DTL

Differential pressure transmitter for air up to 5000 Pa

DTL is a transmitter for measuring differential pressure in air and neutral gases in air-handling systems etc, e.g. for controlling pressure in ventilation systems.

- Several measuring ranges within 0...5000 Pa
- Output signal 0...10V or 4...20 mA
- Quick and easy mounting
- High level of accuracy and stability
- With or without display
- Models with square root output signal

Function

The transmitter consists of a plastic sensor-housing and a membrane of silicon LSR. The differential pressure affects the membrane which is connected to the sensor element.

The element is manufactured with state-of-the art technology with a ceramic beam onto which thick-film resistors have been applied. The pressure on the membrane causes a movement which is transferred to the ceramic beam. Flexing of the beam gives changes in resistance. The changes in resistance are transmitted by means of built-in electronics to an analogue output signal.

The measuring element gives a rapid response and a high level of accuracy.
The properties of the ceramic element ensure that the transmitter has excellent long-term stability.

The sensor housing
The sensor housing is made of transparent plastic. The cable input is on the left hand side with cable gland. The cover, of red plastic, is closed by a single screw and can easily be detached from the hinges when mounting.

Display
DTL is also available with LCD display (3 ½ digits) on the front showing the current pressure.
See also model DMD, leaflet 4-340 for differential pressure sensor with display.

Square root calculation
This is used in applications with Prandtl-tube measurement giving the differential pressure depending on the current airflow. DTL can be supplied with built-in conversion of the output signal to the square root of the differential pressure being measured. In this case DTL gives an output signal that is proportional to the current airflow.

Mounting
The sensor should be mounted vertically using screws in the mounting holes on the back edge.
There are also two mounting holes on the upper side of the sensor housing.

Connection set
A connection set consisting of tubing and pressure outlets can be supplied as accessory to DTL. See overleaf.

Models

Output signal **0...10 V DC**	
DTL05/05	-50...+50 Pa
DTL1	0...100 Pa
DTL3	0...300 Pa
DTL5	0...500 Pa
DTL10	0...1000 Pa
DTL16	0...1600 Pa
DTL25	0...2500 Pa
DTL50	0...5000 Pa

Output signal **4...20 mA**	
DTL05/05-420	-50...+50 Pa
DTL1-420	0...100 Pa
DTL3-420	0...300 Pa
DTL5-420	0...500 Pa
DTL10-420	0...1000 Pa
DTL16-420	0...1600 Pa
DTL25-420	0...2500 Pa
DTL50-420	0...5000 Pa

Transmitter with **display** has a suffix **-D**. I.e.: DTL25-D, DTL3-420-D.

Technical data

Supply voltage		24 VAC +15/-10% or 18...33 V DC. (4...20 mA version only 18...33 V DC)
Power consumption		10 mA (0...10 V), 30mA (4...20 mA)
Output signal		0...10 V or 4...20 mA (0...20 mA on request)
Load impedance		> 10 kohm (0...10 V), < 400 ohm (4...20 mA)
Maximum differential pressure		Measuring range up to 300 Pa: 5kPa Measuring range over 500 Pa: 10 kPa
Pressure connection		Connection pipes for 6mm tube
Cable connection		Screw terminals. Cable gland with built-in strain relief Pg 11.
Cable		Three wire. Flexible cable is recommended.
Mounting		Vertical with the pressure connections downwards
Material sensor	housing	Transparent plastic
	membrane	LSR (silicon)
Form of protection		IP54
CE		This product conforms with the requirements of European EMC standards CENELEC EN50081-1 and EN50082-1 and carry the CE-mark.
Accuracy	linearity	< +/-0,7 % fs
	hysteresis	< +/-1,0 % fs
Temperature dependense		< 0,04% fs /°C fs = fullscale, over the whole range
Ambient temperature		0...+70°C
Storage temperature		-10...+70°C
Dynamic responstime		< 10 ms
Resolution		Measuring range up to 100 Pa: < 0,2% fs : < 0,1% fs elsewhere
ANS		Mounting kit with 2m plastic tube and 2 pressure outlets.
DTV-ANSLUTNING		Pressure connection of metal, angled 90°

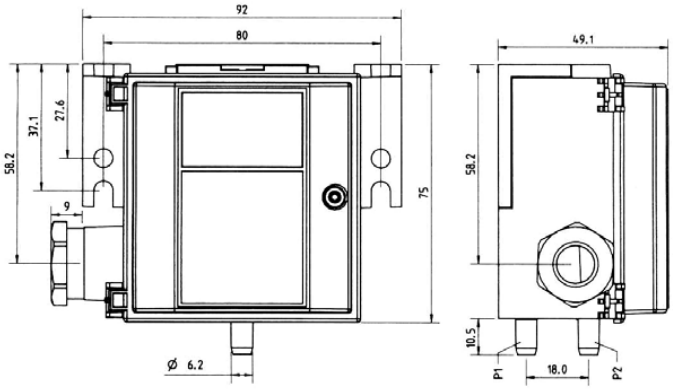
Dimension and wiring

DTL 0-10 V

+	Supply voltage 24 V AC / 18...33 V DC
↗	Output signal 0...10 V DC
0	System neutral

DTL 4...20 mA (two wire connection)

+	Supply voltage 18...33 V DC
↗	Output signal 4...20 mA



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