

# testo 6351

Differential pressure transmitters with high accuracy and long-term stability



## SPECIFICATIONS

testo 6351

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 automatic 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.

### 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)

Subject to change without notice.

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## SPECIFICATIONS

testo 6351

- 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 availability
- The P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance
- Scalability of  $\pm 50$  percent of the measuring range final value and free scalability within the measuring range
- Configurable alarm management with adjustable response delay and alarm acknowledgement



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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 <sub>2</sub> O, kg/cm <sup>2</sup> , PSI, inch HG, inch H <sub>2</sub> O Calculated variables: Volume flow in m <sup>3</sup> /h, l/min, Nm <sup>3</sup> /h, NI/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	<b>Measuring range</b>	<b>Overload</b>
	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

**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 range final value ±0.3 Pa

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 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

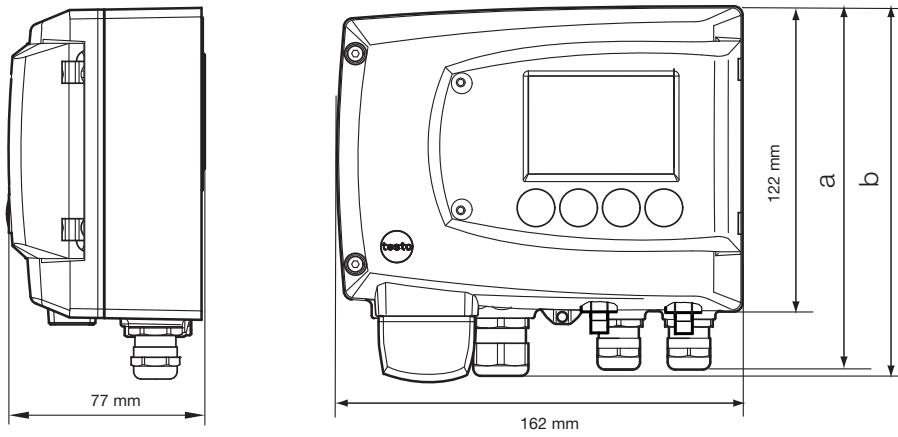
General technical data		
Model		
Material	Plastic housing	
Dimensions	162 x 122 x 77 mm	
Weight	0.7 kg; optional: Ethernet intermediary layer 0.6 kg	
Connection nipple	Ø 6 mm --> suitable hoses 4 mm + 4.8 mm	
Display		
Display	Optional: 3-line LCD with multi-language operating menu	
Resolution	<b>Measuring range</b>	<b>Resolution</b>
	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

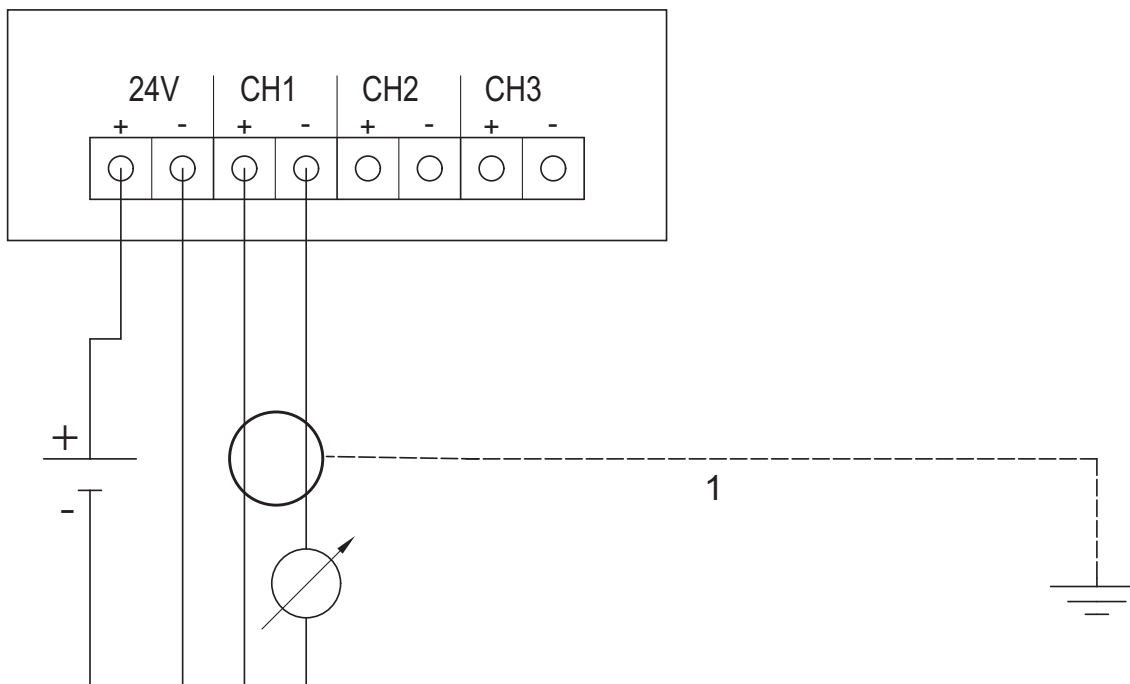


Differential pressure transmitters with high accuracy and long-term stability

### Technical drawings



### Connection plan





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The following options can be specified for the testo 6351:

AXX	Measuring range	A02	0 to 50 Pa	E00	without Ethernet module
BXX	Analog display/supply	A03	0 to 100 Pa	E01	with Ethernet module
CXX	Display / menu language	A04	0 to 500 Pa		
DXX	Cable input	A05	0 to 10 hPa	FXX	Differential pressure/flow velocity unit (pre-set)
EXX	Ethernet	A07	0 to 50 hPa	F01	Pa / min / max
FXX	Differential pressure/flow velocity unit (pre-set)	A08	0 to 100 hPa	F02	hPa / min / max
HXX	Relay	A09	0 to 500 hPa	F03	kPa / min / max
		A10	0 to 1000 hPa	F04	mbar / min / max
		A11	0 to 2000 hPa	F05	bar / min / max
		A22	-50 to 50 Pa	F06	mmH2O / min / max
		A23	-100 to 100 Pa	F07	mmH2O / min / max
		A24	-500 to 500 Pa	F08	inch HG / min / max
		A25	-10 to 10 hPa	F09	kg/cm <sup>2</sup> / min / max
		A27	-50 to 50 hPa	F10	PSI / min / max
		A28	-100 to 100 hPa	F11	m/s / min / max
		A29	-500 to 500 hPa	F12	ft/min / min / max
		A30	-1000 to 1000 hPa	F13	m <sup>3</sup> /h / min / max
		A31	-2000 to 2000 hPa	F14	l/min / min / max
				F15	Nm <sup>3</sup> /h / min / max
				F16	NI/min / min / max
		BXX	Analog display/supply	HXX	Relay
		B02	0 to 1 V (4-wire, 24 VAC/DC)	H00	without relay
		B03	0 to 5 V (4-wire, 24 VAC/DC)	H01	4 relay outputs, limit value monitoring
		B04	0 to 10 V (4-wire, 24 VAC/DC)	H02	4 relay outputs, channel 1 limit values and collective alarm
		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		

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

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 mbar / min / max
- 4 relay outputs, limit value monitoring
- Instruction manual language

0555 6351 A03 B03 C02 D02 E01 F04 H01