

## DPTAxx

### 3- WIRE DIFFERENTIAL PRESSURE TRANSMITTERS WITH CURRENT / VOLTAGE OUTPUT AND AUTOM. OFFSET COMPENSATION

#### PRODUCT DATA



#### GENERAL

The differential pressure transmitters of the DPTA series feature automatic offset compensation. They are used for measuring differential pressure, positive pressure, and vacuum. The transmitters are suitable for:

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

The DPTAQ multi-range model features eight selectable measurement ranges set using the adjustment dial and offers the advantages of long-term stability due to automatic offset calibration. One model is suitable for measuring extremely small pressures (0...25 Pa / 0...50 Pa).

#### MODELS

For all models: overload capacity of 20 kPa, burst pressure of 40 kPa

order no.	measuring ranges	
	meas. range 1 (default)	meas. range 2
DPTA25	0...25 Pa <sup>1)</sup>	0...50 Pa <sup>1)</sup>
DPTA25S	-25...0...+25 Pa <sup>1)</sup>	n.a.
DPTA25D*	0...25 Pa <sup>1)</sup>	0...50 Pa <sup>1)</sup>
DPTA25SD*	-25...0...+25 Pa <sup>1)</sup>	n.a.
DPTAQ8	-50...0...+50 Pa <sup>1)</sup> , -100...0...+100 Pa <sup>1)</sup> , -250...0...+250 Pa <sup>2)</sup> , -500...0...+500 Pa <sup>2)</sup> , 0...100 Pa <sup>1)</sup> , 0...250 Pa <sup>1)</sup> , 0...500 Pa <sup>2)</sup> , 0...1000 Pa <sup>3)</sup>	
DPTAQ8D*	-50...0...+50 Pa <sup>1)</sup> , -100...0...+100 Pa <sup>1)</sup> , -250...0...+250 Pa <sup>2)</sup> , -500...0...+500 Pa <sup>2)</sup> , 0...100 Pa <sup>1)</sup> , 0...250 Pa <sup>1)</sup> , 0...500 Pa <sup>2)</sup> , 0...1000 Pa <sup>3)</sup>	

<sup>1)</sup> Temperature error at 0...50 °C ≤ ± 5% of FS      \*With display  
<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 media
- Piezo-resistive pressure transducer
- Up to 20 kPa overload capacity
- Easy installation and wiring connection
- DPTAQ8 with eight measuring ranges and test adjustment 0 V / 10 V / 4 mA / 20 mA
- DPTA25 with extremely small measurement range
- Response time adjustable by jumper
- Output signal adjustable by jumper
- Automatic offset recalibration

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

#### SPECIFICATION

Supply voltage	22...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 (without display) < 150 mA (with display)
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 cover), IP00 (without cover) as per EN6529
EMV	EN60770, EN61326
Weight	130 g (without display) 145 g (with display)

## FUNCTION

DPTAxX Three-Wire 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 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 DPTAQ8 is factory pre-set to the measuring range "4" (0...1000 Pa). There are seven additional measuring ranges plus the test adjustment for output signals which can be selected using the adjustment dial (see Fig. 3).

**NOTE:** The DPTA25 is factory-set to the measuring range "1". This can be changed (except with the "S" 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).

## 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

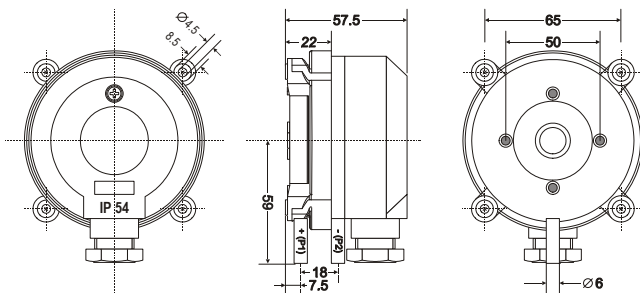


Fig. 1. Dimensions (in mm)

## MONTAGE

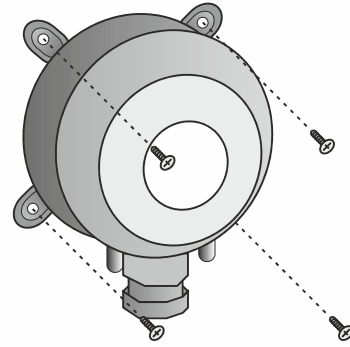


Fig. 2. Mounting

## WIRING

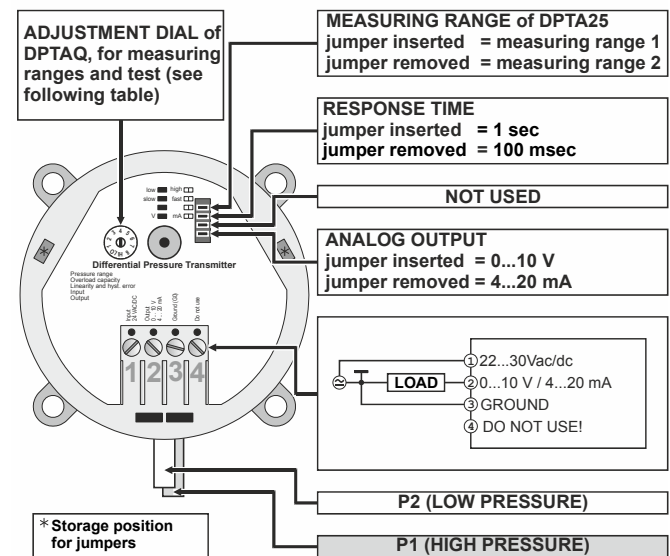


Fig. 3. Wiring details

Table 1. Measuring ranges DPTAQ

adjustment dial setting	measuring range	adjustment dial setting	measuring range
1	0...100 Pa	5	-50...+50 Pa
2	0...250 Pa	6	-100...+100 Pa
3	0...500 Pa	7	-250...+250 Pa
4	0...1000 Pa	8	-500...+500 Pa
LO	test output low	HI	test output high

**Honeywell**



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 Subject to change without notice.  
 ENOB-0710GE51 R0214