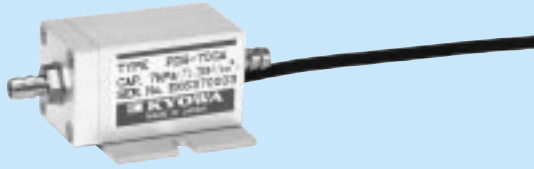
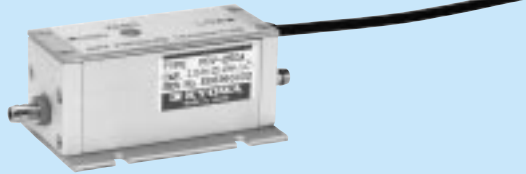


# PDS-A/PDV-A Minute Differential Pressure Transmitters

● For Wind Pressure Measurement ● 1 to 7 kPa



PDS-A



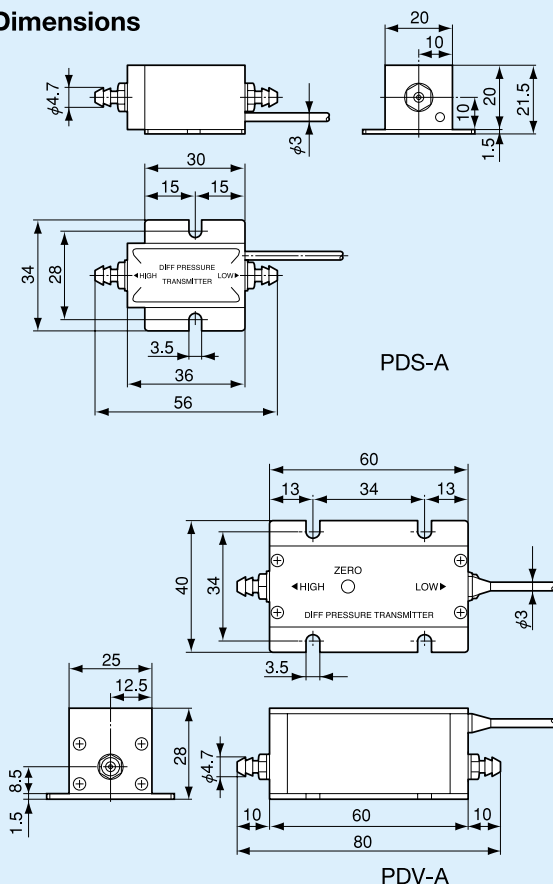
PDV-A

PDS/PDV-A series are minute differential pressure transmitters with the discrete semiconductor strain gage formed on the silicon diaphragm. PDV-A series is equipped with a built-in amplifier. Signals from PDS-A series can be measured with KYOWA signal conditioner.

2

TRANSDUCERS

## Dimensions



## Features

- High frequency response
- Highly accurate
- High sensitivity
- Noise resistant
- Voltage output of  $\pm 5$  V (PDV-A)
- Compact and lightweight

## Specifications

### Performance

#### Rated Capacity:

| Model    |          | Rated Capacity |
|----------|----------|----------------|
| PDS-10GA | PDV-10GA | 1 kPa          |
| PDS-25GA | PDV-25GA | 2.5 kPa        |
| PDS-50GA | PDV-50GA | 5 kPa          |
| PDS-70GA | PDV-70GA | 7 kPa          |

**Nonlinearity:** Within  $\pm 0.5\%$  RO (within  $\pm 0.7\%$  with 25GA)

**Hysteresis:** Within  $\pm 0.3\%$  RO

#### Rated Output:

- $\pm 7$  to 23 mV (PDS-10GA)
- $\pm 13$  to 23 mV (PDS-25 to 70GA)
- $\pm 5$  V (PDV-10 to 70GA)

#### Rated Output Accuracy:

- $\pm 1.0\%$  RO (PDS/PDV-10 & 25GA)
- $\pm 1.5\%$  RO (PDS/PDV-50GA)
- $\pm 2.0\%$  RO (PDS/PDV-70GA)

### Environmental Characteristics

**Safe Temperature Range:**  $-20$  to  $70^\circ\text{C}$

**Safe Humidity Range:** 20 to 85% RH (0 to  $50^\circ\text{C}$ )

**Compensated Temperature Range:** 0 to  $50^\circ\text{C}$

#### Temperature Effect on Zero Balance:

- Within  $\pm 0.1\%$  RO/ $^\circ\text{C}$  (PDS/PDV-10GA)
- Within  $\pm 0.08\%$  RO/ $^\circ\text{C}$  (PDS/PDV-25 to 70GA)

#### Temperature Effect on Output:

- Within  $\pm 0.1\%/^\circ\text{C}$  (PDS/PDV-10GA)
- Within  $\pm 0.08\%/^\circ\text{C}$  (PDS/PDV-25 to 70GA)

**Pressure Medium:** General air (non-corrosive gas)

### Electrical Characteristics

**Load Resistance:** 5 k $\Omega$  or more (PDV-A)

**Initial Unbalance:** Within  $\pm 10$  mV (PDS-A)

**Bridge Output Resistance:** 2 to 6 k $\Omega$  (PDS-A)

#### Power Supply

PDS-A: 10 VDC (9.5 to 15 V), 5 mA or less (Bridge power supply of signal conditioner can be used.)

PDV-A: 12 VDC (11 to 15 V), 30 mA or less

#### Cable

PDS-A: 4-conductor (0.05 mm<sup>2</sup>) chloroprene shielded cable, 3 mm diameter by 3 m long, terminated with connector plug (Shield wire is not connected to mainframe.)

PDV-A: 4-conductor (0.05 mm<sup>2</sup>) chloroprene shielded cable, 3 mm diameter by 3 m long, bared at the tip

### Mechanical Properties

**Safe Overload Rating:** 300% (600% with PDS/PDV-10GA)

**Maximum Line Pressure:** 100 kPa

**Natural Frequency:** Approx. 1.7 kHz

#### Weight

PDS-A: Approx. 40 g

PDV-A: Approx. 100 g

**Posture Effect:** Zero drift within  $\pm 0.3\%$  ( $\pm 0.8\%$  with 10GA) when inclined by  $90^\circ$  referring to horizontal condition

#### Internal Volume

High side: Approx.  $0.2 \times 10^{-6}$  m<sup>3</sup> (0.2 mL)

Low side: Approx.  $1 \times 10^{-6}$  m<sup>3</sup> (1 mL)

**Pressure Connection:** 4.7 mm diameter volute joint

### To Ensure Safe Usage

- Since these transmitters are designed for general indoor use, avoid dew condensation on, or freezing of, any parts including the pressure inlet.
- When using for a pressure meter, apply pressure to the high side and open the low side to the atmosphere.
- For atmospheric observation, prepare piping to prevent rainwater from entering the pressure inlet.
- Signal conditioners CDV-700A and instrumentation amplifiers WGA-650A/710B with built-in bridge power supply of 10 VDC are available for PDS-A series. In the case of WGA-650B or 710B, connection cable N-70 is required.

If dimensions of the pressure connection are desired to change, contact us.