Beck.

The differential pressure transmitter for air IP 65

Differential pressure transmitter 986

General description

The differential pressure transmitters of the 986 series are used for measuring differential pressure, positive pressure and vacuum.

They offer 2 pressure ranges which can alternatively be selected by a jumper. The IP65 aluminium die cast housing protects the pressure transducer even in difficult environments.

Applications

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

- air-conditioning and clean rooms
- building automation
- environmental protection
- fan and blower control
- valve and flap control
- filter and blower monitoring
- fluid and level monitoring
- control of air flows

Measuring method

Piezoresistive pressure transducer

Selection of pressure range

To adapt best for the application the transmitter can be selected between two adjoining pressure ranges. Factory setting is for the most sensitve range, by opening of a jumpered bridge the less sensitive range is activated.

Adjustable response time

The response time of the output signal can be selected by a jumpered bridge. Factory setting is for a slow response time, which dampens short pressure peaks. To work with a fast response time this bridge needs to be replaced.

Mounting position

They can be mounted in any position. Due to the self-compensating piezoresistive pressure transducer any possible mounting error is eliminated.

Switching output (not for output 4 ... 20 mA, 2-wire)
The differential pressure transmitter has an optional separate switching output.

The switching output is designed as an open-collector transistor output in NPN technology. The permissible current is 100 mA, whereby the voltage may not exceed 35 VDC. The output is protected against short-circuit by a self-resetable fuse.

Technical data

Pressure medium	Air and non-aggressive gases
Linearity and hysteresis error	≤ ± 1 % of FS
Working temperature	0...50 °C
Storage temperature	-10 ... 70 °C
Long-term stability, typ.	≤ ± 0.5 % to 2.5% of FS/year, depending on pressure range
Repetition accuracy	≤ ± 0.2 % of FS
Position dependence	≤ ± 0.02 % of FS/g
Humidity	0 ... 95 % rel, non-condensing
Response time, selectable	100 ms or 1s
Process connection	4 mm hose pipe
Electrical connection	Screw terminal block for wire up to 1.5 mm^2
Cable conduit	M12 Polyamide
Mounting	Screw mounting with serrated screws
Housing material	Aluminium die cast
Housing dimensions	64 x 58 x 34 mm
Weight	approx. 170 g
Protection category to EN60529	IP 65
Standards / Conformance	EN60770, EN61326

Pressure ranges

Type	Pressure range 1	Pressure range 2	Overload capacity	Bursting pressure	Temperature error
986.323	0 ... 100 Pa	0 ... 250 Pa	20 kPa	40 kPa	≤ ± 5 % v. EW
986.333	0 ... 250 Pa	0 ... 500 Pa	20 kPa	40 kPa	≤ ± 5 % v. EW
986.343	0 ... 500 Pa	0 ... 1,000 Pa	20 kPa	40 kPa	≤ ± 2.5 % v. EW
986.353	0 ... 1 kPa	0 ... 2.5 kPa	40 kPa	70 kPa	≤ ± 1 % v. EW
986.373	0 ... 5 kPa	0 ... 10 kPa	60 kPa	120 kPa	≤ ± 1 % v. EW
986.393	0 ... 25 kPa	0 ... 50 kPa	300 kPa	500 kPa	≤ ± 1 % v. EW
986.3B3	0 ... 100 kPa	0 ... 250 kPa	1.2 MPa	2 MPa	≤ ± 1 % v. EW

Order matrix

selectable pressure ranges	0 … 100 Pa (1.0 mbar)	0 … 250 Pa (2.5 mbar)	**986.3**	**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 supply voltage	0…10 Volt, 3-wire, 24 VAC / VDC, with switching output					1		
	4… 20 mA, 2-wire, 24 VDC, without switching output					2		
	4… 20 mA, 3-wire, 24 VAC / VDC, with switching output					3		
	0…10 Volt, 3-wire, 24 VAC / VDC, without switching output					7		
	4… 20 mA, 3-wire, 24 VAC / VDC, without switching output					D		
Display version	not available						0	
Electrical connection	screw terminal block							4

Accessories

Climaset® consisting of 2m PVC hose and 2 plastic tubes	Article No. 6555
Climaset® consisting of 2m Silicone hose and 2 plastic tubes	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
Plastic tube 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

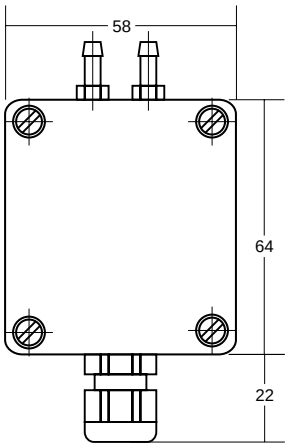
Electrical connections

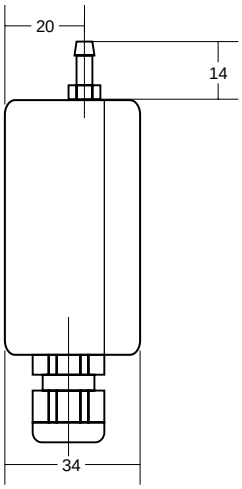
Type	**986.3x37...** without switching output	**986.3x32...** without switching output	**986.3x3D...** without switching output
Output signal shortcircuit-proof to ground	0 ... 10 V, 3-wire,	4 ... 20 mA, 2-wire,	4 ... 20 mA, 3-wire,
Supply voltage	18 ... 30 VAC and 16 ... 32 VDC	15 ... 30 VDC	18 ... 30 VAC and 16 ... 32 VDC
Supply current, max.	30 mA for AC 20 mA for DC	30 mA	30 mA
Offset adjustment	≤ ± 50 mV	≤ ± 80 µA	≤ ± 80 µA
Span adjustment	≤ ± 50 mV	≤ ± 80 µA	≤ ± 80 µA
Output current, max.	10 mA	30 mA	30 mA
Maximum Load	–	≤ 470 Ω	≤ 470 Ω

Type	**986.3x31...** with switching output		**986.3x33...** with switching output
Switching output	Open-collector, npn, SPST, 100 mA max. ≤ 35 VDC, adjustable	–	Open-collector, npn, SPST, 100 mA max. ≤ 35 VDC, adjustable
Hysteresis	5 ... 10 % v. FS	–	5 ... 10 % v. FS
Response time	> 100 ms	–	> 100 ms

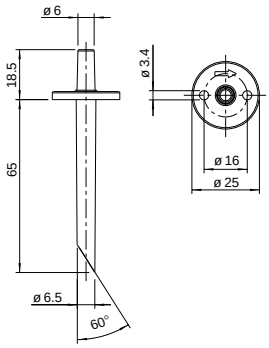
Differential pressure transmitter 986

986

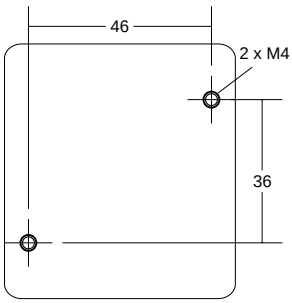




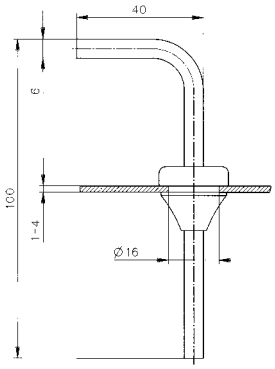
Climaset®
6555/6557



Drilling pattern



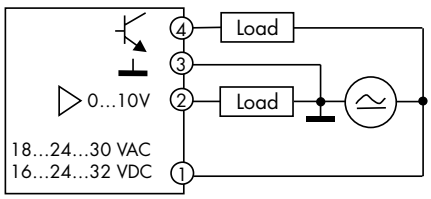
Climaset®
6550/6556



Connection assignment

986.3x3104 and ...704

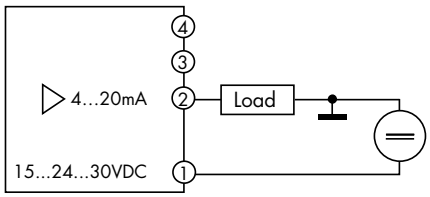
Pressure Transmitter



4	Switching output, npn	
3	(GO)	GND
2	(Y)	Out 0 … 10 V
1	(G)	In 24 VAC / VDC

986.3x3204

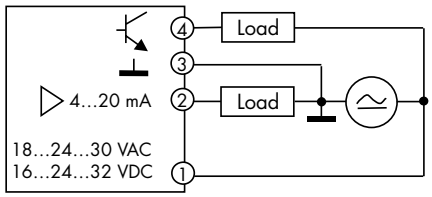
Pressure Transmitter



4	NC	do not use
3	NC	do not use
2	(Y)	Out 4 … 20 mA
1	(G)	In 24 VDC

986.3x3304 and ...D04

Pressure Transmitter



4	Switching output, npn	
3	(GO)	GND
2	(Y)	Out 4 … 20 mA
1	(G)	In 24 VAC / VDC

QUALITY MANAGEMENT Certificate

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