

Characteristics

2 - PRESSURE TRANSDUCER - GAUGE - MEASURING



- Pressure:	relative / absolute (up to 25 bar)
- Range:	0...1 bar up to 0...600 bar
- Output:	4...20 mA / 0...10 V / 0(1)...5 V / 0,5...4,5 V
- Accuracy:	0,5% of span / 0,25% of span
- Temperature:	medium: 0...+80 °C / -30...+100°C
- Material:	enclosure: 316L
- Connection:	pressure: G 1/4 / 1/2 NP / 1/4 NPT / M20x1,5
- Connection:	electrical: L-connector (valve) / M12x1 / cable
- Protection:	IP67 (IP65 with L-connector)

Technical data

Measuring range (input)

Type of pressure:	relative (0...1 up to 0...600 bar) / absolute: (0...1 up to 0...25 bar)
Ranges:	0...1 / 0...1,6 / 0...2,5 / 0...4 / 0...6 / 0...10 / 0...16 / 0...25 / 0...40 / 0...60 / 0...100 / 0...160 / 0...250 / 0...400 / 0...600 bar
Over pressure safety:	see table page 4
Burst pressure:	see table page 4

Analog output (signal and maximum ohmic load)

4...20 mA:	2-wire, load: maximum (UB-8 V) / 0,02 A
0...10 V:	3-wire, load: >10 kΩ
0...5 V / 1...5 V:	3-wire, load: >5 kΩ
0,5...4,5 V:	3-wire / 3-wire, ratiometric, load: >4,5 kΩ
Setting time:	<4 ms

Performance

Non-linearity:	<±0,5% of span (BFSL, according to IEC 61298-2) <±0,25% of span (BFSL, according to IEC 61298-2)
Accuracy:	Adjusted in vertical mounting position, pressure connection downside <±0,5% of span (non-linearity 0,25%) <±0,6% of span (non-linearity 0,25%, output signal 0...5V) <±1% of span (non-linearity 0,5%) Including non-linearity, hysteresis, non-repeatability, zero point and full scale error (corresponds to error of measurement per IEC 61298-2)
Zero offset:	<0,15% of span typically, maximum <0,4% of span (non-linearity 0,25%) <0,5% of span typically, maximum <0,8% of span (non-linearity 0,5%)
Hysteresis:	<0,16% of span
Non-repeatability:	<0,1% of span
Long-term drift:	<0,1% of span (according to IEC 61298-2)
Signal noise:	<0,3% of span

Applications

The pressure transmitter is suitable for mechanical engineering, hydraulics, pneumatics, machine tools, control and feedback control systems, pumps and compressors.



Photos: www.pixelquelle.de



● Technical data (continued)

Supply

Voltage:	8...30 VDC / 8...36 VDC (not possible for non-linearity 0,25% (BFSL), 4...20 mA) 14...30 VDC / 14...36 VDC (output signal 0...10 V) 5 VDC ±10% (output signal 0,5...4,5 V radiometric)
Wiring protection:	overvoltage: 32 VDC / 36 VDC with 4...20 mA short-circuit: signal + towards supply - reverse polarity: supply + towards supply -
Power consumption:	25 mA maximum (signal current for current output) 8 mA maximum (for voltage signal output)
Insulation voltage:	500 VDC (For power supply, use a circuit with energy limitation (EN/UL/IEC 61010-1, section 9.3) with the following maximum values for the current: at U = 30 VDC: 5 A. Provide a separate switch for the external power supply.

Environmental conditions

Ambient temperature:	0...+80 °C / -30...+100°C
Storing temperature:	-20...+80 °C / -30...+100°C
Medium temperature:	0...+80 °C / -30...+100°C
Nominal temperature range:	0...+80°C
Temperature error:	<1,0% of span typically (maximum <2,5% of span), within rated temperature range
Reference conditions:	45...75% rH
RoHS-conformity:	yes
CE-conformity:	pressure equipment directive: 97/23/EC EMC directive: 89/336/EEC emission (class B) and immunity according to EN 61326
Shock resistance:	500 g according to IEC 60068-2-27 (mechanical shock)
Vibration resistance:	10 g according to IEC 60068-2-6 (vibration under resonance) / 20 g on request

Mechanics

Material wetted parts:	pressure sensor: 316L (as of 0...10 bar relative: 13-8-PH) pressure connection: 316L
Material enclosure:	316L
Internal transmission fluid:	silicone oil (ranges <0...10 bar relative, ranges absolute)
Vacuum resistance:	as of 0...10 bar
Fatigue life:	10 million load cycles (maximum)
Weight:	approx. 80 g

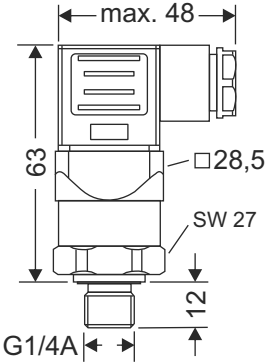
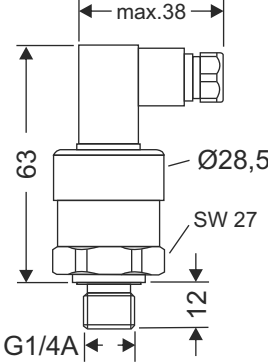
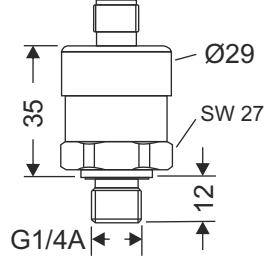
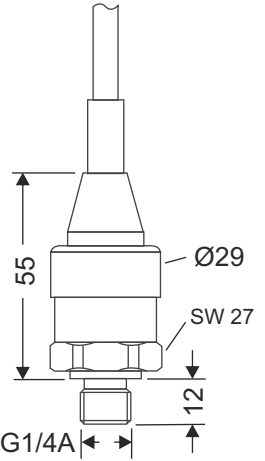
Pressure connection:

G 1/4A:	(DIN 3852-E), with sealing NBR or FKM, overpressure safety: 600 bar
G1/4B:	(EN 837), with sealing copper or stainless steel
G1/4 female:	(EN 837) with sealing copper or stainless steel
NPT:	1/4 NPT / 1/4NPT female
M20x1,5:	with sealing copper or stainless steel
7/16-20 UNF:	with Boss O-ring FKM, temperature range: -10...+100°C
Other:	R1/4 ISO 7 / PT1/4

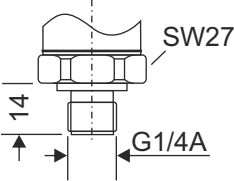
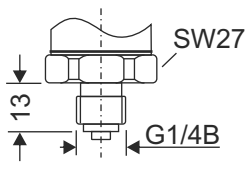
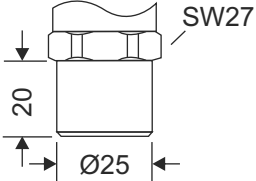
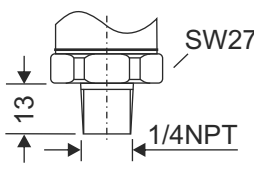
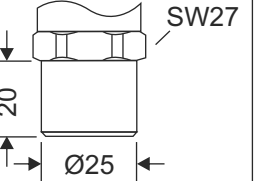
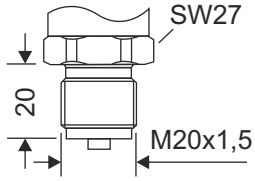
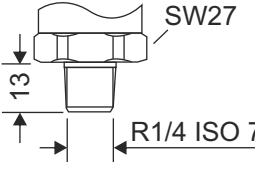
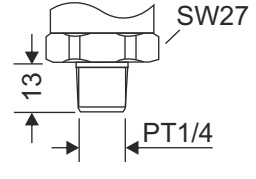
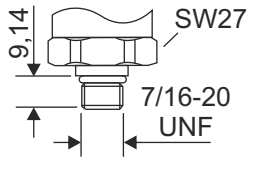
Electrical connection:

L-connector:	DIN EN 175301-803, Form A, up to 1,5 mm ² (valve) Cable outer diameter: 6...8 mm, protection: IP65
L-connector:	DIN EN 175301-803, Form C, up to 0,75 mm ² Cable outer diameter: 4,5...6 mm, protection: IP65
Circular connector:	M12x1, 4-pole, protection: IP65
Cable:	length 2 m, 3x 0,34 mm ² , cable outer diameter: 6,6 mm PUR cable, unshielded, protection: IP67
Note:	Ingress protection IP per IEC 60529. The ingress protection classes specified only while the pressure connector is connected with female connectors that provide the corresponding ingress protection.




● **Dimensions in mm**

<p>Plug DIN 175301-803A</p> 	<p>Plug DIN 175301-803C</p> 	<p>M12x1</p> 	<p>Cable</p> 
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● **Pressure connection**

<p>G1/4 (DIN 3852-E)</p> 	<p>G1/4 (EN837) manometer</p> 	<p>G1/4 female (EN837)</p> 	<p>1/4NPT</p> 	<p>1/4NPT female</p> 
<p>M20x1,5</p> 	<p>R1/4 ISO 7</p> 	<p>PT1/4</p> 	<p>7/16-20 UNF-2A SAE J514-24B</p> 	

● **Electrical connection**

Connection / Output	L-connector DIN 175301-803 C	L-connector DIN 175301-803 A	M12x1 4-pole	Cable
2-wire	1 (+) / 2 (-)	1 (+) / 2 (-)	1 (+) / 3 (-)	brown (+) / blue (-)
3-wire	1 (+) 2 (-) / signal (-) 3 (signal +)	1 (+) 2 (-) / signal (-) 3 (signal +)	1 (+) 3 (-) / signal (-) 4 (signal +)	brown (+) blue (-) / signal (-) black (signal +)
				

● **Ordering code**

U A X X X X X X - X X X

Pressure:	relative (accuracy 0,5%)	0																		
	absolute (accuracy 0,5%)	1																		
	relative (accuracy 0,25%)	2																		
	absolute (accuracy 0,25%)	3																		
Wetted parts:	stainless steel 316L / 13-8-PH	0																		
Output:	4...20 mA, 2-wire		0																	
	0...10 V (3-wire)		1																	
	0...5 V (3-wire)			2																
	1...5 V (3-wire)				3															
	0,5...4,5 V					4														
	0,5...4,5 V ratiometric						5													
Pressure connection:	G1/4A (DIN 3852-E)							0												
	G1/4 (EN837)							1												
	G1/4 female							2												
	1/4NPT							3												
	1/4NPT female							4												
	M20x1,5							5												
	R1/4 ISO7							6												
	PT1/4							7												
	7/16-20 UNF							8												
Electrical connection:	L-plug DIN 175301-803A (valve)								0											
	L-plug DIN 175301-803C								1											
	M12x1, 4-pole cable								2											
									3											
Temperature medium:	0...80 °C									0										
	-30...+100 °C									1										
Sealing:¹⁾	NBR																			0
	FKM																			1
	copper																			2
	stainless steel																			3
	without																			4
Pressure range:	(please choose, see table below)																			X
Other / accessories:	special model																			0

1) The available sealing is dependent on the pressure connection, see page 2 - Pressure connection -

● **Pressure ranges (in bar) and choose**

Pressure relative and absolute								
Choose (X = ...)	0	1	2	3	4	5	6	7
Pressure range	1	1,6	2,5	4	6	10	16	25
Over pressure safety	2	3,2	5	8	12	20	32	50
Burst pressure	5	10	10	17	34	34	100	100

Pressure relative								
Choose (X = ...)	8	9	A	B	C	D	E	
Pressure range	40	60	100	160	250	400	600	
Over pressure safety	80	120	200	320	500	800	1200	
Burst pressure	400	550	800	1000	1200	1700	2400	

Subject to change, version 40-630