

Electro-Pneumatic Regulator/Electronic Vacuum Regulator

Series ITV

- Stepless control of air pressure proportional to an electrical signal
- Series ITV1000/2000/3000 are compatible with various input specifications, including serial communications.



Serial communications specifications

Applicable Fieldbus protocols



Built-in communication board, so no converter needed.

RS-232C specification to serial communications is standardized.

Compact/lightweight (Integrated communication parts)

Weight: **350 g** ^{Note 1)} (ITV1000)

Power consumption: **4 w** ^{Note 1)} or less

Note 1) Value for communications type. (PROFIBUS DP)



Electro-Pneumatic Regulators

Note 2) ITV1000. Dimensions in parentheses () are for the CC-Link or PROFIBUS DP.

Series ITV0000

Maximum flow rate
6 L/min (ANR)
Set pressure: 0.6 MPa
Supply pressure: 1.0 MPa



Series ITV1000

Maximum flow rate
200 L/min (ANR)
Set pressure: 0.6 MPa
Supply pressure: 1.0 MPa
Grease-free specification (wetted parts)



Series ITV2000

Maximum flow rate
1500 L/min (ANR)
Set pressure: 0.6 MPa
Supply pressure: 1.0 MPa



Series ITV3000

Maximum flow rate
4000 L/min (ANR)
Set pressure: 0.6 MPa
Supply pressure: 1.0 MPa



Electronic Vacuum Regulators

Series ITV009



Series ITV209



ARJ

AR425 to 935

ARX

AMR

ARM

ARP

IR

IRV

VEX

SRH

SRP

SRF

VCHR

ITV

IC

ITVX

PVQ

VEF

VEP

VER

VEA

VY1

VBA

VBAT

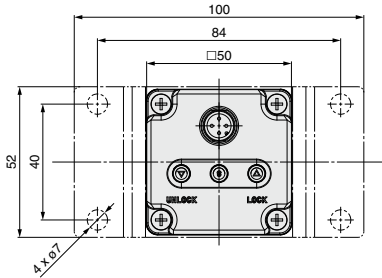
AP100

Series ITV1000/2000/3000

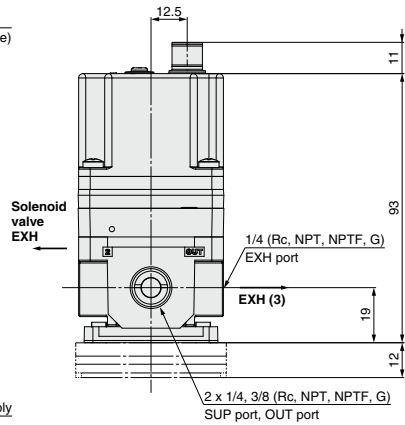
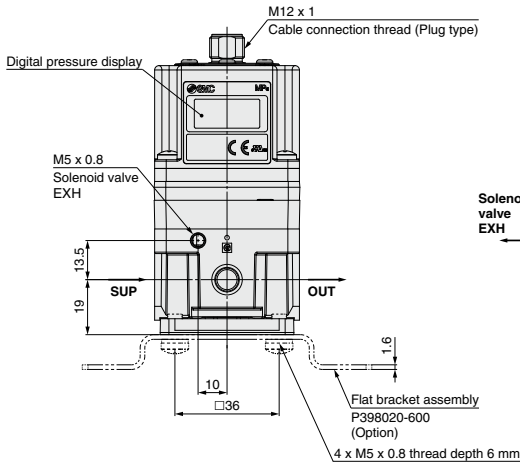
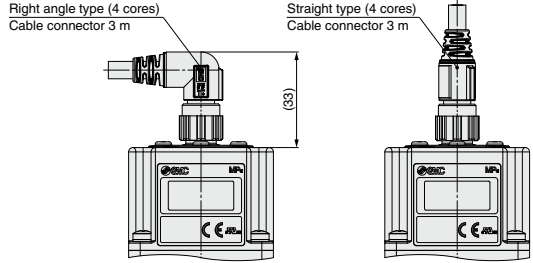
Dimensions

ITV20□□

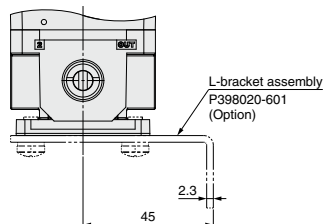
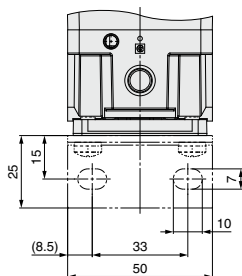
Flat bracket



Note) Do not attempt to rotate, as the cable connector does not turn.



L-bracket



Made to Order Specifications 3

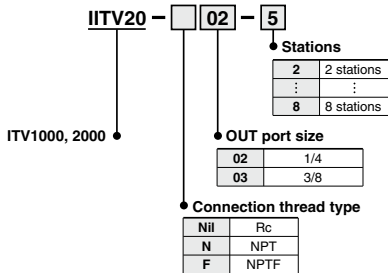
Please contact SMC for detailed dimensions, specifications and lead times.



5 Manifold Specifications (Except Series ITV3000)

2 through 8 station manifold.

How to Order Manifolds



How to Order for Manifold Mounted

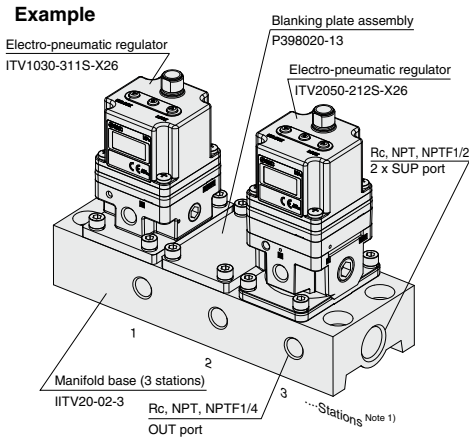
ITV 0 - - X26
 ITV 0 - - X26

- Note 1) □ in part number is the same model no. for the standard products.
- Note 2) For communication models, consult SMC for availability.
- Note 3) The thread type is Rc only.
- Note 4) For Series ITV1000, the port size is 1/8 only.
- Note 5) For Series ITV2000, the port size is 1/4 only.
- Note 6) The bracket accessory can not be selected.
- Note 7) Not applicable to Series ITV3000

ITV20-02-31 set (3 station manifold base part no.)
 *ITV1030-311S-X261 set (Electro-pneumatic regulator part no.) ^{Note 2)}
 *P398020-131 set (Blanking plate assembly part no.)
 *ITV2050-212S-X261 set (Electro-pneumatic regulator part no.) ^{Note 2)}

The * is the symbol for mounting. Add the * symbol at the beginning of part numbers for electro-pneumatic regulators, etc. to be mounted on the base.

How to Order Manifold Assemblies



Note) Refer to the table below for possible mixed combination.

Model	ITV101□	ITV103□	ITV105□	ITV201□	ITV203□	ITV205□
ITV101□	●	—	—	●	—	—
ITV103□	—	●	—	—	●	—
ITV105□	—	—	●	—	—	●
ITV201□	●	—	—	●	—	—
ITV203□	—	●	—	—	●	—
ITV205□	—	—	●	—	—	●

- Note 1) Electro-pneumatic regulators are counted starting from station 1 on the left side with the OUT ports in front.
- Note 2) The port size for mounted electro-pneumatic regulators is Rc 1/8 (ITV1000), Rc 1/4 (ITV2000) only.
- Note 3) When there is a large number of stations, use piping with the largest possible inside diameter for the supply side, such as steel piping.
- Note 4) The use of the straight type cable connector is recommended. To mount right angle type, be certain to check that no possible interference occurs.
- Note 5) When mounting a blanking plate and the regulator with different pressure set, please inform SMC of the order of a manifold station beside a purchase order.

ARJ
AR425 to 935
ARX
AMR
ARM
ARP
IR
IRV
VEX
SRH
SRP
SRF
VCHR
ITV
IC
ITVX
PVQ
VEF
VEP
VER
VEA
VY1
VBA
VBAT
AP100

Made to Order Specifications 5

Please contact SMC for detailed dimensions, specifications, and lead times.



7 With Alarm Output

Alarm is output if the set pressure is not reached or maintained for 5 seconds or more.

Application examples: Pressure management for thrust control, etc.

Model **ITV 3 0 1 0 - 0 2 2 S - X420**

Pressure range

1	0.1 MPa
3	0.5 MPa
5	0.9 MPa

Power supply voltage

0	24 VDC
1	12 to 15 VDC

Input signal

0	Current type 4 to 20 mA DC (Sink type)
1	Current type 0 to 20 mA DC (Sink type)
2	Voltage type 0 to 5 VDC
3	Voltage type 0 to 10 VDC

Monitor output

2	Alarm output/NPN output
3	Alarm output/PNP output

Thread type

Nil	Rc
N	NPT
T	NPTF
F	G

Cable connector type

S	Straight type 3 m
L	Right angle type 3 m
N	Without cable connector

Bracket *

Nil	Without bracket
B	Flat bracket
C	L-bracket

* Bracket is included.

Port size

1	1/8 (1000 type)
2	1/4 (1000, 2000, 3000 type)
3	3/8 (2000, 3000 type)
4	1/2 (3000 type)

Pressure display unit

Nil	MPa
2 (Note)	kgf/cm ²
3	bar
4 (Note)	psi
5	kPa

Note) Under Japan's new Measurement Act, this is only for overseas sales (SI units are to be used inside Japan).

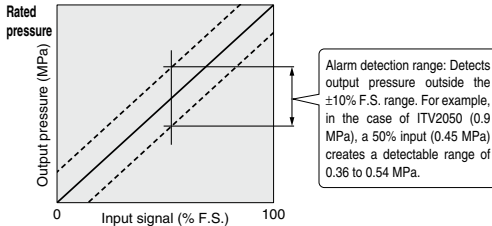


Figure 1. Alarm output range

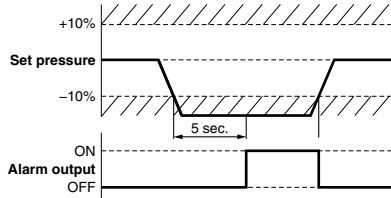


Figure 2. Relationship between output pressure and alarm output

Specifications

Fluid	Air	
Minimum supply pressure	Set pressure +0.1 MPa	
Maximum supply pressure	1.0 MPa (Pressure range 0.1 MPa type: 0.2 MPa) 1.5 MPa (Pressure range 0.1 MPa type: 0.3 MPa)	
Proof pressure	(Supply side)	1 MPa (Pressure range 0.1 MPa type: 0.2 MPa)
	(Output side)	1 MPa (Pressure range 0.1 MPa type: 0.2 MPa)
Set pressure range	1: 0.005 to 0.1 MPa, 3: 0.005 to 0.5 MPa, 5: 0.005 to 0.9 MPa	
Power supply voltage	0: 24 VDC ±10%, 1: 12 to 15 VDC 0.12 A or less (24 VDC ±10% type) 0.18 A or less (12 to 15 VDC type)	
Current consumption	0: 4 to 20 mA, 1: 0 to 20 mA, 2: 0 to 5 VDC, 3: 0 to 10 VDC	
Input signal	Voltage type: Approx. 6.5 kΩ, Current type: 250 Ω or less	
Output signal	Alarm output (NPN/PNP)	
Linearity	±1.0% F.S. or less	
Hysteresis	0.5% F.S. or less	
Repeatability	±0.5% F.S. or less	
Sensitivity	0.2% F.S. or less	
Temperature characteristics	±0.12% F.S./°C or less ±2% F.S. ±1 digit or less	
Output pressure display	Accuracy	MPa: 0.001, kgf/cm ² : 0.01, bar: 0.01, psi: 0.1, kPa: 1
	Minimum unit	
Ambient and fluid temperature	0 to 50°C (No condensation)	
Enclosure	IP65	
Weight	ITV1000□: Approx. 250 g, ITV2000□: Approx. 350 g, ITV3000□: Approx. 645 g (without brackets)	

The above characteristics (specifications) are confined to the static state. When air is consumed on the output side, the pressure may fluctuate.

- ARJ
- AR425 to 935
- ARX
- AMR
- ARM
- ARP
- IR
- IRV
- VEV
- SRH
- SRP
- SRF
- VCHR
- ITV
- IC
- ITVX
- PVQ
- VEF
- VEP
- VER
- VEA
- VY1
- VBA
- VBAT
- AP100