

Relative pressure transmitter type 525

Pressure range
0 ... 0.05 – 0.6 bar




The pressure transmitter type 525 has a compact and robust design and a very high measurement accuracy. The pressure transmitter with its large variety of pressure and electrical connection has also pressure ranges from 50 mbar full scale.

The compact 525 pressure transmitter is based upon the well proven ceramic technology developed by Huba Control over 20 years ago.

- Very high measurement accuracy
- Excellent thermal characteristic
- Pressure ranges from 50 mbar full scale available
- Compact and rugged construction
- Large selection of connections available

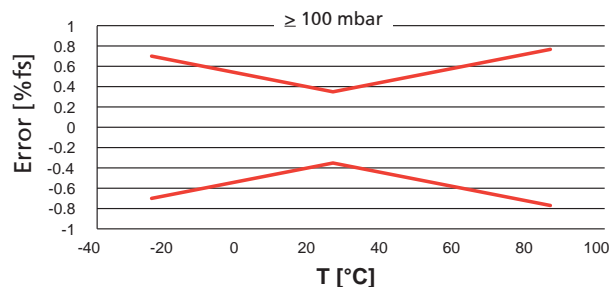
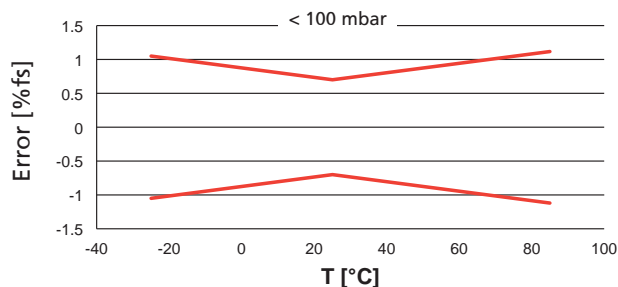
Technical overview

Pressure range		Relative		0 ... 0.05 – 0.6 bar
Operating conditions				
Medium				Liquids and gases
Temperature		Medium	FPM	-15 ... +85 °C
			EPDM	-25 ... +85 °C
			NBR	-20 ... +85 °C
		Ambient		-25 ... +85 °C
		Storage		-40 ... +85 °C
Tolerable overload / rupture pressure				2 bar
Tolerable negative pressure				-0.3 bar
Materials				
Plug accommodation		Polyarylamide 50% GF UL 94 V-0		
Materials in contact with medium		pressure connection	Stainless steel 1.4404 / AISI 316L	
		measuring element	Ceramics Al ₂ O ₃ (99.6%)	
		sealing material	FPM, EPDM, NBR	
Electrical overview				
2 wire	Output 4 ... 20 mA	Power supply 10 ... 30 VDC	Load < $\frac{\text{supply voltage} - 10 \text{ V}}{0.02 \text{ A}}$ [Ohm]	Current consumption < 23 mA
	0 ... 5 V	7 ... 33 VDC	>10 kOhm / < 100 nF	< 5 mA
3 wire	0 ... 10 V	12 ... 33 VDC	>10 kOhm / < 100 nF	< 5 mA
	ration. 10 ... 90%	5 VDC ± 10%	>10 kOhm / < 100 nF	< 5 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				
Start-up time		< 200 ms		
Response time		< 150 ms		
Load cycle		< 100 Hz		
Electrical connection				
Connector DIN EN 175301-803-A		Protection standard		Protection class
Connector DIN EN 175301-803-C (Industrial standard 9.4 mm)		IP 65		III
Connector M12x1		IP 65		III
Swift connector without or with cable 1.5 / 2 / 3 / 5 m (PVC spez.)		IP 67		III
Swift connector without or with cable 1.5 / 2 / 3 / 5 m (PVC spez.)		IP 67		III
Pressure connection				
Inside thread	G ¼	with Profile seal ring in FPM		
	¼ -18 NPT			
	R ¼	nach EN 10226		
	G ½	sealed at front		
Outside thread	G ½	sealed at back DIN 3852-E with Profile seal ring in FPM		
	G ¼	sealed at front		
	G ¼	sealed at back DIN 3852-E with Profile seal ring in FPM		
	G ½	sealed at front		
	G ½	sealed at back DIN 3852-E with Profile seal ring in FPM, with hole Ø11 mm		
Installation arrangement				
Unrestricted (Note the position error!)				
Tests / Admissions				
Electromagnetic compatibility	CE conformity acc. EN 61326-2-3			
Shock acc. IEC 68-2-27	50 g, 6 ms half sine wave, all 6 directions, free fall from 1 m on concrete (6x)			
Vibration nach IEC 68-2-6	20 g, 15 ... 2000 Hz, 15 ... 25 Hz with amplitude ± 15 mm, 1 Octave/min. all 3 directions, 50 constant load			
UL	ANSI/UL 61010-1 acc. E325110			
EAC				
Protection against explosion 	Ex II ½ G Ex ia IIC T4 Ga/Gb			
(4 ... 20 mA) acc. ATEX and IECEx	Ex II ½ D Ex ia IIC T120°C Da/Db			
Weight				
~ 120 g				
Packaging (Please state on order)				
Single packaging in cardboard		accessories integrated		
Multiple packaging in cardboard (25 pcs)				

Accuracy

Parameter	Unit	
Characteristic line ¹⁾ (at 25 °C)	% fs	± 0.35 ²⁾
Resolution	% fs	< 0.1
Long term stability acc. IEC EN 60770-1 max.	% fs	± 0.25
Thermal characteristic ³⁾	% fs/10K	± 0.07
Location error horizontal mounting	mbar	+ 0.1
Location error vertical mounting, pressure connection upward	mbar	+ 0.2

Test conditions: 45% RH, power supply 24 VDC
Balance position: Vertical, pressure connection down



¹⁾ incl. zero point, full scale, linearity, hysteresis and repeatability

²⁾ fs < 100 mbar ± 0.7% fs

³⁾ the zero point and range at -25 ... +85 °C

			1	2	3	4	5	6	7	8	9	10	11		
Order code selection table in bar			525. X X X X X X X X X X X X												
Pressure range ¹⁾	0 ... 0.05 bar		9	2	1										
	0 ... 0.10 bar		9	2	2										
	0 ... 0.16 bar		9	2	3										
	0 ... 0.20 bar		9	2	4										
	0 ... 0.25 bar		9	2	5										
	0 ... 0.30 bar		9	2	6										
	0 ... 0.40 bar		9	2	7										
	0 ... 0.60 bar		9	2	8										
Sealing material	FPM	Fluoro elastomer				0	0								
	EPDM	Ethylene propylene				1	0								
	NBR	Butadiene Acrylonitrile				2	0								
Output / power supply	0 ... 5 V	7 ... 33 VDC						1							
	0 ... 10 V	12 ... 33 VDC						2							
	4 ... 20 mA	10 ... 30 VDC						3							
		10 ... 30 VDC (Ex)						4							
	ratiom. 10 ... 90%	5VDC ±10%						7							
Electical connection	Connector	DIN EN 175301-803-A ²⁾							1						
		DIN EN 175301-803-C (Industrial standard 9.4 mm) ²⁾							2						
		M12x1 ²⁾ 2L: IN=1 / OUT=3 3L: IN=1 / OUT=4 / GND=3								3					
	swift connector	M12x1 ²⁾ 3L: IN=1 / OUT=3 / GND=4								1,2	M				
		without cable (PG9)									0				
		with cable 1.5 m									L				
		with cable 2.0 m									N				
		with cable 3.0 m									Q				
		with cable 5.0 m									R				
		Pressure connection ¹⁾	Inside thread	G ¼ with O-Ring seal FPM									1	1	1
¼ -18 NPT											3	1	1		
R ¼ acc. to EN 10226												7	1	1	
G ½ sealed at front												M	1	1	
G ½ sealed at back DIN 3852-E with Profile seal ring in FPM												H	1	1	
Outside thread	G ¼ sealed at front											J	1	1	
	G ¼ sealed at back DIN 3852-E with Profile seal ring in FPM											4	1	1	
	G ½ sealed at front											9	1	1	
	G ½ sealed at back DIN 3852-E with Profile seal ring in FPM											8	1	1	
	G ½ sealed at back DIN 3852-E with Profile seal ring in FPM with hole Ø 11mm											S	1	1	
Pressure range variation (optional)	Indicate W and state range on order (e. g. W0... + 0.5bar/OUT0.5...4.5V)												W		

Accessories	Order number
Female connector DIN EN 175301-803-A with seal	103510
Connector DIN EN 175301-803-C with seal	104244
Corner-wire box for connector M12x1	106975
Calibration certificate	104551

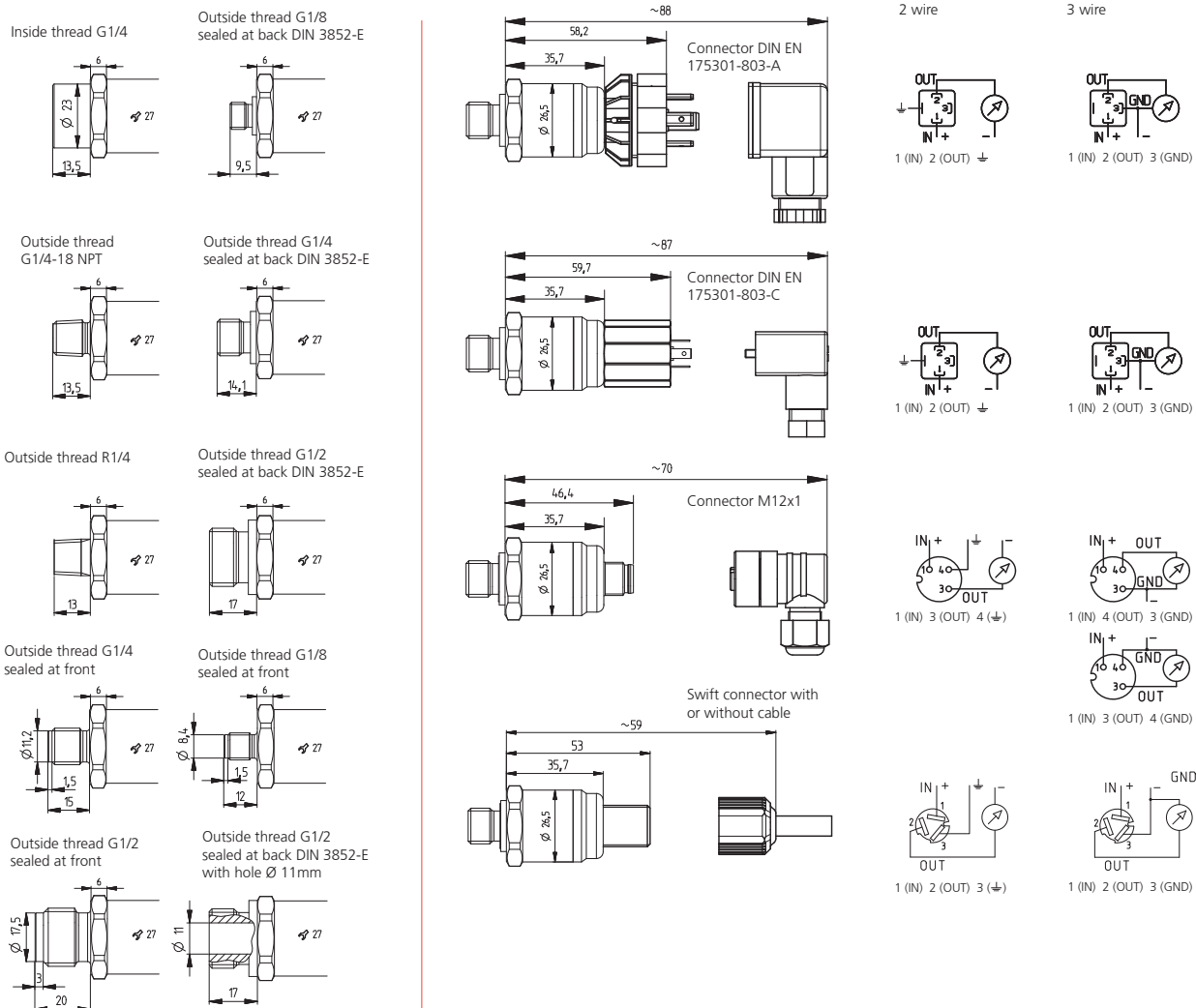
			1	2	3	4	5	6	7	8	9	10	11		
Order code selection in psi			525. X X X X X X X X X X X X												
Pressure range ¹⁾	0 ... 1 psi		9	B	1										
	0 ... 2 psi		9	B	2										
	0 ... 3 psi		9	B	4										
	0 ... 5 psi		9	B	6										
	0 ... 10 psi		9	B	8										
	Sealing material	FPM	Fluoro elastomer				0	0							
EPDM		Ethylene propylene				1	0								
NBR		Butadiene Acrylonitrile				2	0								
Output / power supply	0 ... 5 V	7 ... 33 VDC						1							
	0 ... 10 V	12 ... 33 VDC						2							
	4 ... 20 mA	10 ... 30 VDC						3							
		10 ... 30 VDC (Ex)						4							
	ratiom. 10 ... 90%	5VDC ±10%						7							
Electical connection	Connector	DIN EN 175301-803-A ²⁾								1					
		DIN EN 175301-803-C (Industrial standard 9.4 mm) ²⁾								2					
		M12x1 ²⁾ 2L: IN=1 / OUT=3 3L: IN=1 / OUT=4 / GND=3									3				
	Swift connector	M12x1 ²⁾ 3L: IN=1 / OUT=3 / GND=4									1,2	M			
		without cable										0			
		with cable 1.5 m										L			
		with cable 2.0 m										N			
		with cable 3.0 m										Q			
		with cable 5.0 m										R			
		Pressure connection ¹⁾	Inside thread	G ¼ with O-Ring seal FPM										1	1
¼ -18 NPT												3	1	1	
R ¼ acc. to EN 10226													7	1	1
G ½ sealed at front													M	1	1
G ½ sealed at back DIN 3852-E with Profile seal ring in FPM													H	1	1
Outside thread	G ¼ sealed at front												J	1	1
	G ¼ sealed at back DIN 3852-E with Profile seal ring in FPM												4	1	1
	G ½ sealed at front												9	1	1
	G ½ sealed at back DIN 3852-E with Profile seal ring in FPM												8	1	1
	G ½ sealed at back DIN 3852-E with Profile seal ring in FPM with hole Ø 11mm												S	1	1
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 0.5bar/OUT0.5...4.5V)												W		

¹⁾ Other pressure ranges on request

²⁾ Delivery without female connector

Order code selection in MPa			1	2	3	4	5	6	7	8	9	10	11
			525.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾	0 ... 0.005 MPa		9	G	1								
	0 ... 0.010 MPa		9	G	2								
	0 ... 0.016 MPa		9	G	3								
	0 ... 0.020 MPa		9	G	4								
	0 ... 0.025 MPa		9	G	5								
	0 ... 0.030 MPa		9	G	6								
	0 ... 0.040 MPa		9	G	7								
	0 ... 0.060 MPa		9	G	8								
Sealing material	FPM	Fluoro elastomer				0	0						
	EPDM	Ethylene propylene				1	0						
	NBR	Butadiene Acrylonitrile				2	0						
Output / power supply	0 ... 5 V	7 ... 33 VDC						1					
	0 ... 10 V	12 ... 33 VDC						2					
	4 ... 20 mA	10 ... 30 VDC						3					
		10 ... 30 VDC (Ex)						4					
		ration. 10 ... 90%	5VDC ±10%						7				
Electrical connection	Connector	DIN EN 175301-803-A ²⁾								1			
		DIN EN 175301-803-C (Industrial standard 9.4 mm) ²⁾								2			
		M12x1 ²⁾ 2L: IN=1 / OUT=3 3L: IN=1 / OUT=4 / GND=3								3			
	Swift connector	M12x1 ²⁾ 3L: IN=1 / OUT=3 / GND=4								1,2	M		
		without cable (PG9)									0		
		with cable 1.5 m									L		
		with cable 2.0 m									N		
		with cable 3.0 m									Q		
		with cable 5.0 m									R		
		Pressure connection ¹⁾	Inside thread	G 1/4 with O-Ring seal FPM									1
1/4 -18 NPT											3	1	1
R 1/4 acc. to EN 10226											7	1	1
G 1/8 sealed at front											M	1	1
G 1/8 sealed at back DIN 3852-E with Profile seal ring in FPM											H	1	1
Outside thread	G 1/4 sealed at front										J	1	1
	G 1/4 sealed at back DIN 3852-E with Profile seal ring in FPM										4	1	1
	G 1/2 sealed at front										9	1	1
	G 1/2 sealed at back DIN 3852-E with Profile seal ring in FPM										8	1	1
	G 1/2 sealed at back DIN 3852-E with Profile seal ring in FPM with hole Ø 11mm										S	1	1
Pressure range variation (optional)	Indicate W and state range on order (e.p.: W0... + 0.5bar/OUT0.5...4.5V)												

Dimensions in mm / Electrical connections



¹⁾ Other pressure ranges on request

²⁾ Delivery without female connector

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