

Standard Specifications

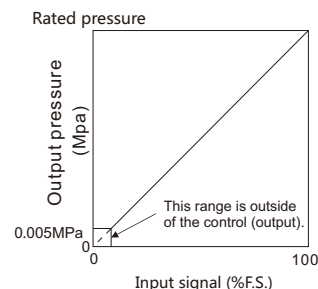
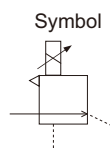


Figure 1. Input/output characteristics chart

Model		NITV101□ ^{Note 8)}	NITV103□ ^{Note 8)}	NITV105□ ^{Note 8)}
		NITV201□	NITV203□	NITV205□
		NITV301□	NITV303□	NITV305□
Minimum supply pressure		Set pressure +0.1 MPa		
Maximum supply pressure		0.2MPa	1.0MPa	
Set pressure range ^{Note 1)}		0.005 to 0.1 MPa	0.005 to 0.5 MPa	0.005 to 0.9 MPa
Power supply	Voltage	24 VDC ± 10%, 12 to 15 VDC		
	Current consumption	Power supply voltage 24 VDC type: 0.12 A or less ^{Note 9)} Power supply voltage 12 to 15 VDC type: 0.18 A or less		
Input signal ^{Note 9)}	Current type ^{Note 2)}	4 to 20 mA DC, 0 to 20 mA DC (Sink type)		
	Voltage type	0 to 5 VDC, 0 to 10 VDC		
	Preset input	4 points (Negative common), 16 points (No common polarity)		
Input impedance	Current type	250 Ω or less ^{Note 6)}		
	Voltage type	Approx. 6.5 KΩ		
	Digital input	Power supply voltage 24 VDC type: Approx. 4.7 KΩ Power supply voltage 12 VDC type: Approx. 2.0 KΩ		
Output signal output (monitor output)	Analog out	1 to 5 VDC (Output impedance: Approx. 1 kΩ) 4 to 20 mA DC (Sink type) (Output impedance: 250 Ω or less) Output accuracy ± 6% F.S. or less		
	Switch out	NPN open collector output: Max. 30 V, 80 mA PNP open collector output: Max. 80 mA		
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 characteristics		± 0.12% F.S./°C or less		
Output pressure display ^{Note 4)}	Accuracy	± 2% F.S. ± 1 digit or less		
	Minimum unit	Mpa: 0.001, kgf/cm ² : 0.01, bar: 0.01, psi: 0.1 ^{Note 5)} , kPa: 1		
Ambient and fluid temperature		0 to 50°C (No condensation)		
Enclosure		Ip65		
Weight ^{Note 10)}	NITV10□□	Approx. 250 g (without options)		
	NITV20□□	Approx. 350 g (without options)		
	NITV30□□	Approx. 645 g (without options)		

Note 1) Please refer to Figure 1 for the relationship between set pressure and input. Because the maximum set pressure differs for each pressure display, refer to page 945.

Note 2) 2-wire type 4 to 20 mA DC is not available. Power supply voltage (24 VDC or 12 to 15 VDC) is required.

Note 3) Select either analog output or switch output. Further, when switch output is selected, select either NPN output or PNP output. When measuring NITV analog output from 1 to 5 VDC, if the load impedance is less than 100 kΩ, the analog output monitor accuracy of within ±6% (full span) may not be available. The product with the accuracy of within ±6% is supplied upon your request. Output pressure remains unaffected.

Note 4) Adjustment of numerical values such as the zero/span adjustment or preset input type is set based on the minimum units for output pressure display (e.g. 0.001 to 0.500 MPa). Note that the unit cannot be changed.

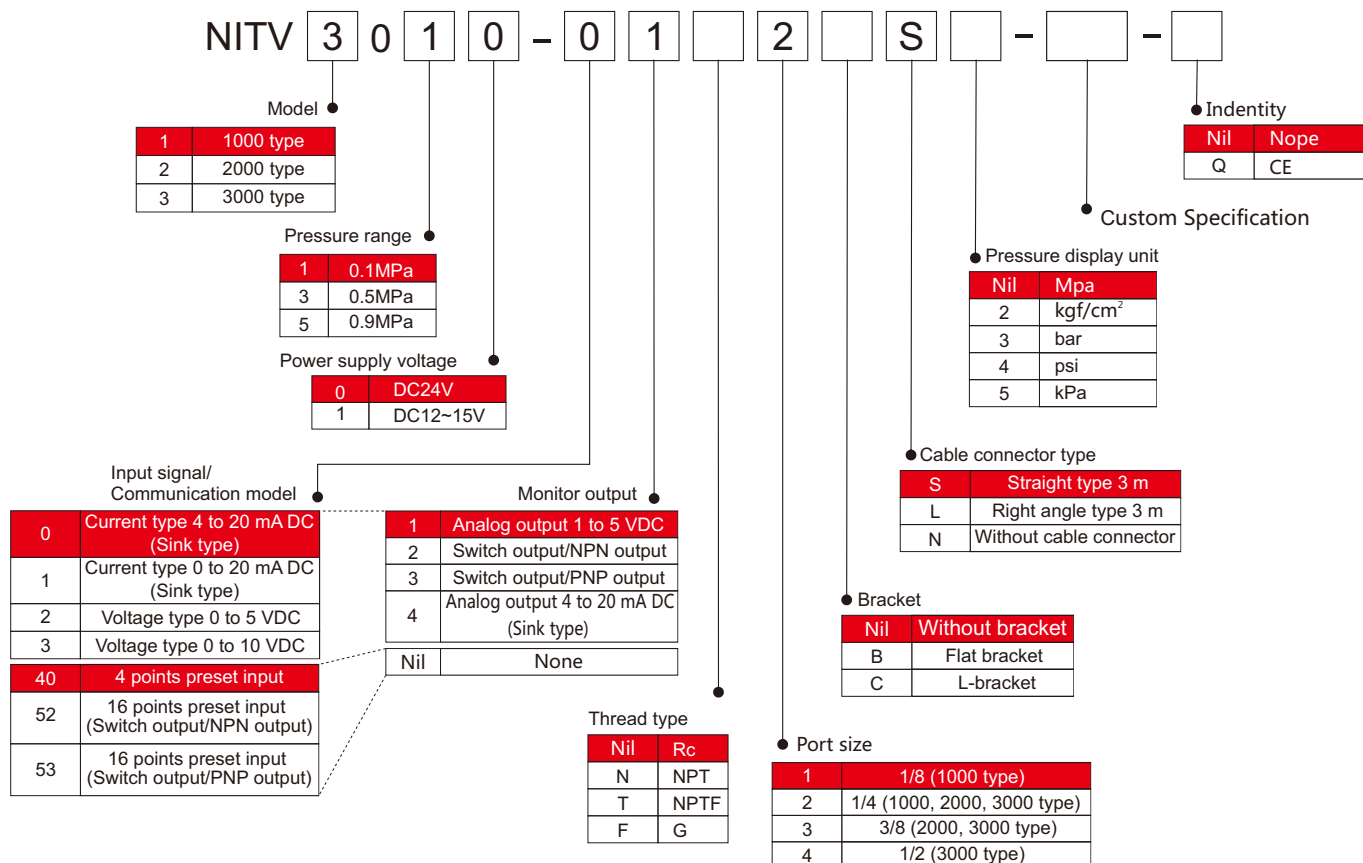
Note 5) The minimum unit for 0.9 MPa (130 psi) types is 1 psi.

Note 6) Value for the state with no over current circuit included. If an allowance is provided for an over current circuit, the input impedance varies depending on the input current. This is 350 Ω or less for an input current of 20 mA DC.

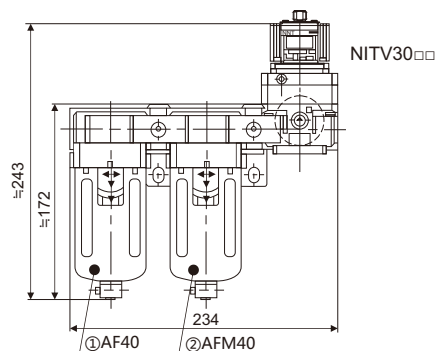
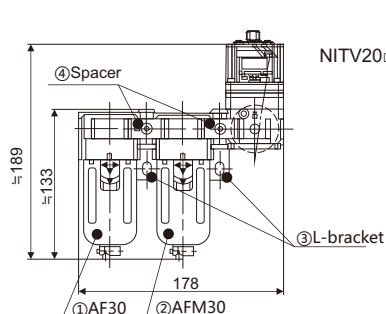
Note 7) The above characteristics are confined to the static state. When air is consumed on the output side, the pressure may fluctuate.

Note 8) The NITV1000 series is a Grease-free specification (Wetted parts).

Standard Specifications



Modular Products and Accessory Combinations



Modular Products and Accessory Combinations

For NITV1000, use a modular adapter

Applicable products and accessories	Applicable model	
	NITV2000	NITV3000
①Air filter	AF30	AF40
②Mist separator	AFM30	AFM40
③L-bracket	B310L	B410L
④Spacer	Y30	Y40
⑤Spacer with L-bracket (③+④)	Y30L	Y40L
⑥Spacer with T-bracket	-	Y40T

NITV10 ☐ ☐

Flat bracket

Technical drawing of the solenoid valve EXH, showing front and side views with dimensions and labels.

Front View Dimensions and Labels:

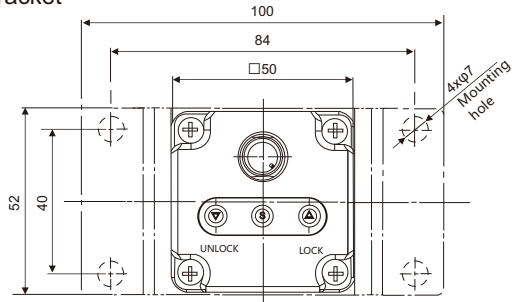
- M12×1**: Signal cable connection thread (Plug type)
- M12×1**: Power cable connection thread (Plug type)
- 11**: Distance from top mounting threads to the top of the valve body.
- 98**: Total height of the valve body.
- M3×0.5**: Solenoid valve EXH mounting hole.
- SUP(1)**: Inlet port (Supply).
- OUT(2)**: Outlet port (Exhaust).
- 12**: Distance from the bottom of the valve body to the bottom of the mounting holes.

Side View Dimensions and Labels:

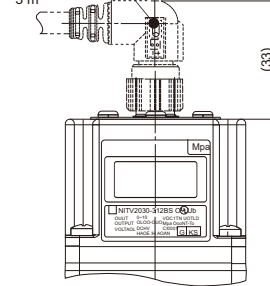
- 8.5**: Width of the valve body.
- Solenoid valve EXH**: Label pointing to the solenoid coil assembly.
- EXH(3)**: Exhaust port (Exhaust).

Dimensions

NITV20□□ Flat bracket

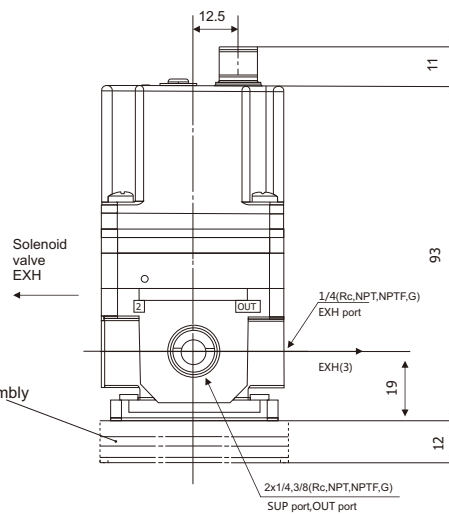
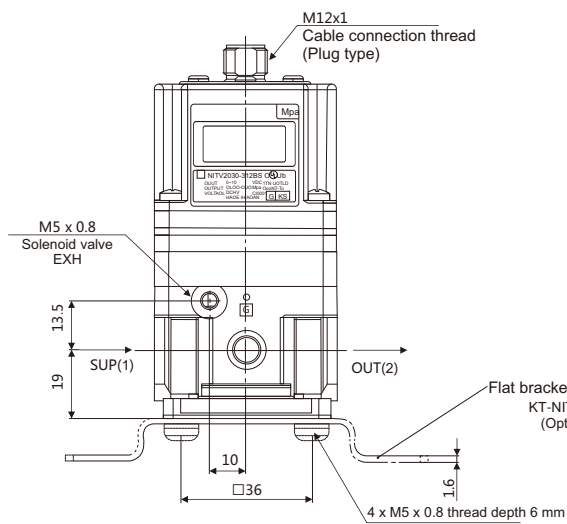
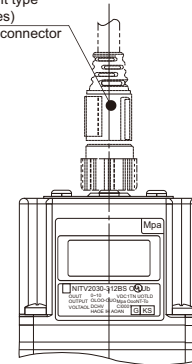


Right angle type
(4 cores)
Cable connector
3 m

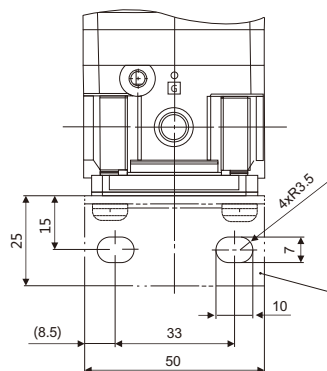


Note) Do not attempt to rotate, as the cable connector does not turn.

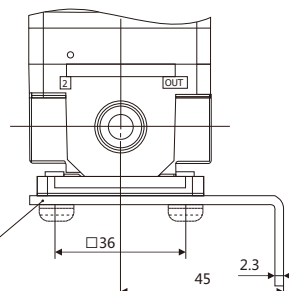
Straight type
(4 cores)
Cable connector
3 m



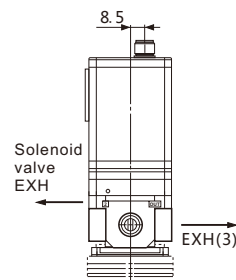
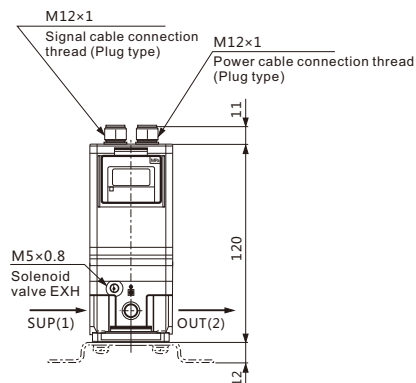
L-bracket



L-bracket assembly
KT-NITV-L2
(Option)

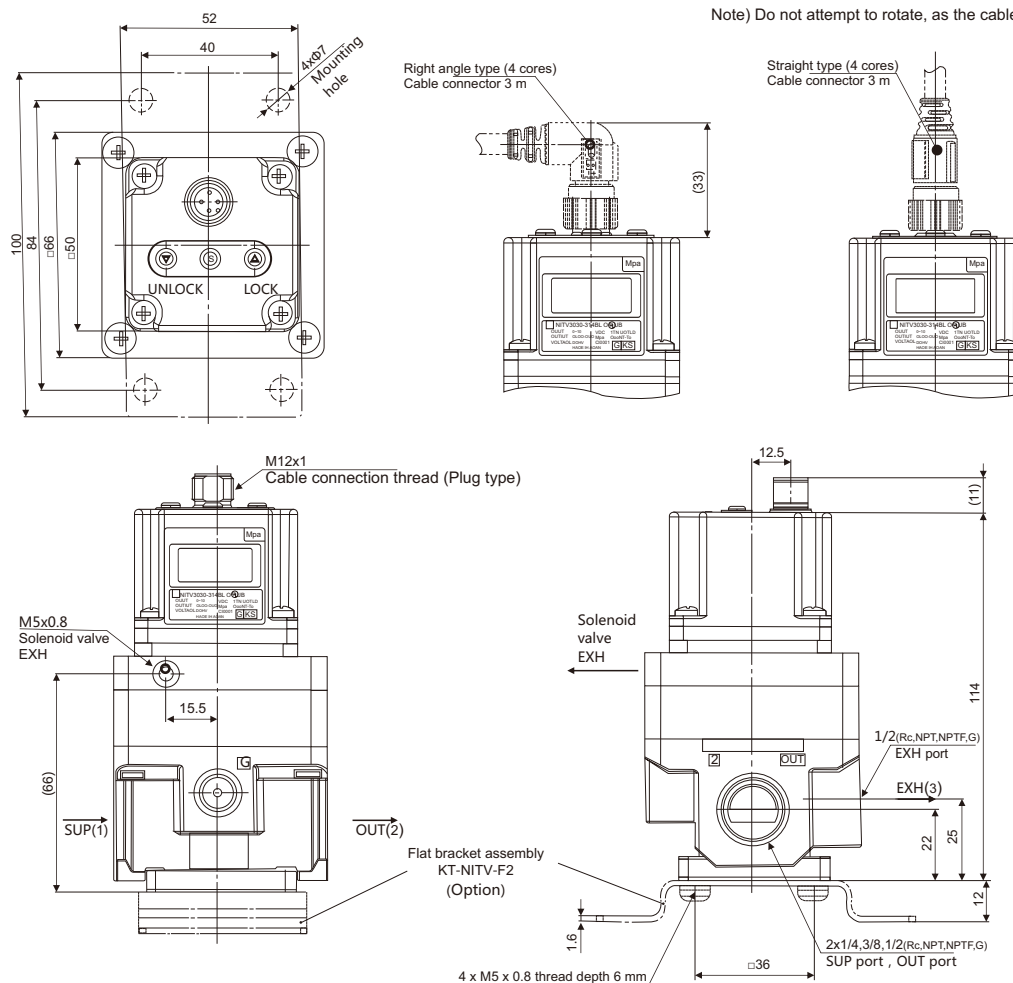


16 points preset input

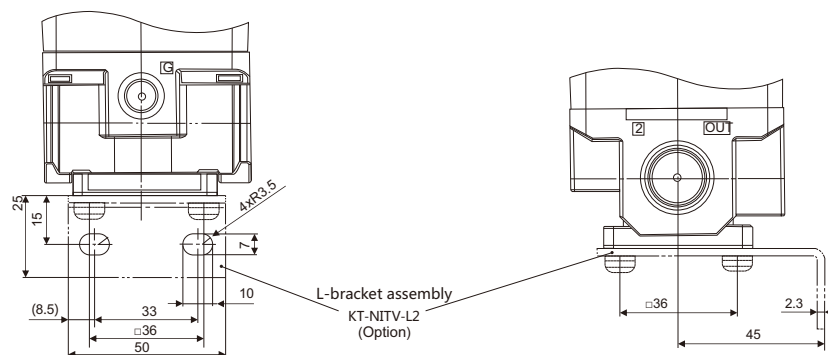


Dimensions

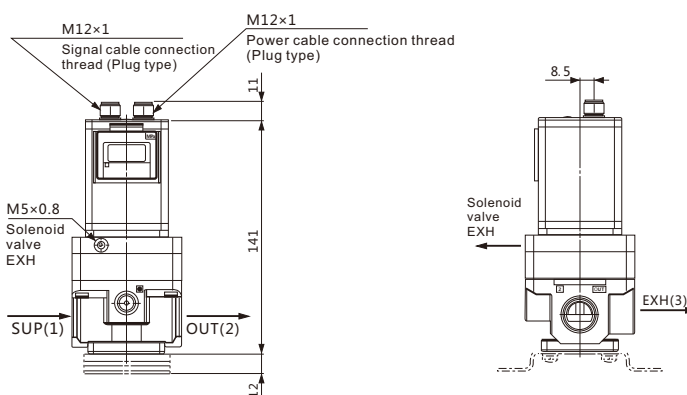
NITV30□□ Flat bracket



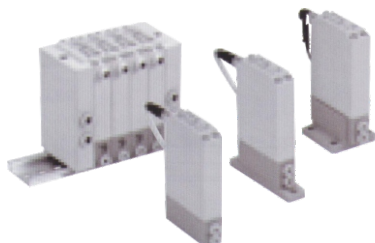
L-bracket



16 points preset input



Standard Specifications



Model		NITV001 □	NITV003 □	NITV005 □
Minimum supply pressure		Set pressure +0.1MPa		
Maximum supply pressure		0. 2MPa	1. 0MPa	
Set pressure range		0.001~0.1MPa	0.001~0.5MPa	0.001~0.9MPa
	Voltage	24 VDC ±10%, 12 to 15 VDC		
Power supply	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	DC0~5V, DC0~10V		
	Current type	4 to 20 mA DC, 0 to 20 mA DC (Sink type)		
Input impedance	Voltage type	Approx. 10 kΩ		
	Current type	Approx. 250 Ω		
Output signal ^{note4)}	Analog output	1 to 5 VDC (Output impedance: Approx. 1 kΩ) Output accuracy: ±6% F.S. or less		
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 characteristics		±0.12% F.S. /°C or less		
Operating temperature range		0 to 50°C (No condensation)		
Enclosure		Equivalent to Ip65※		
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]:ø 5/32"	
Weight ^{note 1)}			100 g or less (without option)	

Note 1) Indicates the weight of a single unit.

For NITV00-n

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

(g) of DIN rail

Note 2) When there is a downstream flow consumption, pressure may become unstable depending on piping conditions.

Note 3) When the input signal is at 0%, the exhaust solenoid valve is controlled to reduce the outlet pressure to zero. For this reason, a noise may be generated. This noise is normal and does not indicate a fault.

Note 4) When measuring NITV analog output from 1 to 5 VDC, if the load impedance is less than 100 kΩ, the analog output monitor accuracy of ±6% F.S. or less may not be available.

The product with the accuracy of within ±6% is supplied upon your request.

Output pressure remains unaffected.

※When using under the conditions equivalent to IP65, connect the fitting or tube to the breathing hole prior to use.

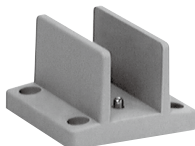
Accessories (Option)

Bracket

Flat bracket assembly (including 2 mounting screws)
P39800022



L-bracket assembly (including 2 mounting screws)
P39800023



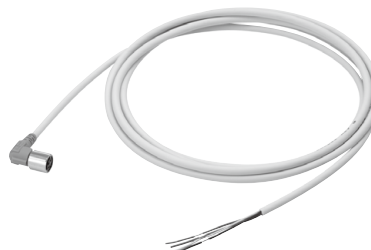
Tightening torque when assembling is 0.3 N·m.

Cable connector

Straight type
M8-4DSX3MG4

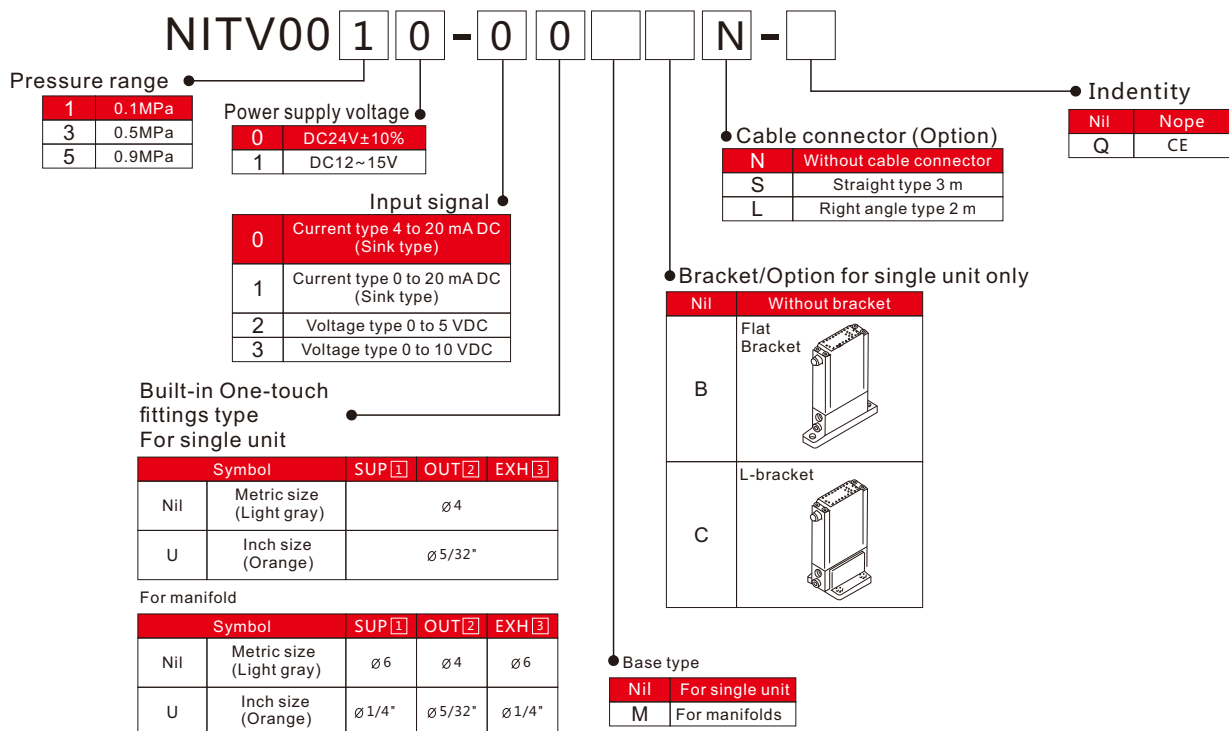


Right angle type
P398000-501-2



Standard Specifications

For single unit and single unit for manifold



Manifold

IITV00 - 02 - n

Stations

02	2 stations
03	3 stations
:	:
10	10 stations

If a DIN rail longer than the specified stations is required, specify the applicable stations in two digits.
(Max. 10 stations)
Example) NIITV00-05-07

One-touch fitting size for supply/exhaust parts (End plate)

Nil	ø6 (Light gray)
U	ø1/4" (Orange)

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 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.

NIITV00-03 1 set (Manifold part no.)

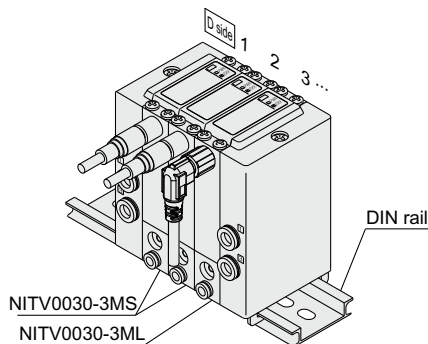
* NITV0030-3MS 2 sets (Electro-pneumatic regulator part no. (Stations 1, 2))

* NITV0030-3ML 1 set (Electro-pneumatic regulator part no. (Station 3))

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

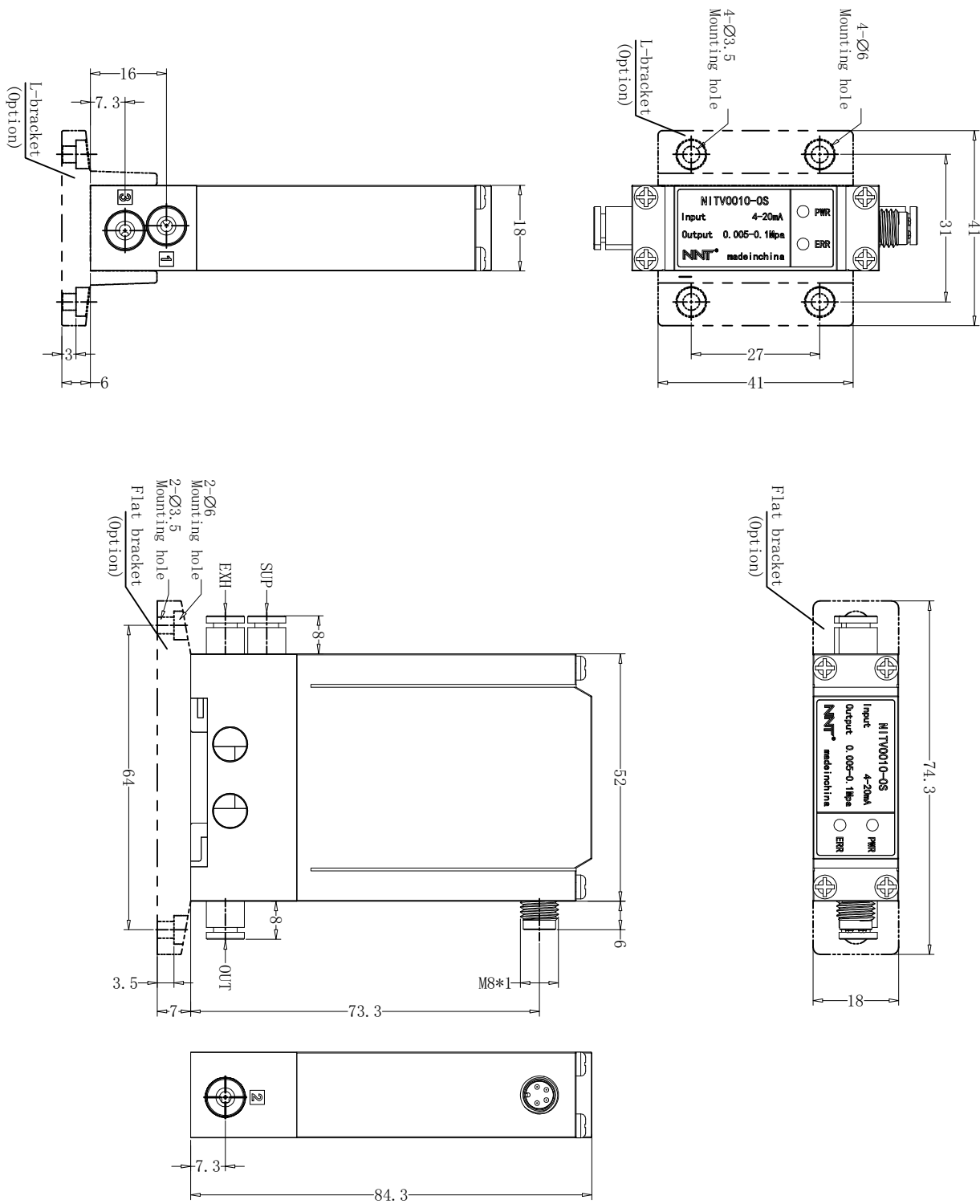
Caution) Combination with having different pressure ranges is not available due to common supply/exhaust features.

The asterisk denotes the symbol for the assembly. Prefix it to the part numbers of the electro-pneumatic regulator.



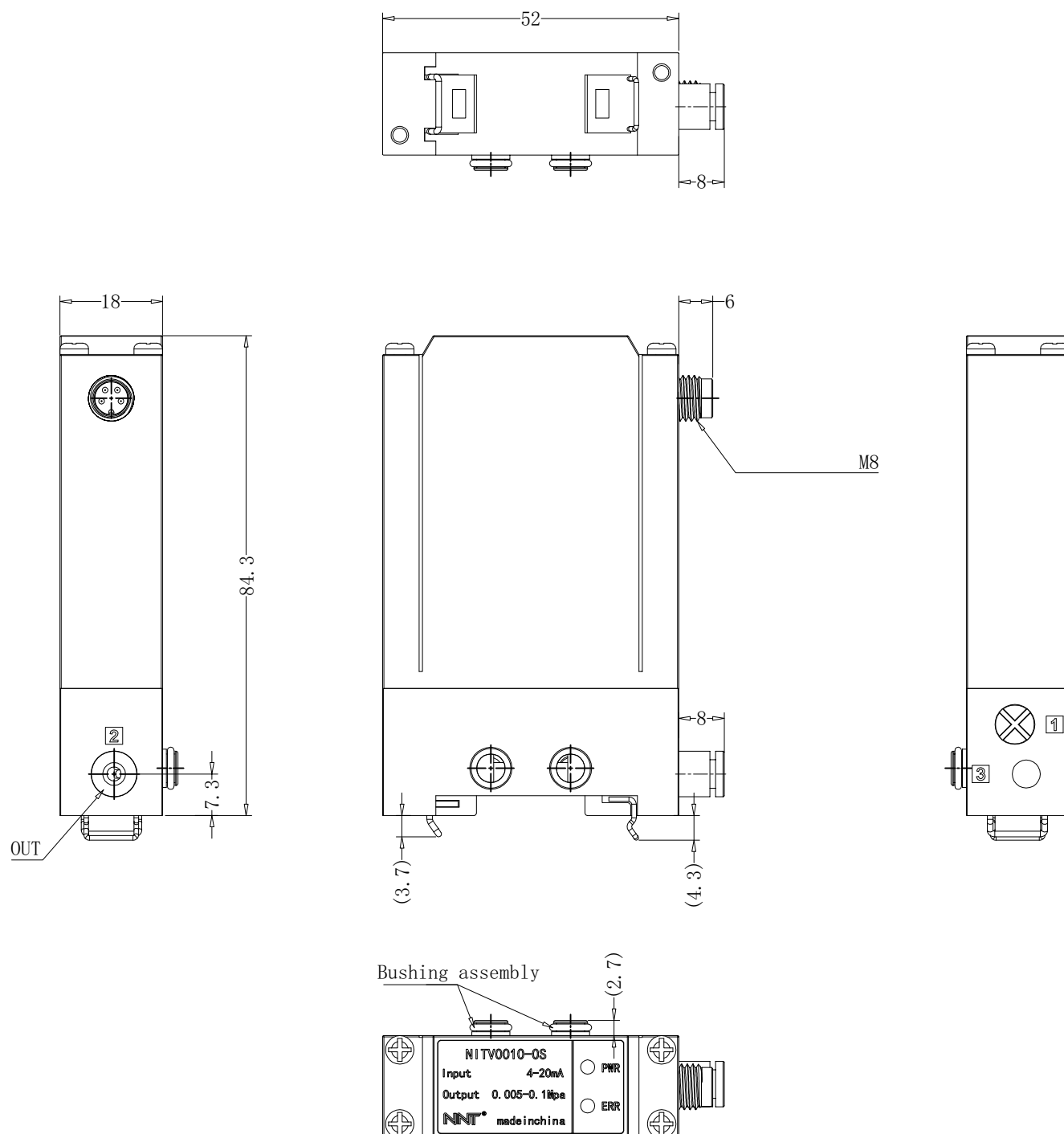
Dimensions

For single unit



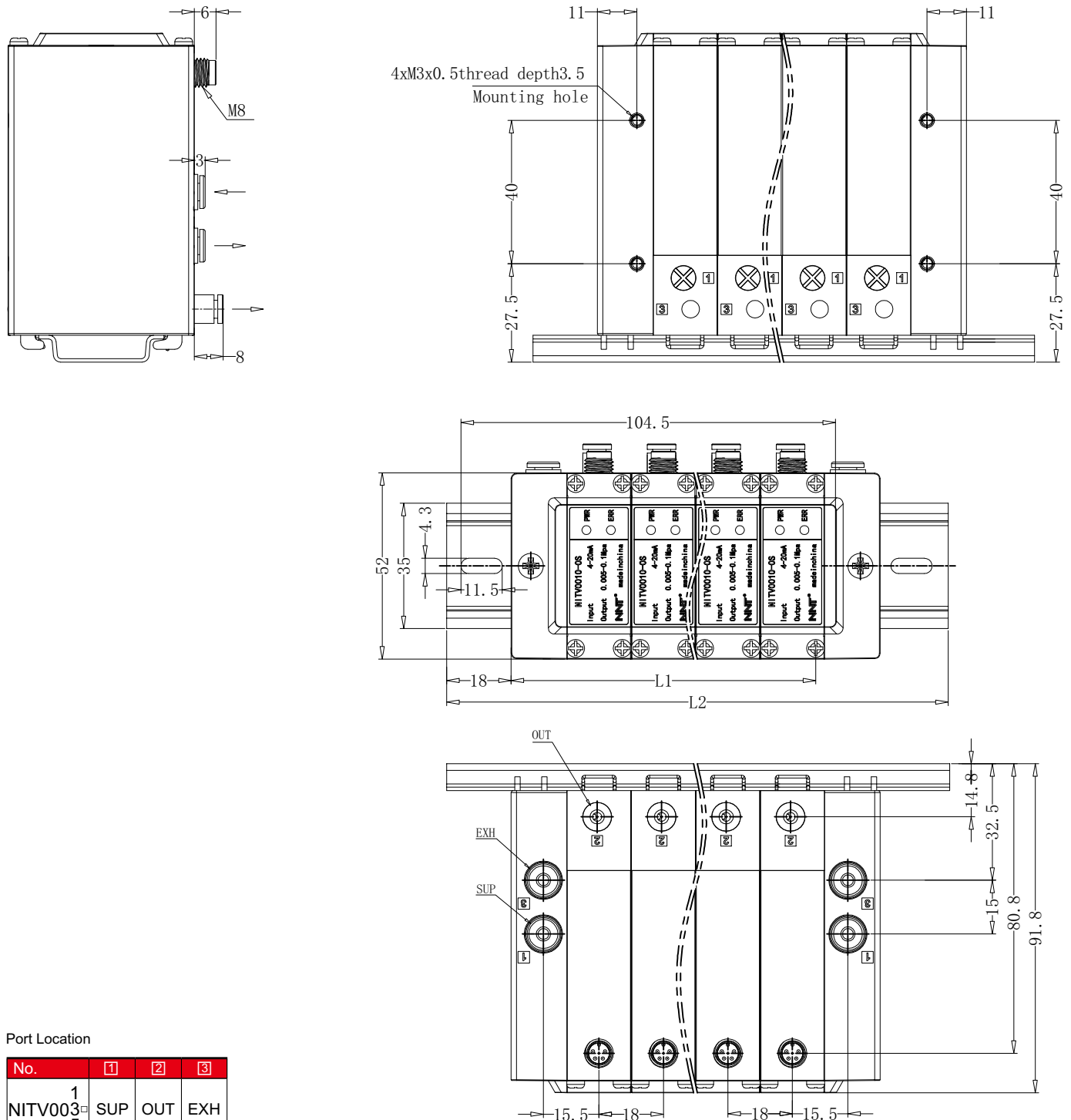
Dimensions

Single unit for manifold



Dimensions

Manifold



* Stations are counted starting from the D side.

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
Weight of DIN rail [g]	20	22	27	29	31	34	36	41	43

Stepless control of vacuum pressure proportional to an electrical signal



Standard Specifications

Model		NITV2090	NITV2091
Power supply	Voltage	DC24V±10%	DC12~15V
	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	
Minimum supply vacuum pressure		Set pressure -13.3 kPa	
Minimum supply vacuum pressure		-101KPa	
Maximum supply vacuum pressure		-1.3~-80KPa	
Input signal	Current type ^{Note 2)}	4 to 20 mA DC, 0 to 20 mA DC (Sink type)	
	Voltage type	DC0~5V, DC0~10V	
	Preset input	4 points (Negative common), 16 points (No common polarity)	
Input impedance	Current type ^{Note 3)}	250 Ω or less	
	Voltage type	Approx. 6.5 KΩ	
	Preset input	Power supply voltage 24 VDC type: Approx. 4.7 KΩ Power supply voltage 12 VDC type: Approx. 2.0 KΩ	
Output signal ^{note 4)} (Monitor output)	Analog output	1 to 5 VDC (Output impedance: Approx. 1 KΩ) 4 to 20 mA DC (Sink type) (Output impedance: 250 Ω or less) Output accuracy ± 6% F.S. or less	
	Switch output	NPN open collector output: Max. 30 V, 80 mA PNP open collector output: Max. 80 mA	
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 characteristics		±0.12%F.S./°C or less	
Output pressure display	Accuracy	±2%F.S./±1digit or less	
	Units	kPa ^{Note 5)} Minimum display: 1	
Ambient and fluid temperature		0~50 (No condensation)	
Enclosure		IP65	
Weight		350g	

Note 1) The minimum supply vacuum pressure should be 13.3 kPa less than the maximum vacuum pressure setting value.

Note 2) 4 to 20 mA DC is not possible with the 2-wire type. Power supply voltage (24 VDC or 12 to 15 VDC) is required.

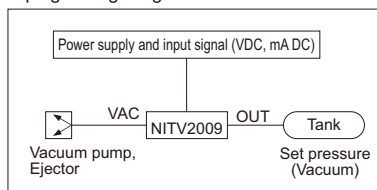
Note 3) Value for the state with no over current circuit included. If an allowance is provided for an over current circuit, the input impedance varies depending on the input power supply. This is 350 Ω or less for an input current of 20 mA DC.

When measuring ITV analog output from 1 to 5 VDC, if the load impedance is less than 100 kΩ, the analog output monitor accuracy of within ±6% (full span) may not be available. The product with the accuracy of within ±6% is supplied upon your request. Output pressure remains unaffected.

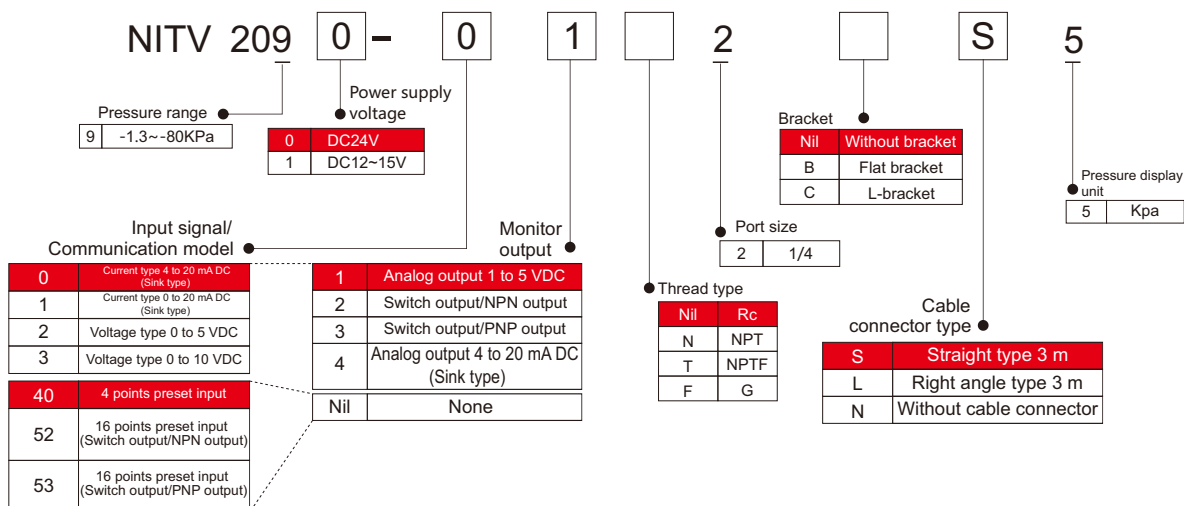
Note 4) Either analog output or switch output must be selected. Furthermore, when switch output is selected, either NPN output or PNP output must also be selected. Use caution that the preset input type is not equipped with an output signal function.

Note 5) Please contact NNT regarding indication with other units of pressure.

Piping/Wiring Diagram



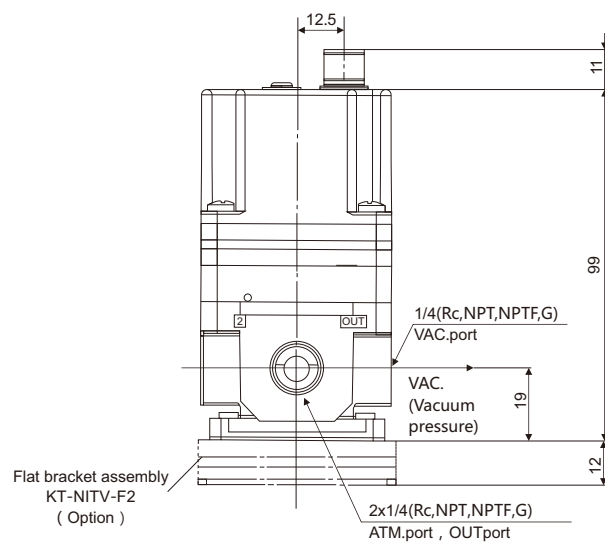
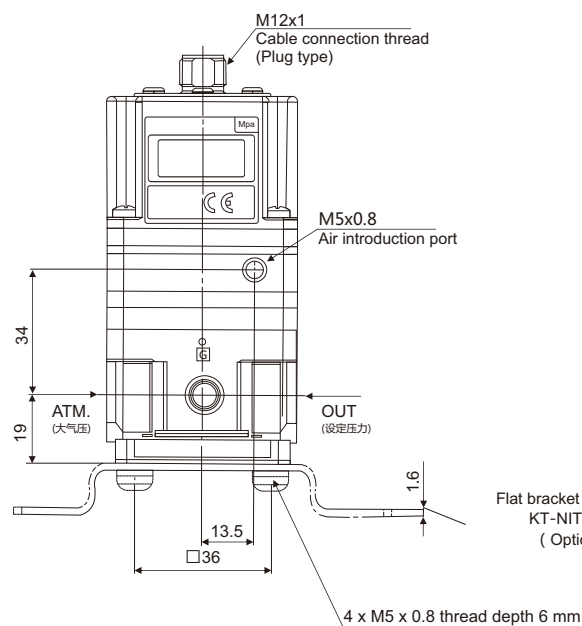
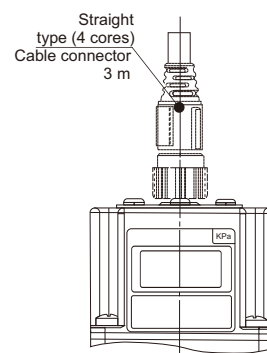
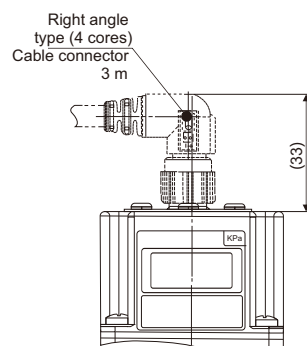
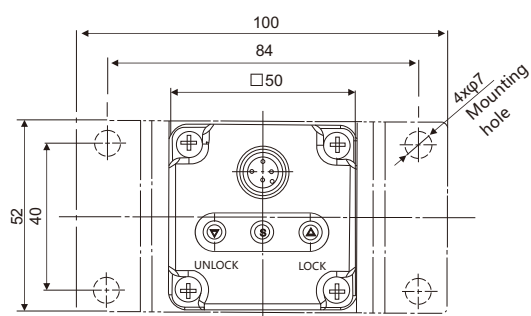
Standard Specifications



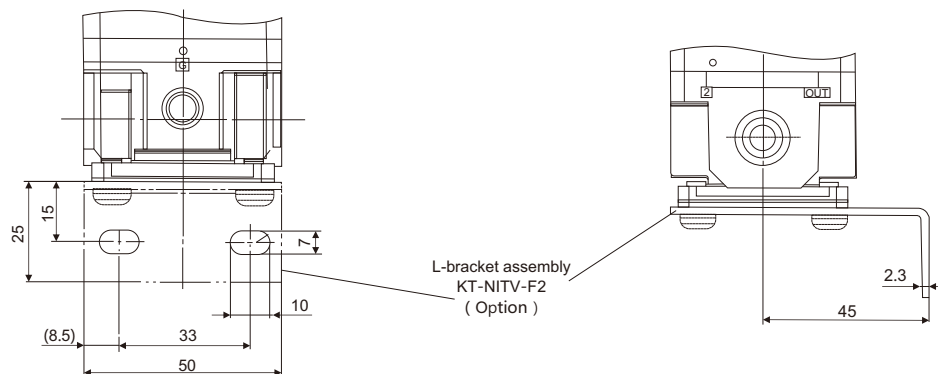
Dimensions

NITV209□

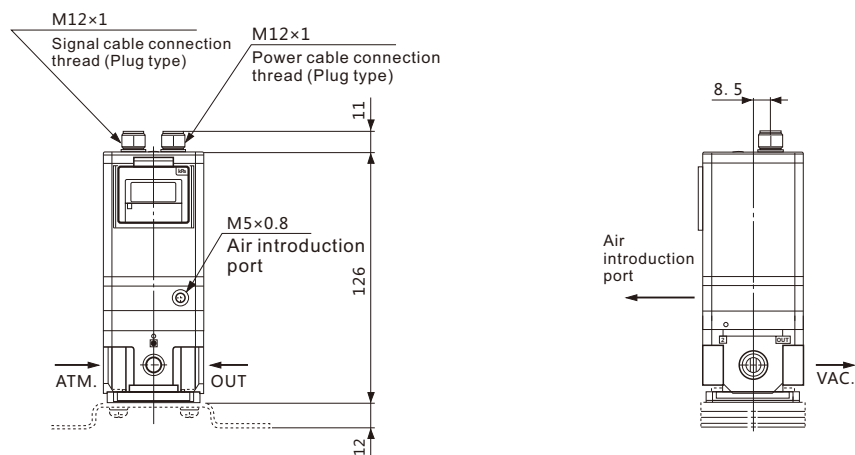
Flat bracket



L-bracket



16 points preset input

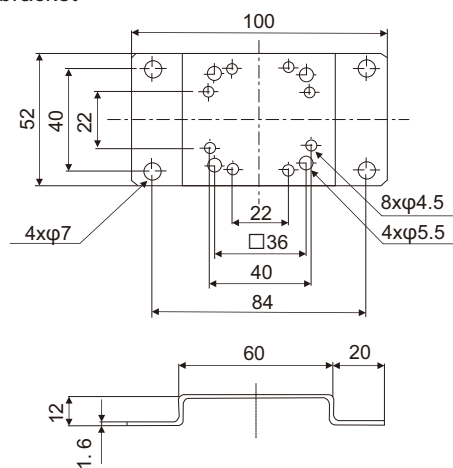


Accessories (Option)/Part No.

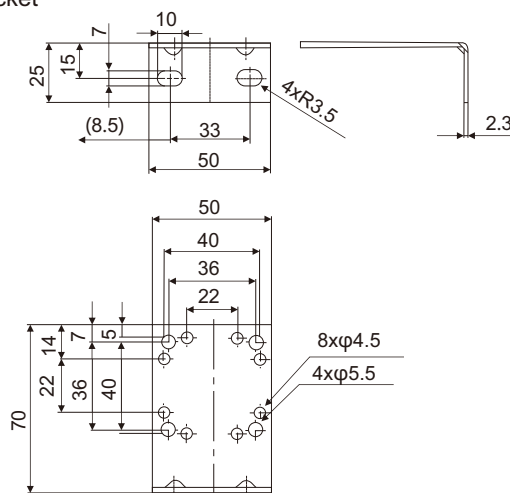
Description		Part No.
Flat bracket assembly (including mounting screws)		KT-NITV-F2
L-bracket assembly (including mounting screws)		KT-NITV-L2
电源电缆插头	Straight type 3m	P398020-500-3 (DeviceNet™の場合P398020-504-3)
	Straight type 3m	P398020-501-3 (DeviceNet™の場合P398020-505-3)

Dimensions

Flat bracket



L-bracket





Symbol

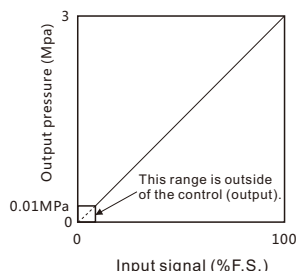
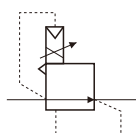


Fig. 2. Input/output characteristics chart

Standard Specifications

Mode		NITVX2000
Minimum supply pressure		Whichever is higher: 0.5 MPa or the set pressure +0.2 MPa
Maximum supply pressure		5MPa ^{Note2)}
Set pressure range ^{Note3)}		0.01 to 3.0 MPa
Power supply	Voltage	24 VDC ±10%
	Current consumption	0.12 A or less
Input signal	Current type ^{Note4)}	4 to 20 mA DC, 0 to 20 mA DC (Sink type)
	Voltage type	0 to 5 VDC, 0 to 10 VDC
Input impedance	Current type	500Ω or less
	Voltage type	6~6.5KΩ(at ordinary temperature)
Output signal ^{Note5)} (Monitor output)	Analog output	1 to 5 VDC (Output impedance: Approx. 1KΩ) Output accuracy: ±6% or less (Full span)
		4 to 20 mA DC (Sink type) Load impedance: 250 Ω or less Output accuracy: ±6% or less (Full span)
	Switch output	NPN open collector output: Max. 30 V, 80 mA
		Hysteresis: ±3% (Full span), Self-diagnosis: ±5% or less (Full span)
		PNP open collector output: Max. 80 mA
		Hysteresis: ±3% (Full span), Self-diagnosis: ±5% or less (Full span)
Linearity		±1% or less (Full span)
Hysteresis		1% or less (Full span)
Repeatability		±1% or less (Full span)
Sensitivity		±1% or less (Full span)
Temperature characteristics		±0.12% or less (Full span)/°C
Output pressure display	Accuracy	±2% or less (Full span) ±1 digit
	Minimum unit ^{Note6)}	MPa:0.01,kgf/cm ² :0.1,bar:0.1,ps:1
Fluid		Air, N ₂ , O ₂ , Ar
Ambient and fluid temperature		0-50°C(No condensation)
Weight		Approx. 570 g (without options)

Note1) Characteristics shown above are based on the piping conditions of Fig. 1.

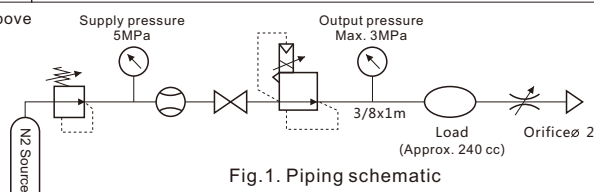


Fig. 1. Piping schematic

Note2) When oxygen is used as a fluid, the maximum supply pressure must be less than 1 MPa.

Note3) Refer to Fig. 2 for the relationship between set pressure and input signal.

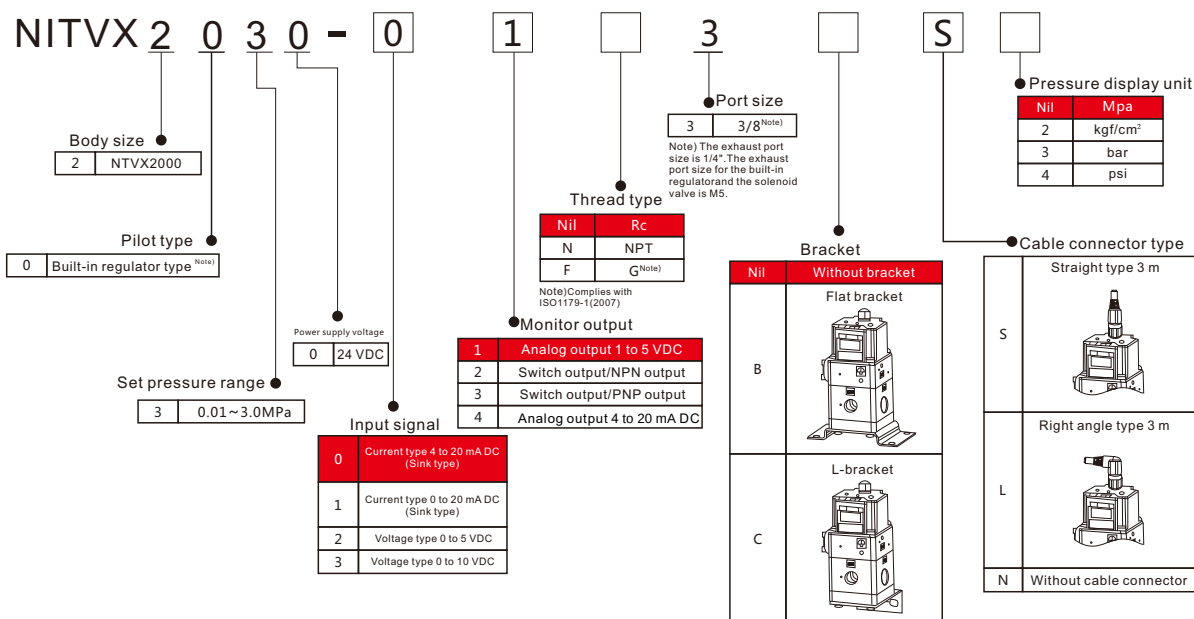
Note4) 2-wire type 4 to 20 mA DC is not available. Power supply voltage 24 VDC is required.

Note5) Select either analog output or switch output. Further, when switch output is selected, select either NPN output or PNP output. When measuring analog output of 1 to 5 VDC with a load impedance less than 100 kΩ, the analog output may not obtain the output accuracy of ±6% or less (F.S.).

Note6) Adjustment of numerical values such as the zero/span adjustment is set based on the minimum units for output pressure display. Note that the unit cannot be changed.

Note7) This product is only for blowing gas. This product does not have sufficient pressure control for applications other than blowing (driving, sealing, etc.).

Standard Specifications



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.

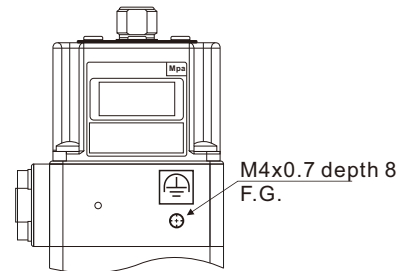


Note) The cable is also available in a right angle type.

A right angle type connector is attached facing left (toward the SUP port). Do not attempt to rotate, as the connector does not turn.

F.G.(Grounding)

Ground the frame ground (F.G.) terminal at the front of the main body. If the F.G. terminal port is not used, this product may not operate properly due to the noise.



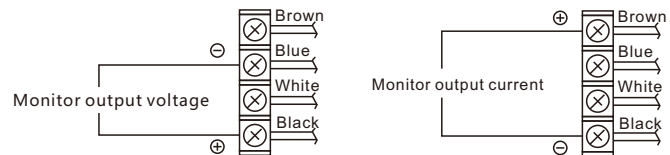
Current Signal Type
Voltage Signal Type

1	Brown	Power supply
2	White	Input signal
3	Blue	GND(COMMON)
4	Black	Monitor output

Monitor output wiring diagram

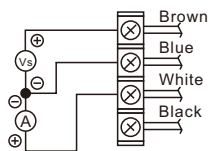
Analogue output: Voltage type

Analogue output: Current type
(Sink type)



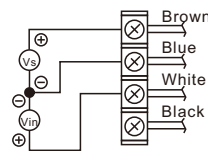
Wiring diagram

Current signal type



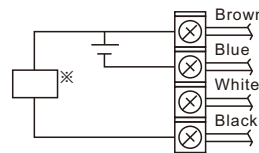
Vs : Power supply 24 VDC
A : Input signal 4 to 20 mA DC
0 to 20 mA DC

Voltage signal type

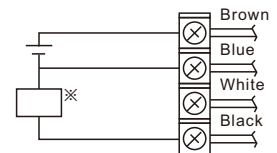


Vs : Power supply 24 VDC
Vin : Input signal 0 to 5 VDC
0 to 10 VDC

Switch output: NPN type

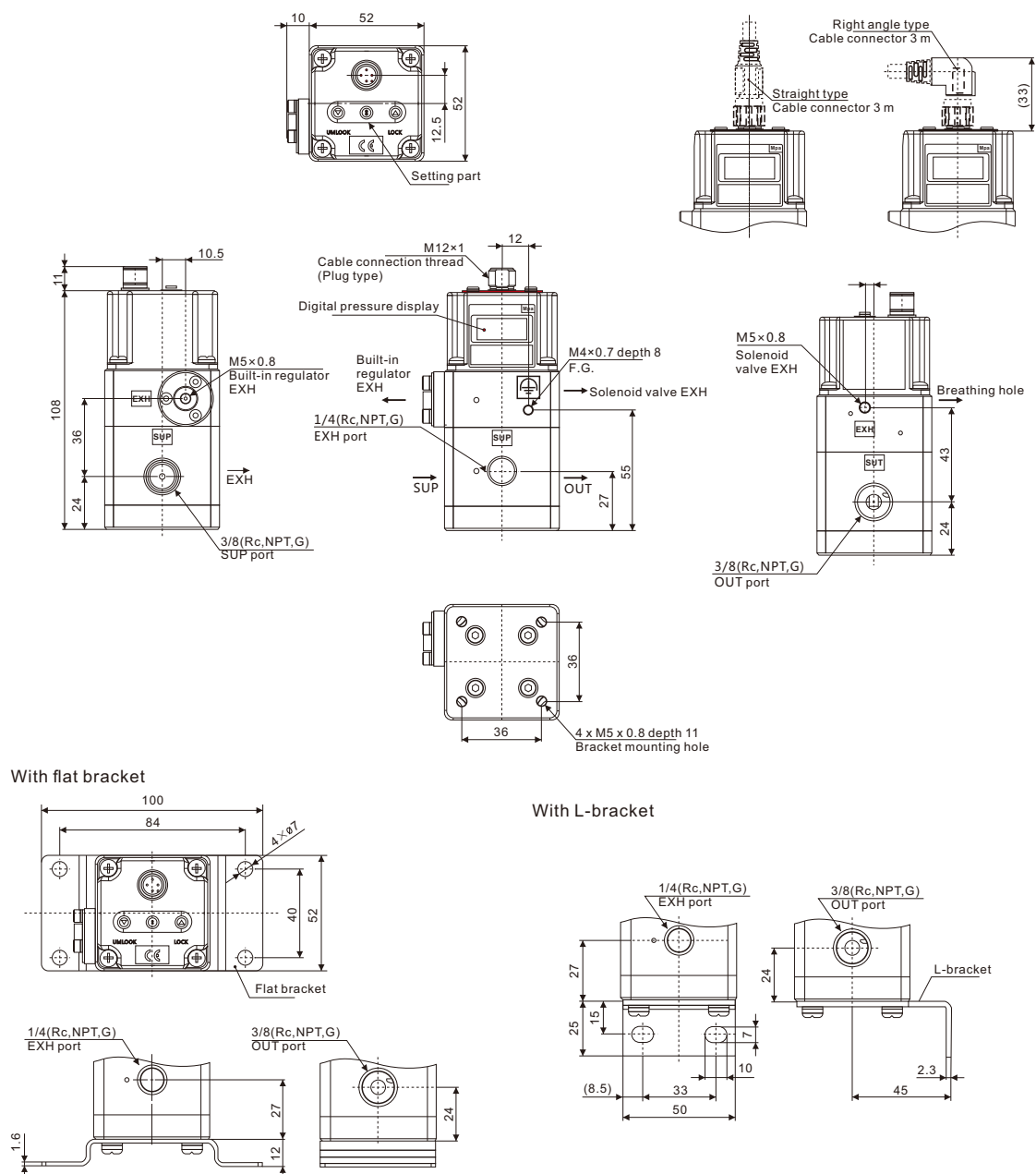


Switch output: PNP type



※When 80 mA DC or more is applied, detecting device for overcurrent starts activating and then emits an error signal. (Error)

Dimensions



Accessories (Option)/Part No.

Description		Part no.
Flat bracket assembly (including mounting screws)		KT-NITV-F2
L-bracket assembly (including mounting screws)		KT-NITV-L2
Power cable connector	Straight type 3 m	P398020-500-3
	Right angle type 3 m	P398020-501-3

