

DPTM52-5002

2-WIRE DIFFERENTIAL PRESSURE TRANSMITTERS CURRENT OUTPUT

SPECIFICATION DATA & MOUNTING INSTRUCTIONS



GENERAL

The differential pressure transmitters of the DPTM 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.	pressure range		overload capacity	bursting pressure
	1 (pre-set)	2		
DPTM52	-50...0...+50 Pa ¹⁾	n.a.	20 kPa	40 kPa
DPTM112	-100...0...+100 Pa ¹⁾	n.a.	20 kPa	40 kPa
DPTM552	-500...0...+500 Pa ¹⁾	n.a.	20 kPa	40 kPa
DPTM1102	-1 kPa...0...+1 kPa ¹⁾	n.a.	40 kPa	70 kPa
DPTM102	0...100 Pa ¹⁾	0...250 Pa	20 kPa	40 kPa
DPTM252	0...250 Pa ¹⁾	0...500 Pa	20 kPa	40 kPa
DPTM502	0...500 Pa ¹⁾	0...1 kPa	20 kPa	40 kPa
DPTM1002	0...1 kPa ²⁾	0...2.5 kPa	40 kPa	70 kPa
DPTM5002	0...5 kPa ³⁾	0...10 kPa	60 kPa	120 kPa

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

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

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

FEATURES

- Monitoring gaseous, non-aggressive media
- Piezo-resistive pressure transducer
- Up to 40 kPa (60 kPa) overload capacity
- Rugged design; protection class IP54
- Easy installation and wiring connection
- Measurement range adjustable by jumper
- Response time 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	16...32 Vdc
Output signal	4...20 mA, two-wire
Pressure medium	Air + non-aggressive gases
Working temperature	0...50 °C
Linearity and hysteresis error	$\leq \pm 1.0\%$ of FS
Temperature error	see "Models"
Storage temperature	-10...+70 °C
Humidity	0...95% rh, non-condensing
Repetition accuracy	$\leq \pm 0.2\%$ 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 POM
Cable entry	M20x1.5 (polyamide)
Protection class	IP54 as per EN60529
EMV	EN60770, EN61326
Weight	approx. 130 g

FUNCTION

DPTM52-5002 Two-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.

NOTE: The devices are factory pre-set to pressure range 1. This can be changed (except for +/- models) to pressure 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

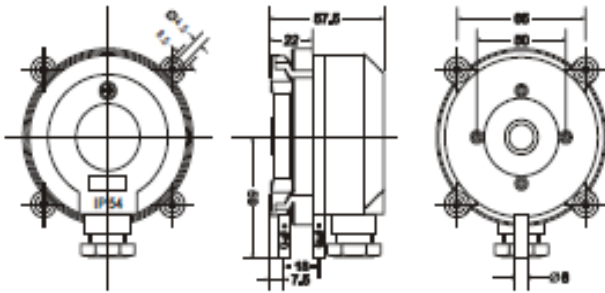


Fig. 1. Dimensions (in mm)

MOUNTING

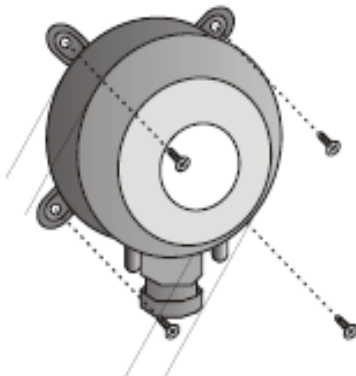


Fig. 2. Mounting

WIRING

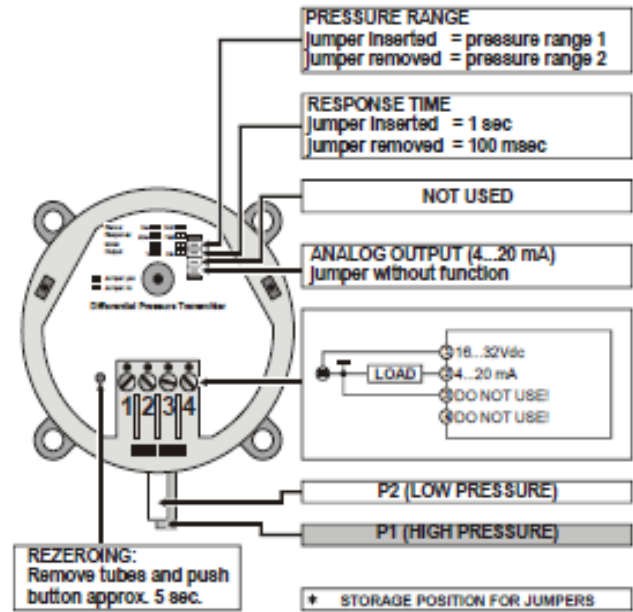


Fig. 3. Wiring details

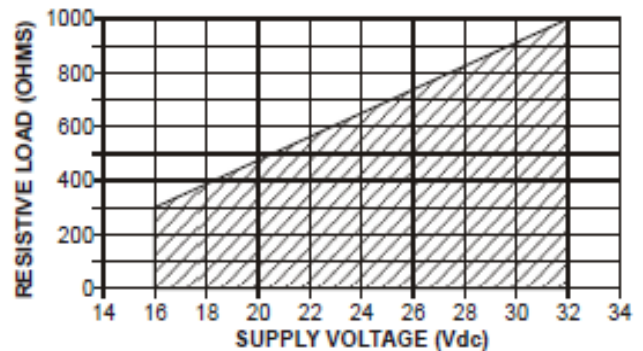


Fig. 4. Permissible load vs. supply voltage