



Pressure transmitter

OEM Relative and absolute pressure transmitter

Type 501

Type 501 pressure transmitters, with partially automated production processes, are suitable for larger quantity industrial OEM applications.

Various pressure and electrical connections, together with several standardised output signals, provide suitability for a wide variety of applications.



Pressure ranges
-1 ... 0 – 60 bar

- + Compact construction
- + Automated manufacture in large quantities for ideal price / performance ratio
- + Robust ceramic sensor technology
- + High resistance to extremetemperatures
- + No mechanical creepage

Technical overview

Pressure range

Relative	-1 ... 0 – 60 bar
Absolute	0 ... 2.5 – 16 bar

Operating conditions

Medium		Liquids and gases
Temperature	Medium / ambient	-15 ... +80 °C
	Storage	-40 ... +80 °C
Tolerable overload		2 x fs (max. 80 bar)
Rupture pressure		3 x fs (max. 90 bar)

Materials

Case		PA6
	Sensor	Ceramic Al ₂ O ₃ (96%)
Materials in contact with the medium	Pressure connection	Stainless steel 1.4305 / AISI 303
	Sealing material	FPM, EPDM, NBR, MVQ

Electrical overview

	Output	Power supply	Load	Current consumption ¹⁾
2 wire	4 ... 20 mA	8.0 ... 33 VDC	$< \frac{\text{Supply voltage} - 8\text{V}}{0.02\text{A}}$ [Ohm]	< 20 mA
	4 ... 20 mA	10.0 ... 33 VDC	$< \frac{\text{Supply voltage} - 10\text{V}}{0.02\text{A}}$ [Ohm]	< 20 mA
	0 ... 5 V	9.0 ... 33 VDC	> 10 kOhm / < 100 nF	< 5 mA
3 wire	1 ... 6 V	10.4 ... 33 VDC	> 10 kOhm / < 100 nF	< 5 mA
	0 ... 10 V	16.2 ... 33 VDC	> 10 kOhm / < 100 nF	< 6 mA
	ration. 10 ... 90%	5 VDC ±5%	> 10 kOhm / < 100 nF	< 3 mA

Polarity reversal protection Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.

Dynamic response

Response time	< 5 ms
Load cycle	< 50 Hz

Protection standard

IP 65

Electrical connection

Cable 1.5 m	IP 65
Connector DIN EN 175301-803-A	IP 65
Connector DIN EN 175301-803-C (industrial standard 9.4 mm)	IP 65
Connector M12x1	IP 65

Pressure connection

Inside thread	G ¼ with O-Ring sealing
	¼ -18 NPT
Outside thread	G ¼, sealed at back, DIN 3852-E
	R ¼ EN 10226
	G ¼, sealed at back and manometer (combi)
	G ½, sealed at back and manometer (combi)

Installation arrangement

Recommended: Pressure connection downwards
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Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
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Weight

With inside thread	~ 95 g
With outside thread	~ 110 g
With cable 1.5 m additional	~ 40 g

Packaging (Please state on order)

Single packaging in cardboard
Multiple packaging in cardboard per 25 pcs.

Accuracy

Parameter	Unite		
Tolerance zero point	max.	% fs	± 1.0
Tolerance full scale	max.	% fs	± 1.0
Resolution		% fs	0.1
Total of linearity, hysteresis and repeatability	max.	% fs	± 0.5
Long term stability acc. to DIN EN 60770		% fs	± 1.0
TC zero point ²⁾	max.	% fs/10K	± 0.4
TC sensitivity ²⁾	typ.	% fs/10K	- 0.15
TC sensitivity ²⁾	max.	% fs/10K	- 0.3

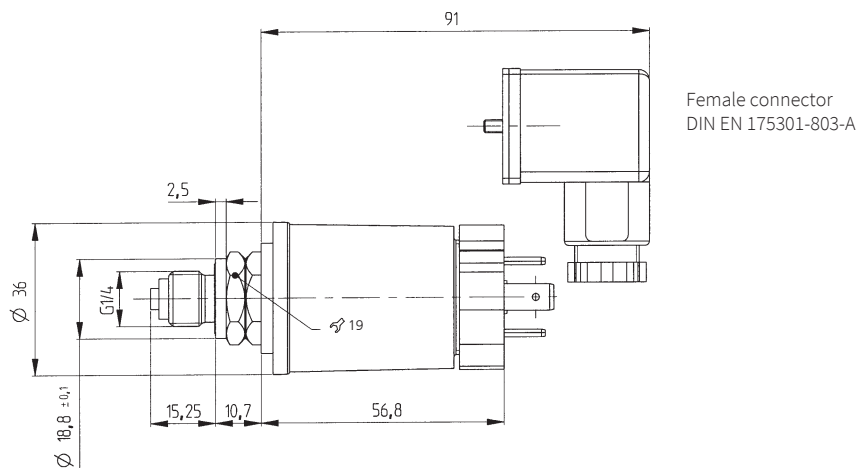
Test conditions: 25 °C, 45% RH, power supply 24 VDC
TC z.p. / TC s. -40 ... +80 °C

¹⁾ At nominal pressure

²⁾ TC = Temperature coefficient

		1	2	3	4	5	6	7	8	9	10
Order code selection table		501. X X X X X X X X X X X									
Pressure mode	Relative	9									
	Absolute	8									
Pressure range	-1 ... 0 bar	9	0	0							
	0 ... 1 bar	9	1	1							
	0 ... 1.6 bar	9	1	2							
	0 ... 2.5 bar		1	4							
	0 ... 4 bar		1	5							
	0 ... 6 bar		1	7							
	0 ... 10 bar		3	0							
	0 ... 16 bar		3	1							
	0 ... 25 bar	9	3	2							
	0 ... 40 bar	9	3	3							
0 ... 60 bar	9	4	0								
	▲ Full scale signal at these pressures										
Sealing material ¹⁾	FPM Fluoro elastomer						0				
	EPDM Ethylene propylene						1				
	NBR Butadiene Acrylonitrile						2				
	MVQ Silicone polymer						3				
Adjustment	Factory						0				
	0 ... 5 V								1		
Output / power supply	1 ... 6 V								6		
	0 ... 10 V								2		
	4 ... 20 mA								3		
									8		
									4		
Electrical connection	Cable									0	
	Connector ²⁾	DIN EN 175301-803-A								1	
		DIN EN 175301-803-C (industrial standard 9.4 mm)								2	
		M12x1 plastic thread								3	
Pressure connection	Inside thread									1	
	Outside thread	G 1/4 with O-Ring seal								3	
		1/4 - 18 NPT								4	
		G 1/4, sealed at back, DIN 3852-E								7	
		R 1/4 EN 10226								5	
	G 1/2, sealed at back and manometer (combi)							8			
Pressure tip orifice	Without									1	
	With									2	
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... +9bar/OUT1...9V)										W

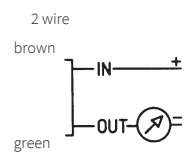
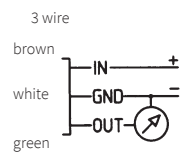
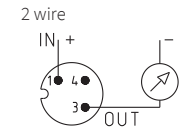
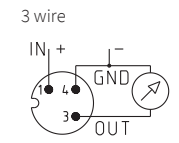
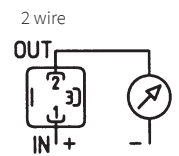
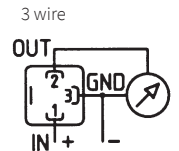
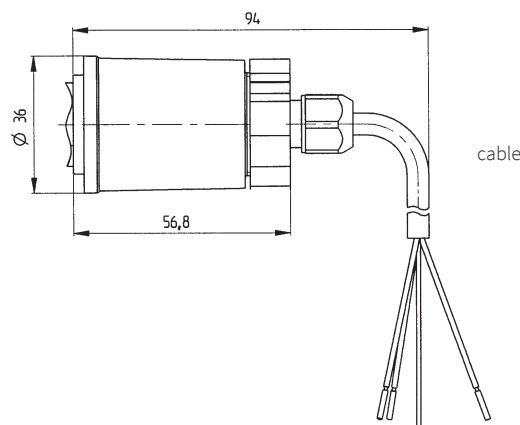
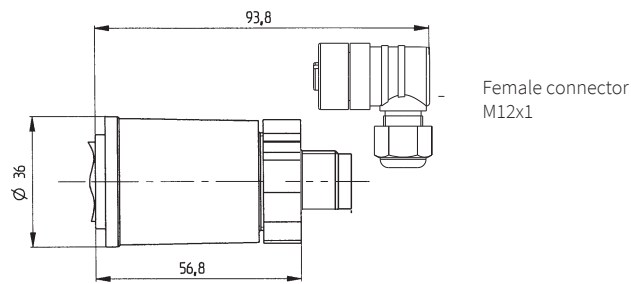
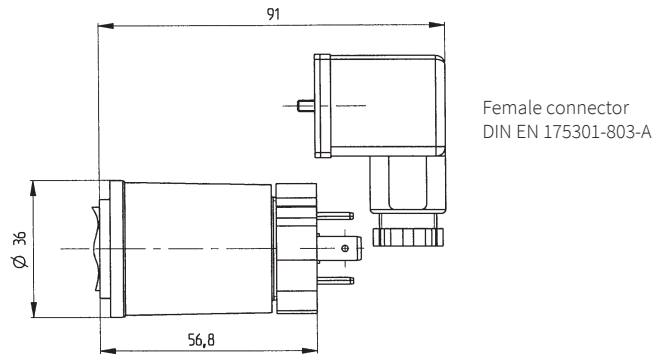
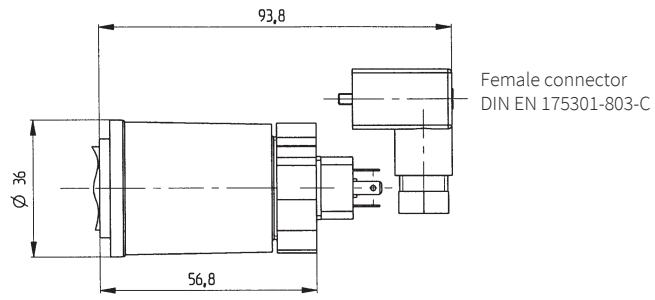
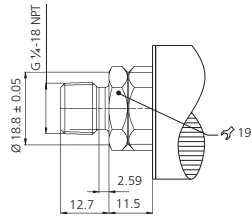
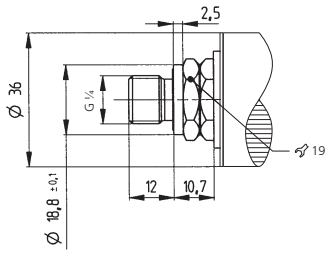
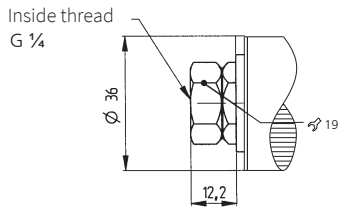
Storage versions		Order number	
Output	4 ... 20 mA	Pressure range	
Power supply	10 ... 33 VDC	-1 ... 0 bar	501.914023151W - 1...0 bar (high overload protection)
Electrical connection ²⁾	Connector DIN EN 175301-803-A, IP 65	0 ... 10 bar	501.930023151
Pressure connection	G 1/4 sealed at back and manometer	0 ... 25 bar	501.932023151
Sealing material	FPM - Fluoro elastomer		
Colour of cover	black		



Accessories (supplied loose)		Order number
Female connector DIN EN 175301-803-A	with seal (IP 65, when installed and latched)	103510
Female connector DIN EN 175301-803-C	with seal (IP 65, when installed and latched)	104244
Female connector M12x1		106975
Calibration certificate		104551

¹⁾ According to ISO standard R 1629, other sealing materials on request

²⁾ Without female connector



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