

DPTExxxxS / DPTExxxx

3-WIRE DIFFERENTIAL PRESSURE TRANSMITTERS WITH CURRENT AND VOLTAGE OUTPUT

- Monitoring gaseous, non-aggressive media
- Piezo-resistive pressure transducer
- Up to 20 kPa (60 kPa) overload capacity
- Easy installation and wiring connection
- Measurement range adjustable by jumper
- Response time adjustable by jumper
- Output signal adjustable by jumper
- Red digital display
- Display of values > +1000 Pa in kPa
- Re-zeroing possible by pushbutton

Technical Specification

Supply voltage	18...30 Vac/dc, 50/60 Hz
Output signal	0...10 Vdc (default) / 4...20 mA
Pressure medium	Air + non-aggressive gases
Working temperature	0...50 °C
Linearity and hysteresis error	$\pm \leq 1.0\%$ of FS
Temperature error	see "Model"
Storage temperature	-10... 70 °C
Humidity	0...95% rh, non-condensing
Repetition accuracy	$\pm \leq 0.2\%$ of FS
Response time	1 s (switchable to 100 ms)
Process connection	6 mm hose pipe
Electrical connection	Screw terminal block for wire up to 1.5 mm ²
Housing material	ABS and PO
Cable entry	M20x1.5 (polyamide)
Protection class	IP54 as per EN60529
EMV	EN60770, EN61326
Weight	Approx. 130 g



GENERAL

The differential pressure transmitters of the DPTEx 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.

NOTE:

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

Models

Order no.	Measuring Range		Overload Capacity	Burst Pressure
	1 (default)	2		
DPTE50S	-50...0...+50 Pa ¹⁾	NA	20 kPa	40 kPa
DPTE100S	-100...0...+100 Pa ¹⁾	NA	20 kPa	40 kPa
DPTE500S	-500...0...+500 Pa ¹⁾	NA	20 kPa	40 kPa
DPTE1000S	-1 kPa...0...+1 kPa ²⁾	NA	40 kPa	70 kPa
DPTE100	0...100 Pa ¹⁾	0...250 Pa ¹⁾	20 kPa	40 kPa
DPTE250	0...250 Pa ¹⁾	0...500 Pa ¹⁾	20 kPa	40 kPa
DPTE500	0...500 Pa ¹⁾	0...1 kPa ¹⁾	20 kPa	70 kPa
DPTE1000	0...1 kPa ²⁾	0...2.5 kPa ²⁾	40 kPa	70 kPa
DPTE5000	0...5 kPa ³⁾	0...10 kPa ³⁾	60 kPa	120 kPa

- 1) Temperature error at 0...50 °C $\pm \leq 5\%$ of FS
2) Temperature error at 0...50 °C $\pm \leq 2.5\%$ of FS
3) Temperature error at 0...50 °C $\pm \leq 1\%$ of FS

FUNCTION

DPTExxxxSD / DPTExxxxD Differential Pressure Transmitters are equipped with an integrated piezo-resistive pressure transducer. The pressure to be measured is applied to and 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 a 0...10 V or 4...20 mA analog signal which changes (within the specified error limits) in proportion to the applied pressure, while the corresponding pressure value is then displayed (in Pa/kPa) in the LED.

NOTE: The devices are factory pre-set to an output signal of 0...10 V. This can be changed to 4...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).

WIRING

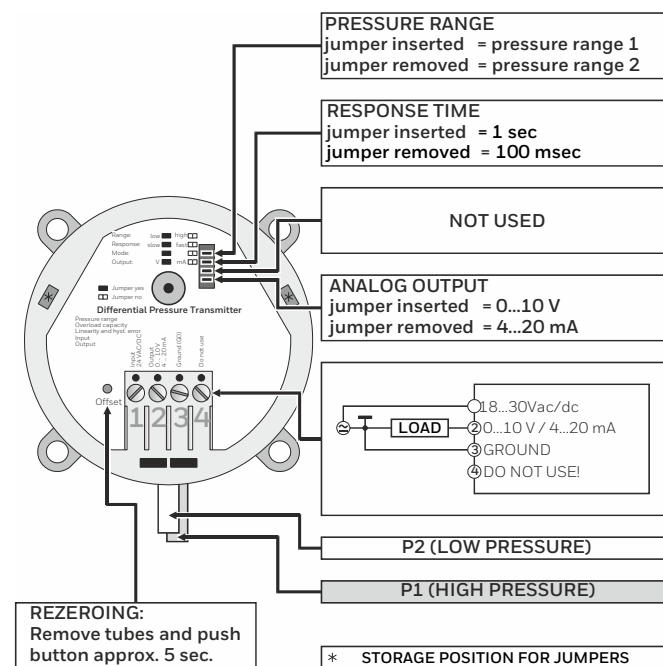


Fig. 3. Wiring details

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.

WIRING

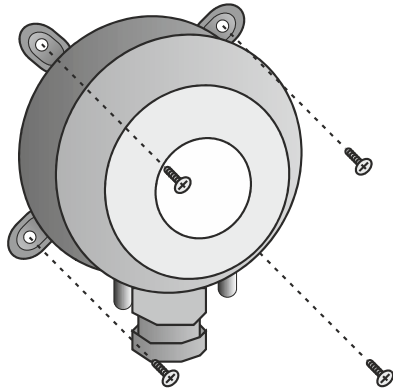


Fig. 2. Mounting

DIMENSIONS

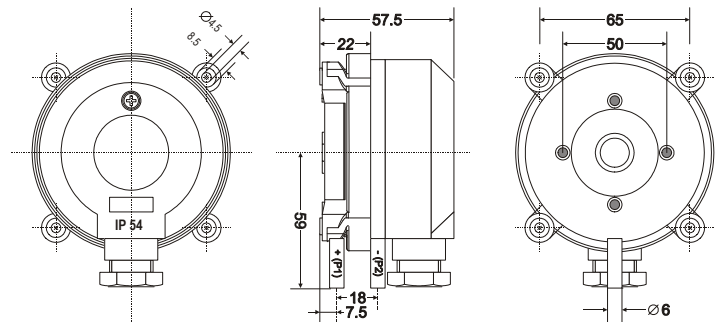


Fig. 1. Dimensions (in mm)

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