CSDTL150...1650

Differential pressure transmitter for air and non-corrosive gases with settable working range

CSDTL is a transmitter for differential pressure measurement of air and non-corrosive gases in air handling units etc. A common application area is pressure control in ventilation systems.

- **Three settable working ranges for each model**
- **Output signal 0...10 V DC or 4...20 mA**
- **High level of accuracy and stability**
- **Quick and easy mounting**

Function

The transmitter consists of a plastic sensor housing and a membrane of silicone LSR.

The differential pressure affects the membrane which is connected to the sensor element. The element is manufactured with state-of-the-art technology and has 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. A change in pressure will lead to a change 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.

Sensor housing

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

Mounting

The sensor is normally mounted vertically using screws in the mounting holes in the back edge. There are also two mounting holes in the upper side of the sensor housing.

Connection set

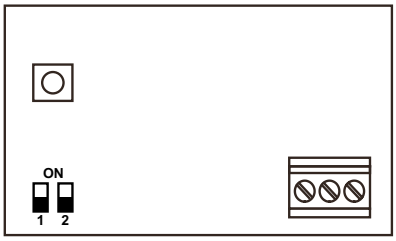
A connection set consisting of tubing and pressure outlets can be ordered as an accessory to CSDTL. See overleaf.

Setting the working range

The transmitter has three different working ranges depending on the model (see model overview on the overleaf).

The working ranges are set via two dipswitches in the lower left corner of the circuit board according to the table below. The supply voltage must be disconnected.

You can also change the zero point of the pressure measurement by pressing the button above the dipswitches.



	SW1	SW2
Working range 1	ON	OFF
Working range 2	OFF	ON
Working range 3	OFF	OFF

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Models

Article number	Working range 1	Working range 2	Working range 3	Output signal
CSDTL150	0...100 Pa	0...300 Pa	0...500 Pa	0...10 V DC
CSDTL150-420	0...100 Pa	0...300 Pa	0...500 Pa	4...20 mA
CSDTL310	0...300 Pa	0...500 Pa	0...1000 Pa	0...10 V DC
CSDTL310-420	0...300 Pa	0...500 Pa	0...1000 Pa	4...20 mA
CSDTL516	0...500 Pa	0...1000 Pa	0...1600 Pa	0...10 V DC
CSDTL516-420	0...500 Pa	0...1000 Pa	0...1600 Pa	4...20 mA
CSDTL1650	0...1600 Pa	0...2500 Pa	0...5000 Pa	0...10 V DC
CSDTL1650-420	0...1600 Pa	0...2500 Pa	0...5000 Pa	4...20 mA

Technical data

Supply voltage	24 V AC +/- 15 % or 13.5...33 V DC (8...33 V DC for 4...20 mA)
Power consumption	10 mA (0...10 V), 30 mA (4...20 mA)
Output signal	0...10 V DC or 4...20 mA
Load impedance	> 10 kOhm (0...10 V), < 400 Ohm (4...20 mA)
Max. allowed diff. pressure	Working ranges up to (and including) 300 Pa: 5 kPa. Working ranges over 500 Pa: 10 kPa.
Pressure connections	Connection pipes for 6 mm tube
Cable connection	Screw terminals. PG11 strain relief.
Cable	Three wire. A flexible cable is recommended.
Mounting	Vertically on a wall or similar with the pressure connections downwards.
Material	
sensor housing	Transparent plastic
membrane	LSR (silicone)
Protection class	IP54
Weight	0.1 kg
CE	The product conforms with the requirements of European EMC standard CENELEC EN 61326-2-3 and carries the CE-mark.
Accuracy	
linearity	< +/- 1.0 % fs* for working ranges within 0...100 Pa, for higher working ranges +/- 0.7 % fs*
hysteresis	< +/- 1.0 % fs*
Temperature dependence	< 0.04 % fs*/°C
Ambient temperature	0...70°C
Storage temperature	-10...+70°C
Dynamic response time	< 20 ms
Resolution	Working ranges up to (and including) 100 Pa: < 0.2 % fs*, other working areas: < 0.1 % fs*

Accessories

ANS	Mounting kit with 2 m plastic tube and 2 pressure outlets
DTV-ANSLUTNING	Pressure connection of metal, angled 90°

** fs = fullscale, the complete sensor range*

Wiring and dimensions

0...10 V DC

+	Supply voltage 24 V AC / 13.5...33 V DC
↗	Output signal 0...10 V DC
0	System neutral

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

+	Supply voltage 8...33 V DC
↗	Output signal 4...20 mA
0	Not connected