

Series 2500 Optyma-T EVO



1

AIR DISTRIBUTION

2500 SERIES Optyma-T EVO SOLENOID VALVES MANIFOLD

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

CANopen

PROFIBUS

PROFINET

EtherCAT

EtherNet/IP

IO-Link

CC-Link IE Basic

WE SPEAK EVO

The Optyma-T 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:

- Flow rate of 750 NI/min
- Assembly with tie rods kit
- Operating using different pressures and vacuum
- Electro-pneumatic shut-off module

Construction characteristics

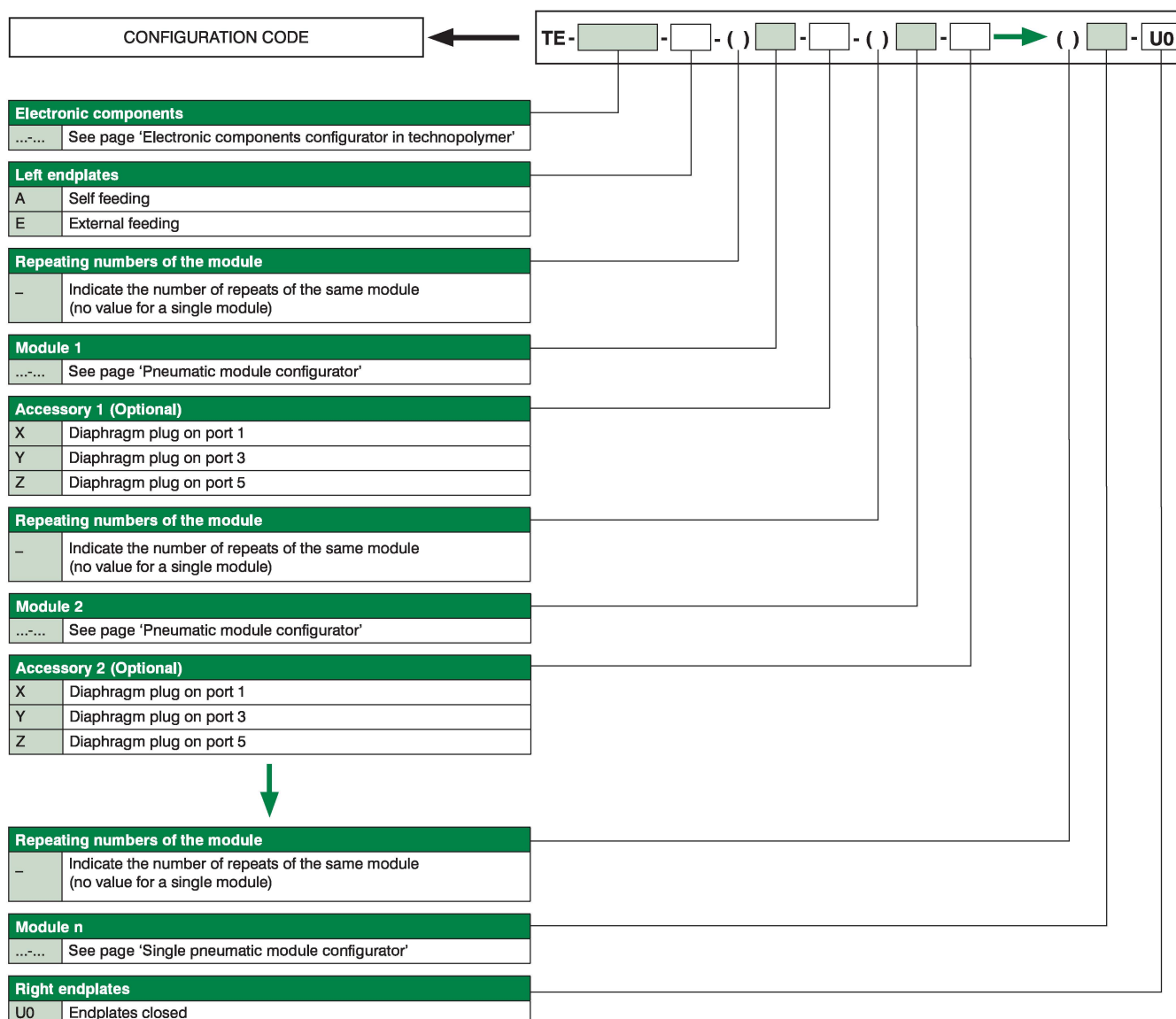
Body	Technopolymer
Seals	NBR
Piston seals	NBR
Springs	Stainless Steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Technopolymer

Operational characteristics

Supply voltage	+ 24 V DC $\pm 10\%$
Pilot consumption	1,3W
Pilot working pressure (12-14)	from 3 up 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

Rules and configuration scheme

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Configurable on Cadenas platform



Note:

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

- 32 if a 37-pole multi-pin module, a serial node or IO-Link interface are 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

Type

P Technopolymer

-

Multi-pin electrical connection

MP 2 Multi-pin, PNP 24 V DC 25 poles

MP 3 Multi-pin, PNP 24 V DC 37 poles

MN 2 Multi-pin, NPN 24 V DC 25 poles

MN 3 Multi-pin, NPN 24 V DC 37 poles

MA 2 Multi-pin, 24 V AC 25 poles

MA 3 Multi-pin, 24 V AC 37 poles

-

Electrical connection

C3 CANopen® node 64 IN - 64 OUT (32 fixed)

P3 PROFIBUS DP node 64 IN - 64 OUT (32 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)

-

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

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

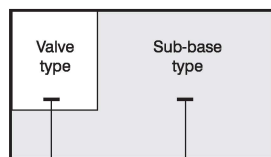
G With DIN rail fixing

SINGLE ELECTRIC MODULE CONFIGURATION

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

Modules configurator

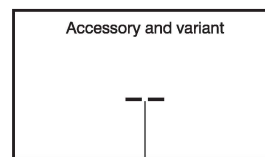
Base module configurator with Solenoid valve



Solenoid valve position	
A	S.V. 5/2 SOL.-SPRING
B	S.V. 5/2 SOL.-DIF.
C	S.V. 5/2 SOL.-SOL.
E	S.V. 5/3 CC SOL.-SOL.
F	S.V. 2x3/2 NC-NC
G	S.V. 2x3/2 NO-NO
H	S.V. 2x3/2 NC-NO
I	S.V. 2x3/2 NO-NC
T	Plug

Base	
1	Monostable base G1/8 GAS
2	Bistable base G1/8 GAS
3	Monostable base Ø4
4	Bistable base Ø4
5	Monostable base Ø6
6	Bistable base Ø6
7	Monostable base Ø8
8	Bistable base Ø8

Accessory module configurator

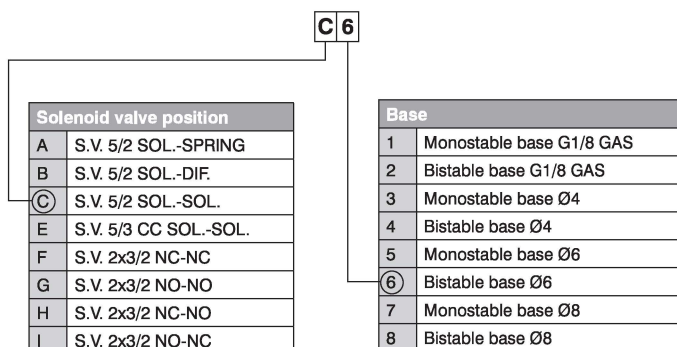


Intermediate inlet/Exhaust module	
W	Separated air supply and exhaust

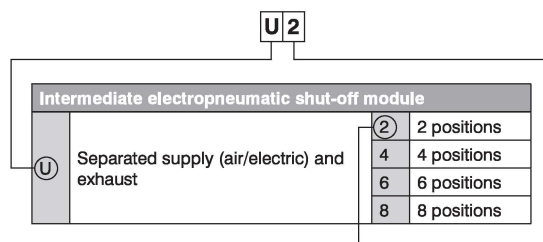
Intermediate electropneumatic shut-off module		
U	Separated supply (air/electric) and exhaust	2 2 positions
		4 4 positions
		6 6 positions
		8 8 positions
K	Separated supply (air/electric), exhaust and 12/14 piloting	2 2 positions
		4 4 positions
		6 6 positions
		8 8 positions

Configuration example of single module:

Bistable base, 5/2 Solenoid-Solenoid valve



Intermediate electropneumatic shut-off module 2 positions

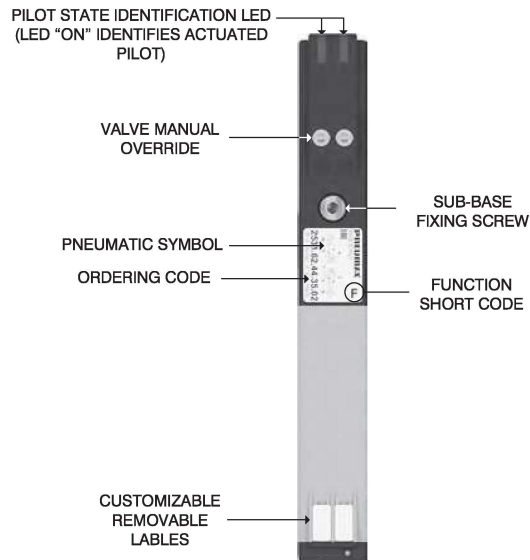


Configuration example of complete group:

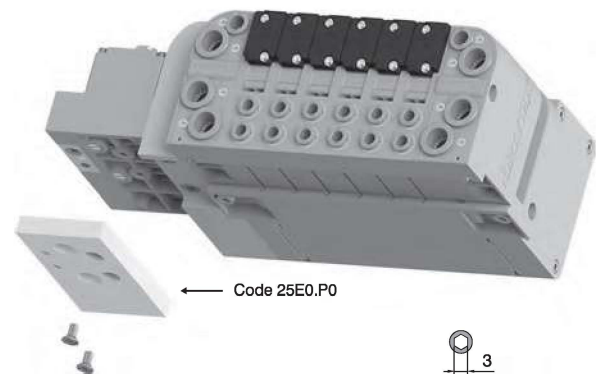
- Technopolymer PX3 serial system (P-N4-D8-M8-C1)
- Left endplates - External feeding (E)
- Bistable base with (F6) Solenoid valve
- Monostable base with (B3) Solenoid valve
- Bistable base with (E6) Solenoid valve
- Monostable base with (A5) Solenoid valve
- Monostable base with (A3) Solenoid valve
- Monostable base with (B1) Solenoid valve
- Bistable base with (C4) Solenoid valve
- Monostable base with (B3) Solenoid valve
- Right endplates closed (U0)



TE-P-N4-D8-M8-C1-E-F6-B3-E6-A5-A3-B1-C4-B3-U0

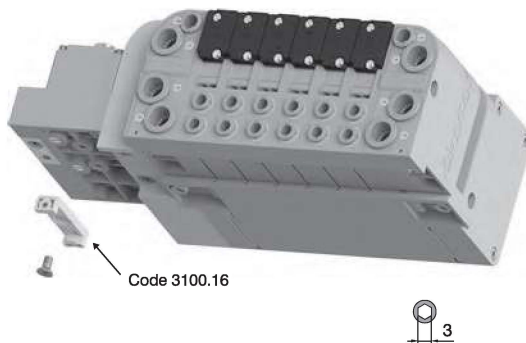


Offset compensation plate



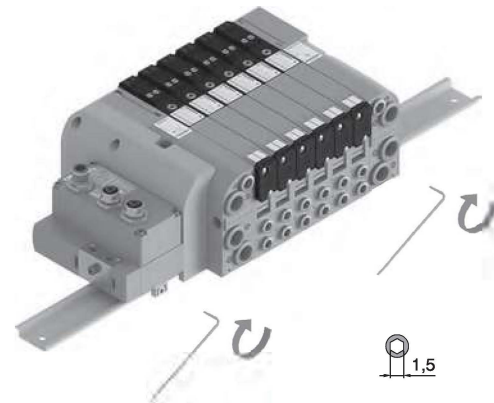
Attention: This accessory is supplied on the manifold unless otherwise stated. This is not compatible for DIN rail mounting.

DIN rail mounting support plate

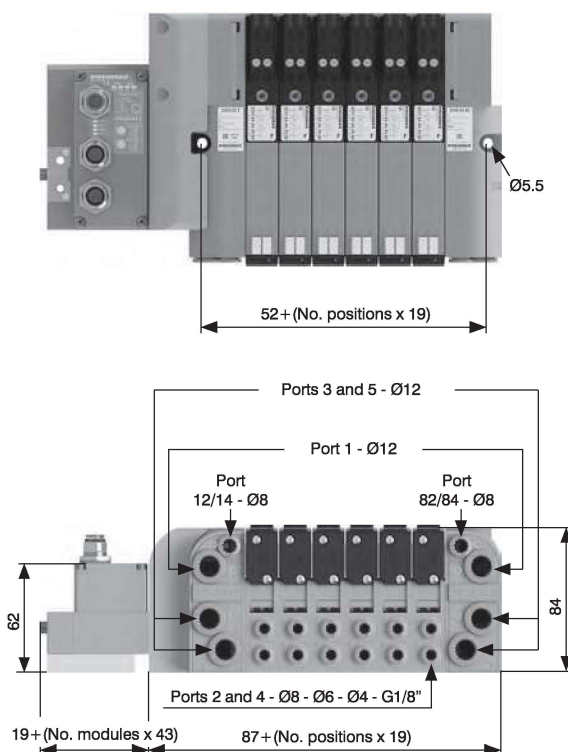


Attention: This must be included when creating the manifold configuration. Exclude the offset compensation plate.

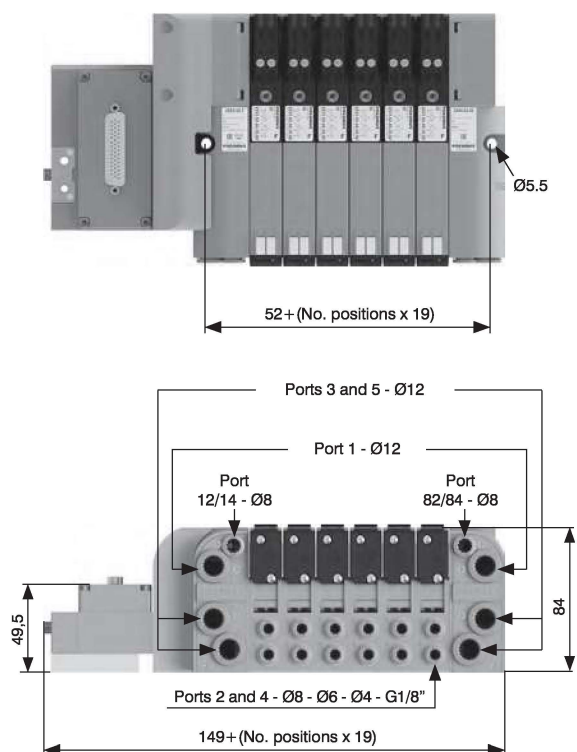
DIN rail fixing



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



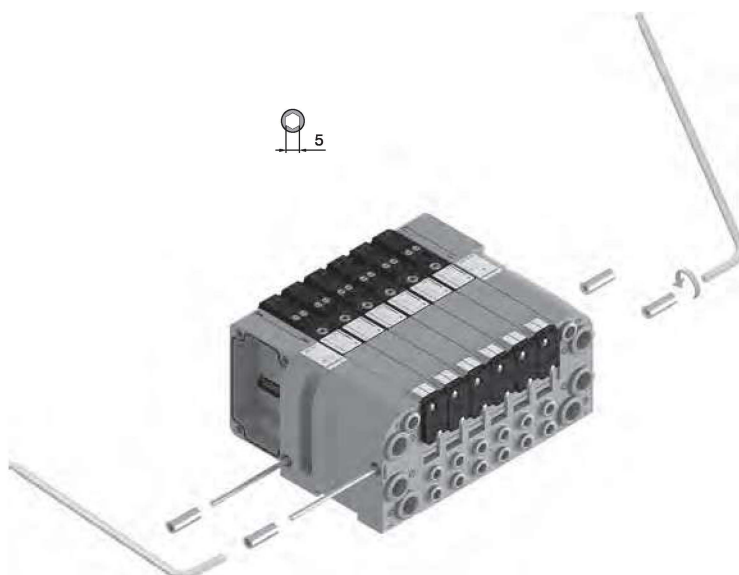
Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation



Note: Torque moment 1 Nm

Sub-base assembly



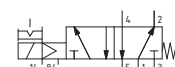
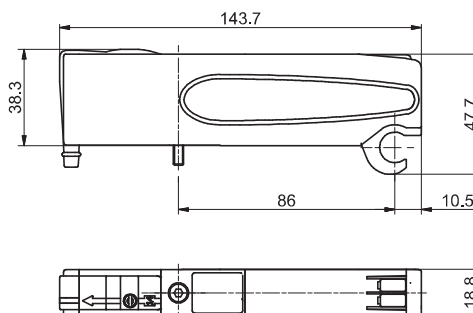
Minimum torque moment: 2,5 Nm
Maximum fixing torque for fittings: 3 Nm

Solenoid-Spring

Coding: 2541.52.00.39.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with $\Delta p=1$ (l/min)	750
Response time according to ISO 12238, activation time (ms)	14
Response time according to ISO 12238, deactivation time (ms)	40

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC
SHORT FUNCTION CODE "A"
Weight 129 g

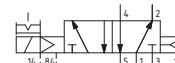
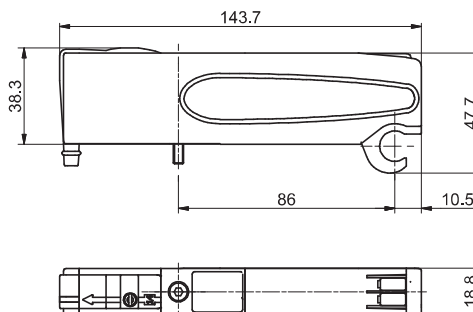


Solenoid-Differential

Coding: 2541.52.00.36.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with $\Delta p=1$ (l/min)	750
Response time according to ISO 12238, activation time (ms)	20
Response time according to ISO 12238, deactivation time (ms)	29

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC
SHORT FUNCTION CODE "B"
Weight 126 g

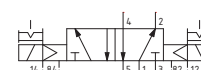
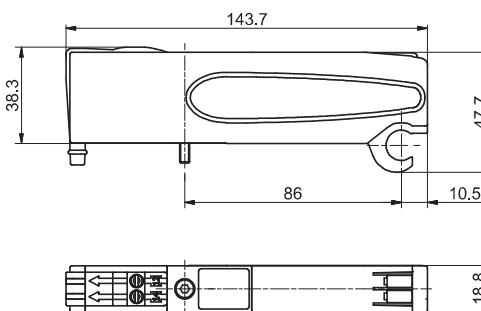


Solenoid-Solenoid

Coding: 2541.52.00.35.

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	3 ... 7
Temperature °C	-5 ... +50
Flow rate at 6 bar with $\Delta p=1$ (l/min)	750
Response time according to ISO 12238, activation time (ms)	10
Response time according to ISO 12238, deactivation time (ms)	14

VOLTAGE
02 = 24 VDC PNP
12 = 24 VDC NPN
05 = 24 VAC
SHORT FUNCTION CODE "C"
Weight 134 g





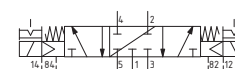
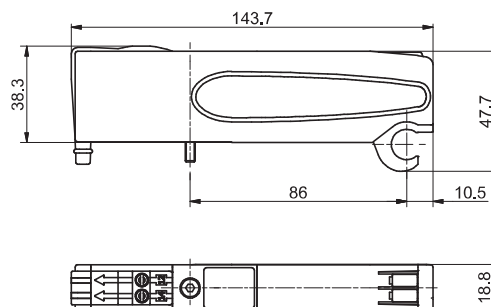
Solenoid-Solenoid 5/3

Coding: 2541.53.31.35.V

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)	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 132 g



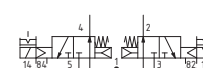
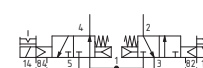
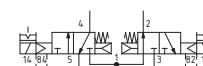
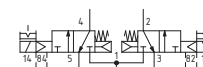
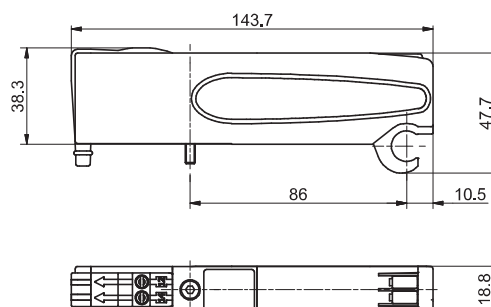
Solenoid-Solenoid 2x3/2

Coding: 2541.62.F.35.V

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)	700
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

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



Left Endplate

Coding: 25E0.●.T

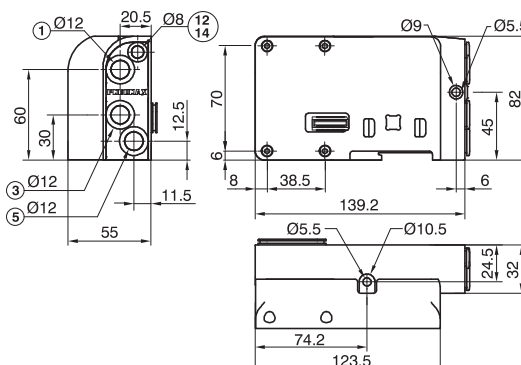
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 (external feeding) 3 ... 7 (self feeding)
Pilot pressure (bar)	3 ... 7 (external feeding)
Temperature °C	-5 ... +50

VERSION	
●	02 = External feeding
●	12 = Self-feeding



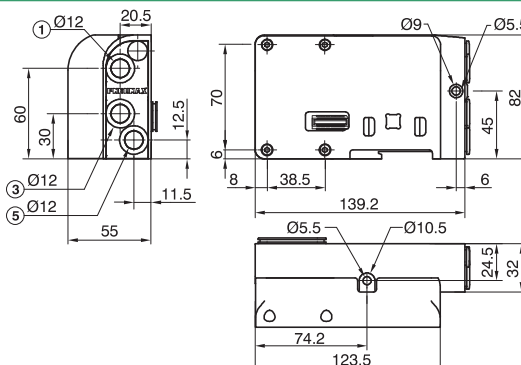
12/14 SEPARATED FROM PORT 1
Weight 300 g

25E0.02.T



12/14 CONNECTED TO PORT 1
Weight 300 g

25E0.12.T



Right Endplate

Coding: 2540.03.●

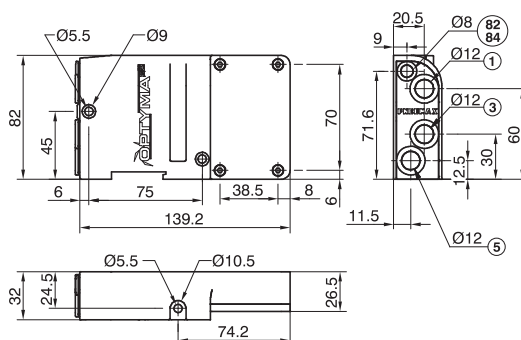
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

ELECTRICAL CONNECTION	
●	00 = Electrical connection



PORT 82/84 = DO NOT PRESSURIZE, SOLENOID PILOTS
EXHAUST
Weight 274 g

2540.03.●



Modular base

Coding: 254●.01●

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

WORKING PORTS SIZE	
●	1 = G1/8" female straight cartridge
●	4 = Cartridge Ø4
●	6 = Quick fitting tube Ø6
●	8 = Quick fitting tube Ø8
VERSION	
●	M = for monostable S.V.
●	B = for bistable S.V.



Weight 96,5 g

