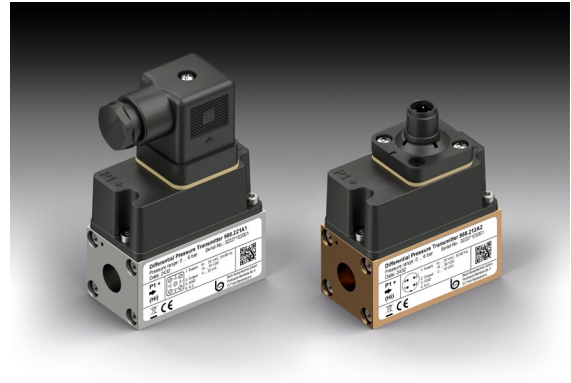


Differential Pressure Transmitter 988



General description

The differential pressure transmitters of the 988 series are used to measure differential pressure, under- and overpressure.

Application

Monitoring of liquid and gaseous, non-flammable and non-aggressive media.

Possible areas of application

- Building automation
- Measurement technology in the sanitary and industrial sector
- Differential pressure measurement between supply and return in heating systems
- Monitoring of filters, fans and compressors
- Cooling systems for heating / air conditioning

Pressure range

For an optimal adaptation to the application, different pressure ranges are available. The measurement is carried out by a ceramic pressure measuring cell, temperature-compensated via internal PTC.

Output signal

In the 3-wire version there is an output signal of 0 ... 10 V, or 4 ... 20 mA available. For the 2-wire version the transmitter provides an output signal of 4 ... 20 mA.

Electrical connection

The electrical connection of the transmitter is optionally available with a 4-pin standardized device plug according to DIN EN 175301 Form A, or with a 4-pin M12 flange plug, A-coded, according to DIN EN 61079.

OEM versions, assembled versions and different connection threads, as well as other measuring ranges are available on request.

Technical data

Series	988		
Technology	2-wire	3-wire	3-wire
Standard measuring ranges and pressure measuring cells (Special measuring ranges on request)	0-2 bar; 0-6 bar; 0-10 bar Design at pressure level PN40 Ceramic pressure measuring cell Al ₂ O ₃ with Parylene C coating		
Nominal voltage	24 VDC	24 V AC/DC (50-60 Hz)	
Operating voltage	18 – 30 VDC	18 – 25 VAC 18 – 30 VDC	
Power consumption	< 0.51 W (VA)	< 1.2 W (VA)	
Output singal (linear) Resolution 14 bit	4-20 mA	4-20 mA	0-10 V
Output load	≤ 400 Ω @ 24 VDC	≤ 600 Ω @ 24 VDC ≤ 400 Ω @ 24 VAC	≥ 1 kΩ
Medium temperature (Media not freezing or with suitable frost protection!)	-20 ... +105°C (for a short time 120°C)		
Ambient temperature (operating)	-20 ... +85°C		
Storage temperature	-50 ... +125°C		
Total Error-/Char. Curve deviation (FS pressure cell) In the adjusted temperature range* *incl. non-linearity, hysteresys and reproducibility	≤ ±1.5% @ -20 ... +85°C	≤ ±1.0% @ -20 ... +85°C	
Accuracy measuring cell (FS pressure cell*) *incl. non-linearity, hysteresys and reproducibility	±0.4% (typ.) / ±1.0% (max.)		
Hysteresis pressure cell	≤ ±0.2%FS		
Repeatability of the pressure cell	≤ 0.1%FS		
Long-Term drift pressure cell	≤ 0.3%FS/Year		
Effect of voltage supply (FS)	< 0.04% / V		
Effect of temperature (FS pressure cell) incl. electronic	≤ 0.018% / K (typ.) ≤ 0.036% / K (max.)		
Humidity	0 - 95% rH (not-condensed)		
Reference conditions	EN 60770; 23°C		
Clock cycle pressure measurement	< 4 ms	< 2 ms	
Response time	200 ms	100 ms	
Standard process connection P1 and P2	2 x inner thread G1/4 Axial		
Electrical connection	Plug connector as per DIN 175301 Form A or M12 connector DIN EN 61079 A-coded		
Materials	In contact with media: pressure chamber Brass / Stainless steel; EPDM O-ring No contact with media: NBR seal; Cover ABS black; Plug connector PA black		
Weight	ca. 450 g		
Protection rating as per DIN EN 60529	IP65		
CE-Conformity according to EN 61326	■	■	■
RoHS Conformity according to 2011/65/EU	■	■	■

Max. permissible differential load (P1 - P2) and permissible system pressures

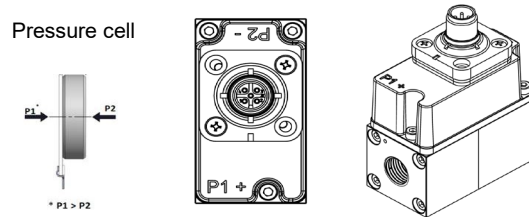
Measuring range pressure cell	Max. load (P1 - P2) (reversible)	Bursting over pressure (P1 - P2) (irreversible)	Bursting under pressure (P1 - P2) (irreversible)
0 ... 2 bar	6 bar	8 bar	-1 bar
0 ... 6 bar	20 bar	35 bar	-1 bar
0 ... 10 bar	30 bar	50 bar	-1 bar

In case of a under pressure load more than -1 bar (P1 - P2), the pressure cell will be destroyed!

Designed for pressure rating PN40. Burst system overpressure on both sides 60 bar.

Notes on the pressure connection

A correct function is only valid for the condition: $P_1 > P_2$.
Please note the marking P1+ and P2- on the top of the plastic cover.



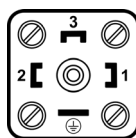
Order matrix			988.	X	X	X	X	X
Pressure range	0 ... 2 bar		1					
	0 ... 6 bar		2					
	0 ... 10 bar		3					
Material of pressure chamber	Brass			1				
	Stainless steel			2				
Output signal	0 ... 10 V	3-wire			1			
	4 ... 20 mA	3-wire			2			
	4 ... 20 mA	2-wire			3			
Process connection	G 1/4	axial				A		
Electrical connection	Connection plug EN 175301-803 Form A, without female power connector						0	
	Connection plug EN 175301-803 Form A, including female power connector						1	
	Flange connector M12 / 4-pin / A-coded						2	

Accessories	Artikel-Nr.
Metal mounting bracket-set L-Form (Bracket and 2 x screw M4x6.5mm)	6536
Metal mounting bracket-set S-Form (Bracket and 2 x screw M4x6.5mm)	6537
Metal mounting bracket-set U-Form (Bracket and 2 x screw M4x6.5mm)	6535
Connection cable / M12 connector / 4-pin / A-coded / female / straight / 4 x 0.34 mm ² / 2 m / open end	9976

Electrical connection

Pin assignment

Connection plug DIN EN 175301-803-A



2-wire

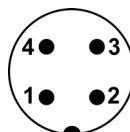
1	Supply voltage (18...30 VDC)
2	Output signal (4...20 mA)
3	N.C.
⊕	N.C.

3-wire

1	Supply voltage (18...25 VAC / 18...30 VDC)
2	Output signal (0...10 V / 4...20 mA)
3	GND
⊕	N.C.

Pin assignment

Male socket M12 x1 / A-coded



2-wire

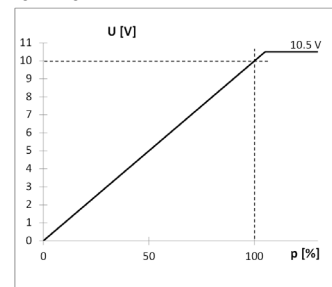
1	Supply voltage (18...30 VDC)
2	Output signal (4...20 mA)
3	N.C.
4	N.C.

3-wire

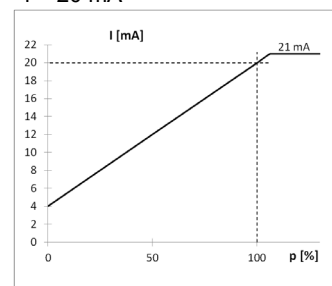
1	Supply voltage (18...25 VAC / 18...30 VDC)
2	Output signal (0...10 V / 4...20 mA)
3	GND
4	N.C.

Output signal

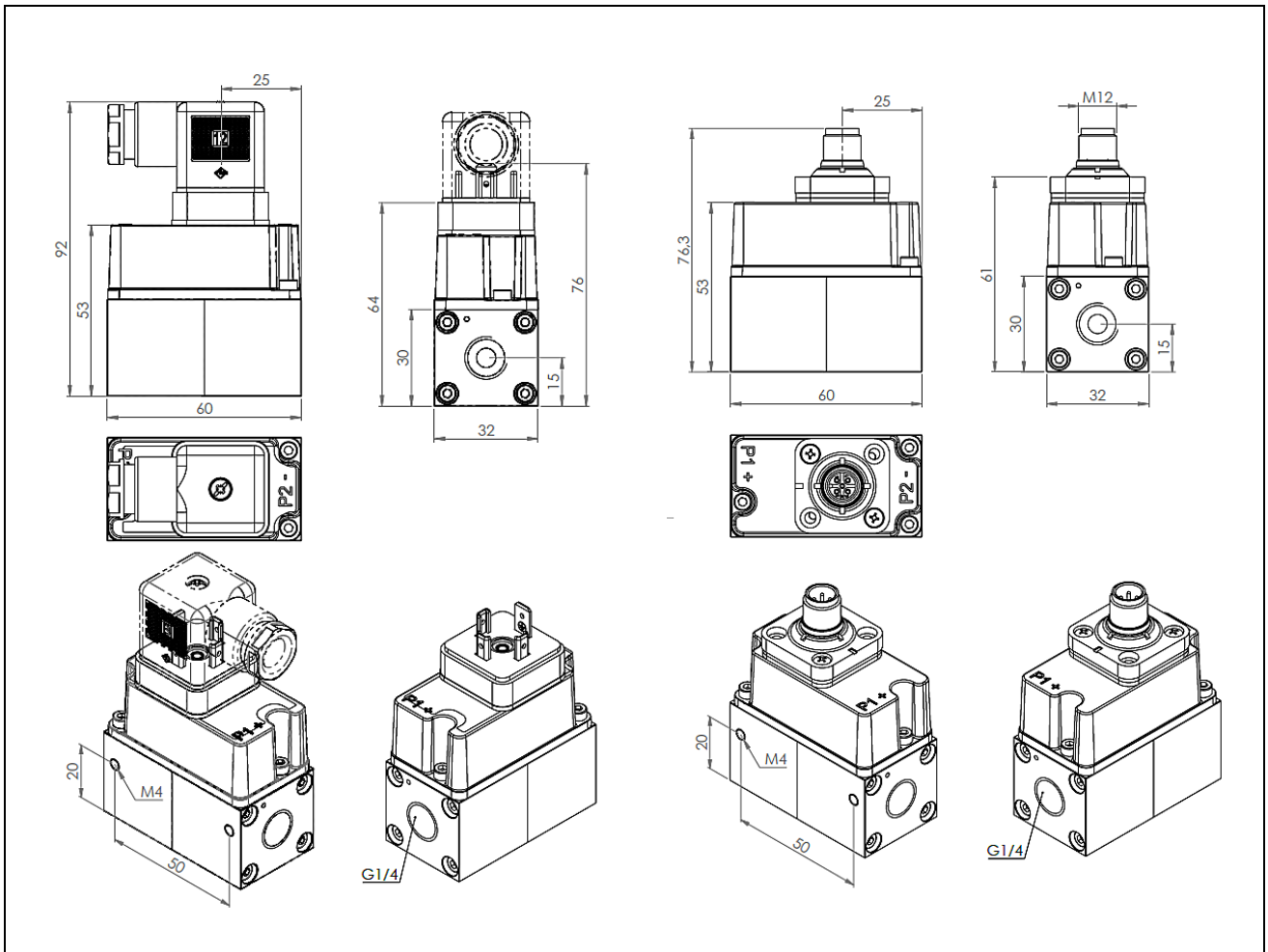
0 – 10 V



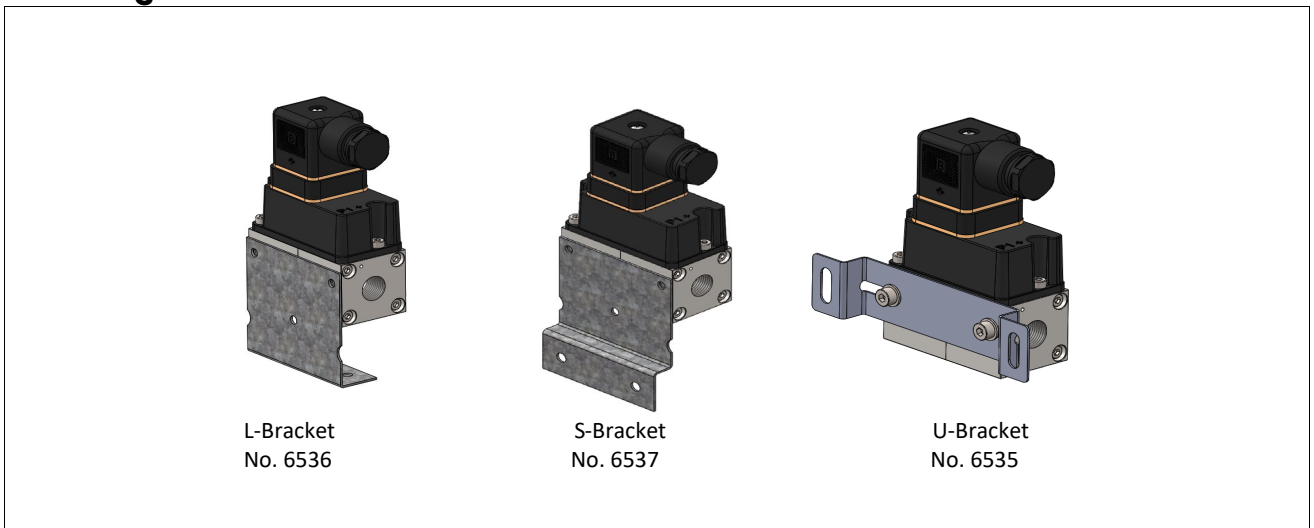
4 – 20 mA



Dimensions



Mounting bracket



© Beck Sensortechnik GmbH. All rights reserved. Subject to change without notice. Issue 15.08.2024.



Beck Sensortechnik GmbH
Ferdinand-Steinbeis-Str. 4
P.O. Box 1131
71144 Steinenbronn
Telephone: +49 (7157) 5287-0
Telefax: +49 (7157) 5287-83
E-Mail: sales@beck-sensors.com
<http://www.beck-sensors.com>