



DPT is a transmitter for use with our Demand Control Ventilation system for measuring differential pressure in air and neutral gases for controlling pressure in HVAC systems.

- \* Two measuring ranges within 0...500 Pa
- \* Output signal 0...10V
- \* Quick and easy mounting
- \* High level of accuracy and stability
- \* 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.

### Square root calculation

This is used in applications with Prandtl-tube measurement giving the differential pressure depending on the current airflow. DPT can be supplied with built-in conversion of the output signal to the square root of the differential pressure being measured. In this case DPT 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 DPT. See overleaf.

## Models

Output signal **0...10 V DC**

149-DCV-DPT3	0...300 Pa
149-DCV-DPT5	0...500 Pa

## Technical data

Supply voltage	24 VAC +15/-10% or 18...33 V DC.	
Power consumption	10 mA (0...10 V)	
Output signal	0...10 V	
Load impedance	> 10 kohm (0...10 V)	
Maximum differential pressure	Measuring range up to 500 Pa.	
Pressure connection	Connection pipes for 6mm tube	
Cable connection	Screw terminals. Cable gland with built-in strain relief.	
Cable	Three wire. Flexible cable is recommended.	
Mounting	Vertical with the pressure connections downwards	
Material sensor housing membrane	Transparent plastic LSR (silicon)	
Form of protection	IP54	
<b>CE</b>	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 dependence		< 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°	

## Installation arrangement

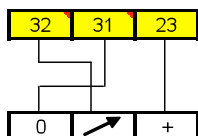
- 1) Recommended installation arrangement: vertical, with pressure connections facing downward, drain of possible condensed water (factory calibration).
- 2) Horizontal, cover facing downward. Signal approximately 14 Pa higher than actual pressure.
- 3) Horizontal, cover facing upward. Signal approximately 14 Pa below actual pressure.

**N.B.** Mount the transmitter with minimum 10mm distance to magnetic material. If this is not possible there is a failure of up to minus 1 Pa for transmitters mounted on sheet steel.

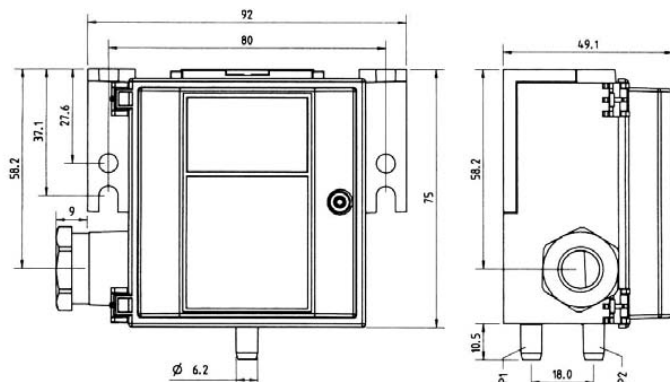
## Dimension and wiring

DTL 0-10 V

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



PRESSURE SENSOR  
149-DPT3  
149-DPT5



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