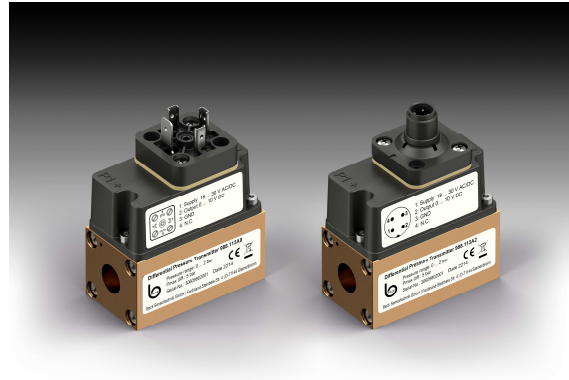


Differential Pressure Transmitter 988



General description

The differential pressure transmitters of the 988 series are used to measure differential pressure 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		
Related voltage	24 VDC	24 V AC/DC (50-60 Hz)	
Admissible operating voltage	18 – 30 VDC	18 – 30 V AC/DC	
Power consumption	< 0.51 W (VA)	< 1.2 W (VA)	
Output signal (linear)	4-20 mA	4-20 mA	0-10 V
Resolution 14 bit			
Output load	≤ 400 Ω @ 24 VDC	≤ 600 Ω @ 24 VDC ≤ 400 Ω @ 24 VAC	≥ 1 kΩ
Medium, operating and storage temperature Media not freezing or with suitable frost protection!	-20... +85°C		
Char. Curve deviation (FS pressure cell)	≤ ±1.5% @ -20 ... +85°C	≤ ±1.0% @ -20 ... +85°C	
Accuracy measuring cell (FS pressure cell*) *incl. non-linearity, hysteresis and reproducibility	+/- 0.4% (typ.) / +/- 1.0 (max.)		
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 technical data	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 Plug connector as per DIN 175301 Form A or M12 connector DIN EN 61079 A-coded		
Electrical connection	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		
Materials			
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	■	■	■

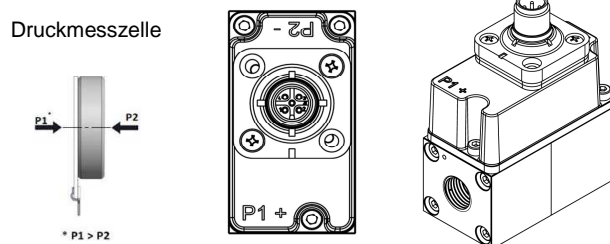
Max. permissible differential load (P1 > P2)

Measuring range pressure cell	Max. load (reversible)	Bursting pressure (irreversible)	Max. load (P1 < P2)
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 differential load more than 1 bar (P1 < P2), the pressure cell will be destroyed!

Notes on the pressure connection


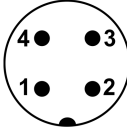
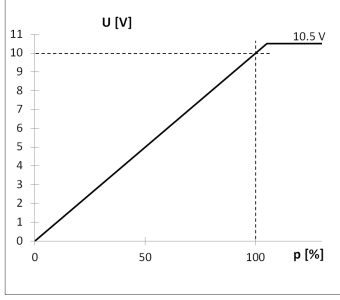
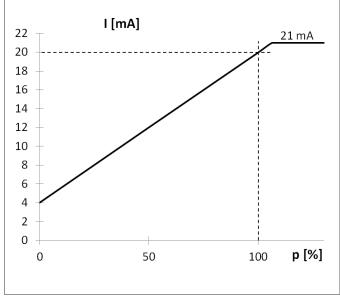
A correct function is only valid for the condition: P1 > P2.
Please note the marking P1+ and P2- on the top of the plastic cover.



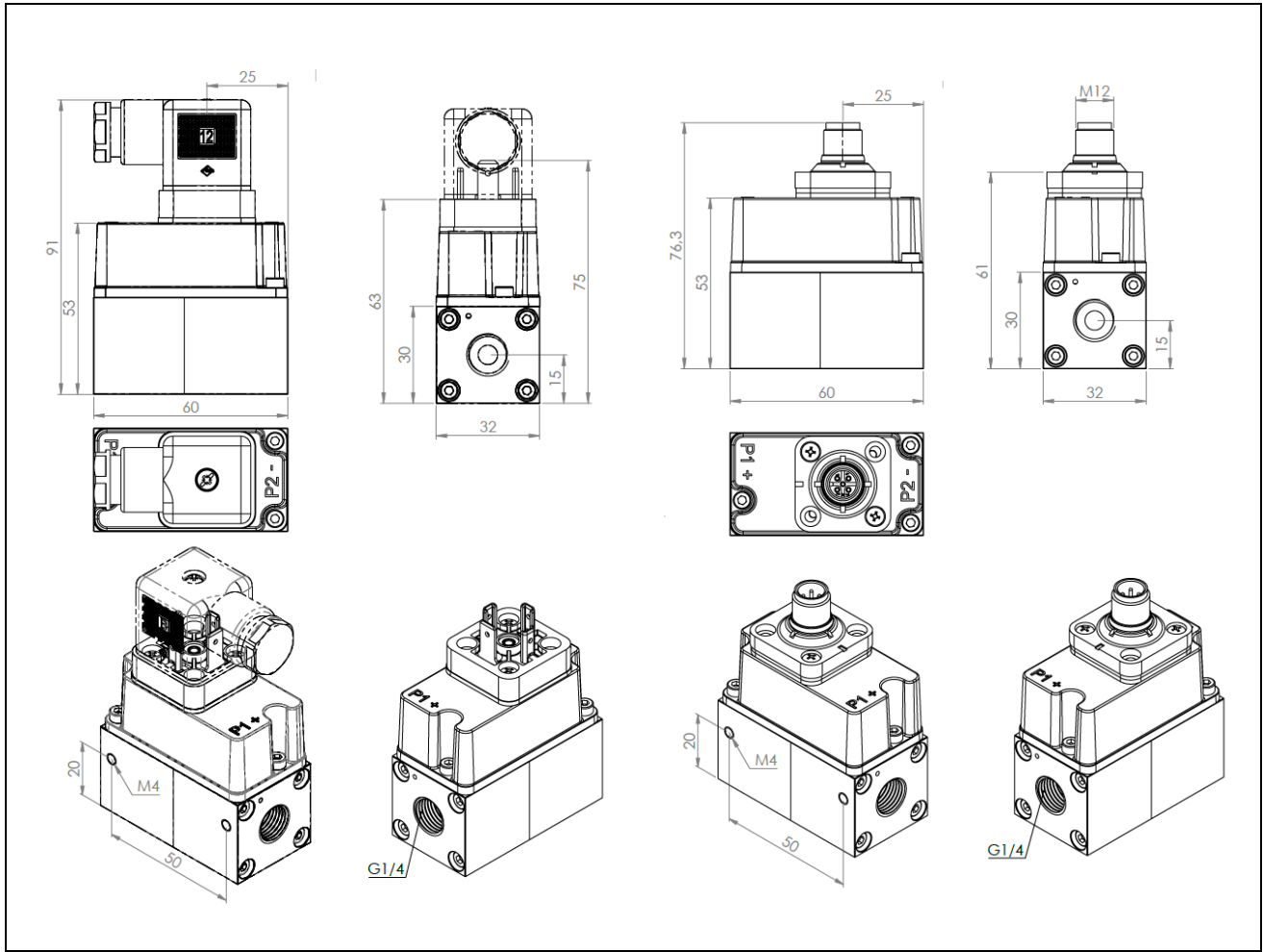
Order matrix		988.	X	X	X	X	X
Pressure range	0 ... 2 bar	1					
	0 ... 6 bar	2					
	0 ... 10 bar	3					
Material of pressure chamber	Brass		1				
	Stainless steel		2				
Output signal	0 ... 10 V				1		
	4 ... 20 mA	3-wire			2		
	4 ... 20 mA	2-wire			3		
Process connection	G 1/4					A	
Electrical connection	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 L-Form	6401
Metal mounting bracket S-Form	6402
Universal mounting bracket U-Form	6535
Connection cable / M12 connector / 4-pin / A-coded / female / straight / 4 x 0.34 mm ² / 2 m / open end	9976

Electrical connection

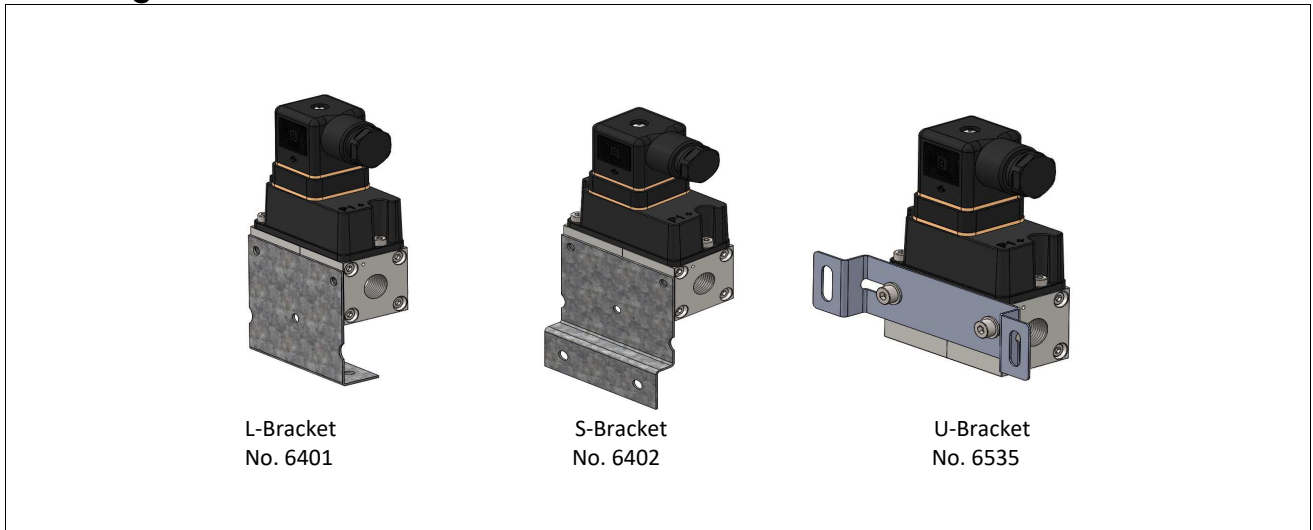
Pin assignment	Pin assignment	Output signal																
Connection plug DIN EN 175301-803-A 	Male socket M12 x1 / A-coded 	0 – 10 V 																
2-wire <table border="1"> <tr><td>1</td><td>Supply voltage (18...30 VDC)</td></tr> <tr><td>2</td><td>Output signal (4...20 mA)</td></tr> <tr><td>3</td><td>N.C.</td></tr> <tr><td>⊕</td><td>N.C.</td></tr> </table>	1	Supply voltage (18...30 VDC)	2	Output signal (4...20 mA)	3	N.C.	⊕	N.C.	2-wire <table border="1"> <tr><td>1</td><td>Supply voltage (18...30 VDC)</td></tr> <tr><td>2</td><td>Output signal (4...20 mA)</td></tr> <tr><td>3</td><td>N.C.</td></tr> <tr><td>4</td><td>N.C.</td></tr> </table>	1	Supply voltage (18...30 VDC)	2	Output signal (4...20 mA)	3	N.C.	4	N.C.	4 – 20 mA 
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4	N.C.																	

Dimensions



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Mounting bracket



Technical data subject to change without prior notice.

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