

# E/P Regulator

ITV Series


*DeviceNet*<sup>™</sup>  
CONFORMANCE TESTED

## OPERATIONAL MANUAL

Read this operation manual carefully and use the product correctly. Keep this operation manual handy for future reference.

### Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. To ensure safety, be sure to observe ISO 4414, JIS B 8370 and other safety practices.

 **Caution:** Operator error could result in injury or equipment damage.

#### **Caution** Piping

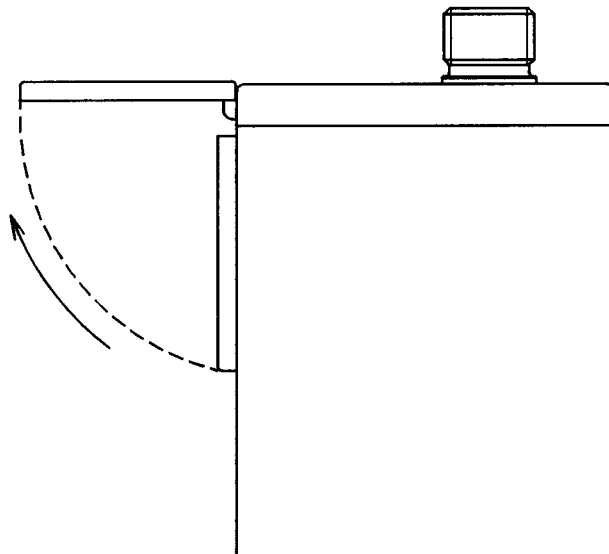
1. At piping, air blow or clean thoroughly to remove cutting dust, machining oil, refuse from inside pipe.
2. When screwing in a pipe or a fitting, make sure no cutting dust or threading or sealing material will go inside. When seal tape is used, leave 1.5 to 2 screw thread of the thread part.

#### **Caution** Air source

1. Mount an air filter on the supply side near this product. Use a filtration degree of 5 $\mu$ m or less.
2. Compressed air containing large amounts of drain will cause malfunction of this product or other pneumatic equipment. To solve this problem install an after cooler, an air dryer or drain catch.
3. Large amounts of carbon powder deposit inside this product will cause malfunction. Refer to "Compressed Air Clarify System" for quality of above compressed air.

## ■ Caution

1. If pressure supply is stopped while the power is turned on, the built-in solenoid valve will continue to operate generating beating noise. Turn off the power to stop pressure supply or make an input signal 0%.
2. This product is adjusted according to the specifications before shipping from the factory. Avoid careless disassembling and removing each part as it may cause malfunction.
3. To avoid malfunction due to noise, take the following
  - 1) Eliminate noise by using a line filter on AC power supply line.
  - 2) Install this product and wiring to this product as far away as possible from strong electric fields like motors or power lines to avoid the influence of noise.
  - 3) Make sure to apply load surge protection for an inductive load (solenoid, relay etc.).
4. The setting of an address slackens a screw in the four pieces of the front, and lift and set an address. The panel lifts to 90 degrees. Note that the panel won't lift more than 90 degrees. After setting of an address, always close and fix a panel



## ■ Specifications

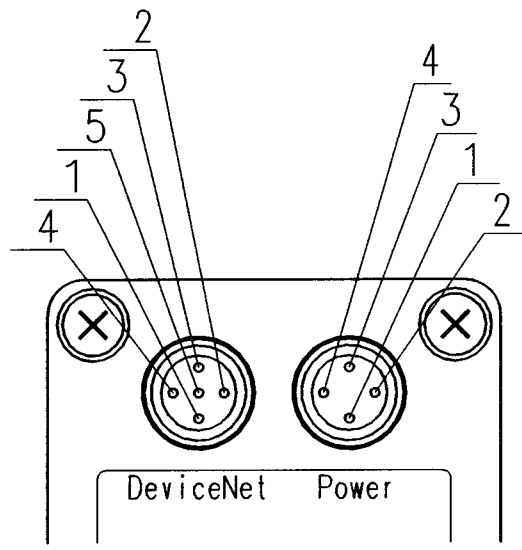
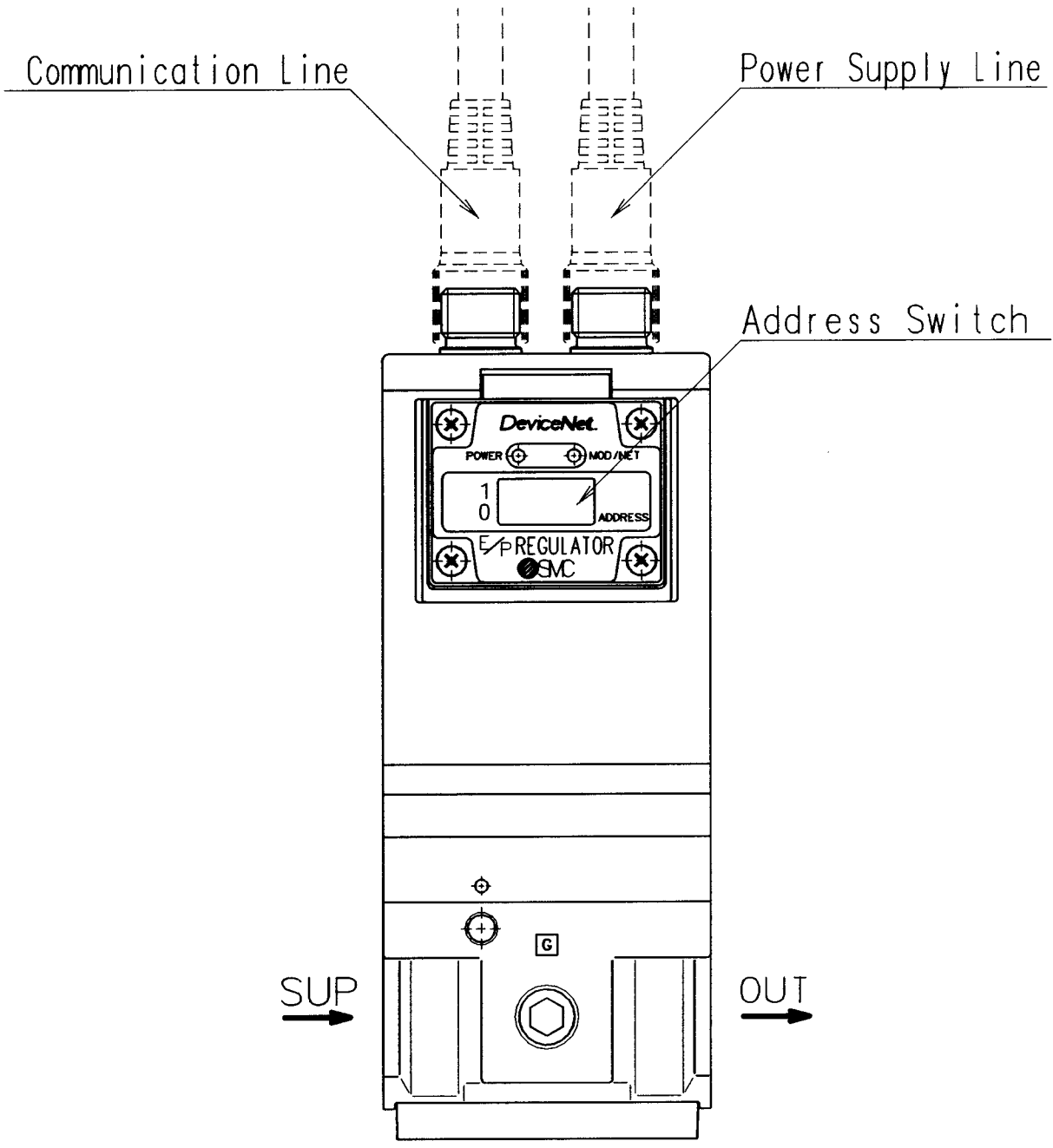
Model	ITV2010	ITV2030	ITV2050
	ITV3010	ITV3030	ITV3050
Max. Sup. Pressure	0.2MPa	1.0MPa	
Max. Out. Pressure	0.1MPa	0.5MPa	0.9MPa
Power supply voltage	DC24V ± 10%		
Current consumption	(MAX) 120mA		Note.1
Input signal	Indicates input signal by 12 bits (resolution 4096)		Note.2
Output Signal	Retransmits output pressure by 12 bits (resolution 4096)		Note.3
Linearity	±1%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 Characteristic	±0.12%F.S. or Less/°C		
Ambient temperature and fluid temperature	5~50°C (W/O, condensation)		

Note.1) Exclude current consumption of DeviceNet communication line.

Note.2) Can set pressure with 4096 resolution, corresponding to the maximum setting pressure 100%.

Note.3) Can monitor pressure with 4096 resolution corresponding to the maximum output pressure, 100%.

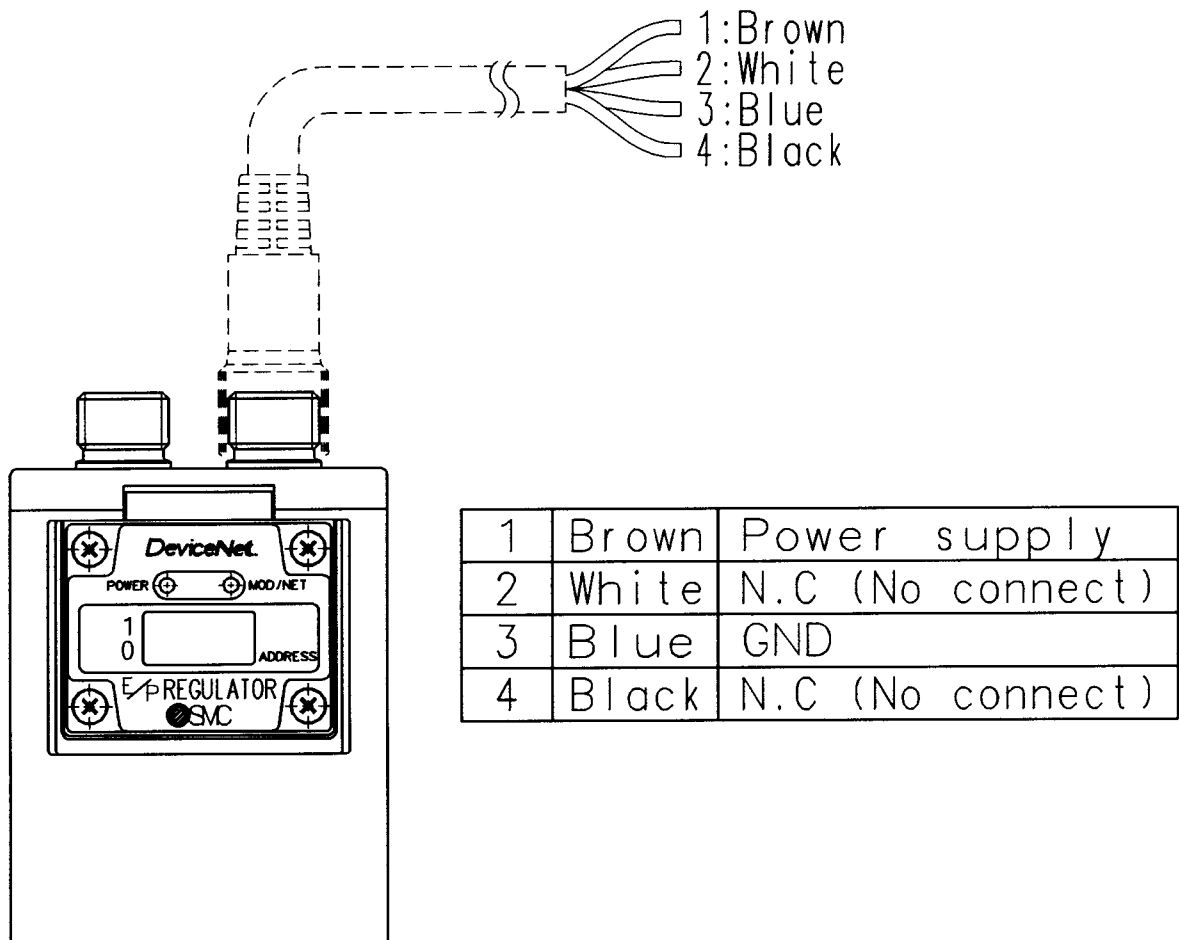
# ■ Wiring



< Communication line >

No.	Code	Color	Function
1	Drain	Naked	Device shield for signal line
2	V+	Red	Power supply(+)to communication sation
3	V-	Black	Power supply(-)to communication sation
4	CAN_H	White	Device Net signal
5	CAN_L	Blue	Device Net signal

< Power supply line >



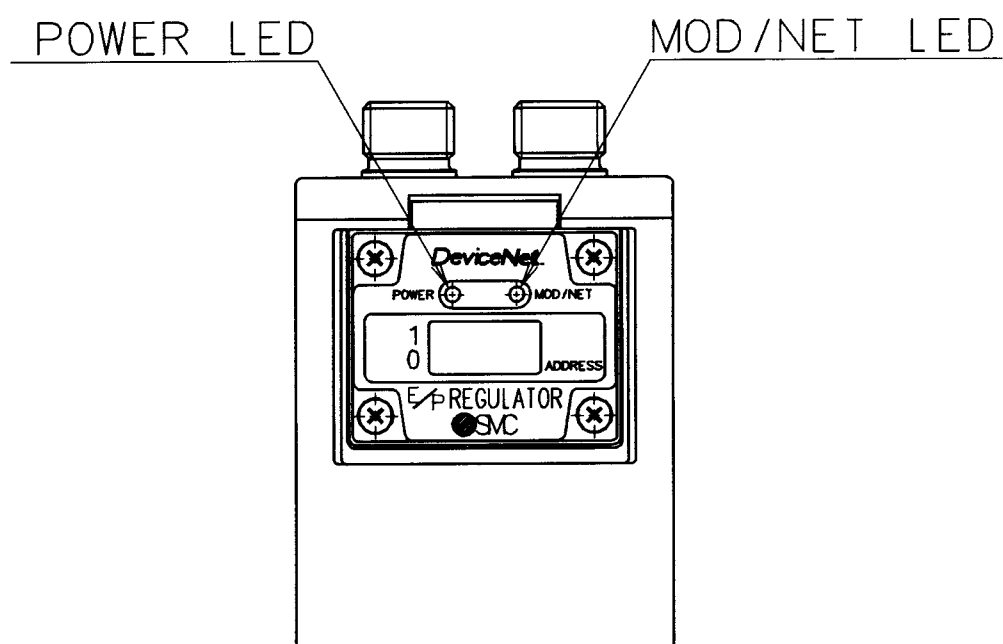
Note)

When straight type 3m cable connector is attached, as only 1 cable for power supply is contained, so order communication separately.

## ■ Protocol

Protocol	DeviceNet Ver.2.0
Comm. speed	125k, 250k, 500k BPS
Slave type	Group 2 only
Device type	00h (Generic Device)
Connections supported	EXPLICIT POLLED I/O

## ■ LED Display



### • Power

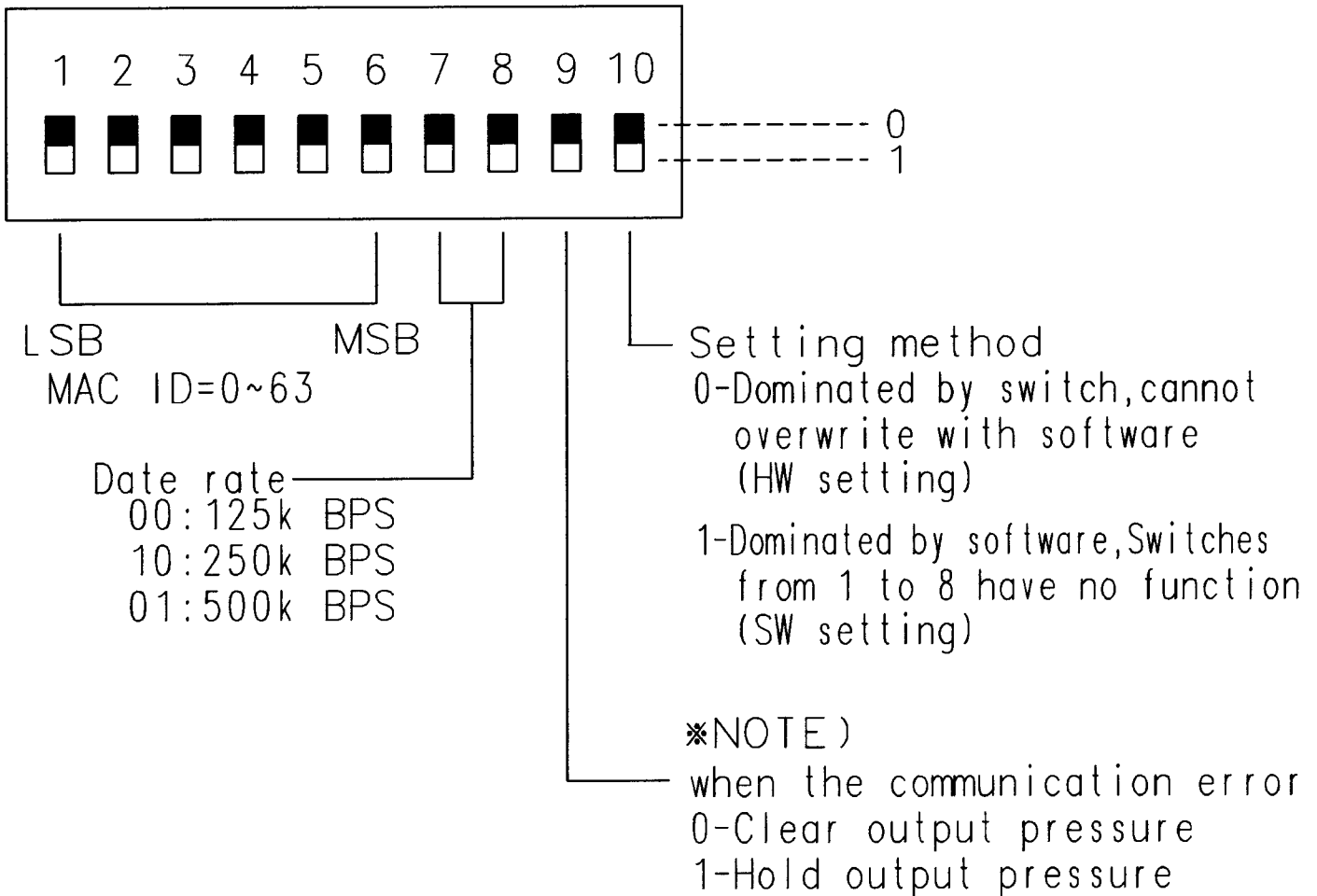
OFF	Power OFF (interface unit)
GREEN	Power ON (interface unit)

### • Combined Module/Network Status (MOD/NET STATUS)

OFF	The unit is not on-line
FLASHING GREEN	The unit is on-line but not allocated
SOLID GREEN	The unit is on-line and allocated to a master
FLASHING RED	Recoverable fault, the I/O connection has timed out.
SOLID RED	Unrecoverable fault, can not recover

## ■ Dip switch

Node address(6bit)+Date rate(2bit)



### NOTE)

1. This switch is selected to hold or clear the output pressure. When the D-Net line causes a communication error do to disconnection.
2. When switching off the power supply to ITV in the communication condition, output pressure is maintained.  
The condition that the communication begins from power supply re-investing time depends on the setting of dip switch No.9.  
0-Until the communication begins from the power supply re-investing time, output pressure is cleared.  
1-Output pressure is holded.

■ Technical data

ex) In case that pressure is set to 0.3MPa for 0.5MPa F.S. specification.

$$(0.3\text{MPa}/0.5\text{MPa}) \times 4096 = 2458 (\text{DEC})$$

Hexadecimal value for decimal 2458 is 99A.

