

# DPTExxxxS / DPTExxxx

## 3-WIRE DIFFERENTIAL PRESSURE TRANSMITTERS WITH CURRENT AND VOLTAGE OUTPUT

### PRODUCT DATA & MOUNTING INSTRUCTIONS



## GENERAL

The differential pressure transmitters of the DPTExxxx series are used for measuring differential pressure, positive pressure, and vacuum. The transmitters are suitable for:

- air-conditioning,
- building automation,
- environmental protection,
- valve and flap control,
- filter and blower monitoring,
- fluid and level monitoring, and
- control of air flows.

## MODELS

| order no.  | measuring range                   |                           | overload capacity | burst pressure |
|------------|-----------------------------------|---------------------------|-------------------|----------------|
|            | 1 (default)                       | 2                         |                   |                |
| DPTEx50S   | -50...0...+50 Pa <sup>1)</sup>    | n.a.                      | 20 kPa            | 40 kPa         |
| DPTEx100S  | -100...0...+100 Pa <sup>1)</sup>  | n.a.                      | 20 kPa            | 40 kPa         |
| DPTEx500S  | -500...0...+500 Pa <sup>1)</sup>  | n.a.                      | 20 kPa            | 40 kPa         |
| DPTEx1000S | -1 kPa...0...+1 kPa <sup>2)</sup> | n.a.                      | 40 kPa            | 70 kPa         |
| DPTEx100   | 0...100 Pa <sup>1)</sup>          | 0...250 Pa <sup>1)</sup>  | 20 kPa            | 40 kPa         |
| DPTEx250   | 0...250 Pa <sup>1)</sup>          | 0...500 Pa <sup>1)</sup>  | 20 kPa            | 40 kPa         |
| DPTEx500   | 0...500 Pa <sup>1)</sup>          | 0...1 kPa <sup>1)</sup>   | 20 kPa            | 40 kPa         |
| DPTEx1000  | 0...1 kPa <sup>2)</sup>           | 0...2.5 kPa <sup>2)</sup> | 40 kPa            | 70 kPa         |
| DPTEx5000  | 0...5 kPa <sup>3)</sup>           | 0...10 kPa <sup>3)</sup>  | 60 kPa            | 120 kPa        |

<sup>1)</sup> Temperature error at 0...50 °C ≤ ± 5% of FS  
<sup>2)</sup> Temperature error at 0...50 °C ≤ ± 2.5% of FS  
<sup>3)</sup> Temperature error at 0...50 °C ≤ ± 1% of FS

## FEATURES

- Monitoring gaseous, non-aggressive media
- Piezo-resistive pressure transducer
- Up to 20 kPa (60 kPa) overload capacity
- Easy installation and wiring connection
- Measuring range adjustable by jumper
- Response time adjustable by jumper
- Output signal adjustable by jumper
- Re-zeroing possible by pushbutton

**NOTE:** These sensors are not suitable for use in installations under periodic inspection by the U.S. Food and Drug Administration.

## SPECIFICATION

|                              |   |
|------------------------------|---|
| Supply voltage               | 18...30 Vac/dc, 50/60 Hz  |
| Output signal                | 0...10 Vdc (default) / 4...20 mA                                  |
| Response time                | 1 s (default) / 100 ms  |
| Working temperature          | 0...50 °C   |
| Storage temperature          | -10...+70 °C  |
| Humidity                     | 0...95% rh, non-condensing  |
| Max. current consumption     | < 60 mA   |
| Linearity + hysteresis error | ≤ ± 1.0% of FS  |
| Long-term stability, typical | ≤ ± 0.5% to ± 2.5% of FS per year, depending upon measuring range |
| Repetition accuracy          | ≤ ± 0.2% of FS  |
| Orientation dependence       | ≤ ± 0.02% of FS   |
| Pressure medium              | Air + non-aggressive gases  |
| Process connection           | 6 mm hose pipe  |
| Electrical connection        | Screw terminal block for wire up to 1.5 mm <sup>2</sup>           |
| Fixation of device           | With serrated screws  |
| Housing material             | ABS and POM   |
| Cable entry                  | M20x1.5 (polyamide)   |
| Protection class             | IP54 (with hood), IP00 (without hood) as per EN60529              |
| EMV                          | EN60770, EN61326  |
| Weight                       | 120 g   |

## FUNCTION

DPTExxxxS / DPTExxxx Three-Wire Differential Pressure Transmitters are equipped with an integrated piezo-resistive pressure transducer. The pressure to be measured thus deflects a thin membrane made of mono-silicon. The membrane's semiconductor resistors (arranged to simultaneously compensate for the temperature response) detect this deflection and generate an electrical output signal. The output signal is converted into an analog signal which changes (within the specified error limits) in proportion to the applied pressure.

**NOTE:** The devices are factory pre-set to an output signal of 0...10 V. This can be changed to 0...20 mA by removing the corresponding jumper (see Fig. 3).

**NOTE:** The devices are factory pre-set to measuring range 1. This can be changed (except for +/- models) to measuring range 2 by removing the corresponding jumper (see Fig. 3).

**NOTE:** The devices are factory pre-set to a response time of 1 second. This can be changed to 100 ms by removing the corresponding jumper (see Fig. 3).

**NOTE:** During the first two years of operation, the sensor may display slight drift. To nevertheless maintain nominal accuracy during this period, we therefore recommend occasional rezeroing (see Fig. 3).

## ACCESSORIES

DPSK: Included in delivery. Duct Kit, incl. 2 m of silicone hose and two joining pipes

DPSL: Ordered separately. L-shaped mounting brackets with screws.

## DIMENSIONS

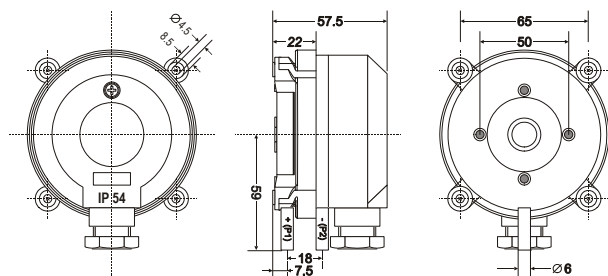


Fig. 1. Dimensions (in mm)

## MOUNTING

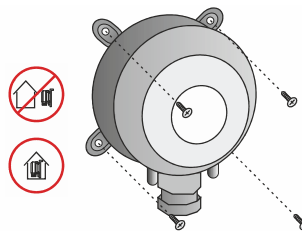


Fig. 2. Mounting

## WIRING

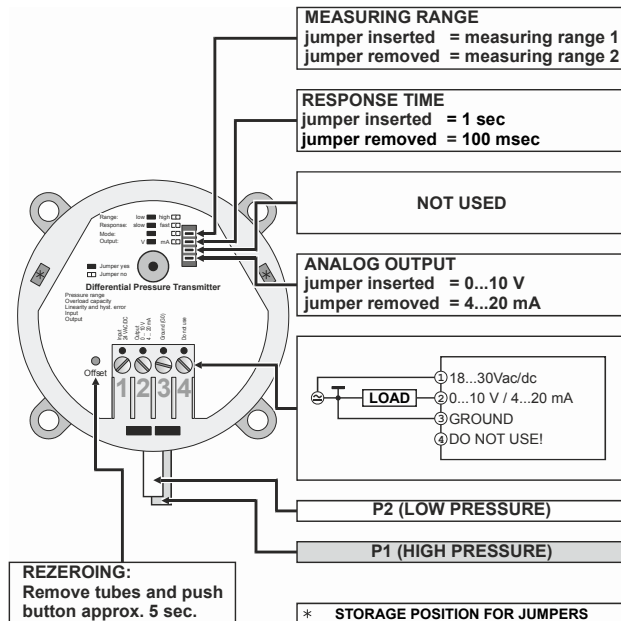


Fig. 3. Wiring details

## APPROVALS

- CE according to 2014/30/EU



- (Eurasian Conformity)



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