

Trasmittitore di Pressione Differenziale 988 per Liquidi e Gas



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.



Versione corpo Inox



Versione corpo Bronzo

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 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 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

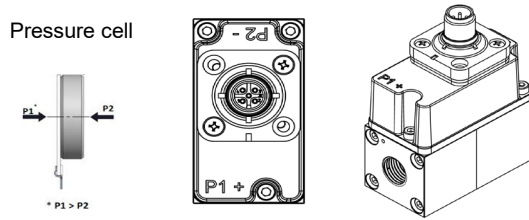
Measuring range pressure cell	Max. load (P1 - P2) (reversible)	Bursting over pressure (P1 - P2) (irreversible)	Bursting under pressure (P1 - P2) (irreversible)
0 ... 2 bar	6 bar	8 bar	-1 bar
0 ... 6 bar	20 bar	35 bar	-1 bar
0 ... 10 bar	30 bar	50 bar	-1 bar

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: $P1 > P2$.
Please note the marking P1+ and P2- on the top of the plastic cover.



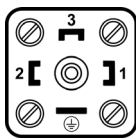
Order matrix		988.	X	X	X	X	X
Pressure range	0 ... 2 bar	1					
	0 ... 6 bar	2					
	0 ... 10 bar	3					
Material of pressure chamber	Brass		1				
	Stainless steel		2				
Output signal	0 ... 10 V				1		
	4 ... 20 mA				2		
	4 ... 20 mA				3		
Process connection	G 1/4					A	
Electrical connection	Connection 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-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

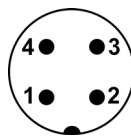
1	Supply voltage (18...30 VDC)
2	Output signal (4...20 mA)
3	N.C.
⊕	N.C.

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

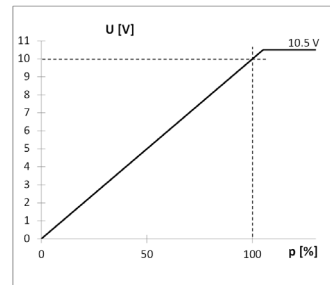
1	Supply voltage (18...30 VDC)
2	Output signal (4...20 mA)
3	N.C.
4	N.C.

3-wire

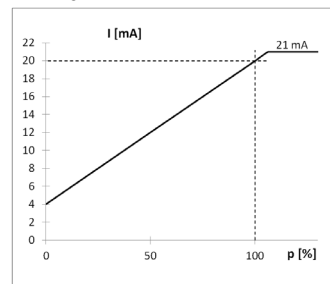
1	Supply voltage (18...25 VAC / 18...30 VDC)
2	Output signal (0...10 V / 4...20 mA)
3	GND
4	N.C.

Output signal

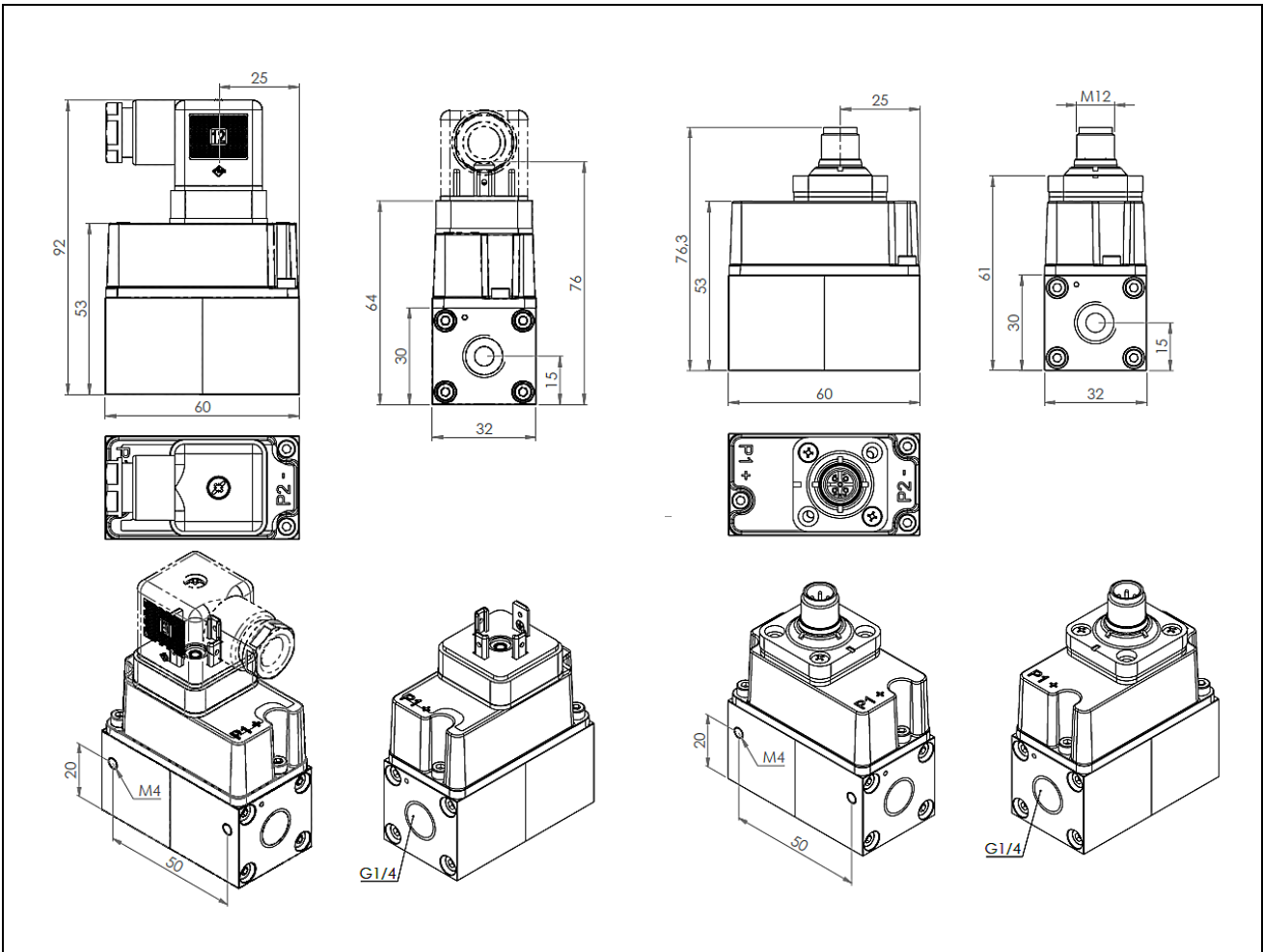
0 – 10 V



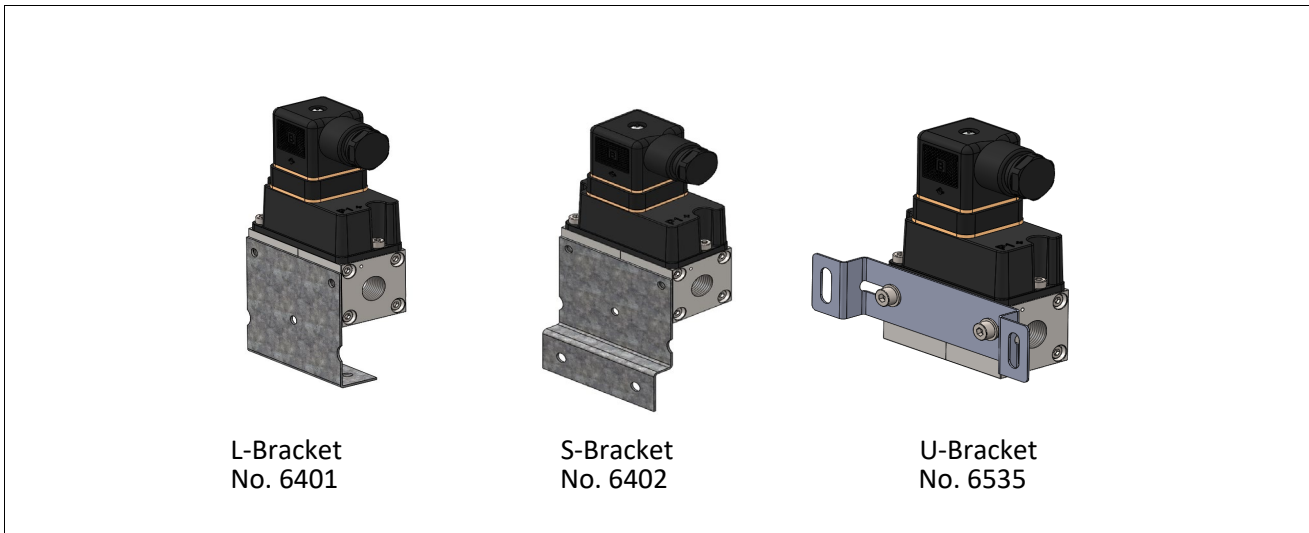
4 – 20 mA



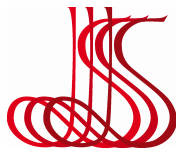
Dimensions



Mounting bracket



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