1 Description

Areas of application:

- Differential pressure monitoring between cleanrooms
- Differential pressure monitoring in filling processes
- Monitoring differential pressure, volume flow and flow velocity in critical air conditioning technology (VAC systems)

The differential pressure transmitter testo 6351 was developed specially for monitoring differential pressure in the measuring range from 50 Pa to 2000 hPa. In cleanroom technology, the maintenance of positive pressure prevents the entry of contaminated air. In order to keep the cleanroom conditions constant, the transmitter additionally calculates the parameters volume flow and flow velocity from the measured differential pressure.

The testo 6351 is particularly outstanding thanks to the automatioc zero-point adjustment which ensures high accuracy and long-term stability.

The integrated self-monitoring and early warning function also guarantees the operator high system availability.

- Measurement of differential pressure, flow velocity and volume flow
- Automatic zero-point adjustment guarantees high, temperature-independent accuracy and long-term stability
- Plastic housing
- Display with multi-language operating menu and optical alarm display
- Ethernet, relay and analog outputs allow optimum integration into individual automation systems
- Self-monitoring of the transmitter and early warning function guarantee high system availablity
- The P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance
- Scalability of ±50 percent of the measuring range final value and free scalability within the measuring range
- Configurable alarm management with adjustable response delay and alarm acknowledgement

2 Technical data

Parameters

Differential pressure

Measuring range	0 to 50 Pa 0 to 100 Pa 0 to 500 Pa 0 to 10 hPa 0 to 50 hPa 0 to 100 hPa 0 to 500 hPa 0 to 1000 hPa 0 to 2000 hPa	-50 to 50 Pa -100 to 100 Pa -500 to 500 Pa -10 to 10 hPa -50 to 50 hPa -100 to 100 hPa -500 to 500 hPa -1000 to 1000 hPa -2000 to 2000 hPa
Measurement uncertainty*	±0,8% of measurement range final value ±0.3 Pa Temperature gain drift: 0.02% of measuring range per Kelvin deviaton from nominal temperature 22 °C Zero point drift: 0% (thanks to cyclic zero-point adjustment)	
Selectable units	Differential pressure in Pa, hPa, kPa, mbar, bar, mmH_2O, kg/cm^2, PSI, inch HG, inch H_2O Calculated variables: Volume flow in m^3/h, l/min, Nm^3/h, Nl/min Flow velocity in m/s, ft/min	
Sensor	Piezoresistive sensor	
Autom. Zero-point adjustment	via magnetic valve Frequency adjustable: 15 sec, 30 sec, 1 min, 5 min, 10 min	

Overload capacity	Measuring range	Overload
	0 to 50 Pa	20000 Pa
	0 to 100 Pa	20000 Pa
	0 to. 500 Pa	20000 Pa
	0 to 10 hPa	200 hPa
	0 to 50 hPa	750 hPa
	0 to 100 hPa	750 hPa
	0 to 500 hPa	2500 hPa
	0 to 1000 hPa	2500 hPa
	0 to 2000 hPa	2500 hPa
	-50 to 50 Pa	20000 Pa
	-100 to 100 Pa	20000 Pa
	-500 to 500 Pa	20000 Pa
	-10 to. 10 hPa	200 hPa
	-50 to 50 hPa	750 hPa
	-100 to 100 hPa	750 hPa
	-500 to 500 hPa	2500 hPa
	-1000 to 1000 hPa	2500 hPa
	-2000 to 2000 hPa	2500 hPa

* Measurement inaccuracy according to GUM: ±0.8% of measurement range final value ±0.3 Pa
GUM (**G**uide to the Expression of **U**ncertainty in **M**easurement):
ISO guideline for the determination of measurement inaccuracy, in order to make measurements comparable worldwide.
The following inaccuracies are used for the determination:
– Hysteresis
– Linearity
– Reproducibility
– Long-term stability
– Adjustment site/factory calibration
– Test site

Inputs/outputs

Analog outputs

Quantity	1
Output type	0/4 to 20 mA (4-wire) (24 VAC/DC) 0 to 1/5 to 10 V (4-wire) (24 VAC/DC)
Scaling	Differential pressure: scalable ±50% of measuring range final value; freely scalable within measuring range
Meas. cycle	1/sec
Resolution	12 bit
Max. load	max. 500 Ω

Other outputs

Ethernet	Optional with Ethernet module
Relay	Optional: 4 relays (free allocation to measurement channels or as collective alarm in operating menu/P2A), up to 250 VAC/3A (NO or NC)
Digital	Mini-DIN for P2A software

Supply

Voltage supply	20 to 30 VAC/DC, 300 mA current consumption, galvanically separate signal and supply line

General technical data

Model

Material	Plastic housing
Dimensions	162 x 122 x 77 mm
Weight	0.7 kg; optional: Ethernet intermediary layer 0.6 kg

Display

Display	Optional: 3-line LCD with multi-language operating menu

Resolution	Measuring range	Resolution
	0 to 50 Pa	0,1 Pa
	0 to 100 Pa	0,1 Pa
	0 to 500 Pa	0,1 Pa
	0 to 10 hPa	0,01 hPa
	0 to 50 hPa	0,01 hPa
	0 to 100 hPa	0,1 hPa
	0 to 500 hPa	0,1 hPa
	0 to 1000 hPa	1 hPa
	0 to 2000 hPa	1 hPa
	-50 to 50 Pa	0,1 Pa
	-100 to 100 Pa	0,1 Pa
	-500 to 500 Pa	0,1 Pa
	-10 to 10 hPa	0,01 hPa
	-50 to 50 hPa	0,01 hPa
	-100 to 100 hPa	0,1 hPa
	-500 to 500 hPa	0,1 hPa
	-1000 to 1000 hPa	1 hPa
	-2000 to 2000 hPa	1 hPa

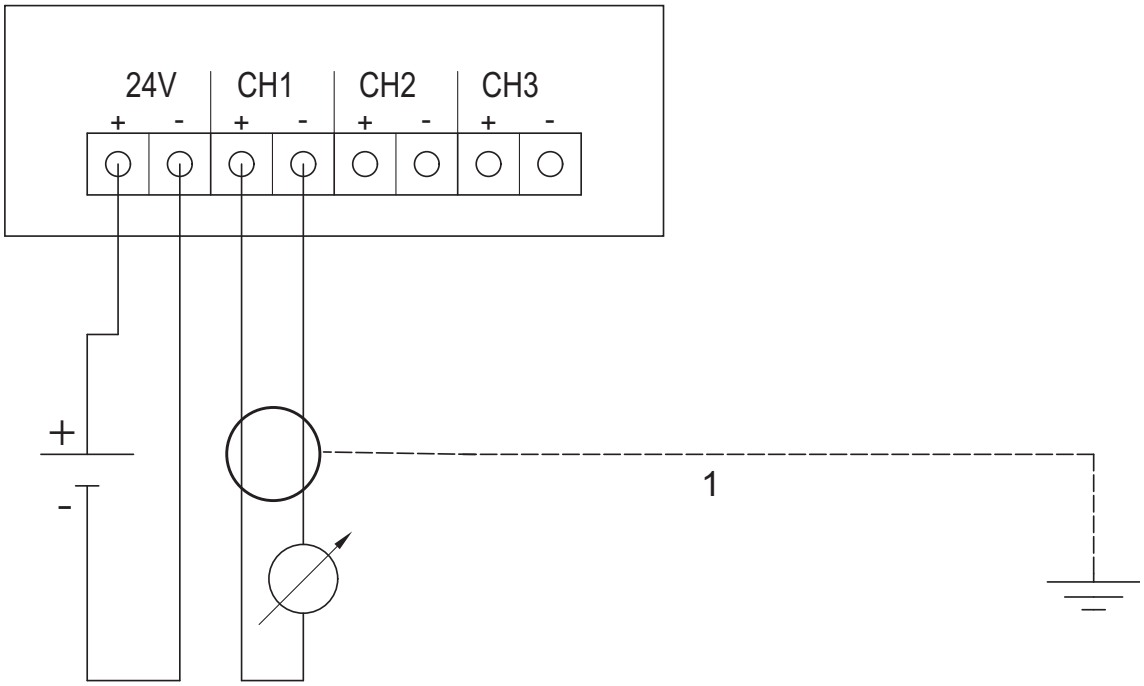
Miscellaneous

Protection class	IP 65
EMC	EU guideline 2004/108/EC

Operating conditions

With / without display	Operating temperature	-5 to +50 °C / +23 to +122 °F
	Storage temperature	-20 to +60 °C / -4 to +140 °F
	Process temperature	-20 to +65 °C / -4 to +149 °F

3 Connection plan



4 Technical drawings