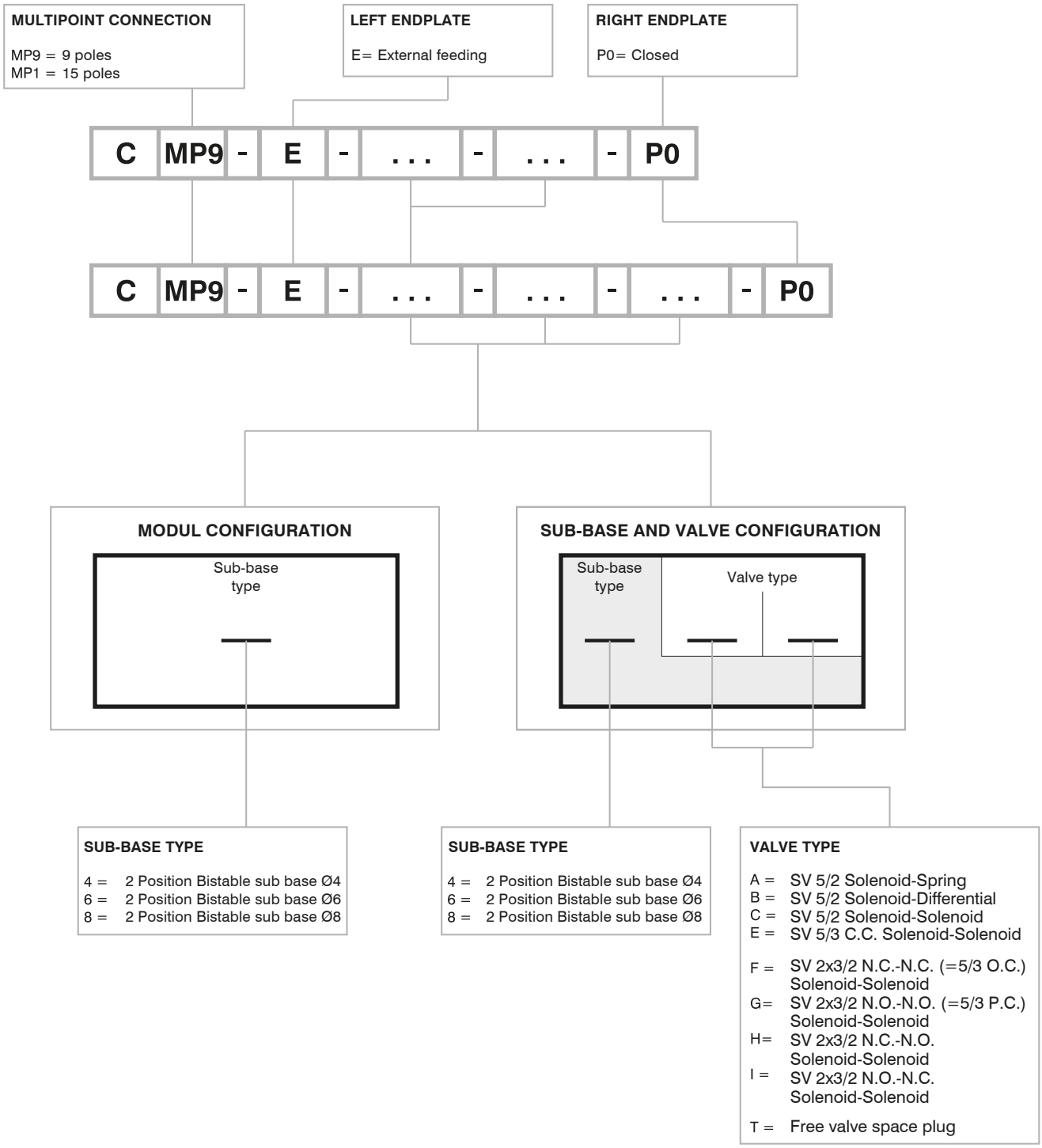
Cable complete with connector, 15 Poles, IP40

Ordering code: 2400.15.Ⓛ.00

Ⓛ	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

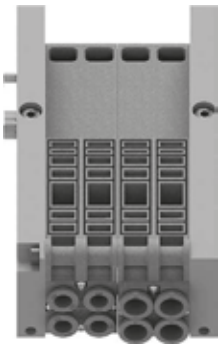
2400.15.Ⓛ.00

Manifold layout configuration



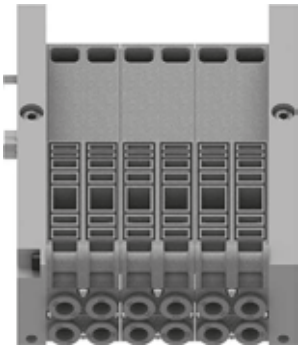
Series 2200 OPTYMA-Sc solenoid valve manifolds managed by multipoint connection are "well tried components"

	Well-tried component	- The product is well-tried product for a safety-related application according to ISO 13849-1. - The relevant basic and well-tried safety principles according ISO 13849-2 for this product are fullfilled. - The suitability of the product for a precise application must be verified and confirmed by the user.
B_{10d}	50.000.000	



Example shown: CMP9E68P0
Manifold with external supply, 9 poles multipolar, base Ø6, base Ø8

To be completed with solenoid valves before use



Example shown: CMP1E666P0
Manifold with external supply, 15 poles multipolar , base Ø6, base Ø6, base Ø6

To be completed with solenoid valves before use

Example shown: CMP1E6CA6CC6FFP0
Manifold with external supply, 15 poles multipolar, base Ø6 with solenoid valves, base Ø6 with solenoid valves, base Ø6 with solenoid valves

Two signals per position, indipendently of the mounted solenoid valve

Example shown: CMP9E6TF6ACP0
Manifold with external supply, 9 poles multipolar, base Ø6 with solenoid valves, base Ø6 with solenoid valves

Two signals per position, indipendently of the mounted solenoid valve

Supply ports and maximum possible size according to valves used