

OEM Relative pressure transmitter type 510

Pressure range
0 ... 2.5 – 600 bar



OEM Type 510 pressure transmitters are suitable for use with all types of refrigerants, including ammonia.

The newly designed pressure measuring cell incorporates a fully welded construction within the transducer housing.

- Compact, rugged construction for highest operational reliability
- Welded with no elastomer seals
- Negligible temperature influence on accuracy
- Excellent EMC-capacity
- Saving cable mounting time with swift connector



Technical overview

Pressure range

Relative	0... 2.5 – 600 bar
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Operating conditions

Medium	Liquids, gases and refrigerants (incl. ammonia)	
Temperature	Medium	-40 ... +150 °C
	Ambient	-40 ... +85 °C
	Storage	-40 ... +85 °C
Overload	< 7 bar	5 x fs
	≥ 7 ... 400 bar	3 x fs
	> 400 bar	2.5 x fs
Rupture pressure	< 7 bar	10 x fs
	≥ 7 ... 400 bar	6 x fs
	> 400 bar	max. 2500 bar

Materials

Case	Sensor	Stainless steel 1.4305 / AISI 303
Materials in contact with the medium	Pressure connections	Stainless steel
		Stainless steel 1.4305 / AISI 303

Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	8.0 ... 33 VDC	< $\frac{\text{supply voltage} - 8V}{0.02A}$ [Ohm]	< 20 mA
	0 ... 5 V	8.0 ... 33 VDC	>10 kOhm / < 100 nF	< 4 mA
	1 ... 6 V	8.0 ... 33 VDC	>10 kOhm / < 100 nF	< 4 mA
3 wire	0 ... 10 V	12.3 ... 33 VDC	>10 kOhm / < 100 nF	< 4 mA
	0 ... 10 V	24 VAC ±15%	>10 kOhm / < 100 nF	< 4 mA
	ratiom. 10 ... 90%	5 VDC ±5%	>10 kOhm / < 100 nF	< 4 mA
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.			
Insulation voltage	500 VDC			

Dynamic response

Response time	< 2 ms, typ. 1 ms
Load cycle	< 50 Hz

Protection standard

With DIN connector EN 175301-803-C	IP 65
All other versions	IP 67

Electrical connection

Cable quick connection	
Cable 1.5 m	
Connector M12x1	Plastic or metal thread
Connector DIN 175301-803-C (mini DIN)	

Pressure connection

Inside thread	$\frac{7}{16}$ -20 UNF Schrader
	G $\frac{1}{4}$ ¹⁾
Outside thread	$\frac{7}{16}$ -20 UNF
	$\frac{1}{4}$ -18 NPT
	R $\frac{1}{4}$ acc. DIN 2999
	G $\frac{1}{4}$ sealed at back DIN 3852 form E ²⁾
	G $\frac{1}{2}$ sealed at back and manometer ²⁾
	G $\frac{1}{2}$ selead at front

Installation arrangement

Unrestricted	
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Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
UL	acc. Standard 873
Shock acc. IEC 60068-2-27	100 g, 11 ms half sine wave, all 6 directions. Free fall from 2 m on concrete (6x)
Constant shock acc. IEC 60068-2-29	40 g for 6 ms, 1000 x all 3 directions
Vibration acc. IEC 60068-2-6	20 g, 2 ... 2000 Hz with amplitude ± 15 mm, 1 Octave/min. all 3 directions, 50 constant load

Weight

Version with inside thread	~ 80 g
Version with outside thread	~ 92 g

Packaging (Please state on order)

Single packaging in cardboard	accessories integrated
Multiple packaging in cardboard (25 pcs)	accessories integrated

Parameter		Unit	
Tolerance zero point	max.	% fs	± 0.5
Tolerance full scale	max.	% fs	± 0.5
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 ¹⁾	max.	% fs/10K	± 0.3
TC sensitivity ¹⁾	max.	% fs/10K	± 0.15

Test conditions: 25 °C, 45% rF, Power supply 24 VDC
TC0 / TCE -40 ... +125 °C

Order code selection table in bar		510.9	X	X	X	X	X	X	X	X	X	X	X	
Pressure range	0 ... + 2.5 bar	1	4											
	0 ... + 4 bar	1	5											
	0 ... + 6 bar	1	7											
	0 ... + 7 bar	2	9											
	0 ... + 10 bar	3	0											
	0 ... + 16 bar	3	1											
	0 ... + 25 bar	3	2											
	0 ... + 40 bar	3	3											
	0 ... + 60 bar	4	0											
	0 ... + 100 bar	4	1											
	0 ... + 160 bar	4	2											
	0 ... + 250 bar	4	3											
	0 ... + 400 bar	5	4											
	0 ... + 600 bar	5	5											
▲ Fullscale signal at these pressures														
Sealing material	None (welded cell)							S						
Adjustment	Factory							0						
Output / power supply	0 ... 5 V	8.0 ... 33 VDC								1				
	1 ... 6 V	8.0 ... 33 VDC								6				
	0 ... 10 V	12.3 ... 33 VDC								2				
	0 ... 10 V	24 VAC ±15% / 16 ... 34 VDC								7	1,0			
	4 ... 20 mA	8.0 ... 33 VDC								3				
	ratiom. 10 ... 90%	5VDC ±5%								4				
Electrical connection	Cable 1.5 m											0		
	Swift connector											1		
	Connector M12x1 plastic thread ²⁾											5		
	Connector M12x1 metal thread ²⁾											7		
	Connector DIN EN 175301-803-C (mini DIN) 2w: IN=3 / OUT=1 3w: IN=3 / OUT=2 / GND=1												8	
	Connector DIN EN 175301-803-C (mini DIN) 2w: IN=1 / OUT=2 3w: IN=1 / OUT=3 / GND=2												9	
Pressure connection ³⁾	Inside thread	7/16-20 UNF Schrader											0	
	Inside thread ⁴⁾	G 1/4											1	
	Outside thread	7/16-20 UNF											2	
	Outside thread	1/4 -18 NPT											3	
	Outside thread	R 1/4 acc. DIN 2999											4	
	Outside thread ⁵⁾	G 1/4 sealed at back DIN 3852 form E											5	
	Outside thread ⁵⁾	G 1/2 sealed at back and manometer (combi)											8	
Outside thread	G 1/2 sealed at front											9		
Version	Stainless steel 1.4305 / AISI 303												0	
Pressure range variation	Indicate W and state range on order (e.g. W0... + 8bar/OUT1...6V)												W	

Accessories

	Order number
Female swift connector	107359
Female connector DIN 175301-803-C (mini DIN)	104244
Female connector M12x1	106975
Calibration certificate	104551

¹⁾ TC = Temperature coefficient²⁾ Delivery without female connector³⁾ Other pressure connections on request⁴⁾ O-Ring in FPM spec. -30 ... +150 °C⁵⁾ Profile sealing in FPM spec. -20 ... +150 °C

Order code selection table in psi		510.9	X	X	X	X	X	X	X	X	X	X	X	
Pressure range	0 ... + 30 psi	B	4											
	0 ... + 60 psi	B	5											
	0 ... + 100 psi	B	6											
	0 ... + 200 psi	C	1											
	0 ... + 300 psi	C	2											
	0 ... + 500 psi	C	3											
	0 ... + 750 psi	D	0											
	0 ... + 1000 psi	D	1											
	0 ... + 2000 psi	D	2											
	0 ... + 3000 psi	D	3											
	0 ... + 5000 psi	E	4											
	0 ... + 7500 psi	E	5											
	▲ Fullscale signal at these pressures													
Sealing material	None (welded cell)								S					
Adjustment	Factory									0				
Output / power supply	0 ... 5 V	8.0 ... 33 VDC									1			
	1 ... 6 V	8.0 ... 33 VDC									6			
	0 ... 10 V	12.3 ... 33 VDC									2			
	0 ... 10 V	24 VAC ±15% / 16 ... 34 VDC									7	1,0		
	4 ... 20 mA	8.0 ... 33 VDC									3			
	ration. 10 ... 90%	5VDC ±5%									4			
Electrical connection	Cable 1.5 m											0		
	Swift connector											1		
	Connector M12x1 plastic thread ¹⁾											5		
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Pressure connection ²⁾	Inside thread	7/16 -20 UNF Schrader											0	
	Inside thread ³⁾	G 1/4											1	
	Outside thread	7/16 -20 UNF											2	
	Outside thread	1/4 -18 NPT											3	
	Outside thread	R 1/4 acc. DIN 2999											4	
	Outside thread ⁴⁾	G 1/4 sealed at back DIN 3852 form E											5	
	Outside thread ⁴⁾	G 1/2 sealed at back and manometer (combi)											8	
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	Version	Stainless steel 1.4305 / AISI 303												0
Pressure range variation	Indicate W and state range on order (e.g.: W0... + 400psi/OUT1...6V)													W

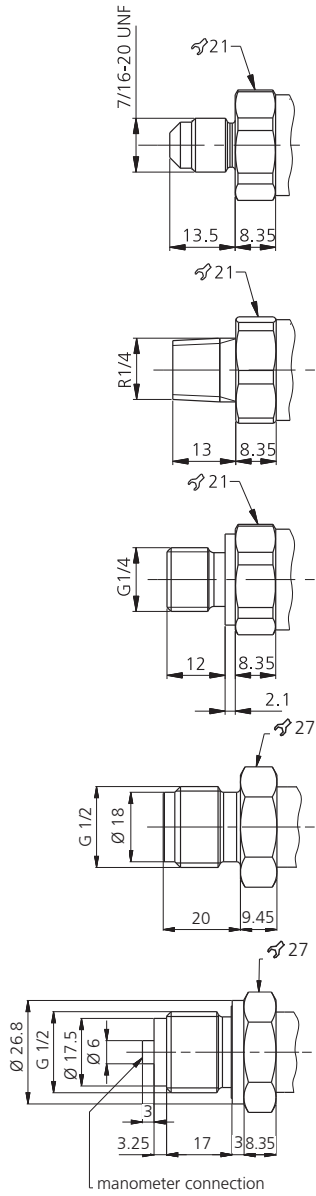
Order code selection table in MPa		510.9	X	X	X	X	X	X	X	X	X	X	X	
Pressure range	0 ... + 0.25 MPa	G	4											
	0 ... + 0.4 MPa	G	5											
	0 ... + 0.6 MPa	G	6											
	0 ... + 0.7 MPa	G	7											
	0 ... + 1 MPa	H	0											
	0 ... + 1.6 MPa	H	1											
	0 ... + 2.5 MPa	H	2											
	0 ... + 4 MPa	H	3											
	0 ... + 6 MPa	K	0											
	0 ... + 10 MPa	K	1											
	0 ... + 16 MPa	K	2											
	0 ... + 25 MPa	K	3											
	0 ... + 40 MPa	L	4											
0 ... + 60 MPa	L	5												
▲ Fullscale signal at these pressures														
Sealing material	None (welded cell)								S					
Adjustment	Factory									0				
Output / power supply	0 ... 5 V	8.0 ... 33 VDC									1			
	1 ... 6 V	8.0 ... 33 VDC									6			
	0 ... 10 V	12.3 ... 33 VDC									2			
	0 ... 10 V	24 VAC ±15% / 16 ... 34 VDC									7	1,0		
	4 ... 20 mA	8.0 ... 33 VDC									3			
	ration. 10 ... 90%	5VDC ±5%									4			
Electrical connection	Cable 1.5 m											0		
	Swift connector											1		
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	Outside thread	G 1/2 sealed at front											9	
	Version	Stainless steel 1.4305 / AISI 303												0
Pressure range variation	Indicate W and state range on order (e.g.: W0... + 8MPa/OUT1...6V)													W

¹⁾ Delivery without female connector

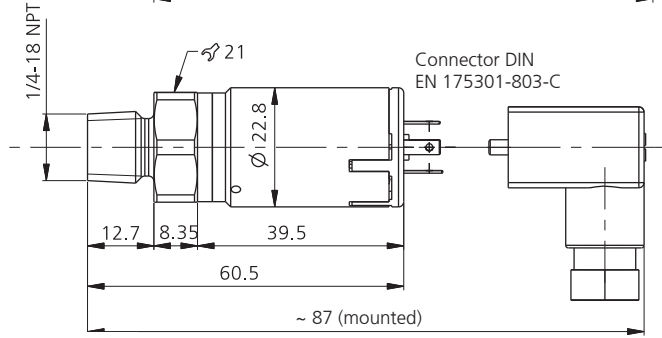
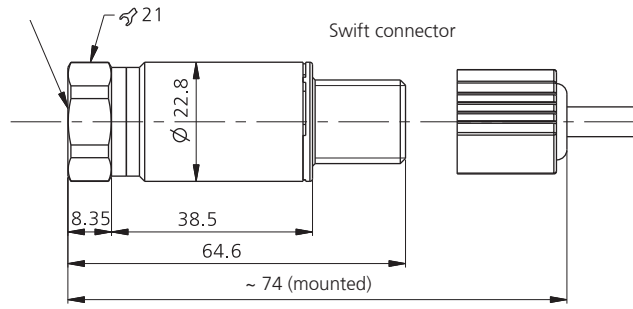
²⁾ Other pressure connections on request

³⁾ O-Ring in FPM spec. -30 ... +150 °C

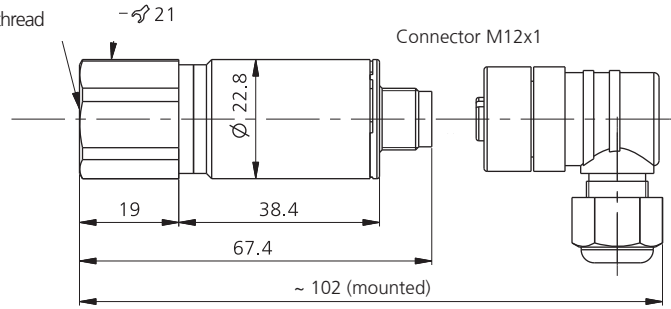
⁴⁾ Profile seal ring in FPM spec.



7/16-20 UNF
Inside thread
Schrader



G 1/4
Inside thread



Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT

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