

Plug-in

Electro-Pneumatic Regulator / Manifold Type

New

CE UK CA cRU US

RoHS

IP65

Connects the electro-pneumatic regulator and the fieldbus device to the same manifold.

This results in **reduced wiring**,

less man hours for piping and a **more compact size**.

Compatible protocol	PROFINET
Max. number of stations	4 stations

Electro-Pneumatic Regulator

For the stepless control of air pressure in proportion to electrical signals

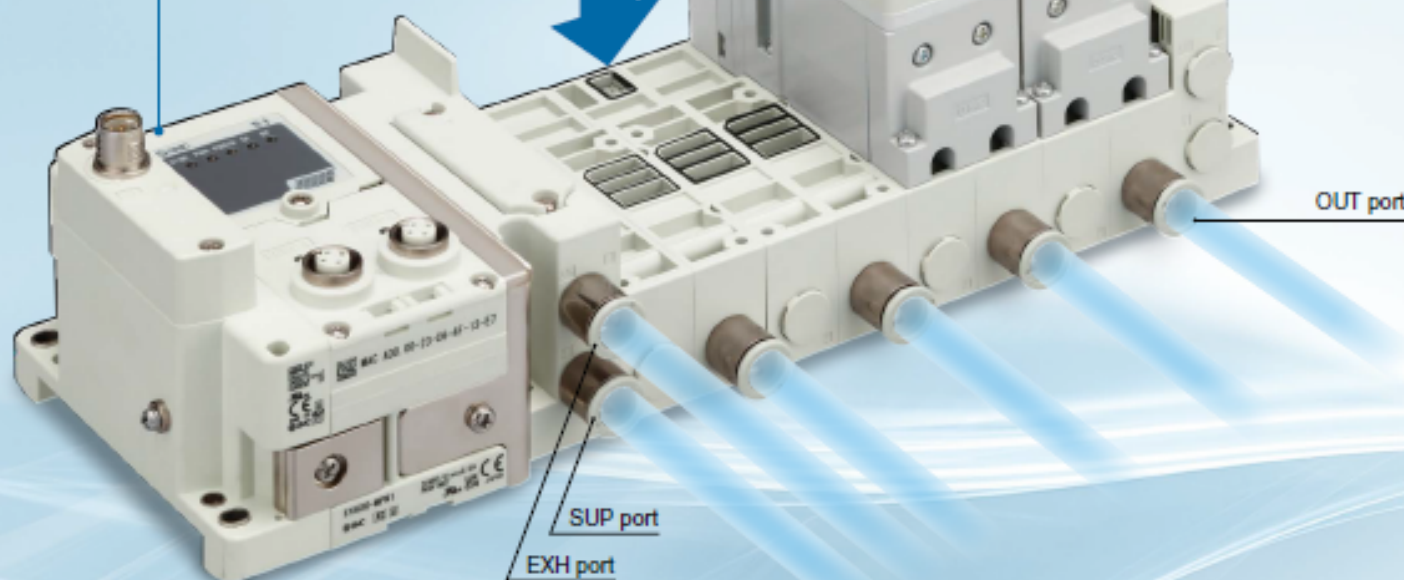
Fieldbus System

Up to 4 electro-pneumatic regulators can be connected.
(For Input/Output)

EX600 PROFINET

Connector connection requires no wiring.

With a pressure display on the output side



IITV23 Series

SMC
CAT.ES60-27A

Plug-in

Electro-Pneumatic Regulator / Manifold Type IITV23 Series



How to Order Manifolds

IITV23 - S6 F 2 - 2 U -

1 2 3 4 5 6

1 SI unit

F	PROFINET
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2 End plate

2	M12 power supply connector, B-coded
3	7/8 Inch power supply connector
4	M12 power supply connector IN/OUT, A-coded, Pin arrangement 1
5	M12 power supply connector IN/OUT, A-coded, Pin arrangement 2

6 Mounting and Option

Symbol	Mounting
Nil	Direct mounting
D	DIN rail mounting (With DIN rail)
D0	DIN rail mounting (Without DIN rail)

- Refer to page 29 for details on securing the DIN rail mounting type manifold.
- Refer to L₃ of the dimensions for the DIN rail length. When a dimension greater than L₃ is required, select D0 and order a DIN rail separately. Refer to page 20 for the DIN rail part number.

3 I/O unit stations

Nil	None
1	1 station
2	2 stations
⋮	⋮
8	8 stations

- SI unit is not included in I/O unit stations.
- When I/O unit is selected, it is shipped separately, and assembled by the customer. Refer to the operation manual for mounting.

4 Electro-pneumatic regulator stations

Symbol	Stations
2	2 stations
3	3 stations
4	4 stations

- *1 Select from 2 stations. The choice of 1 station is not available.

5 P, E port entry

U	U side
D	D side
B	Both sides
C	U side, Built-in silencer
E	D side, Built-in silencer
F	Both sides, Built-in silencer

- The 3/5(E) port is plugged for the built-in silencer type.
- When the built-in silencer type is used, keep the exhaust port from coming into direct contact with water or other liquids.
- When the number of electro-pneumatic regulator stations is 3 or more, "both sides" is recommended. Excessive back pressure may cause damage.

For details on the Fieldbus system (for Input/output) EX600 series, refer to the **Web Catalog** and the Operation Manual.

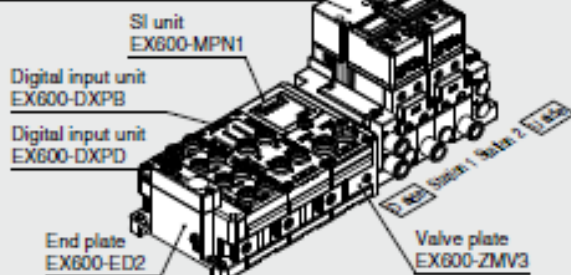
For the part numbers of the SI units to be mounted, refer to page 17. (IP40 specifications may be required according to the I/O unit to be selected.)

The part number for a valve plate connected to the IITV23 is [EX600-ZMV3]. Refer to page 22. Please download the Operation Manual via the SMC website: <https://www.smcworld.com>

How to Order Manifold Assembly

Example (IITV23-S6F22-2D)

Electro-pneumatic regulator for manifold
ITV2350-2 (2 sets)



IITV23-S6F22-2D1 set (2-station base part no.)

- * ITV2350-22 sets (0.9 MPa spec., Pressure display unit: MPa)
- * EX600-DXPB1 set I/O unit part number (Station 1)
- * EX600-DXPD1 set I/O unit part number (Station 2)

- * The asterisk denotes the symbol for the assembly.
- * Prefix it to the part numbers of the valve, etc.

For the electro-pneumatic regulator arrangement, the electro-pneumatic regulator closest to the D side is considered the 1st station. Under the manifold part number, state the electro-pneumatic regulators to be mounted in order starting with the 1st station as shown in the figure.

- Do not enter the SI unit part number and the end plate part number together.
- If the number of EX600 units is 6 stations or more, install an intermediate reinforcement bracket.

How to Order Electro-Pneumatic Regulators for Manifold (With mounting screw)

ITV 23 4 0 - 2

1 2 3

1 Pressure range

4	0.7 MPa
5	0.9 MPa

2 Output type

2	Direct output type
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3 Pressure display unit

Nil	MPa
3	bar
4*1	psi

- *1 This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

- When ordering an electro-pneumatic regulator for manifold individually, the base gasket is not included. Since the base gasket is attached to the manifold block, please contact SMC if it is needed for maintenance.



Specifications

Manifold

Wiring	Serial wiring (Dedicated EX600)
Supply/Exhaust port type	Common SUP/EXH
Port size	ø10 One-touch fitting
Electro-pneumatic regulator stations	2 to 4 stations

Formula for Weight (excluding the I/O units and options)

$$W = 539 \times n1 + 863 \text{ [g]}$$

n1: Electro-pneumatic regulator stations

Electro-Pneumatic Regulator*1

Fluid		Air		
Pressure display unit	MPa	bar	psi	
Min. supply pressure	Set pressure + 0.05 MPa	Set pressure + 0.6 bar	Set pressure + 7.25 psi	
Max. supply pressure	1.0 MPa	10 bar	145 psi	
Set pressure range (Rated)*2	0 to 0.7 MPa/0.9 MPa	0 to 7 bar/9 bar	0 to 100 psi/130 psi	
Min. set pressure	0.005 MPa	0.05 bar	1 psi	
Power supply	Voltage	24 VDC ±10% (Stabilized power supply with a ripple rate of 1% or less)		
	Current consumption	0.12 A or less		
Linearity*3	±0.009 MPa or less	±0.09 bar or less	±1.3 psi or less	
Hysteresis*3	0.0045 MPa or less	0.045 bar or less	0.65 psi or less	
Repeatability*3	±0.0045 MPa or less	±0.045 bar or less	±0.65 psi or less	
Sensitivity	±0.2% F.S. (Input signal variation: 8/4095 (12 bit) or more)			
Temperature characteristics	±0.00108 MPa/°C or less	±0.0108 bar/°C or less	±0.156 psi/°C or less	
Step response*4	0.3 s or less			
Output pressure display*5	Display type	3-digit, 7-segment LED, 1-color display (Red)		
	Accuracy	±0.018 MPa ±1 digit or less	±0.18 bar ±1 digit or less	±3 psi ±1 digit or less
	Min. unit	0.001 (Actual display: .001)	0.01	1
Ambient and fluid temperatures	0 to 50°C (No condensation)			
Enclosure	IP65			
Weight	Approx. 390 g (Without accessories)			

*1 This specification table shows the characteristics at a power supply voltage of 24 VDC, ambient temperature of 25 ±3°C, and no load applied.

Only in static conditions, the pressure may fluctuate when air is consumed on the output side.

*2 When the input signal is 0%, there is residual pressure equal to or less than the minimum set pressure.

In cases where the pressure needs to be reduced completely to 0, install a 3-port valve, etc., on the output side to discharge the residual pressure.

*3 Compliant with ISO 10094

*4 This is the characteristics to reach 90% of the set pressure when the step amount are [0 → 100%], [25 → 75%], and [45 → 55%] under the max. supply pressure conditions.

*5 The zero/span adjustment values are set by the minimum unit of the output pressure display. Note that the unit cannot be changed.

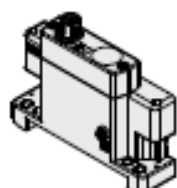


Specifications

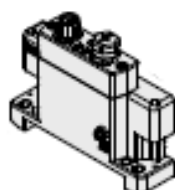
SI Unit (For the Electro-Pneumatic Regulator/Manifold Type) PROFINET

Model		EX600-MPN1
Communication	Protocol	PROFINET IO (Conformance Class C)
	Communication speed	100 Mbps
	Configuration file*1	GSDML file
	Applicable function	
		MRP
		System Redundancy S2
		Web server
Internal current consumption (Power supply for control/input)		0.17 A or less
Output	Electro-pneumatic regulator for manifold	Up to 4 units
Standards		CE/UKCA marking, UL (CSA)
Weight		310 g
Environmental resistance	Operating temperature range	Operating: -10 to +50°C, Stored: -20 to +60°C
	Operating humidity range	35 to 85% RH (No condensation)
	Withstand voltage	500 VAC for 1 minute between external terminals and FE
	Insulation resistance	500 VDC, 10 MΩ or more between external terminals and FE

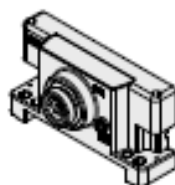
*1 The configuration file can be downloaded from the SMC website: <https://www.smcworld.com>



EX600-ED2-□



EX600-ED4/5-□

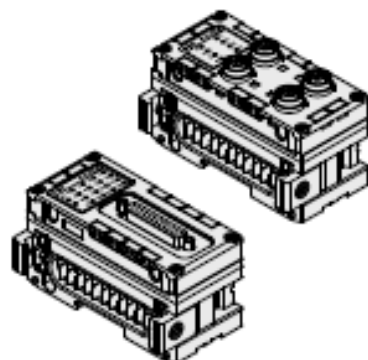


EX600-ED3-□

End Plate

Model		EX600-ED2-□	EX600-ED3-□	EX600-ED4/5-□	
Power supply	Power supply connector	PWR IN	M12 (5-pin) plug	7/8 Inch (5-pin) plug	M12 (4-pin) plug
		PWR OUT	—	—	M12 (5-pin) socket
	Rated voltage	Power supply for control/input	24 VDC ±10%		
		Power supply for output	24 VDC +10/-5%		
	Rated current	Power supply for control/input	Max. 2 A	Max. 8 A	Max. 4 A
		Power supply for output			
Enclosure		IP67 (Manifold assembly)			
Standards*2		CE/UKCA marking, UL (CSA)			
Weight		170 g	175 g	170 g	

*2 The EX600-ED4/5-□ is not compliant with UL (CSA) standards.



I/O Unit

Refer to the Web Catalog of the Fieldbus system (for Input/output) EX600 series.