

DE61 || Differential Pressure Transmitter

Measuring transmitter with limit switching functions for acquisition and transmission of lowest pressure and differential pressure.

Typical Applications

- filter technics
- precision measurements in air conditioning conduits
- clean-room pressure compensation
- burner vacuum measurements
- circulating air controlling in furnaces

Main Features

- highly pressure sensitive
- long-time stability
- resistant to shocks and vibration
- high overpressure safety
- local LC-Display

Principles of Operation

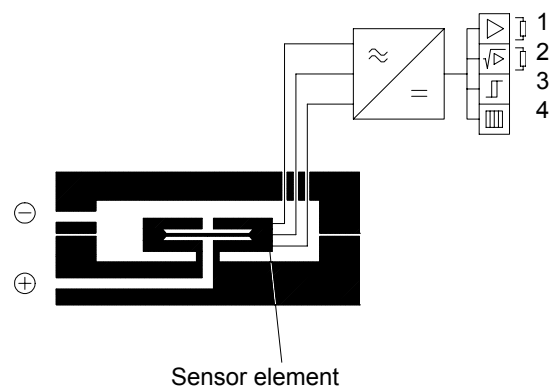
The function of this transmitter is based on a capacitive sensor element. Due to modern micromechanical manufacturing process this sensor is highly overpressure safe, shock and vibration resistant and long-time stable.

The differential pressure acts on the sensor element and effects a measuring signal. The electronic amplifier then generates an electrical output signal of 0 / 4-20 mA. This output signal is used for external data processing and is shown on the LC-display e.g. in mbar.

The LC-display can also be used for indication and precise adjustment of the differential pressure dependent switching functions. Both change-over contacts can be adjusted to any value within the measuring range.



Schematic Diagram



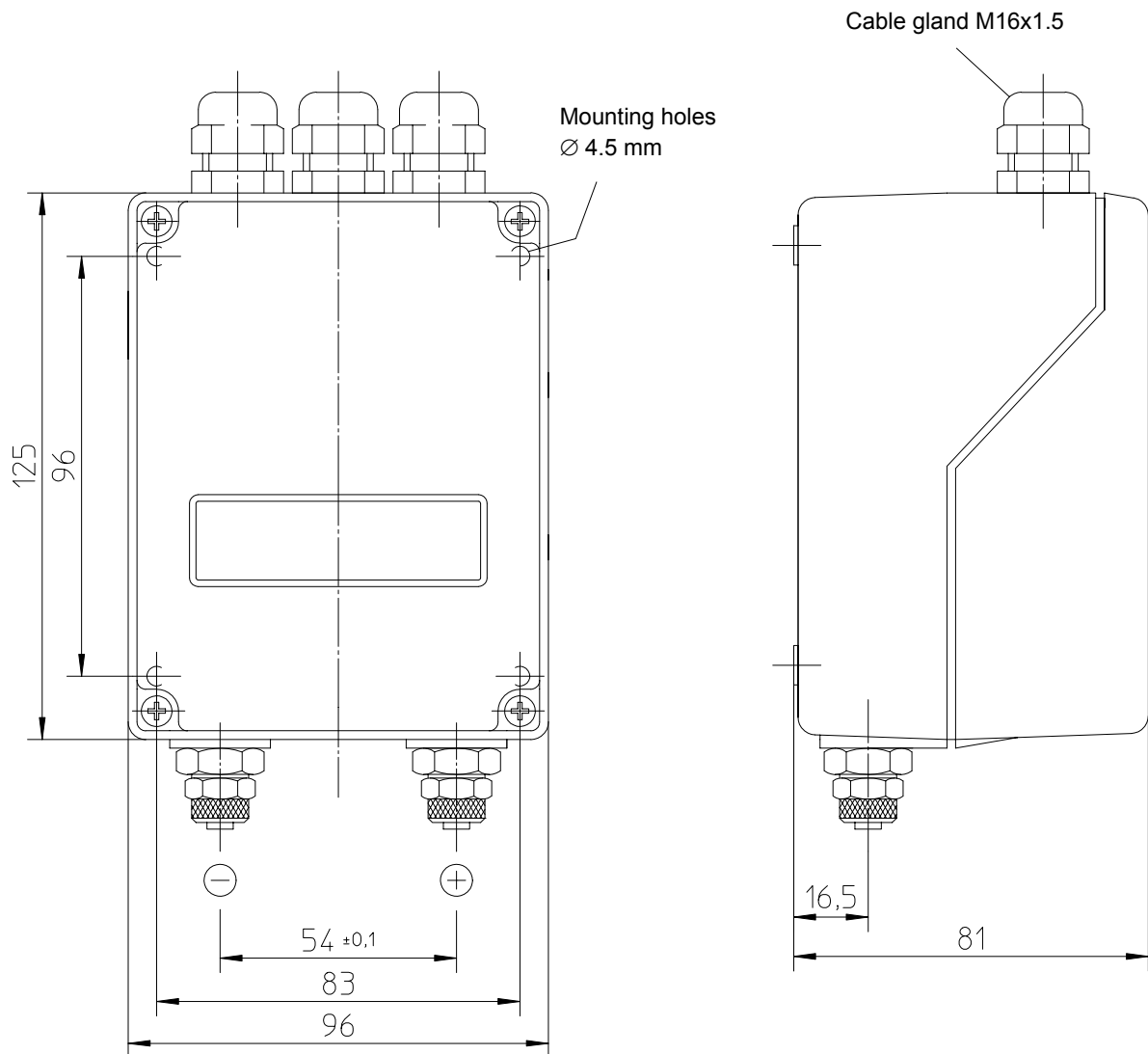
1. Signal output
2. Option square-rooted
3. 2 change-over contacts
4. LC-Display



Specifications

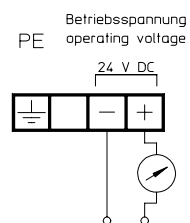
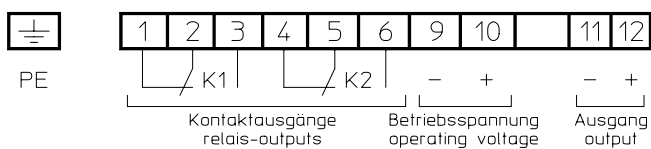
General			
Measuring ranges	0...0.25 to 0...4.0 mbar (see 13. Ordering Code)		
Nominal pressure	0.6 bar		
Max. static pressure	overpressure safe up to permitted nominal pressure		
Linearity	1% FS		
Hysteresis	0.1% FS		
Temperature drift	0.5% FS / 10K		
Perm. ambient temperature	-10°...60°C		
Perm. medium temperature	-20°...70°C		
Protection class	IP 54 per DIN EN 60529		
Electrical			
Electrical connections	3-wire	3-wire	2-wire
Operating voltages	24 V DC	24 V DC	24 V DC
Power consumption	approx. 3 VA	approx. 3 VA	approx. 3 VA
Output signal	0-20 mA	4-20 mA	4-20 mA
Apparent ohmic resistance	700 Ω	700 Ω	max. 450 Ω
Current limit	approx. 30 mA	approx. 30 mA	approx. 30 mA
Square-rooted output	± 0,5%		
with suppression of leak flow volume	2% set up		
Span adjustment	approx. 10% FS		
Zero point adjustment	approx. 10% FS		
Measuring Indication / Switching Sections			
Measuring indication	3½ digit LC-Display		
Switching point adjustment	The digital display can be switched over between the differential pressure actual value and the switch point adjustments via selector. The display then indicates the related setpoint value. Setpoint values are adjustable within full scale range.		
Switching point hysteresis	approx. 2%		
Contact output	1 or 2 potential-free change-over contacts		
Load data of contacts	$U_{\sim \max.} = 250 \text{ V AC}$, $I_{\sim \max.} = 2 \text{ A}$, $P_{\sim \max.} = 250 \text{ VA}$ ohmic resistance $U_{= \max.} = 30 \text{ V}$, $I_{= \max.} = 2 \text{ A}$, $P_{= \max.} = 60 \text{ W}$ ohmic resistance		
Connection			
Electrical Connections	internal connector bloc, M16x1.5 connection M12 plug connection		
Pressure Connections	female thread G¼, threaded hose coupling (al) for 6/8 mm flexible tube, cutting ring connection (brass) for 6/8/10 mm tube		
Materials			
Housing	diecasted aluminium, varnished		
Housing cover	ABS, self-extinguishing		
Measuring element	silicium, glass, aluminium		
Installation			
wallmounting	vertical, pressure ports downward		
any other orientation	correction of zero point recommended		

Dimensions (all units in mm unless stated otherwise)



Electrical Connection 3-wire

Electrical Connection 2-wire



Ordering Code

Differential Pressure Transmitter **DE61**

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Measuring Range

0...0.25 mbar	>	9	4						
0...0.4 mbar	>	9	5						
0...0.6 mbar	>	9	6						
0...1.0 mbar	>	5	1						
0...1.6 mbar	>	9	7						
0...2.5 mbar	>	9	8						
0...4.0 mbar	>	5	2						
other measuring ranges (please indicate in plain text).....	>	9	9						

Pressure Connection

Female thread G 1/4	>	0	1						
Cutting ring connection brass for 6 mm tube	>	2	8						
Cutting ring connection brass for 8 mm tube	>	2	9						
Cutting ring connection brass for 10 mm tube	>	3	0						
Screw connection AI for 6 mm flexible tube	>	4	0						
Screw connection AI for 8 mm flexible tube	>	4	1						

Electrical Output Signal

0-20 mA linear, 3-wire	>					A			
4-20 mA linear, 2-wire, only 24 V DC, without contacts and square-root extraction.....	>					B			
0-20 mA square-rooted, 3-wire.....	>					E			
4-20 mA square-rooted, 3-wire.....	>					F			
4-20 mA linear, 3-wire	>					P			

Supply Voltage

24 V DC.....	>					9			
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Indication / Switching Sections

Without indication / without contacts	>					0			
3½ digit LC-display / without contacts	>					1			
3½ digit LC-display / with 1 potential-free contact.....	>					2			
3½ digit LC-display / with 2 potential-free contacts	>					5			

Electrical Connection

Internal connector bloc.....	>					E			
M12 plug connection	>					M			