C5 Differential pressure transmitter for building climate

1 Description

A differential pressure transmitter with a good price/performance ratio for applications in air conditioning and ventilation technology. The automated building services must always be monitored precisely, whereby the requirements placed on the measuring technology are increased. **testo 6321** fulfills these requirements by ensuring the best possible system function, optimization of the climatic conditions and energy savings by means of highly accurate measurement, stable over the long-term, of the differential pressure.

Areas of application:

- Industrial and commercial buildings, e.g. in production and storage
- Offices and administrational buildings
- Sales areas and exhibition halls
- Museums and libraries
- School buildings, hotels, clinics etc.

- Piezoresistive measuring cells in the measuring range of 100 Pa to 2 bar
- Freely scalable: ±50% of measuring range final value
- Magnetic valve for automatic zero-point adjustment
- External interface for parameterization, adjustment and analysis (P2A)
- Accuracy ±1.2 % of measuring range + intrinsic error of 0.3 Pa – valid for zeroing cycle of 60 sec/nominal temperature +22 °C
- Diverse analog outputs and measuring ranges
- Display optional
- Freely scalable within measuring ranges

2 Technical data

Parameters

Differential pressure		
Meas. range	0 to 100 Pa 0 to 10 hPa 0 to 20 hPa 0 to 50 hPa 0 to 100 hPa 0 to 500 hPa 0 to 1000 hPa 0 to 2000 hPa	-100 to 100 Pa -10 to 10 hPa -20 to 20 hPa -50 to 50 hPa -100 to 100 hPa -500 to 500 hPa -1000 to 1000 hPa -2000 to 2000 hPa
Measurement inaccuracy*	±1.2% of measuring range final value ±0.3 Pa Temperature gain drift: 0.05% of measuring range per Kelvin deviation from nominal temperature 22 °C Zero-point drift: 0% (due to cyclic zero-point adjustment)	
Sensor	Piezoresistive sensor	
Autom. zero-point adjustment	via magnetic valve	
Overload capacity	**Meas. range** 0 to 100 Pa 0 to 10 hPa 0 to 20 hPa 0 to 50 hPa 0 to 100 hPa 0 to 500 hPa 0 to 1000 hPa 0 to 2000 hPa -100 to 100 Pa -10 to 10 hPa -20 to 20 hPa -50 to 50 hPa -100 to 100 hPa -500 to 500 hPa -1000 to 1000 hPa -2000 to 2000 hPa	**Overload** 20,000 Pa 200 hPa 200 hPa 750 hPa 750 hPa 2500 hPa 2500 hPa 2500 hPa 20,000 Pa 200 hPa 200 hPa 750 hPa 750 hPa 2500 hPa 2500 hPa 2500 hPa

Inputs and outputs

Analog outputs	
Output type	0 to 1/5/10 V (4-wire) 4 to 20 mA (4-wire)
Meas. cycle	1/sec
Resolution	12 bit
Accuracy of analog outputs	0 to 1 V ±2,5 mV 0 to 5 V ±12.5 mV 0 to 10 V ±25 mV 4 to 20 mA ±0.05 mA
Max. load	500 Ω
Additional outputs	
Other analog outputs	Mini-DIN for P2A software (adjustment and parameterization software)
Supply	
Voltage supply	20 to 30 V AC/DC
Current consumption	300 mA

Operating conditions

Humidity (sensors)	0 to 90% RH
Temperature (sensors)	-5 to +50 °C
Storage temperature	-40 to +80 °C

* Measurement inaccuracy according to GUM: ±1.2% of measuring 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 uncertainty, in order to make measurement results comparable worldwide.
The following variables are taken into account in determining uncertainty:
- Hysteresis
- Linearity
- Reproduceability
- Long-term stability
- Adjustment site/works calibration
- Test site

General

Housing		
Material/ colour	ABS/ pure white (RAL 9010) or light grey	
Weight	approx. 160 g	
Display		
Display	1-line LCD (optional)	
Resolution	**Meas. range** 0 to 100 Pa 0 to 10 hPa 0 to 20 hPa 0 to 50 hPa 0 to 100 hPa 0 to 500 hPa 0 to 1000 hPa 0 to 2000 hPa -100 to 100 Pa -10 to 10 hPa -20 to 20 hPa -50 to 50 hPa -100 to 100 hPa -500 to 500 hPa -1000 to 1000 hPa -2000 to 2000 hPa	**Resolution** 0.1 0.01 0.01 0.01 0.1 0.1 0.001 0.001 0.1 0.01 0.01 0.01 0.1 0.1 0.001 0.001
Miscellaneous		
Protection class	IP 65 only if the transmitter is wired and/or sealing plugs are inserted	
EMC	EC Directive: 2004/108/EC	
Automatic zero-point adjustment	Every 60 seconds in the factory setting	