



Series 2200 Optyma-S EVO



2200 SERIES Optyma-S EVO SOLENOID VALVES MANIFOLD

- Increased flexibility
- Digital and analogue I/O modules
- Manufactured in technopolymer
- Wide range of communication protocols



Construction characteristics

Body	Technopolymer
Seals	NBR
Piston seals	NBR
Springs	Stainless Steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Stainless Steel

Operational characteristics

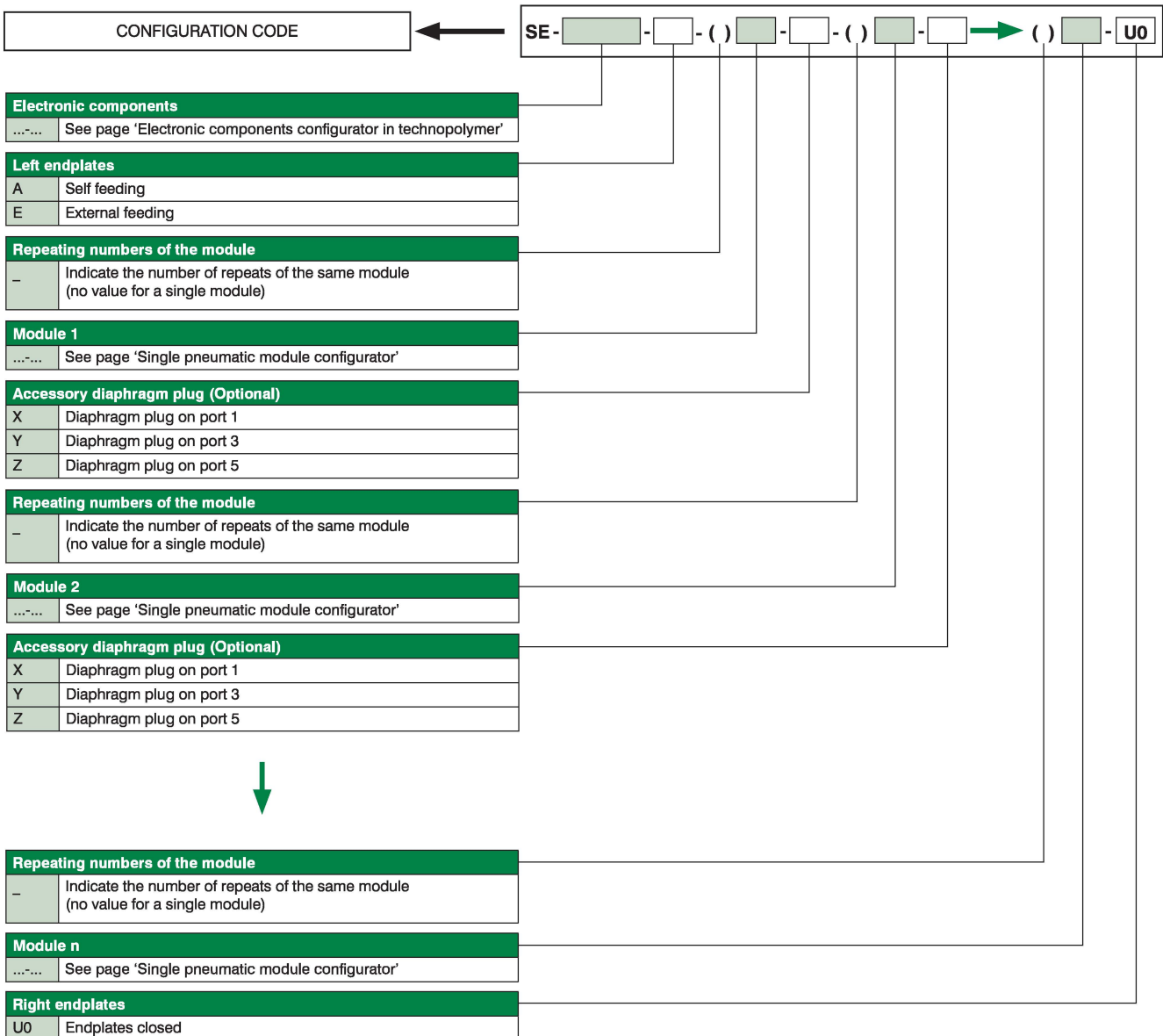
Supply voltage	+ 24 V DC $\pm 10\%$
Pilot consumption	1,3W nominal in energy saving mode
Pilot working pressure (12-14)	from 2,5 to 7 bar max.
Valve working pressure [1]	from vacuum to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP65
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

WE SPEAK EVO

The Optyma-S series becomes EVO and interfaces with the new PX series modular electronic system while still retaining all of its technical advantages. This is enriched with new features that further extend the flexibility of the product:

- Controls up to 48 electrical signals
- Manifold mounted proportional regulators
- Electro-pneumatic shut-off module

Rules and configuration scheme



Configurable on Cadenas platform



Note:

When composing the configuration, always bear in mind that the maximum number of electrical signals available is:

- 48 if a serial node or IO-Link interface is used.
- 40 if a 44-pole multi-pin is used.
- 32 if a 37-pole multi-pin module is used.
- 24 if a 25-pole multi-pin module is used.

If a monostable valve is used on a bistable type base (2 electrical signals occupied), an electrical signal is lost.

However, this makes it possible to replace the monostable valve with a bistable valve in the same position.

Diaphragm plugs are used to interrupt ports 1, 3 and 5 of the sub-base.

If it is necessary to interrupt more than one port at the same time, put the letters that identify their position in sequence (e.g.: if it is necessary to intercept the ports 3 and 5 you must put the letters YZ).

If one or more ports must be interrupted more than once, the addition of the intermediate supply/discharge module is necessary.



Electronic components configurator in technopolymer

1
AIR DISTRIBUTION

Type	
P	Technopolymer

Multi-pin electrical connection	
MP	2 Multi-pin, PNP 24 V DC 25 poles
	3 Multi-pin, PNP 24 V DC 37 poles
	4 Multi-pin, PNP 24 V DC 44 poles
MN	2 Multi-pin, NPN 24 V DC 25 poles
	3 Multi-pin, NPN 24 V DC 37 poles
	4 Multi-pin, NPN 24 V DC 44 poles
MA	2 Multi-pin, 24 V AC 25 poles
	3 Multi-pin, 24 V AC 37 poles
	4 Multi-pin, 24 V AC 44 poles

Electrical connection	
C3	CANopen® node 64 IN - 64 OUT (32 fixed)
C4	CANopen® node 64 IN - 64 OUT (48 fixed)
P3	PROFIBUS DP node 64 IN - 64 OUT (32 fixed)
P4	PROFIBUS DP node 64 IN - 64 OUT (48 fixed)
I4	EtherNet/IP node 128 IN - 128 OUT (48 fixed)
A4	EtherCAT® node 128 IN - 128 OUT (48 fixed)
N4	PROFINET IO RT node 128 IN - 128 OUT (48 fixed)
G4	CC-Link IE Field Basic node 128 IN - 128 OUT (48 fixed)
K3	IO-Link interface 64 IN - 64 OUT (32 fixed)
K4	IO-Link interface 64 IN - 64 OUT (48 fixed)

Electrical connection accessories	
	Without DIN rail fixing
G	With DIN rail fixing

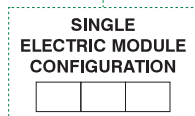
Repeating numbers of the module	
	Indicate the number of repeats of the same module (no value for a single module)

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

Outputs module - Analog / Digital	
M8	8 M8 digital outputs module
M12	8 M12 digital outputs module
M3	32 digital outputs SUB-D 37 poles
V1	2 analogue outputs 0-5V module (voltage signal)
V2	2 analogue outputs 0-10V module (voltage signal)
V3	4 analogue outputs 0-5V module (voltage signal)
V4	4 analogue outputs 0-10V module (voltage signal)
L1	2 analogue outputs 0-20mA module (current signal)
L2	2 analogue outputs 4-20mA module (current signal)
L3	4 analogue outputs 0-20mA module (current signal)
L4	4 analogue outputs 4-20mA module (current signal)

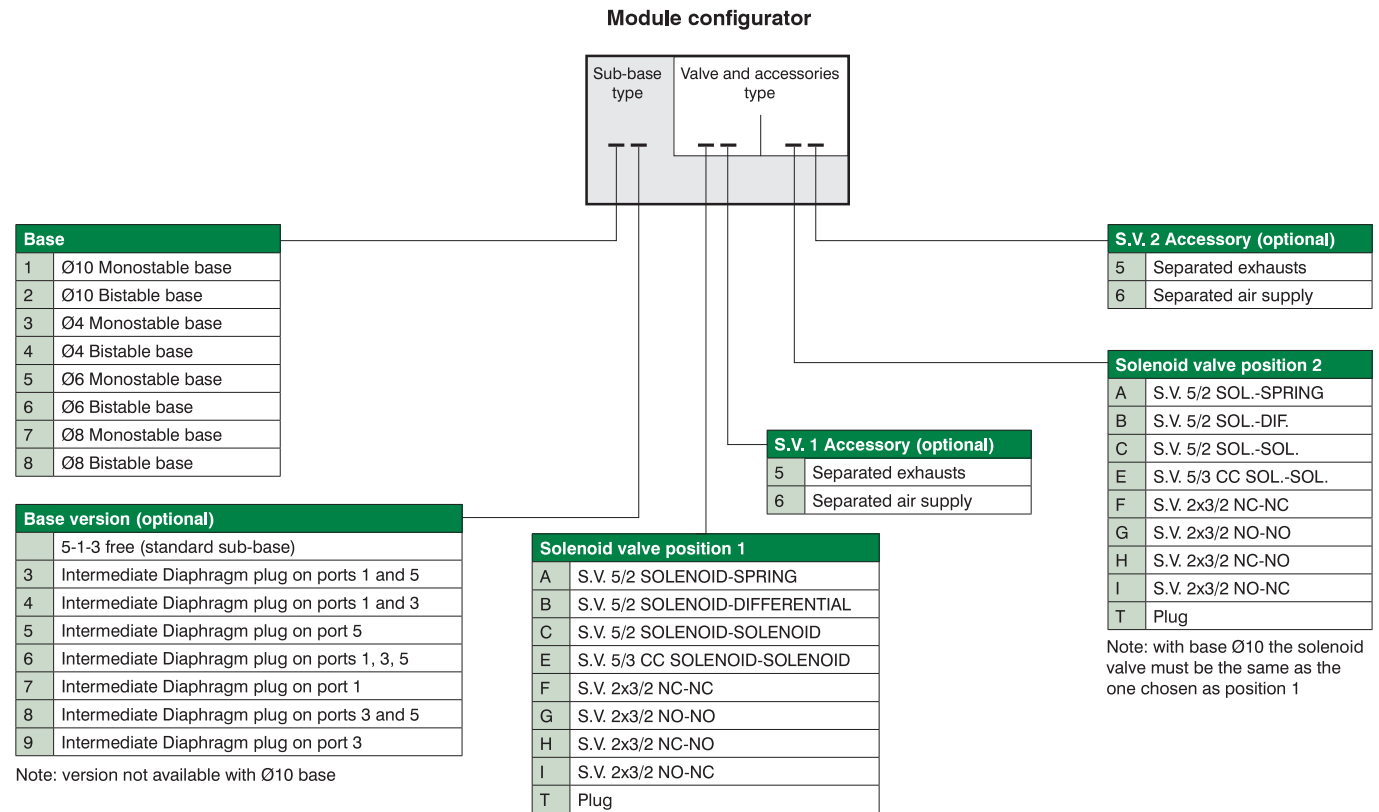
Additional modules (Optional)	
P12	M12 additional power supply module

Module accessories	
	Without DIN rail fixing
G	With DIN rail fixing

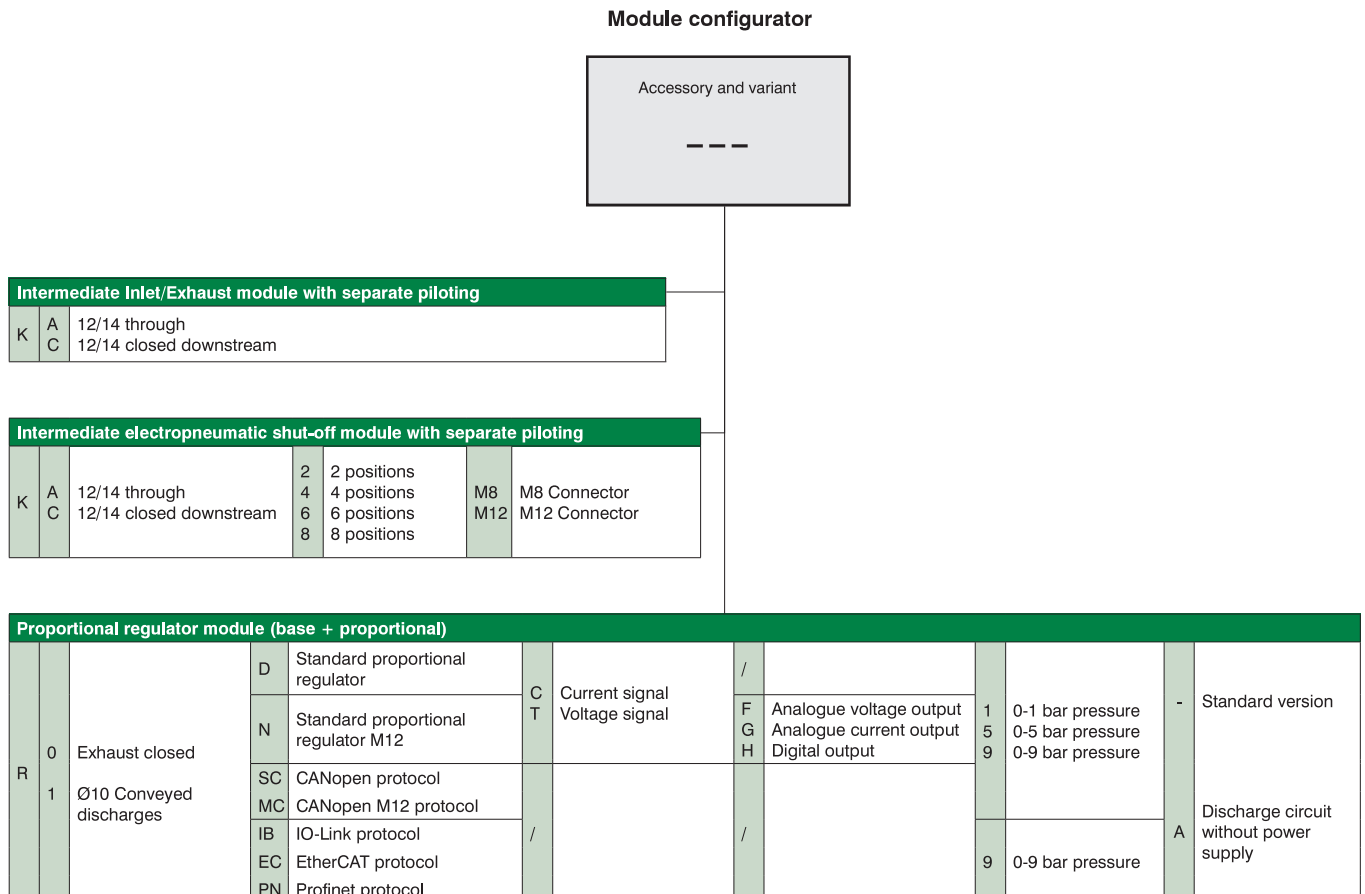


Refer to the current limits indicated in the pages relating to the nodes / IO-Link interface

2 positions base module configurator



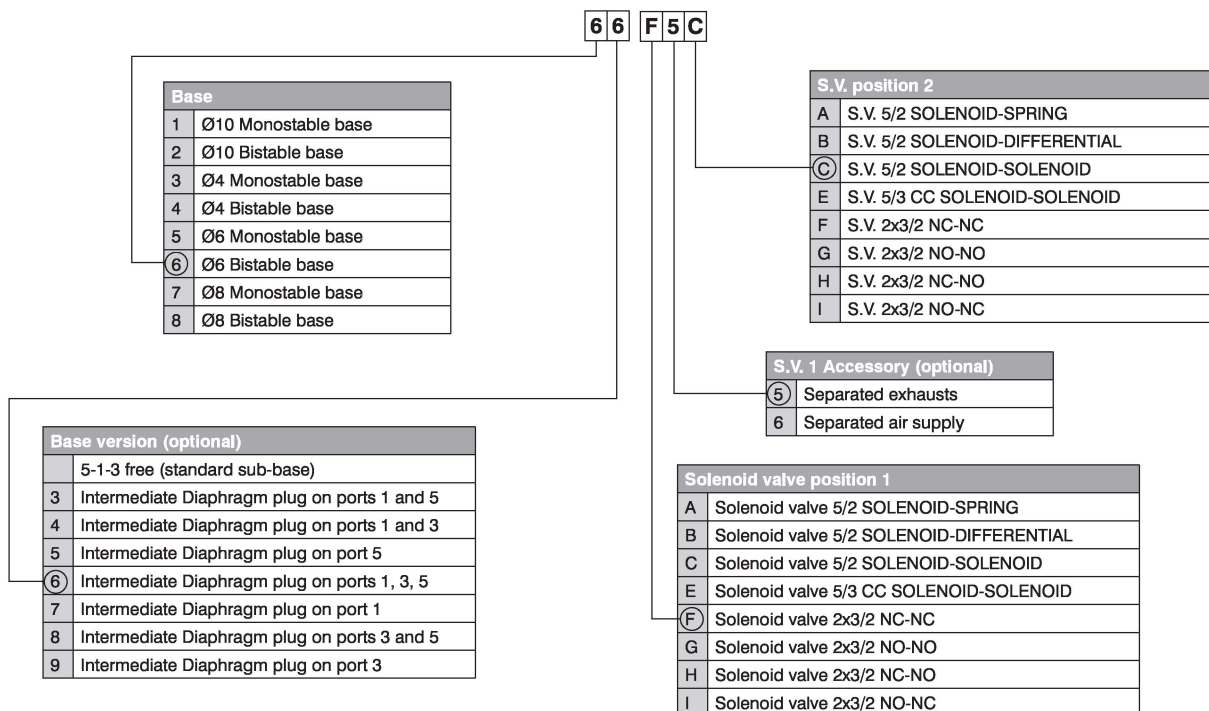
Accessory module configurator



Configuration example of single pneumatic module:

Ø6 Bistable base, intermediate diaphragm on ports 1,3 and 5, 2x3/2 NC-NC Solenoid valve with individual exhaust accessory, 5/2 Solenoid-Solenoid valve

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AIR DISTRIBUTION

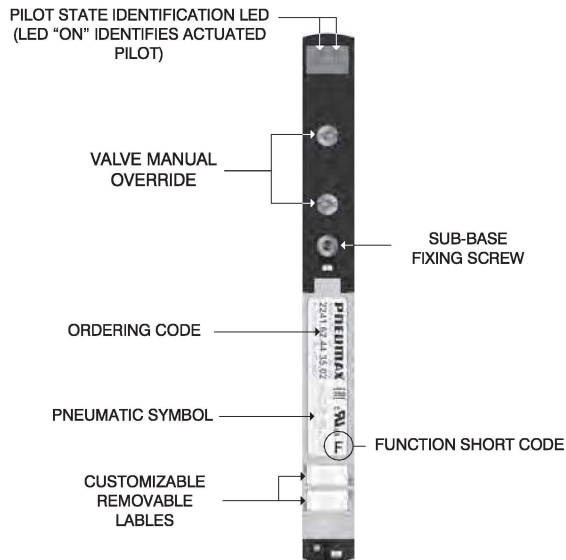


Configuration example of complete group:

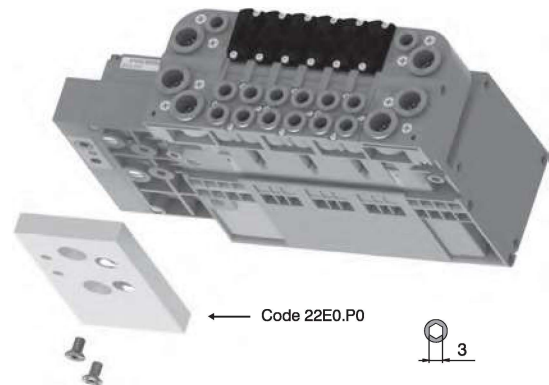
- Technopolymer PX3 serial system (P-I4-D12-M12-D8G)
- Left endplates - External feeding (E)
- Ø6 Bistable base with (6HF) Solenoid valve
- Ø6 Bistable base with (6IE) Solenoid valve
- Ø4 Monostable base with (3AA) Solenoid valve
- Ø4 Monostable base with (3BB) Solenoid valve
- Ø8 Bistable base with (8FI) Solenoid valve
- Ø8 Bistable base with (8HE) Solenoid valve
- Right endplate closed (U0)



SE-P-I4-D12-M12-D8G-E-6HF-6IE-3AA-3BB-8FI-8HE-U0

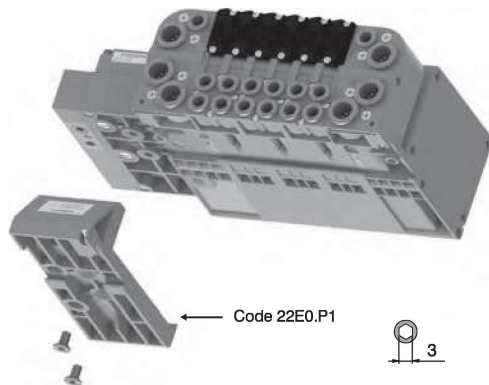


Offset compensation plate



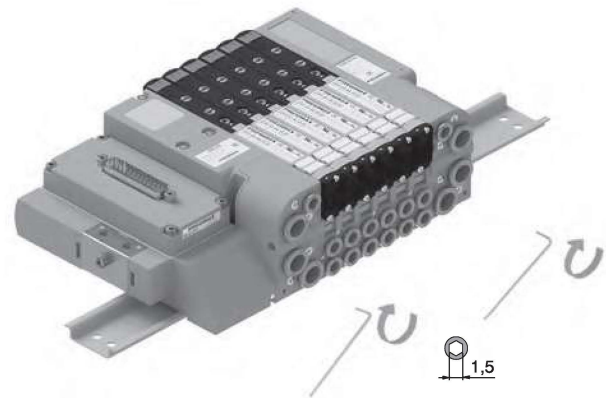
Attention: This accessory is supplied on the manifold unless otherwise stated. This is not compatible for DIN rail mounting.

DIN rail mounting support plate

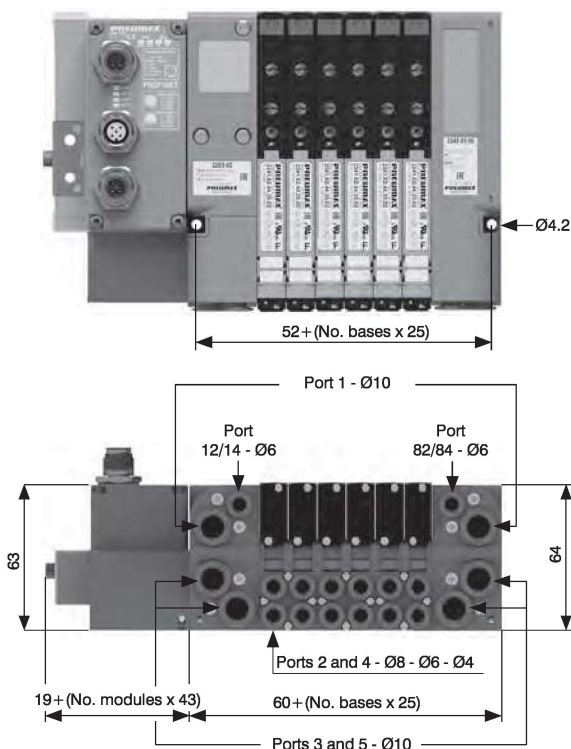


Attention: This must be included when creating the manifold configuration. Exclude the offset compensation plate.

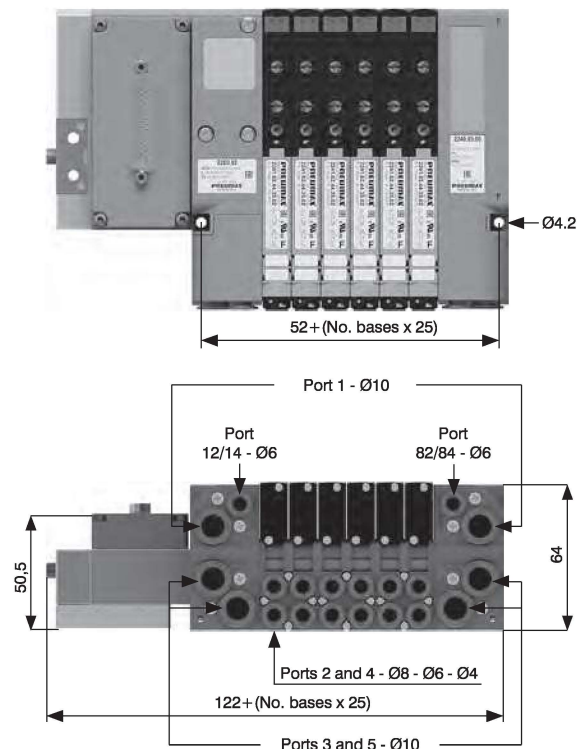
DIN rail fixing



Supply ports and maximum possible size according to valves used Serial system node version



Multi-pin version



Manual override actuation

Instable function:

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



Bistable function:

Push and turn to get the bistable function



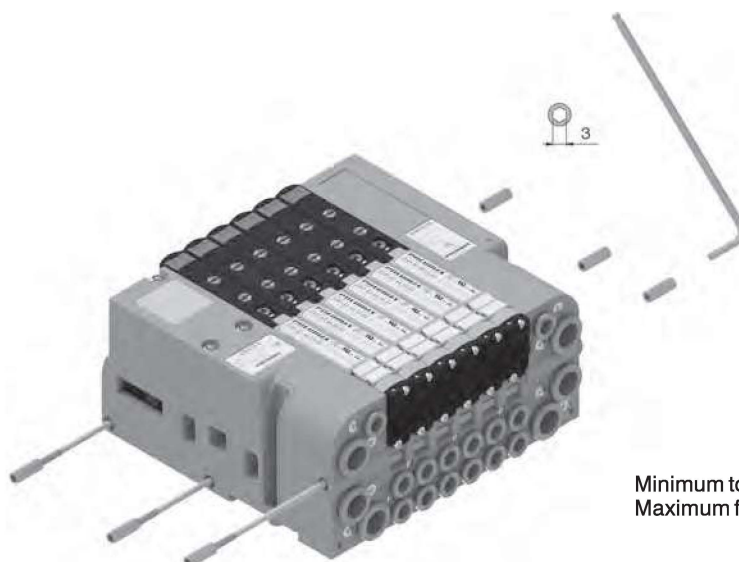
Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation



Note: Torque moment 0,8 Nm

Sub-base assembly



Minimum torque moment: 2 Nm
Maximum fixing torque for fittings: 2,5 Nm

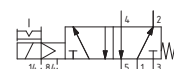
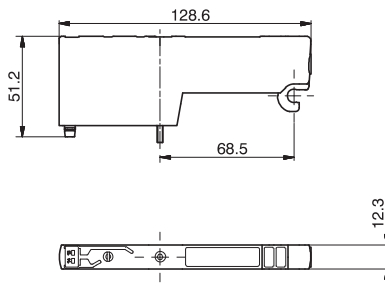
Solenoid-Spring

Coding: 2241.52.00.39.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\varnothing 4$	140
	with modular base, tube $\varnothing 6$	400
	with modular base, tube $\varnothing 8$	550
	with high flow rate modular base (2 places) $\varnothing 10$	900
Response time according to ISO 12238, activation time (ms)		15
Response time according to ISO 12238, deactivation time (ms)		20

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

SHORT FUNCTION CODE "A"
Weight 67 g



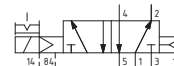
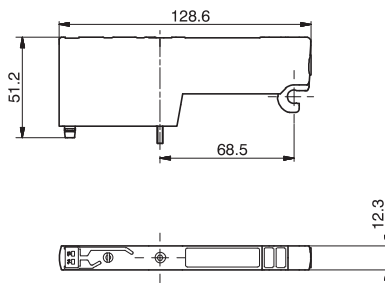
Solenoid-Differential

Coding: 2241.52.00.36.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\varnothing 4$	140
	with modular base, tube $\varnothing 6$	400
	with modular base, tube $\varnothing 8$	550
	with high flow rate modular base (2 places) $\varnothing 10$	850
Response time according to ISO 12238, activation time (ms)		20
Response time according to ISO 12238, deactivation time (ms)		25

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

SHORT FUNCTION CODE "B"
Weight 67 g



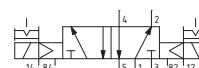
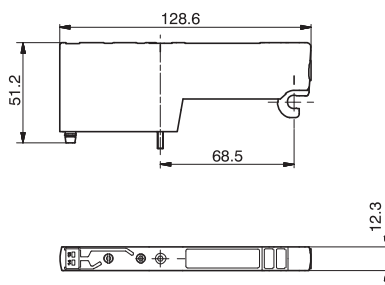
Solenoid-Solenoid

Coding: 2241.52.00.35.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\varnothing 4$	140
	with modular base, tube $\varnothing 6$	400
	with modular base, tube $\varnothing 8$	550
	with high flow rate modular base (2 places) $\varnothing 10$	900
Response time according to ISO 12238, activation time (ms)		10
Response time according to ISO 12238, deactivation time (ms)		10

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

SHORT FUNCTION CODE "C"
Weight 67 g



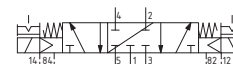
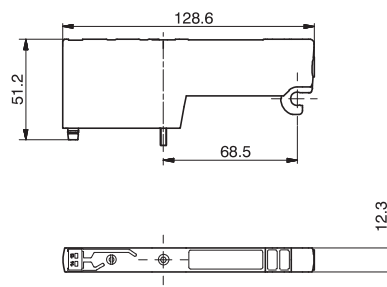
Solenoid-Solenoid 5/3 (Closed centres)

Coding: 2241.53.31.35.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	2,5 ... 7	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\phi 4$	140
	with modular base, tube $\phi 6$	300
	with modular base, tube $\phi 8$	400
	with high flow rate modular base (2 places) $\phi 10$	600
Response time according to ISO 12238, activation time (ms)		15
Response time according to ISO 12238, deactivation time (ms)		20

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

SHORT FUNCTION CODE "E"
Weight 83 g



Solenoid-Solenoid 2x3/2

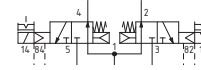
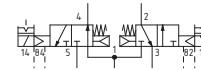
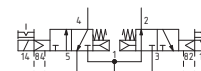
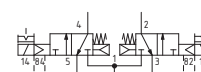
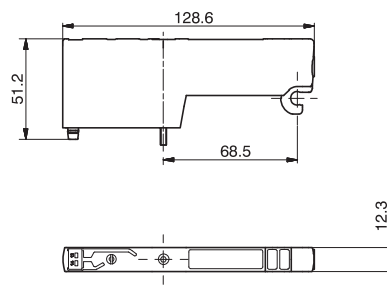
Coding: 2241.62. .35.

Technical characteristics		
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	
Working pressure (bar)	From vacuum to 10	
Pilot pressure (bar)	$\geq 3 + (0,2 \times \text{Inlet pressure})$	
Temperature °C	-5 ... +50	
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	with modular base, tube $\phi 4$	140
	with modular base, tube $\phi 6$	360
	with modular base, tube $\phi 8$	420
	with high flow rate modular base (2 places) $\phi 10$	650
Response time according to ISO 12238, activation time (ms)		15
Response time according to ISO 12238, deactivation time (ms)		25

	FUNCTION
	44 = NC-NC (5/3 Open centres)
	45 = NC-NO (normally closed-normally open)
	54 = NO-NC (normally open-normally closed)
	55 = NO-NO (5/3 Pressured centres)
	VOLTAGE
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE:
NC-NC (5/3 Open centres) = "F"
N.O. - N.O. (5/3 Pressured centres) = "G"
N.C. - N.O. = "H"
N.O. - N.C. = "I"
Weight 75 g

Example: If inlet pressure is set at 5 bar then pilot pressure must be at least $P_p = 3 + (0,2 \times 5) = 4$ bar



Coding: 22E0.V.S

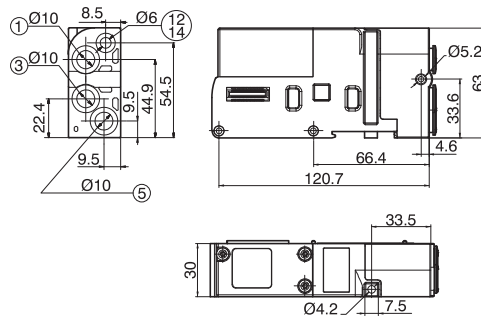
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 (External pilot base) 2,5-7 (Self-feeding base)
Pilot pressure (bar)	2,5 ... 7 (External pilot base)
Temperature °C	-5 ... +50

V	VERSION
	02 = External feeding 12 = Self-feeding



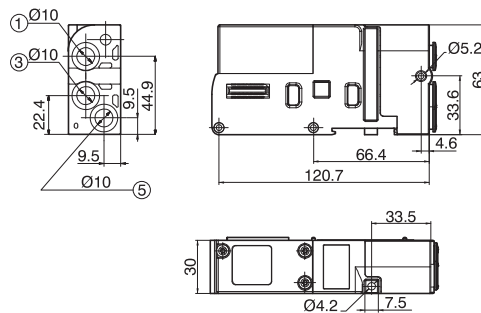
12/14 SEPARATED FROM PORT 1
Weight 199 g

22E0.02.S



12/14 CONNECTED TO PORT 1
Weight 199 g

22E0.12.S



Right Endplate

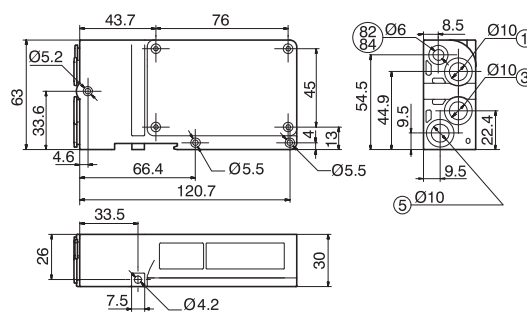
Coding: 2240.03.00

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



PORT 82/84= DO NOT PRESSURIZE, SOLENOID PILOTS
EXHAUST
Weight 148 g

2240.03.00



Modular base (2 places)

Coding: 22E^{C.F.V}

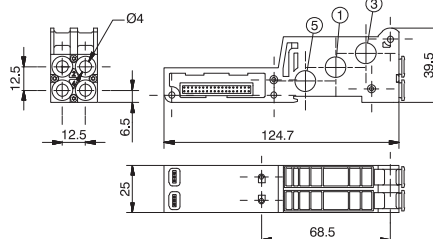
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

C	TUBE DIAMETER
	4 = Ø4
	6 = Ø6
F	FUNCTION
	01 = Opened ports
	03 = Ports 1-5 separated
V	VERSION
	M = for monostable S.V.
	B = for bistable S.V.



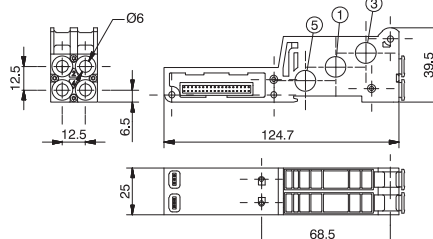
Weight 75 g

22E4^{C.F.V}



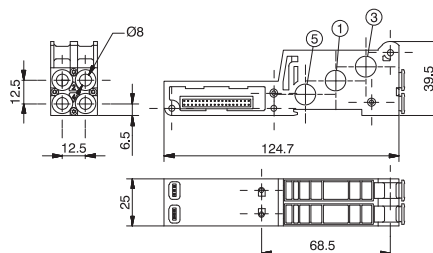
Weight 75 g

22E6^{C.F.V}



Weight 75 g

22E8^{C.F.V}



High flow rate modular base (2 places)

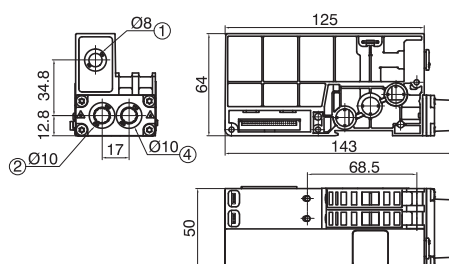
Coding: 22E1.01^V

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

V	VERSION
	M = for monostable S.V.
	B = for bistable S.V.



Weight 200 g

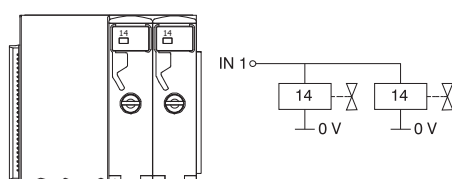


the two solenoid valves mounted on the high-flow base are pneumatically and electrically in parallel.

Attention: the mounted solenoid valves must always be two and of the same type.

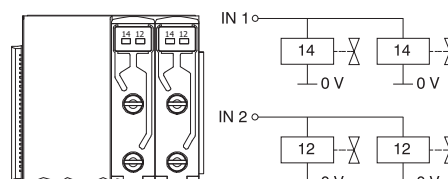
Attention: the additional supply is necessary to guarantee the declared flow values, the port (1), if not supplied, it must be plugged.

Monostable configuration



the monostable base consumes only one electrical signal and can only mount monostable solenoid valves.

Bistable configuration



the bistable base consumes two electrical signals and can mount both bistable and monostable solenoid valves; in the latter case one electrical signal will be lost.