

# Challenge and Innovation

High precision transmitter with high reliability and stability

# DOTECH

SENSING & CONTROL

 -500 ~ 500Pa  
±0.2Pa

 -10 ~ 60°C  
±0.2°C

 0 ~ 100%RH  
±1.8%RH

 -40 ~ 60°C  
±4°C Td



## Integral & flush type differential pressure, temperature, humidity and dew point temperature transmitter **HPX1000**

- Integral & flush type transmitter
- Application of high resolution graphic LCD
- Capacitive touch button
- Displays four measured values (Diff. press, temp. humidity and dew point temp.) at once
- Display function of trend data graph
- 2 digital alarm outputs
- 3 analog (4~20m A) outputs
- RS485 Modbus RTU communication
- Front cover made of stainless steel



High precision differential pressure, temperature and humidity transmitter with high reliability and stability

#### Differential pressure

Pressure range	±25Pa, ±125Pa, ±500Pa
Accuracy	±3% of reading
Zero span	±0.1Pa(±25Pa, ±125Pa) / ±0.2Pa(±500Pa)
Repeatability	0.5% of reading
Reliability	< 0.1Pa/year
Type of fluid	Air, N <sub>2</sub> , O <sub>2</sub>
Display unit of pressure	Pa, mmHg, lnH <sub>2</sub> O, mmAq(mmH <sub>2</sub> O), hPa, kPa, mbar

#### Temperature

Measurement range	-10 ~ 60°C
Accuracy	±0.2°C (0 ~ 60°C)
Repeatability	±0.1°C
Response time	< 5sec
Long term drift	< 0.05°C/year

#### Humidity

Measurement range	0 ~ 100%RH
Accuracy *	±1.8%RH (0 ~ 80%RH)
Repeatability	±0.2%RH
Hysteresis	< ±1%RH
Response time	< 4sec
Long term drift	< 0.5%RH /Year

#### Dew point

Measurement range	-40 ~ 60°C
Accuracy **	±4°C (-10 ~ 20°C)
Repeatability	±0.1°C

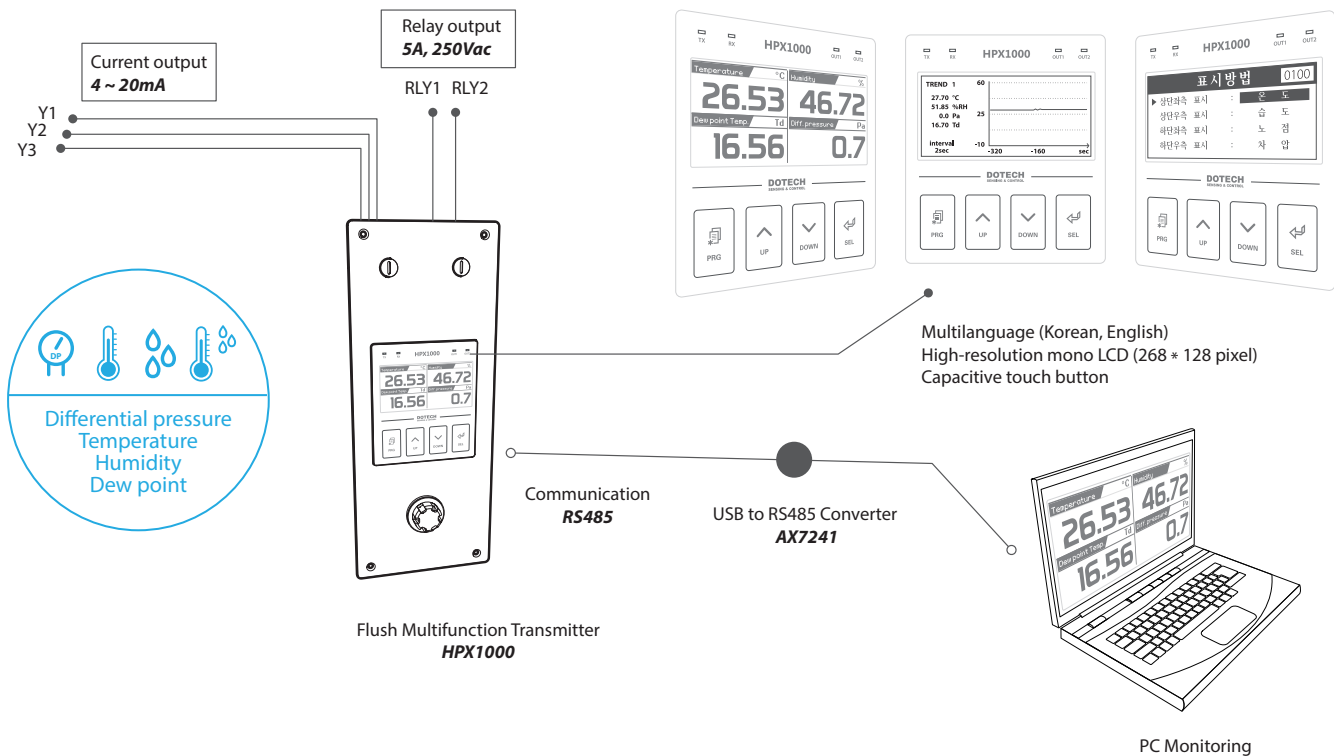
\* Accuracy at 23 degrees Celsius

\*\* Accuracy at 25 degrees Celsius of dry-bulb temperature

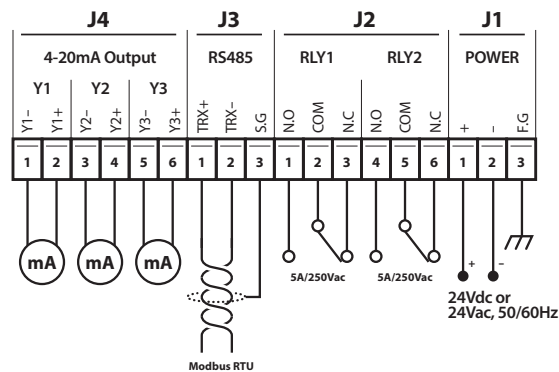
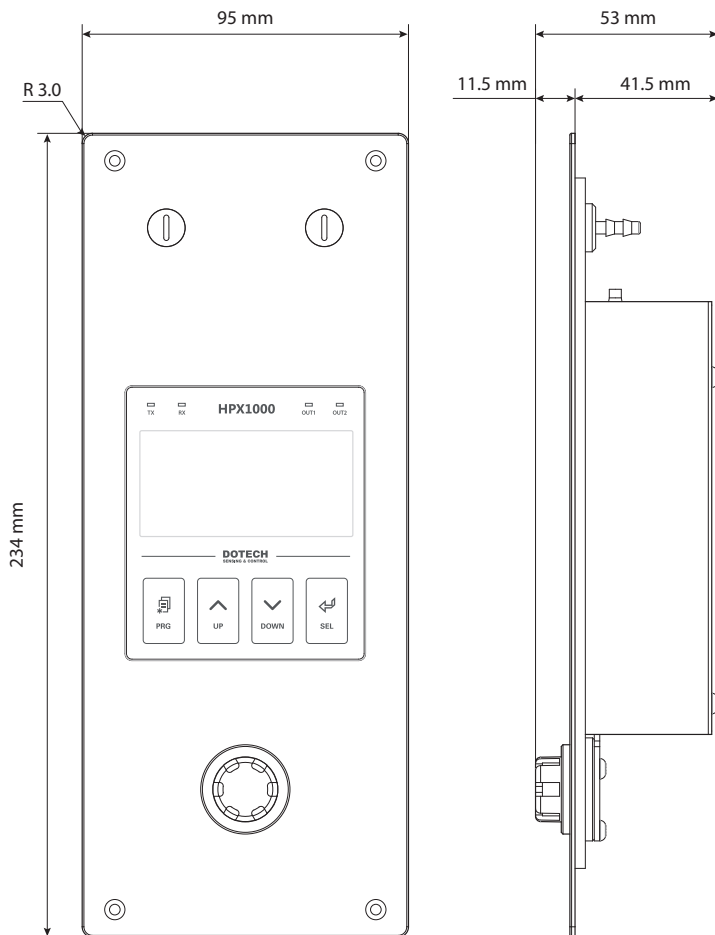
#### Common Specifications

Power supply	24Vdc ±10%, 24Vac ±10%, 50/60Hz
Current consumption	max. 120mA @24Vdc
Relay output	2-CH, 5A, 250Vac
Current output	3-CH, Opto-isolation
Digital output	RS485, Galvanic-isolation (Modbus RTU protocol)
Material	SUS304 Hairline
Display	High resolution MONO LCD (268 x 128 Pixel) / Capacitive touch button
Operating temperature	Temperature: -10 ~ 60°C, (Non condensation)
Storage temperature	Temperature: -20 ~ 70°C, Humidity: Below 95%RH
Dimensions	95(W)mm X 234(H)mm X 42(D)mm
IP rating	IP65 (Front panel)
Weight	600g

# Integral & flush type differential pressure, temperature, humidity and dew point temperature transmitter

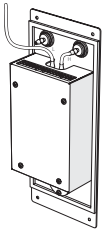


## Dimensions & Wiring



PIN	Definition	Description
J1	1	+24Vdc / 24Vac (L)
	2	Power supply
	3	GND / 24Vac (N)
J2	1	Relay output 1 (RLY 1)
	2	
	3	NO(Normal Open) Contact
	4	Common
	5	NC(Normal Close) Contact
	6	
J3	1	Relay output 2 (RLY 2)
	2	
	3	NO(Normal Open) Contact
J4	1	4~20mA output 1 (Y1)
	2	
	3	4~20mA output 2 (Y2)
	4	
	5	4~20mA output 3 (Y3)
	6	

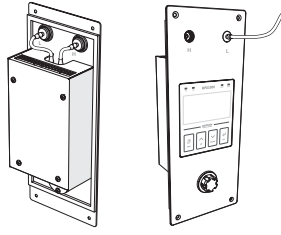
## Connections in accordance with measurement method of diff. pressure



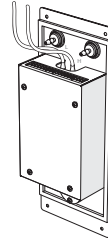
Installation method 1



Installation method 2



Installation method 3



Installation method 4

### Range by unit of pressure

Unit	Minimum	Maximum
Pa	-500.0	500.0
kPa	-0.50	0.50
hPa	-5.00	5.00
mmAq	-50.98	50.98
mbar	-5.00	5.00
inchH <sub>2</sub> O	-2.00	2.00
mmHg	-3.75	3.75

⊗ There may be a difference in measurement range in accordance with order specifications.  
Parameter value related to pressure will be initialized when changing unit of pressure.

### Range by unit of temperature

Unit	Minimum	Maximum
°C	-10.00	60.00
°F	14.00	140.0

## Ordering guide

HPX1000 -	①	②	Description
① Measurable parameters	A		Differential pressure, temperature, humidity and dew point temperature
	D		Differential pressure
	H		Temperature, humidity and dew point temperature
② Differential pressure range		0	Temperature, humidity and dew point temperature
		1	-25 ~ 25 Pa
		2	-125 ~ 125 Pa
		3	-500 ~ 500 Pa

※ Silicon Tube  $\varnothing 6.0 * 3.0$  2M Exclusive tube (Standard scope of supply)

### Specifications by Model Order

**HPX1000 - A1** : Differential pressure, temperature, humidity and dew point temperature model /  
**HPX1000 - A2** : Differential pressure, temperature, humidity and dew point temperature model /  
**HPX1000 - A3** : Differential pressure, temperature, humidity and dew point temperature model /  
**HPX1000 - D1** : Pressure differential model / Differential pressure range : -25 ~ 25 Pa  
**HPX1000 - D2** : Pressure differential model / Differential pressure range : -125 ~ 125 Pa  
**HPX1000 - D3** : Pressure differential model / Differential pressure range : -500 ~ 500 Pa  
**HPX1000 - H0** : Temperature, humidity model

Differential pressure range : -25 ~ 25 Pa  
 Differential pressure range : -125 ~ 125 Pa  
 Differential pressure range : -500 ~ 500 Pa

### Accessory (Options)

Model	Description
AX7241	RS485 communication converter (RS485 to USB converter)
Extension nipple	When silicon tubes connection is required to measure differential pressure on its front side