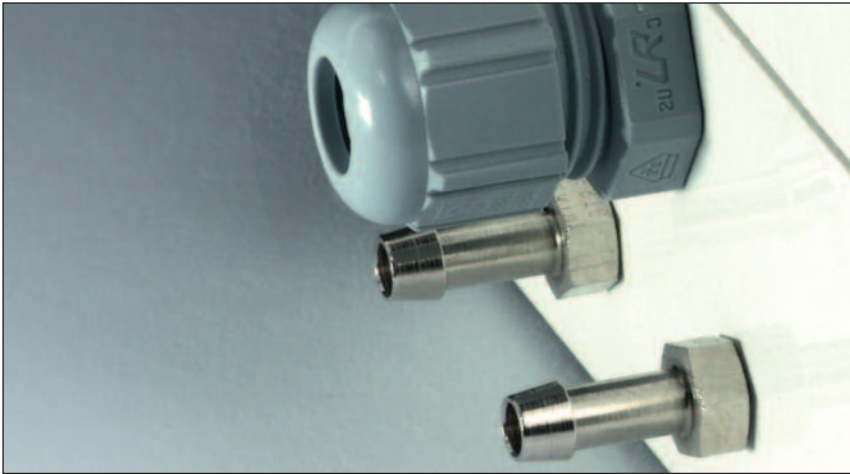


Beck.

The differential pressure transmitter 985A for air

with automated offset compensation



Differential pressure transmitter 985A

with automated offset compensation

General description

The differential pressure transmitters of the 985A series are used to measure differential pressure, overpressure and vacuum.

They provide 2 pressure ranges and 2 output signals, which are selectable using a jumper.

Applications

Monitoring of gaseous, non-aggressive media. Possible usage areas are:

- Building automation, air conditioning systems and clean room monitoring
- Valve and flap control
- Filter, ventilator and blower monitoring
- Control of air flows

Configurable pressure range

For optimum adaptation to the pressure application, the transmitter can be switched between two pressure ranges. The factory setting is the sensitive range 1, which is selected by fitting a jumper. Removing the jumper activates the non-sensitive range 2.

Configurable response time

The response time of the output signal can be configured using a jumper. If the jumper is in place the response time is slow (factory setting), which is useful for suppressing brief pressure peaks. If the application requires a fast response time the jumper must be removed.

Volume flow measurement

The shape of the output signal can be switched from linear to square root using a jumper in order to measure the volume flow via a differential pressure.

Output signal selection

The output signal of the 3-wire version is configurable. The factory setting is for a 0 ... 10 Volt output signal, but this can be changed to 4 ... 20 mA by removing the jumper.

Automated offset compensation

In regular intervals any drift of the zero-point is automatically compensated. No re-calibration is normally needed which reduces monitoring and maintenance efforts.

Measuring method

Piezoresistive pressure transducer



Mounting position

Can be mounted in any position. The self-compensating piezoresistive pressure transducer eliminates any possible mounting error.

Technical data

| | |
|-------------------------------------|--|
| Supply voltage | |
| • 3-wire version | 22 ... 24 ... 30 VAC/VDC |
| Output signal | |
| • 3-wire version | 0 ... 10 V and 4 ... 20 mA |
| Load for | 20 ... 500 Ω |
| 4 ... 20 mA output | |
| max. current draw | without display < 60 mA with display < 150 mA |
| Pressure medium | Air and non-aggressive gases |
| Linearity and hysteresis error | $\leq \pm 1\%$ of FS |
| Working temperature | 0 ... 50 °C |
| Storage temperature | -10 ... 70 °C |
| Typical long-term stability | $\leq \pm 0.5\%$ to $\pm 2.5\%$ of FS/year, depending on pressure range |
| Repetition accuracy | $\leq \pm 0.2\%$ of FS |
| Position dependence | $\leq \pm 0.02\%$ of FS/g |
| Humidity | 0 ... 95 % rel, non-condensing |
| Response time, selectable | 1 s or 100 ms |
| Process connection | 4 and 6 mm hose connection brass nickel-plated |
| Electrical connection | Screw terminal block for wires and strands up to 1.5 mm ² |
| Mounting | Screw mounting with serrated screws |
| Display, optional | Red LED display, 4 digits |
| Housing material | ABS |
| Housing dimensions | approx. 81 x 83 x 60 mm |
| Weight | approx. 190 g |
| Protection class | IP 65 |
| Cable conduit for protection cap | M12x1.5 threaded connection, made of polyamide |
| CE Conformity | 2004/108/EC (EMC) 2011/65/EC (RoHS) |

Pressure ranges

| Model | Range 1 | Range 2 | Overload capacity | Bursting pressure | Temperature error of FS |
|----------|---------------|----------------|-------------------|-------------------|-------------------------|
| 985A.303 | 0 ... 25 Pa | 0 ... 50 Pa | 20 kPa | 40 kPa | ≤ ± 5 % of FS |
| 985A.313 | 0 ... 50 Pa | 0 ... 100 Pa | 20 kPa | 40 kPa | ≤ ± 5 % of FS |
| 985A.323 | 0 ... 100 Pa | 0 ... 250 Pa | 20 kPa | 40 kPa | ≤ ± 2.5 % of FS |
| 985A.333 | 0 ... 250 Pa | 0 ... 500 Pa | 20 kPa | 40 kPa | ≤ ± 2.5 % of FS |
| 985A.343 | 0 ... 500 Pa | 0 ... 1,000 Pa | 20 kPa | 40 kPa | ≤ ± 1.5 % of FS |
| 985A.353 | 0 ... 1 kPa | 0 ... 2.5 kPa | 40 kPa | 70 kPa | ≤ ± 1 % of FS |
| 985A.373 | 0 ... 5 kPa | 0 ... 10 kPa | 60 kPa | 120 kPa | ≤ ± 1 % of FS |
| 985A.393 | 0 ... 25 kPa | 0 ... 50 kPa | 300 kPa | 500 kPa | ≤ ± 1 % of FS |
| 985A.3B3 | 0 ... 100 kPa | 0 ... 250 kPa | 1.2 MPa | 2 MPa | ≤ ± 1 % of FS |

Order matrix

| | | | | | | | |
|--|---|----------------------------|--------|---|---|---|--|
| Configurable pressure ranges | 0 ... 25 Pa (0.25 mbar) | 0 ... 50 Pa (0.5 mbar) | 985A.3 | 0 | | | |
| | 0 ... 50 Pa (0.5 mbar) | 0 ... 100 Pa (1.0 mbar) | | 1 | | | |
| | 0 ... 100 Pa (1.0 mbar) | 0 ... 250 Pa (2.5 mbar) | | 2 | | | |
| | 0 ... 250 Pa (2.5 mbar) | 0 ... 500 Pa (5.0 mbar) | | 3 | | | |
| | 0 ... 500 Pa (5.0 mbar) | 0 ... 1,000 Pa (10 mbar) | | 4 | | | |
| | 0 ... 1 kPa (10 mbar) | 0 ... 2.5 kPa (25 mbar) | | 5 | | | |
| | 0 ... 5 kPa (50 mbar) | 0 ... 10 kPa (100 mbar) | | 7 | | | |
| | 0 ... 25 kPa (250 mbar) | 0 ... 50 kPa (500 mbar) | | 9 | | | |
| | 0 ... 100 kPa (1,000 mbar) | 0 ... 250 kPa (2,500 mbar) | | B | | | |
| | Pressure unit | Pascal | | | 3 | | |
| Output signal and | 0 ... 10 Volt and 4 ... 20 mA, 3-wire, 24 VAC/VDC, without switching output 4 ... 20 mA and 0 ... 10 Volts, 3-wire, 24 VAC/VDC, without switching output | | | 7 | | | |
| Display | No display With LED-Display, 3.5 digits | | | | 0 | | |
| Electrical connection via screw terminal block | | | | | | 1 | |
| | | | | | | 4 | |

Factory settings printed in bold type.

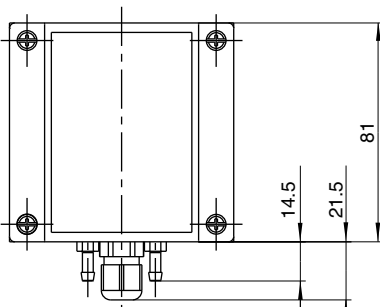
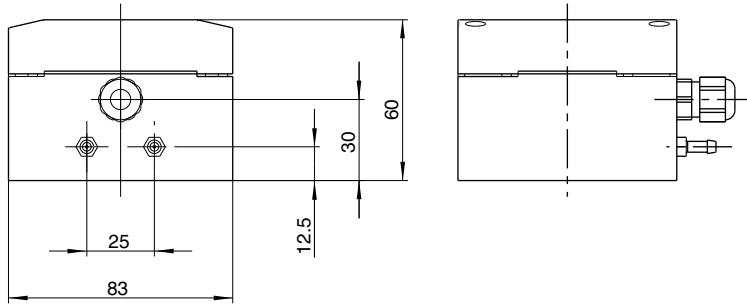
Accessories

| | |
|---|------------------|
| Climaset® consisting of 2m PVC hose and 2 plastic pipes | Article No. 6555 |
| Climaset® consisting of 2m Silicone hose and 2 plastic pipes | Article No. 6557 |
| Climaset® consisting of 2m PVC hose and 2 angled metal pipes | Article No. 6550 |
| Climaset® consisting of 2m Silicone hose and 2 angled metal pipes | Article No. 6556 |
| Duct connecting pipe for Climaset® 6555 | Article No. 6551 |
| Angled metal pipe for Climaset® 6550 | Article No. 6552 |
| Rubber grommet for Climaset® 6550 | Article No. 6553 |
| Roll with 100 m PVC hose | Article No. 6424 |
| Roll with 100 m Silicone hose | Article No. 6425 |

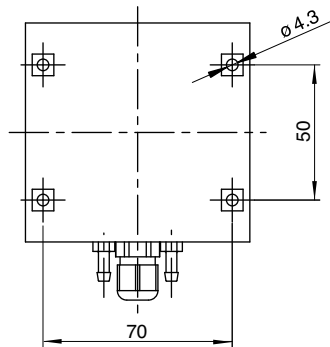
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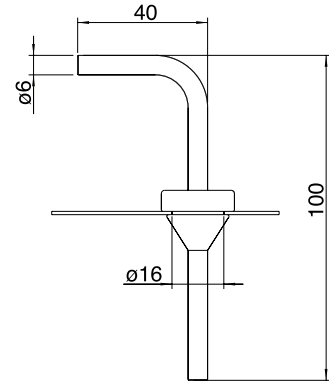
985A



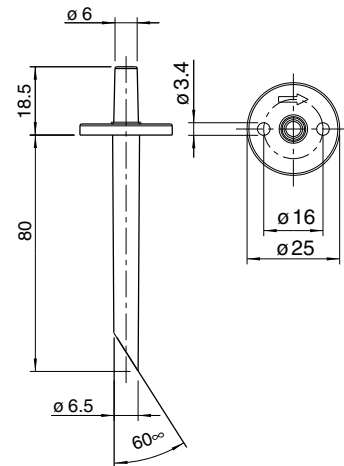
Drilling template



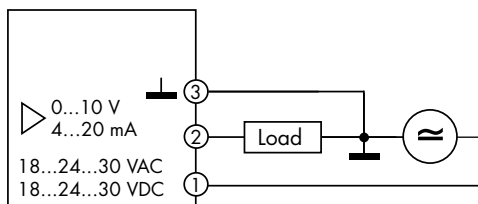
Climaset® 6550/6556



Climaset® 6555/6557



Terminal assignments 3-wire version



| | | |
|---|----|--|
| 3 | GO | Ground GND |
| 2 | Y | Output signal 0 ... 10 V / 4 ... 20 mA |
| 1 | G | Supply voltage 24 VAC/ VDC |

Technical data subject to change without prior notice.

985A_data_english 3/14



Beck GmbH
Druckkontrolltechnik
P.O. Box 11 31
D-71140 Steinenbronn
Telephone +49 (71 57) 52 87-0
Telefax +49 (71 57) 52 87-83
e-mail sales@beck-sensors.com
http://www.beck-sensors.com