

Relative and absolute pressure transmitter type 527 for shipbuilding

Pressure range
0 ... 1 – 60 bar



The compact type 527 pressure transmitter is based upon the well proven ceramic technology developed by Huba Control over 20 years ago.

These transmitters are suitable for applications across a broad spectrum of industries and shipbuilding.

- Compact, rugged construction
- Negligible temperature influence on accuracy
- Certified for shipbuilding with:
 - Germanischer Lloyd
 - American Bureau of Shipping
 - Bureau Veritas
 - Det Norske Veritas
 - Lloyd's Register

Technical overview

Pressure range

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

Operating conditions

Medium		Liquids and gases
Temperature	Medium	FPM -15 ... +125 °C
		EPDM -40 ... +125 °C
		NBR -20 ... +100 °C
		Ambient -30 ... +85 °C
	Storage	-50 ... +100 °C
Tolerable overload / Rupture pressure	≤ 4 bar	3.0 x fs
	> 4 bar	2.5 x fs

Materials

Cover		Stainless steel 1.4404 / AISI 316L
Plug accommodation		Polyarylamide 50% GF V0
Materials in contact with medium	Pressure connection	Stainless steel 1.4404 / AISI 316L
	Sensor	Ceramic Al ₂ O ₃ (96%)
	Sealing material	FPM, EPDM, NBR

Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	7 ... 33 VDC	$< \frac{\text{supply voltage} - 7 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
2 wire (Ex)	4 ... 20 mA	10 ... 30 VDC	$< \frac{\text{supply voltage} - 10 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
3 wire	0 ... 10 V	12 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.			

Protection class

Protection class III

Dynamic response

Response time	< 2 ms, 1 ms typ.
Load cycle	< 100 Hz

Protection standard

Connector DIN EN 175301-803-A	IP 65
Swift connector, Connector M12x1	IP 67

Electrical connection

Swift connector with cable 1.5 m (PVC spec.)
Connector DIN EN 175301-803-A
Connector M12x1

Pressure connection

Inside thread	7/16 - 20 UNF	
	1/2 - 14 NPT	
Outside thread	7/16 - 20 UNF	
	1/4 -18 NPT	
	G 1/4	sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)
	G 1/2	sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)
	M20x1.5	
	G 1/2	sealed at front

Installation arrangement

Unrestricted

Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
Shock acc. IEC IEC 68-2-27	100 g, 11 ms half sine wave, all 6 directions, free fall from 1 m on concrete (6x)
Constant shock acc. IEC 68-2-29	40 g for 6 ms, 1000x all 3 directions
Vibration acc. 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
Shipbuilding	Germanischer Lloyd
	American Bureau of Shipping
	Bureau Veritas
	Det Norske Veritas
	Lloyd's Register

Protection against explosion

Intrinsic safety «i» (with current output only)	Ex II 1/2 G Ex ia IIC T4 Ga/Gb
EC type examination certificate	Ex II 1/2 D Ex ia IIC T125°C Da/Db
Connection to certified intrinsically safe resistive circuits with maximum values	SEV 10 ATEX 0145
Effective internal inductance and capacitance for versions with plugs complying with EN 175301-803 or M12x1	Ui = 30 VDC; Ii = 100 mA = Pi = 0.75 W
	Li = 0 nH; Ci = 0 nF

Weight

~ 90 g

Packaging (Please state on order)

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

Accuracy

Parameter		Unit	
Characteristic line ¹⁾		% fs	± 0.3
Resolution		% fs	0.1
Thermal characteristic ²⁾	max.	% fs/10K	± 0.2
Long term stability acc. IEC EN 60770-1	max.	% fs	± 0.25

Test conditions: 25 °C, 45% RH, power supply 24 VDC

Order code selection in bar

527. X X X X X X X X X X X X

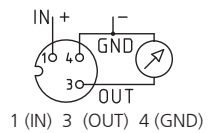
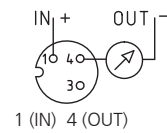
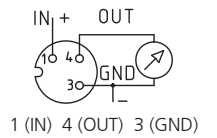
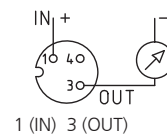
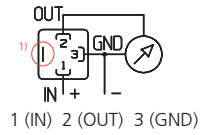
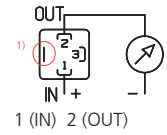
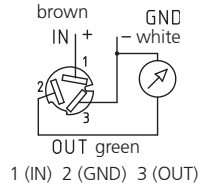
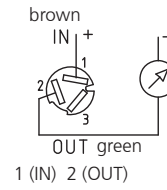
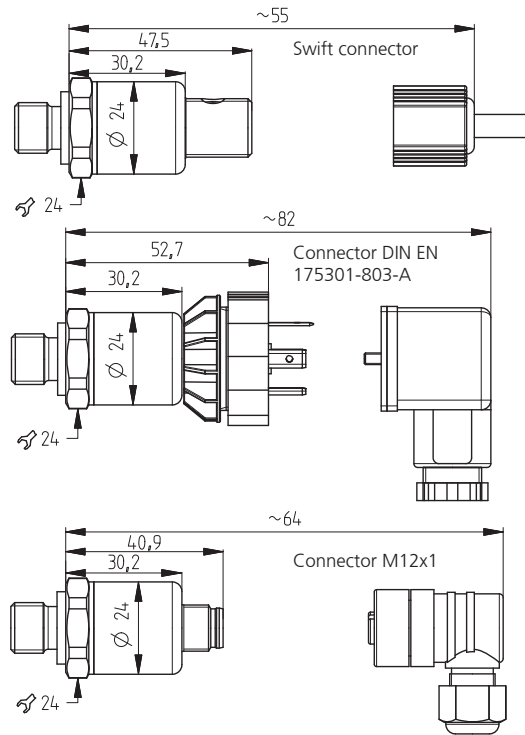
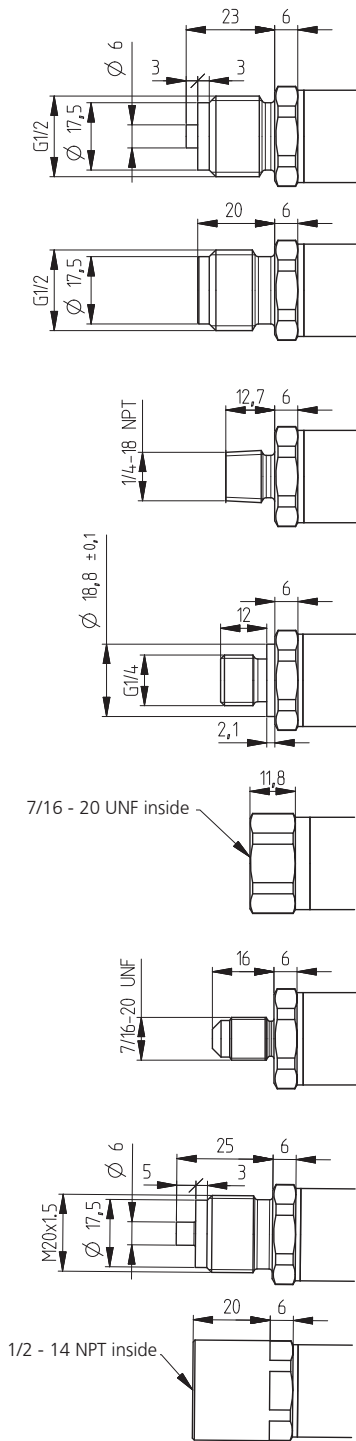
Pressure mode	Relative		9																			
	Absolute		8																			
Pressure range ³⁾	0 ... 1 bar			1	1																	
	0 ... 1.6 bar			1	2																	
	0 ... 2.5 bar			1	4																	
	0 ... 4 bar			1	5																	
	0 ... 6 bar			1	7																	
	0 ... 10 bar			3	0																	
	0 ... 16 bar			3	1																	
	0 ... 25 bar			9	3	2																
	0 ... 40 bar			9	3	3																
Sealing material	FPM	Fluoro elastomer							0	0												
	EPDM	Ethylene propylene							1	0												
	NBR	Butadiene Acrylonitrile							2	0												
Output / power supply	0 ... 10 V	12 ... 33 VDC																		2		
	4 ... 20 mA	7 ... 33 VDC																		3		
	4 ... 20 mA	10 ... 30 VDC																		4		
Electrical connection	Swift connector with cable 1.5 m																			1,3		
	Connector DIN EN 175301-803-A ⁴⁾																				1	
	Connector M12x1 ⁴⁾ 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3																					3
	Connector M12x1 ⁴⁾ 2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4																					M
Pressure connection	Inside thread 7/16 - 20 UNF																				L	
	Inside thread 1/2 - 14 NPT																					K 1 1
	Outside thread 7/16 - 20 UNF																					D 1 1
	Outside thread 1/4 - 18 NPT																					2 1 1
	Outside thread G 1/4 sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)																					3 1 1
	Outside thread G 1/2 sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)																					4 1 1
	Outside thread M20x1.5																					8 1 1
	Outside thread G 1/2 sealed at front																					E 1 1
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 3bar/OUT0...5V)																				9 1 1	

Accessories

	Order number
Female connector DIN EN 175301-803-A with seal	103510
Female connector for connector M12x1	106975
Calibration certificate	104551

Order code selection in psi			527. X X X X X X X X X X X X X															
Pressure mode	Relative		9															
	Absolute		8															
Pressure range ¹⁾	0 ... 15 psi			B	1													
	0 ... 20 psi			B	2													
	0 ... 30 psi			B	4													
	0 ... 60 psi			B	5													
	0 ... 100 psi			B	7													
	0 ... 150 psi			C	0													
	0 ... 200 psi			C	1													
	0 ... 300 psi			9	C	2												
	0 ... 500 psi			9	C	3												
0 ... 750 psi			9	D	0													
Sealing material	FPM	Fluoro elastomer						0	0									
	EPDM	Ethylene propylene						1	0									
	NBR	Butadiene Acrylonitrile						2	0									
Output / power supply	0 ... 10 V		12 ... 33 VDC										2					
	4 ... 20 mA		7 ... 33 VDC										3					
	4 ... 20 mA		10 ... 30 VDC		Ex protection								4	1,3				
Electrical connection	Connector DIN EN 175301-803-A ²⁾													1				
	Connector M12x1 ²⁾		2w: IN=1 / OUT=3		3w: IN=1 / OUT=4 / GND=3									3				
	Connector M12x1 ²⁾		2w: IN=1 / OUT=4		3w: IN=1 / OUT=3 / GND=4									M				
	Swift connector with cable 1.5 m													L				
Pressure connection	Inside thread		7/16 - 20 UNF												K	1	1	
	Inside thread		1/2 - 14 NPT												D	1	1	
	Outside thread		7/16 - 20 UNF												2	1	1	
	Outside thread		1/4 - 18 NPT												3	1	1	
	Outside thread		G 1/4 sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)												4	1	1	
	Outside thread		G 1/2 sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)												8	1	1	
	Outside thread		M20x1.5												E	1	1	
	Outside thread		G 1/2 sealed at front												9	1	1	
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 16psi/OUT1...8V)																W	

Order code selection in MPa			527. X X X X X X X X X X X X X															
Pressure mode	Relative		9															
	Absolute		8															
Pressure range ¹⁾	0 ... 0.1 MPa			G	1													
	0 ... 0.16 MPa			G	2													
	0 ... 0.25 MPa			G	4													
	0 ... 0.4 MPa			G	5													
	0 ... 0.6 MPa			G	7													
	0 ... 1 MPa			H	0													
	0 ... 1.6 MPa			H	1													
	0 ... 2.5 MPa			9	H	2												
	0 ... 4 MPa			9	H	3												
	0 ... 6 MPa			9	K	0												
Sealing material	FPM	Fluoro elastomer							0	0								
	EPDM	Ethylene propylene							1	0								
	NBR	Butadiene Acrylonitrile							2	0								
Output / power supply	0 ... 10 V		12 ... 33 VDC											2				
	4 ... 20 mA		7 ... 33 VDC											3				
	4 ... 20 mA		10 ... 30 VDC		Ex protection									4	1,3			
Electrical connection	Connector DIN EN 175301-803-A ²⁾														1			
	Connector M12x1 ²⁾		2w: IN=1 / OUT=3		3w: IN=1 / OUT=4 / GND=3										3			
	Connector M12x1 ²⁾		2w: IN=1 / OUT=4		3w: IN=1 / OUT=3 / GND=4										M			
	Swift connector with cable 1.5 m														L			
Pressure connection	Inside thread		7/16 - 20 UNF												K	1	1	
	Inside thread		1/2 - 14 NPT												D	1	1	
	Outside thread		7/16 - 20 UNF												2	1	1	
	Outside thread		1/4 - 18 NPT												3	1	1	
	Outside thread		G 1/4 sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)												4	1	1	
	Outside thread		G 1/2 sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)												8	1	1	
	Outside thread		M20x1.5												E	1	1	
	Outside thread		G 1/2 sealed at front												9	1	1	
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 0.3MPa/OUT1...8V)																W	



Ex

Device design with explosion protection: 4 ... 20 mA
 The grounding connection is conductively connected to the transmitter housing.

Connector DIN EN 175301-803-A (Ex)

1 (IN) 2 (OUT)

Connector M12x1 (Ex)

1 (IN) 3 (OUT) 4 (GND)

¹⁾ Not connected with transmitter housing