

Compact Electro-pneumatic Regulator Series *ITV0000*

How to Order

For single unit and single unit for manifold

ITV00 1 0 - 3 N

Pressure range

1	0.1 MPa
3	0.5 MPa
5	0.9 MPa
9*	-100 kPa

* Option

Power supply voltage

0	24 VDC ±10%
1*	12 to 15 VDC

* Option

Input signal

0*	Current type 4 to 20 m A DC
1*	Current type 0 to 20 m A DC
2*	Voltage type 0 to 5 VDC
3	Voltage type 0 to 10 VDC

* Option

Built-in One-touch fittings type

For single unit

Symbol	SUP (VAC) ①	OUT ②	EXH (ATM) ③
Nil	Metric size (Light gray)	ø4	
U	Inch size (Orange)	ø5/32"	

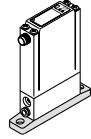
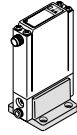
For manifold

Symbol	SUP (VAC) ①	OUT ②	EXH (ATM) ③	
Nil	Metric size (Light gray)	ø6	ø4	ø6
U	Inch size (Orange)	ø1/4"	ø5/32"	ø1/4"

Cable connector (Option)

N	Without cable connector
S	Straight type 3 m
L	Right angle type 2 m

Bracket/ Option for single unit only

Nil	Without bracket
B	Flat Bracket 
C	L-bracket 

Base type

Nil	For single unit
M	For manifolds

Manifold

IITV00 - 02 - n

Stations

02	2 stations
03	3 stations
⋮	⋮
10	10 stations

Option
If a DIN rail longer than the specified stations is required, specify the appli cable stations in two digits.
(Maximum 10 stations)
Example) **IITV00-05-07**

Note) A DIN rail with the length specified by the number of stations is attached to the manifold. For dimensions of the DIN rail, refer to the external dimensions.

How to Order Manifold Assembly (Example)

Indicate the part numbers of electro-pneumatic regulators and options to be mounted below the manifold part number.

Example)

Due to the common supply/exhaust feature, note that different pressure range combinations are not available.

IITV00-03.....1 set (Manifold part no.)

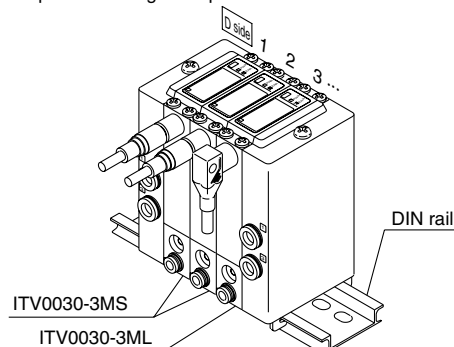
*ITV0030-3MS.....2 sets (Electro-pneumatic regulator part no. (1, 2 stations))

*ITV0030-3ML.....1 set (Electro-pneumatic regulator part no. (3 stations))

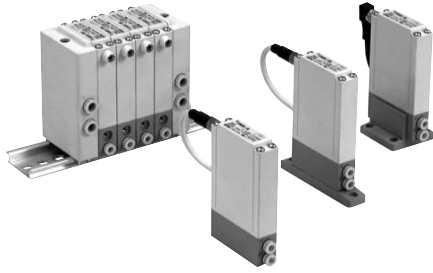
Indicate part numbers in order starting from the first station on the D side.

Note) Combination with having different pressure ranges is not available due to common supply/exhaust features.

The asterisk (*) specifies mounting. Add an asterisk (*) at the beginning of electro-pneumatic regulator part numbers to be mounted.



Series ITV0000



Specifications

Model		ITV001□	ITV003□	ITV005□	ITV009□
Min. supply pressure		Set pressure +0.1 MPa			Set pressure -1 kPa
Max. supply pressure		0.2 MPa	1.0 MPa		-101 kPa
Regulating pressure range		0.001 to 0.1 MPa	0.001 to 0.5 MPa	0.001 to 0.9 MPa	-1 to -100 kPa
Maximum flow rate		3.5 l/min(ANR) (Supply pressure: 0.2 MPa)	6 l/min(ANR) (Supply pressure: 0.6 MPa)	6 l/min(ANR) (Supply pressure: 0.6 MPa)	2 l/min(ANR) (Supply pressure: -101 kPa)
Power supply	Voltage	24 VDC ±10%, 12 to 15 VDC			
	Current consumption	Power supply voltage 24 VDC type: 0.12 A or less Power supply voltage 12 to 15 VDC type: 0.18 A or less			
Input signal	Voltage type	0 to 5 VDC, 0 to 10 VDC			
	Current type	4 to 20 mA DC, 0 to 20 mA DC			
Input impedance	Voltage type	Approximately 10 kΩ			
	Current type	Approximately 250 Ω			
Output signal	Analog output	1 to 5 VDC (Load impedance: 1 kΩ or more) Output accuracy: Within ±6% (Full span)			
Linearity		Within ±1% (Full span)			
Hysteresis		Within 0.5% (Full span)			
Repeatability		Within ±0.5% (Full span)			
Sensitivity		Within 0.2% (Full span)			
Temperature characteristics		Within ±0.12% (Full span)/°C			
Operating temperature range		0 to 50°C (With no condensation)			
Enclosure		IP65 equivalent *			
Connection type		Built-in One-touch fittings			
Connection size	For single unit	Metric size	①, ②, ③: ø4		
		Inch size	①, ②, ③: ø5/32"		
	Manifold	Metric size	①, ③: ø6, ②: ø4		
		Inch size	①, ③: ø1/4", ②: ø5/32"		
Weight ⁽¹⁾		100 g or less (without options)			

Note 1) Indicates the weight of a single unit.

For IITV00-n

Total weight (g) ≤ Stations (n) x 100 + 130 (Weight of end block A, B assembly) + Weight (g) of DIN rail

Note 2) Specifications other than the following are optional. Pressure range: 0.1 MPa, 0.5 MPa, 0.9 MPa, Power supply voltage: 24 VDC, Input signal: 0 to 10 VDC

Note 3) When there is a downstream flow consumption, pressure may become unstable depending on piping conditions.

* When using under the conditions equivalent to IP65, connect the fitting or tube to the breathing hole prior to use. (For details, refer to page 14-8-11 in Specific Product Precautions.)

Option

Bracket

Flat bracket assembly
P39800022



L-bracket assembly
P39800023



Tightening torque when assembling is 0.3 N·m.

Cable connector

Straight type
M8-4DSX3MG4



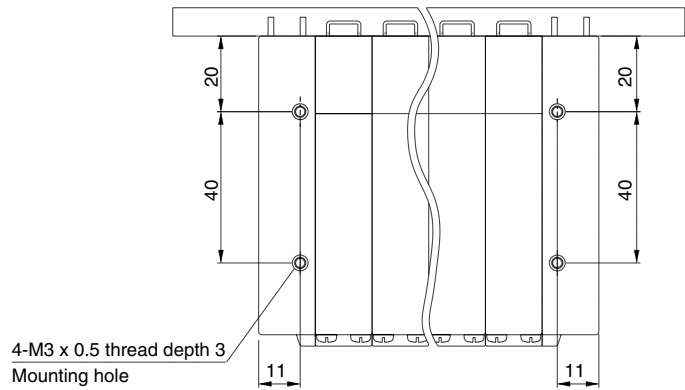
Right angle type
ELWIK-AKV4408 PVC025 2M



Series ITV0000

Dimensions

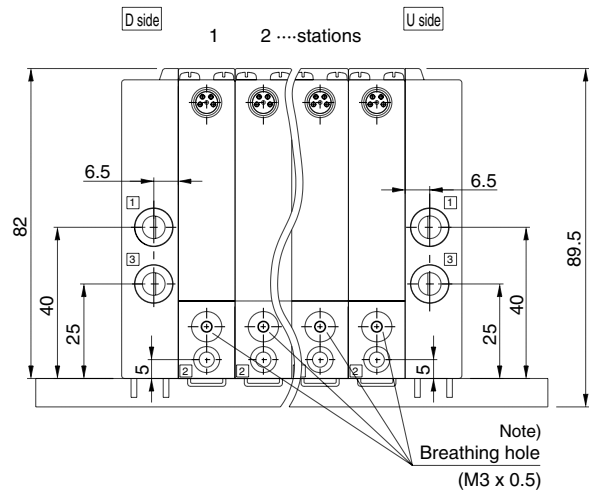
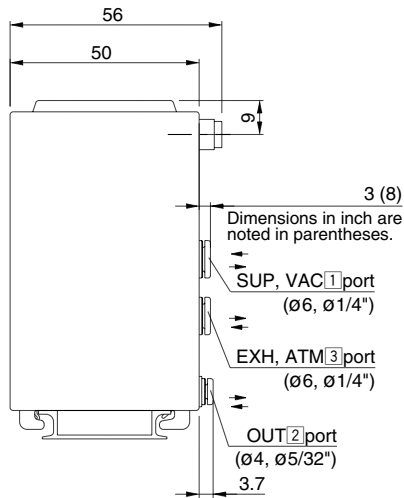
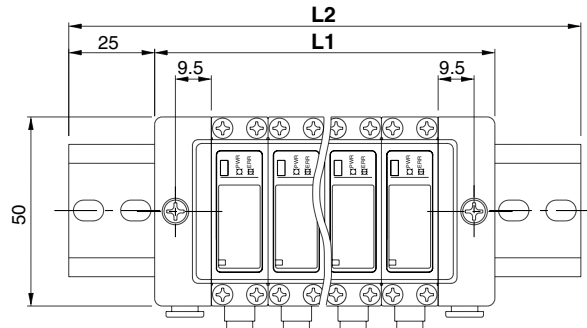
Manifold



Port Location

No.	1	2	3
1 ITV003 □	SUP	OUT	EXH
5 ITV009 □	VAC		ATM

Note) Stations are counted starting from the D side.



Note) For dimensions of the cable connector, refer to single unit on page 14-8-8.

Note) When using under the conditions equivalent to IP65, connect the fittings or tubing to the bleed hole prior to use. (For details, refer to "Specific Product Precautions" on page 14-8-11.)

Manifold stations n	2	3	4	5	6	7	8	9	10
L1	60	75	90	105	120	135	150	165	180
L2	110.5	123	148	160.5	173	185.5	198	223	235.5

⚠ Precautions

Be sure to read before handling. Refer to pages 14-21-3 to 14-21-4 for Safety Instructions and Common Precautions.

Air Supply

⚠ Caution

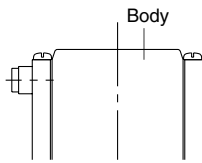
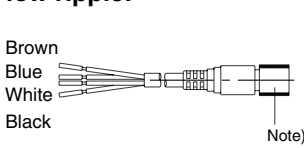
1. Install an air filter near this product on the supply side. Select a filtration degree of 5 μm or less.
2. Compressed air containing large amounts of drainage can cause malfunction of this product and other pneumatic equipment. As a countermeasure, install an aftercooler, air dryer or Drain Catch, etc.
3. If large amounts of carbon dust are generated by the compressor, it can accumulate inside this product and cause malfunction.

For details on the above compressed air quality, refer to 14-14-2.

Wiring

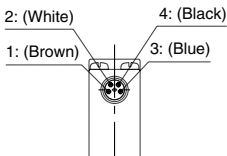
⚠ Caution

Connect the cable to the connector on the body with the wiring arranged as shown below. Proceed carefully, as incorrect wiring can cause damage. Further, use DC power with sufficient capacity and a low ripple.



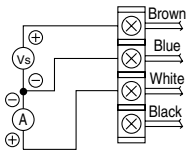
Terminal no.	1	2	3	4
Lead wire color	Brown	White	Blue	Black
Wiring	Power supply	Signal	COM	Monitor

(Note) A right angle type is also available. The entry directions for the right angle type connector is downward (OUT port side). Never turn the connector as it is not designed to turn. If forced, it will damage the connector port.



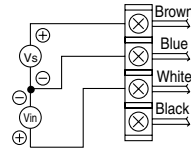
Wiring diagram

Current signal type



Vs : Power supply 24 VDC
 12 to 15 VDC
 A : Input signal 4 to 20 ADC
 0 to 20 ADC

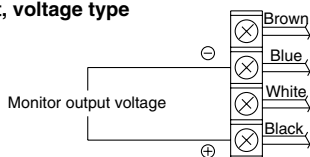
Voltage signal type



Vs : Power supply 24 VDC
 12 to 15 VDC
 Vin : Input signal 0 to 5 VDC
 0 to 10 VDC

Monitor output wiring diagram

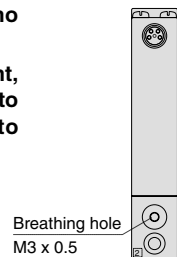
Analog output, voltage type



Handling

⚠ Caution

1. Do not use a lubricator on the supply side of this product, as this can cause a malfunction. When lubrication of terminal equipment is necessary, connect a lubricator on the output side of this regulator.
2. If electric power is shut off while pressure is being applied, output pressure will be maintained. However, this output pressure is held only temporarily and is not guaranteed. If exhausting of this pressure is desired, shut off the power after reducing the set pressure, and discharge the air using a residual pressure exhaust valve, etc.
3. If power supply to this regulator is cut off due to a power failure, etc., when it is in a regulated state, output pressure will be maintained temporarily. Handle carefully when operating with output pressure released to the atmosphere, as air will continue to flow out until reaching atmospheric pressure.
4. If supply pressure to this regulator is interrupted while the power is still on, the internal solenoid valve will continue to operate and a humming noise may be generated. Since the life of the solenoid valve may be shortened by this, be sure to shut off the power supply when supply pressure is shut off.
5. This product is adjusted for each specification at the time of shipment from the factory. Avoid unnecessary disassembly or removal of parts, as this can lead to a malfunction.
6. The optional cable connector is a 4-wire type. When the monitor output (analog output) is not being used, keep the monitor output wire (black) from touching the other wires as this can cause a malfunction.
7. Use caution that the right angle cable does not rotate and is limited to only one entry direction.
8. Take the following steps to avoid malfunction caused by noise.
 - 1) Remove power supply noise during operation by installing a line filter, etc. in the AC power line.
 - 2) Install this product and its wiring as far as possible from strong electric fields such as those of motors and power lines, etc.
 - 3) Make sure to take protective measures against load surge for an induction load (solenoid valves, relays, etc.).
9. Characteristics are limited only to the static state, and when air is consumed on the output side, pressure may fluctuate.
10. For details on the handling of this product, refer to the instruction manual included with the product.
11. In locations where the body is exposed to water, dust, etc., there is a possibility that they can enter into the body through the breathing hole. Use a fitting/tube (M-3AU-3 fitting and TIU01□-□□ tube are recommended), extend the piping to the location where there is no water, dust, etc.
12. When using in an enclosed environment, like an inspection box, etc., make sure to install a fan or other such device to prevent from overheating.



F.R.L.

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