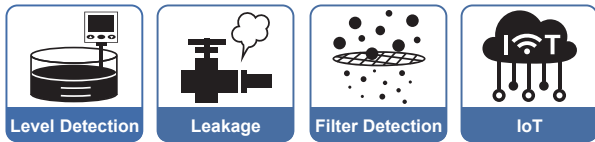


## Features

- Digital LCD display
- IP65 enclosure
- Pressure range : 0 ~ 1000 kPa
- RS485 Modbus RTU
- High-resolution ( 10x )
- Selectable NPN or PNP open collector

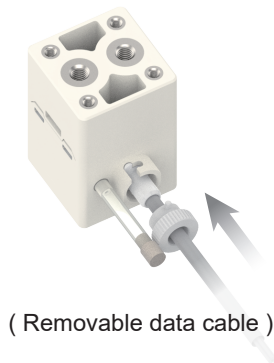
### RS485 MODBUS CONTROL



## Features Highlight

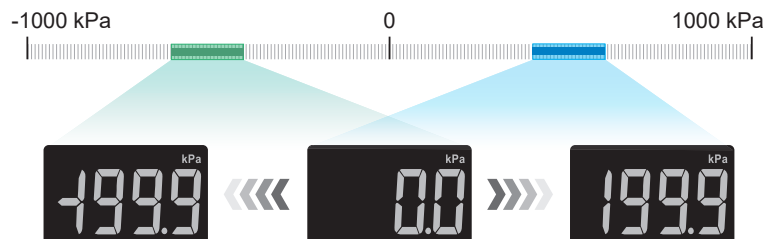
### 1 Quick Installation

- Save Installation Time
- Easy Removal



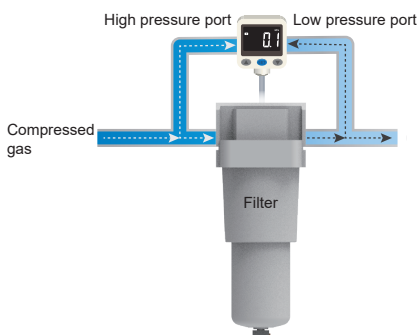
### 2 High Resolution Mode

- High resolution mode is settable in differential pressure range : -199.9 kPa ~ 199.9 kPa.  
Under high resolution mode, the detection are 10 times accuracy that able to measure differential pressure.



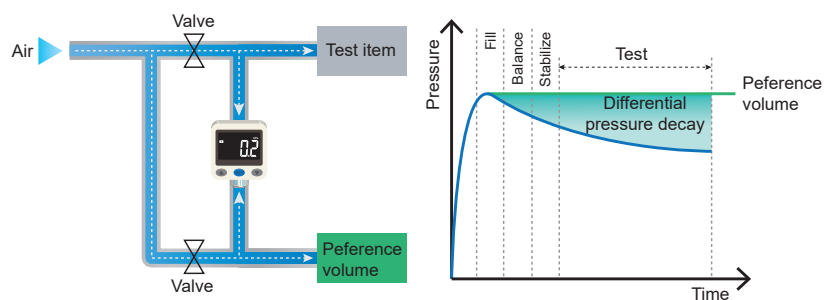
### 3 Filter Air Monitoring

- To monitor the clogging of filter by detecting the differential pressure.



### 4 Leakage Test

- To detect the differential pressure decay by sensing the change of line pressure.



## Specifications

| Model                                                                              |                         | KDS-P-02                                                                                                                  | KDS-P-04                                                                                                                  |
|------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
|  |                         |                                                                                                                           |                                                                                                                           |
| Rated Pressure Range                                                               |                         | -1000 ~ 1000 kPa                                                                                                          |                                                                                                                           |
| Setting Pressure Range                                                             |                         | 0 ~ 1000 kPa                                                                                                              |                                                                                                                           |
| Withstand Pressure                                                                 |                         | 1200 kPa                                                                                                                  |                                                                                                                           |
| Fluid                                                                              |                         | Filtered air, Non-corrosive / Non-flammable gas                                                                           |                                                                                                                           |
| Set Pressure Resolution                                                            | Standard Mode           | 1 kPa                                                                                                                     |                                                                                                                           |
|                                                                                    | High Resolution Mode ※1 | 0.1 kPa                                                                                                                   |                                                                                                                           |
| Power Supply Voltage                                                               |                         | 12 ~ 24 V DC $\pm 10\%$ , Ripple ( P-P ) $\leq 10\%$                                                                      |                                                                                                                           |
| Current Consumption                                                                |                         | $\leq 20$ mA                                                                                                              |                                                                                                                           |
| Switch Output                                                                      |                         | 1 NPN open collector ※2<br>Max. Load Current : 200 mA<br>Max. Supply Voltage : 30 V DC<br>Residual Voltage : $\leq 1.5$ V | 1 PNP open collector ※2<br>Max. Load Current : 200 mA<br>Max. Supply Voltage : 24 V DC<br>Residual Voltage : $\leq 1.5$ V |
| Repeatability ( Switch Output )                                                    |                         | $\pm 0.2\%$ F.S. $\pm 1$ digit                                                                                            |                                                                                                                           |
| Hysteresis                                                                         | Hysteresis Mode         | 1 ~ 15 digits                                                                                                             |                                                                                                                           |
|                                                                                    | Window Comparator Mode  |                                                                                                                           |                                                                                                                           |
| Output Short Circuit Protection                                                    |                         | Yes                                                                                                                       |                                                                                                                           |
| 7 Segment LCD Display                                                              |                         | 3 ½ digital, 7 segment LCD display ( White ) ( Sampling rate : 5 times / sec. )                                           |                                                                                                                           |
| Indicator Accuracy                                                                 | Standard Mode           | $\pm 0.3\%$ F.S. $\pm 1$ digit ( Ambient temperature : $25 \pm 3^\circ\text{C}$ )                                         |                                                                                                                           |
|                                                                                    | High Resolution Mode    | $\pm 0.1\%$ F.S. $\pm 1$ digit ( Ambient temperature : $25 \pm 3^\circ\text{C}$ )                                         |                                                                                                                           |
| Switch on Indicator                                                                |                         | White indicator 1 : OUT1                                                                                                  |                                                                                                                           |
| Environment                                                                        | Enclosure               | IP65 ※3                                                                                                                   |                                                                                                                           |
|                                                                                    | Ambient Temp. Range     | Operation : $0 \sim 50^\circ\text{C}$ , Storage : $-10 \sim 60^\circ\text{C}$ ( No condensation or freezing )             |                                                                                                                           |
|                                                                                    | Ambient Humidity Range  | 35 ~ 85 % RH ( No condensation )                                                                                          |                                                                                                                           |
|                                                                                    | Withstand Voltage       | 1000 V AC in 1-min ( between case and lead wire )                                                                         |                                                                                                                           |
|                                                                                    | Insulation Resistance   | $\geq 50$ M $\Omega$ ( at 500 V DC, between case and lead wire )                                                          |                                                                                                                           |
|                                                                                    | Vibration               | Total amplitude 1.5 mm or 10 G, 10 Hz ~ 55 Hz ~ 10 Hz scan for 1 minute, 2 hours each direction of X, Y and Z             |                                                                                                                           |
|                                                                                    | Shock                   | 100 m/s <sup>2</sup> ( 10 G ), 3 times each in direction of X, Y and Z                                                    |                                                                                                                           |
| Temperature Characteristic                                                         | Standard Mode           | $\pm 0.5\%$ F.S. of detected pressure ( $25^\circ\text{C}$ ) at temp. Range of $0 \sim 50^\circ\text{C}$                  |                                                                                                                           |
|                                                                                    | High Resolution Mode    | $\pm 5\%$ F.S. of detected pressure ( $25^\circ\text{C}$ ) at temp. Range of $0 \sim 50^\circ\text{C}$                    |                                                                                                                           |
| Communication Interface                                                            |                         | RS485                                                                                                                     |                                                                                                                           |
| Port Size                                                                          |                         | M5 : M5 female thread                                                                                                     |                                                                                                                           |
| Lead Wire                                                                          |                         | Ø4 Oil-resistance cable ( PVC ) - 26 AWG ( 0.15 mm <sup>2</sup> ) - 5 cores                                               |                                                                                                                           |
| Weight ( with 2 meter lead wire )                                                  |                         | Approx. 104 g                                                                                                             |                                                                                                                           |

### NOTE

※1 : High resolution mode is settable in differential pressure range : -199.9 kPa ~ 199.9 kPa

※2 : Selectable NPN or PNP open collector circuits in setting.

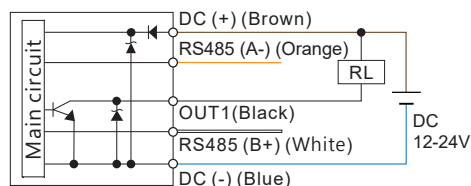
※3 : Dustproof protector must be installed to maintain IP65.

## Panel Description

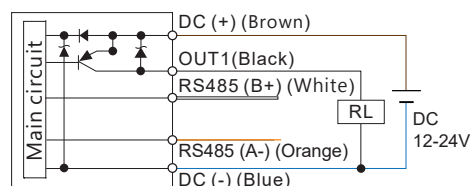


## Output Circuit Wiring Diagrams

### KDS - P - 02 NPN + RS485



### KDS - P - 04 PNP + RS485



※ Wiring for RS485 MODBUS :  
Please connect RS485 (B+) or (A-) before connecting power supply to avoid short circuit to damage to product.

## Ordering Information

**K D S - P - 0 2 - M 5**

### Pressure Range

P : Positive pressure ( 0 ~ 1000 kPa )

### Output Specifications

02 : 1 NPN Output + RS485  
04 : 1 PNP Output + RS485

### Optional Parts

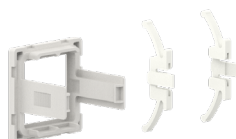
BT-18 : Mounting bracket  
BT-19 : Mounting bracket  
PA-E : Panel adapter  
PA-F : Panel adapter + Front protective lid

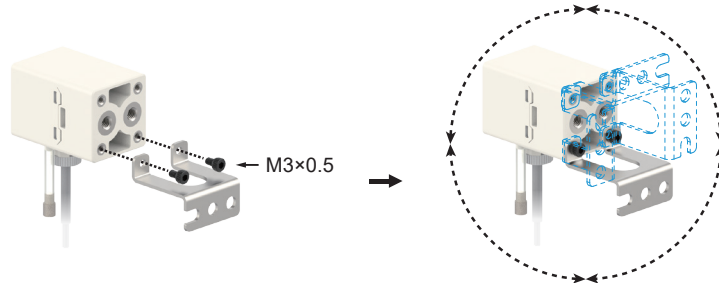
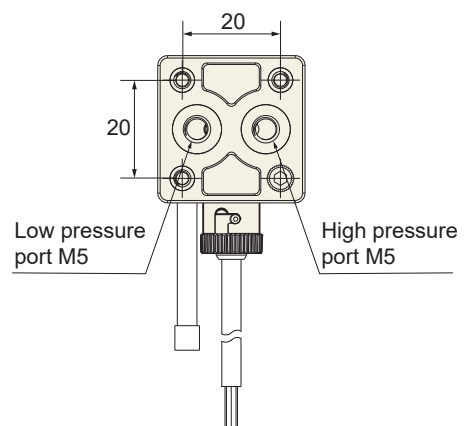
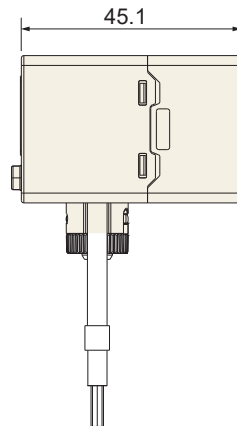
### Optional Parts

■ Mounting bracket : BT-18 / BT-19

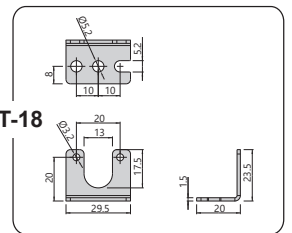
■ Panel adapter : PA-E

■ Panel adapter + Front protective lid : PA-F

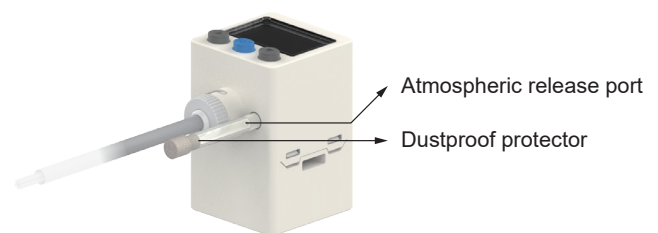
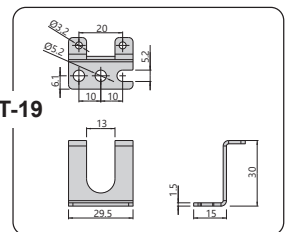




**BT-18**



BT-19



**Caution :**  
This device must be installed to maintain IP65 ( Dust and splash proof ) enclosure rating.

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