

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	Power supply	Load	Current consumption
	4 ... 20 mA	10 ... 30 VDC	$< \frac{\text{supply voltage} - 10 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
3 wire	0 ... 5 V	7 ... 33 VDC	>10 kOhm / < 100 nF	< 5 mA
	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

Protection class	
Protection class III	

Dynamic response	
Start-up time	< 200 ms
Response time	< 150 ms
Load cycle	< 100 Hz

Electrical connection		Protection standard
Connector DIN EN 175301-803-A		IP 65
Connector DIN EN 175301-803-C (Industrial standard 9.4 mm)		IP 65
Connector M12x1		IP 67
Swift connector without or with cable 1.5 / 2 / 3 / 5 m (PVC spez.)		IP 67

Pressure connection		
Inside thread	G ¼	with Profile seal ring in FPM
	¼ -18 NPT	
	R ¼	nach EN 10226
Outside thread	G ½	sealed at front
	G ¾	sealed at back DIN 3852-E with Profile seal ring in FPM
	G 1	sealed at front
	G 1 ¼	sealed at back DIN 3852-E with Profile seal ring in FPM
	G 1 ½	sealed at front
	G 2	sealed at back DIN 3852-E with Profile seal ring in FPM

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	applied acc. cULus 61010-1
Protection against explosion (Ex) (4 ... 20 mA)	applied acc. ATEX - Ex II ½ G Ex ia IIC T4 Ga/Gb applied acc. IECEx - Ex II ½ D Ex ia IIIc T120°C Da/Db

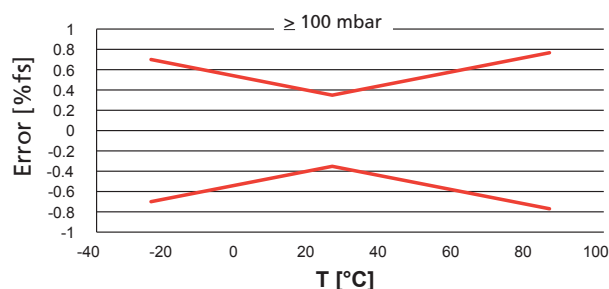
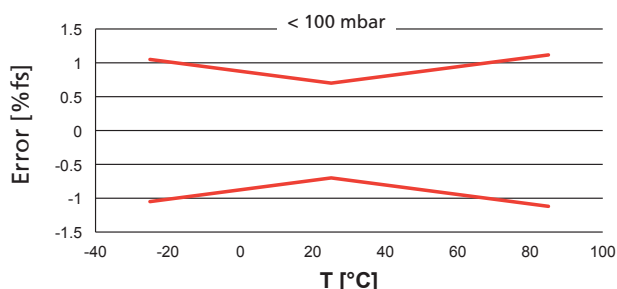
Weight	
~ 120 g	

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

Order code selection table in bar		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 ... 0.05 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					
	ration. 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			
M12x1 ²⁾				3L: IN=1 / OUT=3 / GND=4					1,2	M			
swift connector		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	
	Outside thread	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	
		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	
Pressure range variation (optional)	Indicate W and state range on order (e. g. W0... + 0.5bar/OUT0.5...4.5V)												

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

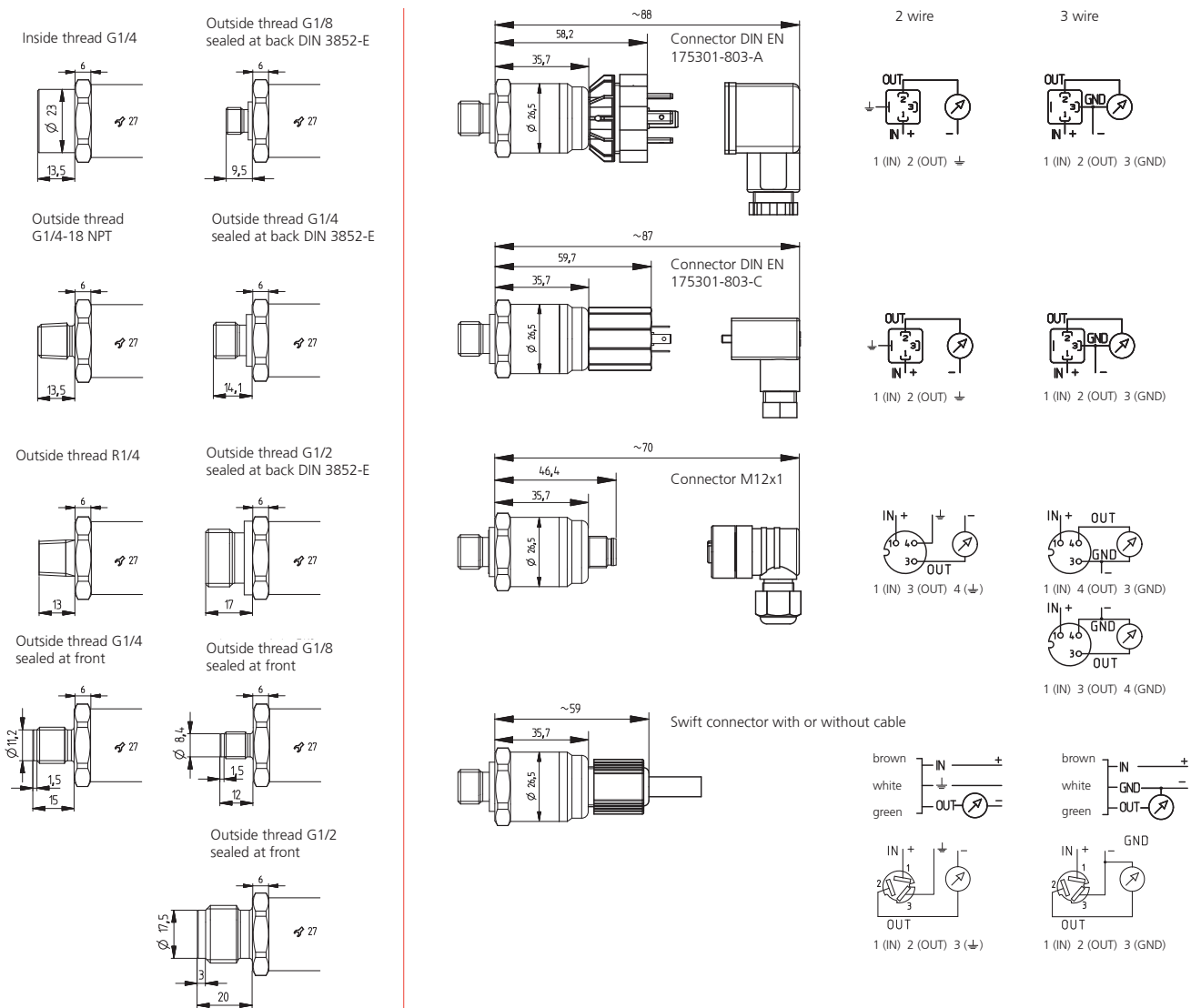
Order code selection in psi		1	2	3	4	5	6	7	8	9	10	11	
		525.	X	X	X	X	X	X	X	X	X	X	
Pressure range ¹⁾	0 ... 1 psi	9	B	1									
	0 ... 2 psi	9	B	2									
	0 ... 3 psi	9	B	4									
	0 ... 5 psi	9	B	6									
	0 ... 10 psi	9	B	8									
	Sealing material	FPM	Fluoro elastomer				0	0					
EPDM		Ethylene 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					
	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			
M12x1 ²⁾				3L: IN=1 / OUT=3 / GND=4					1,2	M			
Swift connector		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	1	
		¼ -18 NPT								3	1	1	
	Outside thread	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	
		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	
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 0.5bar/OUT0.5...4.5V)												

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					
	ration. 10 ... 90%						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			
		M12x1 ²⁾		3L: IN=1 / OUT=3 / GND=4				1,2	M			
		without cable (PG9)							0			
	Swift connector	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	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
		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	
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