

Type DE 51

Measuring device for overpressure, vacuum and differential pressure especially for gaseous medium.

This line of products is suitable for

- airconditioning
- ventilation
- environment technics

Typical Applications

- continuous control of ventilating
- monitoring of tapline filters, exhausters, etc.
- chimney draft measurement
- flow- and control pressure measurement
- surface technique

Main Features

- high overpressure safety
- maintenance-free measuring system due to the wear resisting inductive measuring cell

Construction and Operation

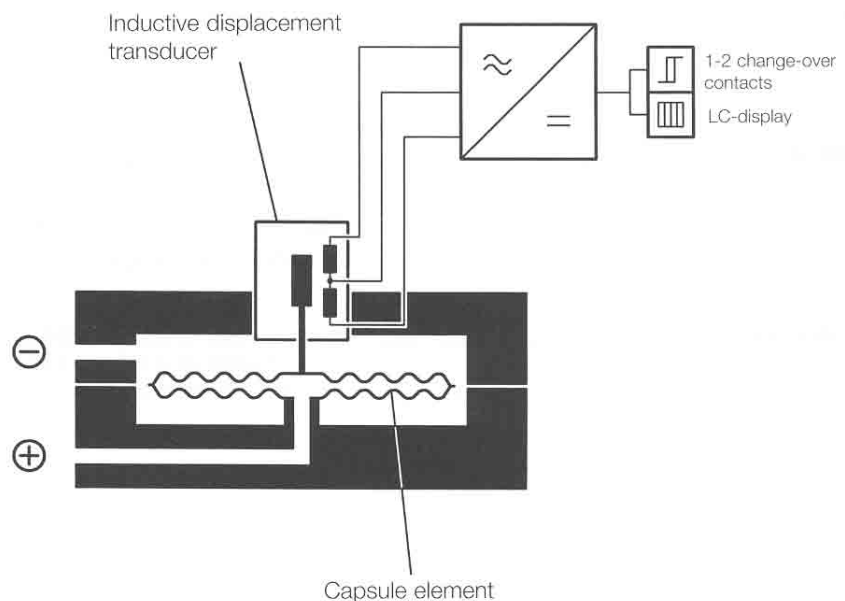
The function of this transmitter is based on a capsule element measuring system suitable for overpressure-, vacuum- and differential pressure measurements.

The pressure or the differential pressure, which has to be measured, displaces the capsule element and moves hereby the core of the inductive displacement transducer.

The electronic amplifier generates a pressure proportional electrical output signal. The relay outputs can be adjusted to any value within the measuring range. By means of a built-in LC-display a local indication of differential pressure measuring values is possible.



Functional Diagram



Technical Data DE 51

Measuring ranges	0...1 mbar to 0...600 mbar (acc. to ordering code)
Nominal pressure of measuring system	max. 3 bar (acc. to ordering code)
Max. static pressure	overpressure safe up to permitted nominal pressure
Linearity	1% FS
Hysteresis	0,2% FS
Temperature drift	0,5% / 10 K
Permissible ambient temperature	-10° to +60 °C
Permissible medium temperature	-20° to +70 °C
Protection class	IP 54 acc. to DIN 40050

Electrical Data

Operating voltages	230 V AC 115 V AC 24 V AC 24 V DC
Power draw	3 VA approx.

Measuring Value Indication/Switchpoints

Indication	3 1/2-digit LC-display
Switchpoint adjustment	The digital indicator can be switched over between the differential pressure actual value and the switch point adjustments, via a selection switch. Selection of the desired output I or II via a selection switch. The display now shows the relating, adjusted set point. The set points are adjustable over the complete measuring range.
Switch point hysteresis	2% approx.
Contact output	1 or 2 potential-free change-over contacts
Load data of contacts	U max. = 250 V DC, I max. = 2 A, P max. = 250 VA

Connection

Electrical connections	internal connector bloc, PG 9-screw connections
Pressure connections	female screw thread G 1/4, screw connection (aluminium) for 6/8/10 mm flexible tube, cutting ring screw connection (brass) for 6/8 mm pipe

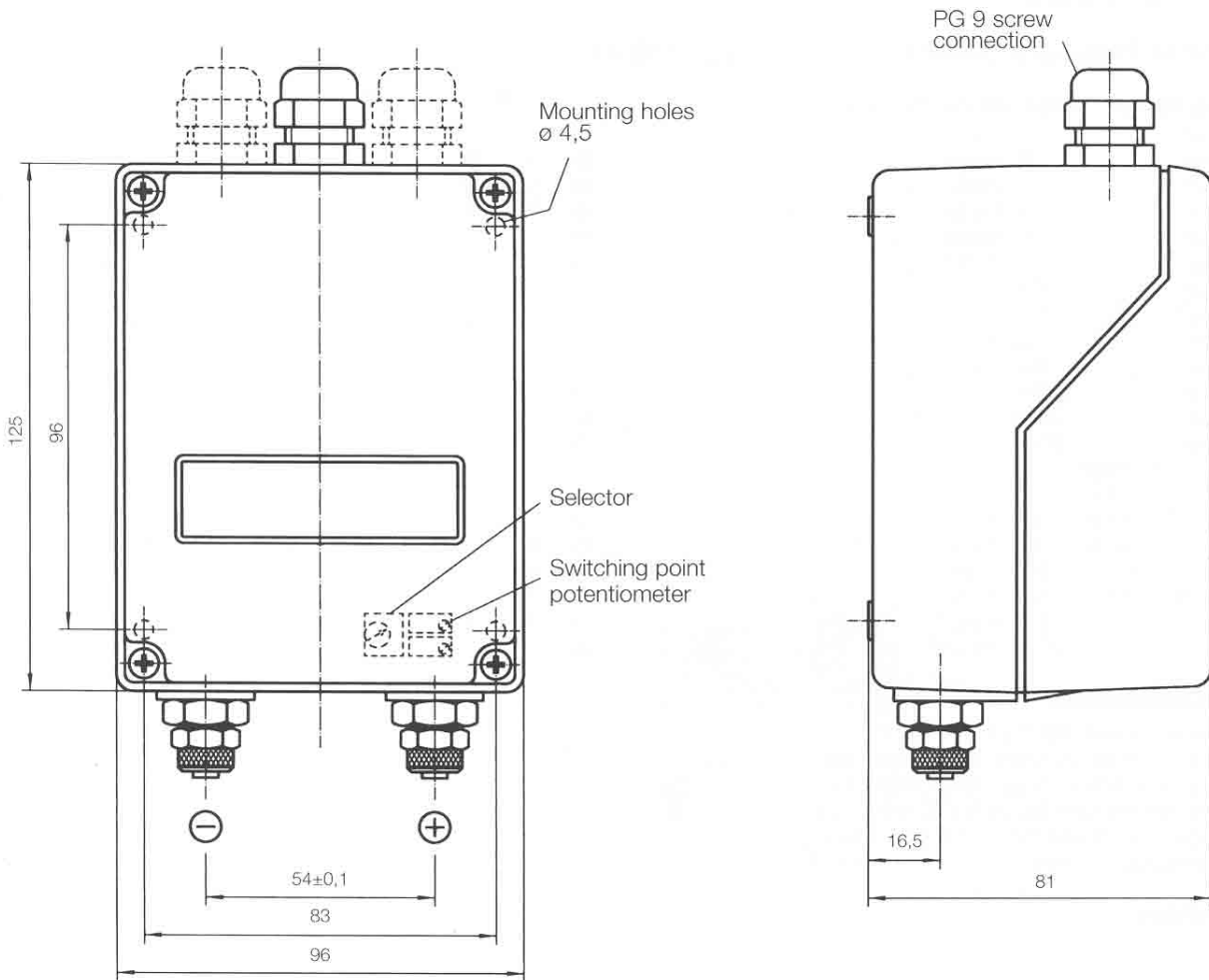
Material

Case	die-cast part, painted
Covering cap	ABS self-extinguishing
Measuring element	capsule element of Cu Be 2

Installation

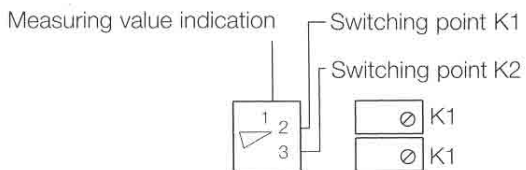
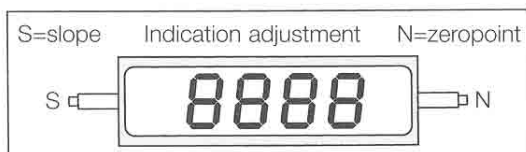
in case of wallmounting: vertical
in case of a different fitting position zero point adjustment is recommended

Dimensioned Drawings

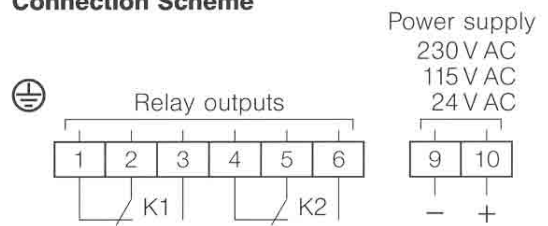


Differential Pressure Switch DE 51

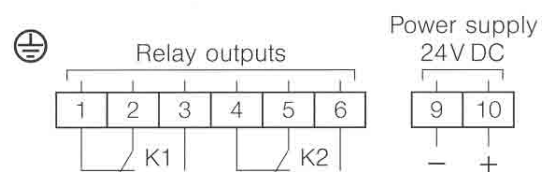
Internal Operating Elements



Connection Scheme



Anschlußbild



Ordering Code

Differential Pressure Switch

Type DE 51

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Measuring Range Max. Static Pressure

0- 1 mbar	5 mbar	▷	5	1
0- 4 mbar	20 mbar	▷	5	2
0- 6 mbar	30 mbar	▷	5	3
0- 10 mbar	50 mbar	▷	5	4
0- 16 mbar	80 mbar	▷	5	5
0- 25 mbar	125 mbar	▷	5	6
0- 40 mbar	200 mbar	▷	5	7
0- 60 mbar	300 mbar	▷	5	8
0-100 mbar	500 mbar	▷	5	9
0-160 mbar	800 mbar	▷	6	0
0-250 mbar	1200 mbar	▷	8	2
0-400 mbar	2000 mbar	▷	8	3
0-600 mbar	3000 mbar	▷	8	4
- 1 bis 0,6 mbar	5 mbar	▷	3	2
- 1 bis 5 mbar	30 mbar	▷	3	5
- 4 bis 6 mbar	50 mbar	▷	5	0
- 10 bis 6 mbar	80 mbar	▷	6	3
- 20 bis 40 mbar	300 mbar	▷	6	8
- 40 bis 60 mbar	500 mbar	▷	7	1
-100 bis 60 mbar	800 mbar	▷	7	3
-250 bis 150 mbar	2000 mbar	▷	7	7

Pressure Connections

Female screw thread BSP 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 aluminium for 6 mm flexible tube	▷	4	0
Screw connection aluminium for 8 mm flexible tube	▷	4	1

Supply Voltage

230 V AC	▷	1
115 V AC	▷	2
24 V AC	▷	4
24 V DC	▷	9

Indication/Switch Sections

3 1/2-digit LC-display with 1 potential-free contact	▷	2	F
3 1/2-digit LC-display with 2 potential-free contacts	▷	2	G