We measure it. testo

Differential pressure transmitters for critical VAC applications and flow velocity measurement

testo 6351

hPa

m/s

- Measurement of differential pressure, flow velocity and volume flow
- Automatic zero-point adjustment guarantees high, temperature-independent accuracy and long-term stability
- Display with multi-language operating menu and optical alarm display
- Ethernet, relay and analog outputs allow optimum integration into individual automation systems
- The P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance
- Configurable alarm management with adjustable response delay

The differential pressure transmitter testo 6351 was developed specially for monitoring differential pressure in the measuring range from 50 Pa to 2000 hPa. For this reason, it is suitable for monitoring cleanrooms as well as for demanding VAC monitoring. In addition to this, the flow velocity or the volume flow can be calculated from the measurement of the differential pressure in a Pitot tube.

The automatic zero point adjustment ensures higheat accuracy and long-term stability.

Technical data

Measurement 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

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

***The determination of measurement uncertainty takes place according to GUM (Guide to the Expression of Uncertainty in Measurement):**
For the determination of measurement uncertainty, the accuracy of the measuring instrument (hysteresis, linearity, reproduceability), the uncertainty contribution of the test site as well as the uncertainty of the adjustment site (works calibration) are taken into account. For this purpose, the value of k=2 of the extension factor, which is usual in measurement technology is used as a basis, which corresponds to a trust level of 95%.
Measurement uncertainty differential pressure ±0.8% of measuring

Inputs/outputs

Analog outputs

Quantity	1
Output type	0/4 to 20 mA (4-wire) (24 VAC/DC) 0 to 1/5/10 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 channel 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
Connection nipple	Ø 6 mm --> suitable hoses 4 mm + 4.8 mm

Display

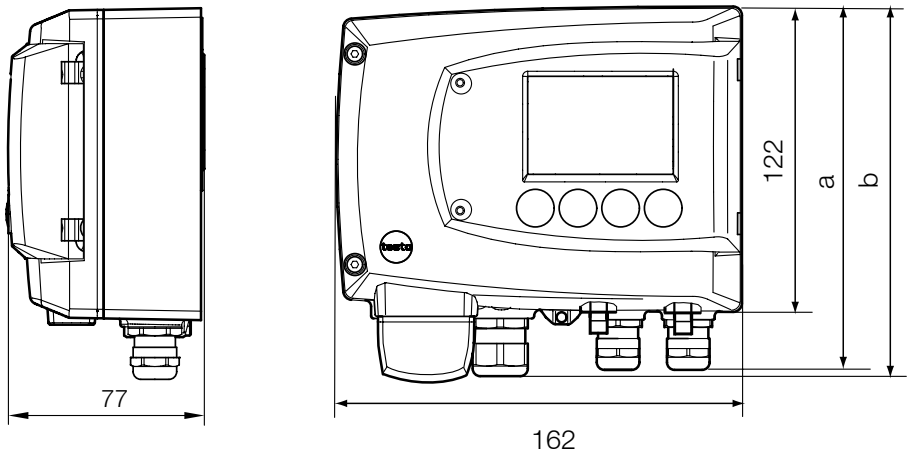
Display	Optional: 3-line LCD with multi-language operating menu	
Resolution	Measuring range	Resolution
	0 to 50 Pa	0.1 Pa
	0 to 100 Pa	0.1 Pa
	0 to 500 Pa	0.1 Pa
	0 to 10 hPa	0.01 hPa
	0 to 50 hPa	0.01 hPa
	0 to 100 hPa	0.1 hPa
	0 to 500 hPa	0.1 hPa
	0 to 1000 hPa	1 hPa
	0 to 2000 hPa	1 hPa
	-50 to 50 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

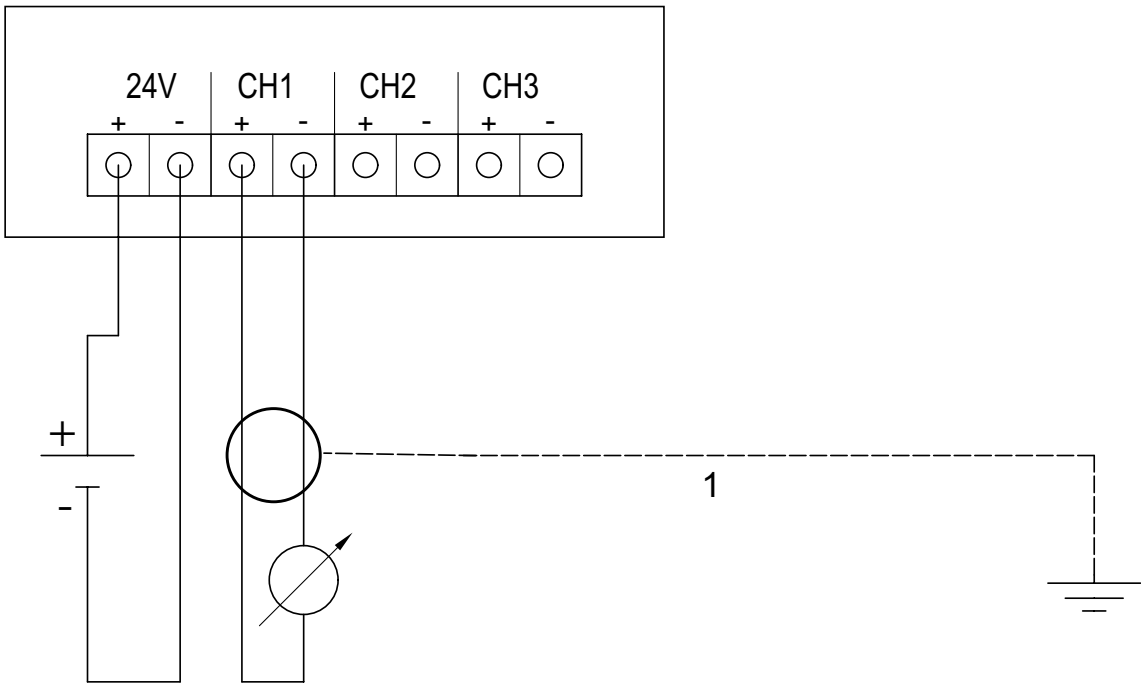
Protection class	IP 65
EMC	EU guideline 2004/108/EC

Technical drawings / Connection plan

Technical drawings



Connection plan



Options / Ordering example

The following options can be specified for the testo 6351:

AXX Measuring range
BXX Analog display/supply
CXX Display / menu language
DXX Cable input
EXX Ethernet
FXX Differential pressure/flow velocity unit (pre-set)
HXX Relay

AXX Measuring range

A02 0 to 50 Pa
A03 0 to 100 Pa
A04 0 to 500 Pa
A05 0 to 10 hPa
A07 0 to 50 hPa
A08 0 to 100 hPa
A09 0 to 500 hPa
A10 0 to 1000 hPa
A11 0 to 2000 hPa
A22 -50 to 50 Pa
A23 -100 to 100 Pa
A24 -500 to 500 Pa
A25 -10 to 10 hPa
A27 -50 to 50 hPa
A28 -100 to 100 hPa
A29 -500 to 500 hPa
A30 -1000 to 1000 hPa
A31 -2000 to 2000 hPa

BXX Analog display/supply

B02 0 to 1 V (4-wire, 24 VAC/DC)
B03 0 to 5 V (4-wire, 24 VAC/DC)
B04 0 to 10 V (4-wire, 24 VAC/DC)
B05 0 to 20 mA (4-wire, 24 VAC/DC)
B06 4 to 20 mA (4-wire, 24 VAC/DC)

CXX Display / menu language

C00 without display
C02 with display/English
C03 with display/German
C04 with display/French
C05 with display/Spanish
C06 with display/Italian
C07 with display/Japanese
C08 with display/Swedish

DXX Cable input

D01 Cable input M16 (relay: M20)
D02 Cable entry NPT 1/2“
D03 Cable contact via M-plug connection for signal and supply

EXX Ethernet

E00 without Ethernet module
E01 with Ethernet module

FXX Differential pressure/flow velocity unit (pre-set)

F01 Pa / min / max
F02 hPa / min / max
F03 kPa / min / max
F04 mbar / min / max
F05 bar / min / max
F06 mmH2O / min / max
F07 inch H2O / min / max
F08 inch HG / min / max
F09 kg/cm² / min / max
F10 PSI / min / max
F11 m/s / min / max
F12 ft/min / min / max
F13 m³/h / min / max
F14 l/min / min / max
F15 Nm³/h / min / max
F16 Nl/min / min / max

Scaling: 50% of measuring range final value; freely selectable within measuring range

HXX Relay

H00 without relay
H01 4 relay outputs, limit value monitoring
H02 4 relay outputs, channel 1 limit values and collective alarm

Ordering example

Order code for transmitter testo 6351 with the following options:
- Measuring range 0 to 100 Pa
- Analog output / supply 0 to 5 V (4-wire, 24 VAC/DC)
- with display/English
- Cable entry NPT 1/2“
- with Ethernet module
- Differential pressure Pa / 0 / 100
- 4 relay outputs, limit value monitoring

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