



Pressure transmitter

Relative and absolute pressure transmitter for shipbuilding

Type 527



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.

Pressure range
0 ... 1 – 60 bar

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

Technical overview

Pressure range

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

Operating conditions

Medium	Liquids and gases
Temperature	FPM -15 ... +125 °C (⊕ -15 ... +120 °C)
	EPDM -40 ... +125 °C (⊕ -30 ... +120 °C)
	NBR -20 ... +100 °C
Ambient	-30 ... +85 °C (⊕ -25 ... +85 °C)
Tolerable overload / Rupture pressure	Storage -50 ... +100 °C
	≤ 4 bar 3.0 x fs > 4 bar 2.5 x fs

Materials

Cover	Stainless steel 1.4404 / AISI 316L
Plug accommodation	Polyarylamid 50% GF UL 94 V-0
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	< $\frac{\text{supply voltage} - 7V}{0.02 A}$ [Ohm]	< 23 mA
	4 ... 20 mA	10 ... 30 VDC	< $\frac{\text{supply voltage} - 10V}{0.02 A}$ [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.			

Dynamic response

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

Electrical connection

	Protection standard	Protection class
Swift connector with or without cable 1.5 m (PVC spec.)	IP 67	III
Connector DIN EN 175301-803-A	IP 65	III
Connector M12x1	IP 67	III

Pressure connection

Inside thread	$\frac{7}{16}$ - 20 UNF	sealing cone 45°
	$\frac{1}{2}$ - 14 NPT	
Outside thread	$\frac{7}{16}$ - 20 UNF	sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM (-30 ... +135 °C)
	$\frac{1}{4}$ - 18 NPT	
	G $\frac{1}{4}$	
	G $\frac{1}{2}$	
	M20x1.5	
	G $\frac{1}{2}$	sealed at front and manometer (combi) with Profile seal ring in FPM (-30 ... +135 °C)
		sealed at front and manometer (combi)
		sealed at front

Installation arrangement

Unrestricted	Recommendation: Pressure connection facing downwards
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Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
Shock acc. 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	American Bureau of Shipping (ABS)
	Bureau Veritas (BV)
	Det Norske Veritas Germanischer Lloyd (DNV GL)
EAC	Lloyd's Register (LR)

Protection against explosion[⊕]

Intrinsic safety «i» (with current output only)	4 ... 20 mA
EC type examination certificate	Ex II 1/2 G Ex ia IIC T4 Ga/Gb Ex II 1/2 D Ex ia IIC T125°C Da/Db SEV 10 ATEX 0145
Connection to certified intrinsically safe resistive circuits with maximum values	Ui = 30 VDC; Ii = 100 mA = Pi = 0.75 W
Effective internal inductance and capacitance for versions with plugs complying with EN 175301-803 or M12x1	Li = 0 nH; Ci = 0 nF
IECEX	SEV 16.0007
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

¹⁾ typ.; max. 0.5% fs (incl. zero point, full scale, linearity, hysteresis and repeatability)

²⁾ -15 ... 85 °C

		1	2	3	4	5	6	7	8	9	10	11
Order code selection in bar		527.	X	X	X	X	X	X	X	X	X	X
Pressure mode	Relative	9										
	Absolute	8										
Pressure range ¹⁾	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								
	0 ... 60 bar	9	4	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					
	10 ... 30 VDC Ex protection						4	1,3				
Electrical connection	Connector	DIN EN 175301-803-A ²⁾								1		
		M12x1 ²⁾ 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3								3		
		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	1/2 - 14 NPT								K	1	1
		7/16 - 20 UNF								D	1	1
		1/4 - 18 NPT								2	1	1
	Outside thread	G 1/4 sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM								3	1	1
		G 1/2 sealed at back and manometer with Profile seal ring in FPM								4	1	1
		M20x1.5 sealed at front and manometer (combi)								8	1	1
		G 1/2 sealed at front								E	1	1
								9	1	1		
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 3bar/OUT0...5V)											W

		1	2	3	4	5	6	7	8	9	10	11
Order code selection in psi		527.	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					
	10 ... 30 VDC Ex protection						4	1,3				
Electrical connection	Connector	DIN EN 175301-803-A ²⁾								1		
		M12x1 ²⁾ 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3								3		
		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	1/2 - 14 NPT								K	1	1
		7/16 - 20 UNF								D	1	1
		1/4 - 18 NPT								2	1	1
	Outside thread	G 1/4 sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM								3	1	1
		G 1/2 sealed at back and manometer with Profile seal ring in FPM								4	1	1
		M20x1.5 sealed at front and manometer (combi)								8	1	1
		G 1/2 sealed at front								E	1	1
								9	1	1		
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 16psi/OUT0...5V)											W

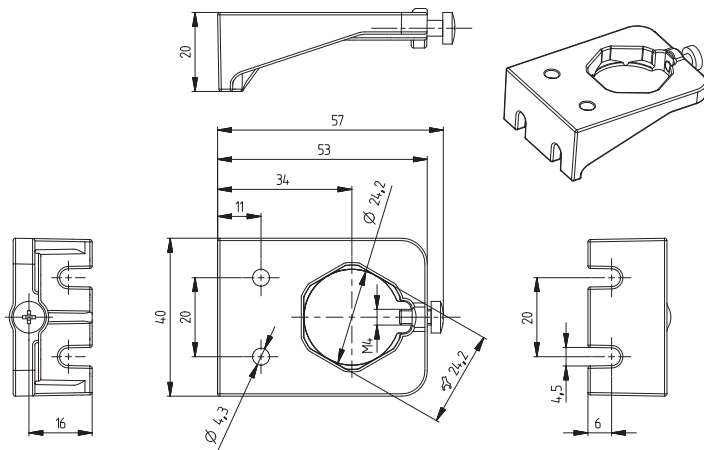
¹⁾ Other pressure ranges on request

²⁾ Delivery without female connector

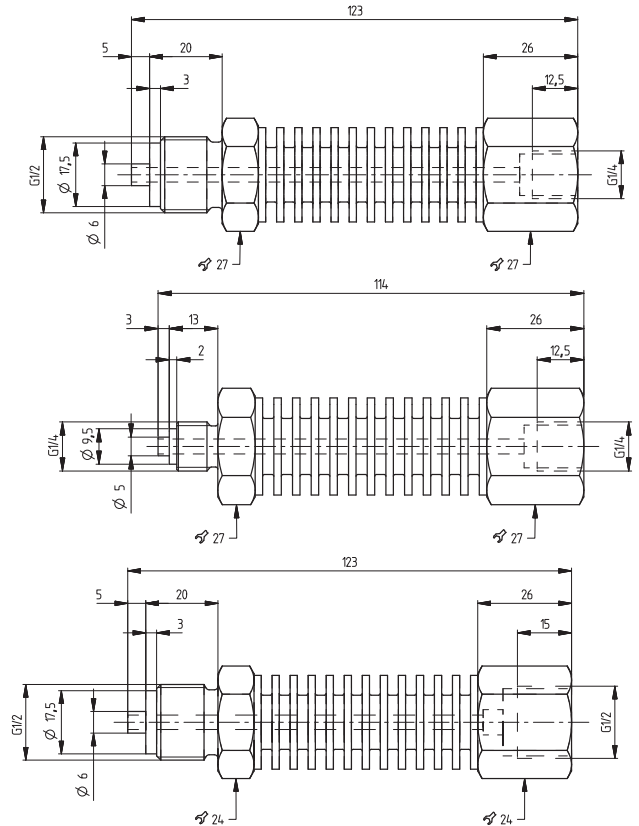
Order code selection in MPa		1	2	3	4	5	6	7	8	9	10	11
		527.	X	X	X	X	X	X	X	X	X	X
Pressure mode	Relative	9										
	Absolute	8										
Pressure range ¹⁾	0 ... 0.1 MPa		G	1								
	0 ... 0.16 MPa		G	2								
	0 ... 0.25 MPa		G	4								
	0 ... 0.4 MPa		G	5								
	0 ... 0.6 MPa		G	7								
	0 ... 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					
	10 ... 30 VDC Ex protection						4	1,3				
Electrical connection	Connector	DIN EN 175301-803-A ²⁾							1			
	M12x1 ²⁾	2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3							3			
	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	
		1/2" - 14 NPT							D	1	1	
		7/16" - 20 UNF								2	1	1
	Outside thread	1/4" - 18 NPT								3	1	1
		G 1/4 sealed at back DIN EN ISO 1179-2 with Profile seal ring in FPM								4	1	1
		G 1/2 sealed at back and manometer with Profile seal ring in FPM								8	1	1
		M20x1.5 sealed at front and manometer (combi)								E	1	1
G 3/8 sealed at front								9	1	1		
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 0.3MPa/OUT0...5V)											

Accessories (Accessories supplied loose)	Order number
Female connector DIN EN 175301-803-A with seal	103510
Corner-wire box for connector M12x1	106975
Corner-wire box for connector M12x1 with cable 2.0 m	114604
Straight-wire box for connector M12x1	114570
Straight-wire box for connector M12x1 with cable 2.0 m	114605
Mounting bracket with screw	118716
Heat sink with outside thread G 1/2 sealed at front - inside thread G 1/4 1/4	105631
Heat sink with outside thread G 1/2 sealed at front - inside thread G 1/4 1/4	105073
Heat sink with outside thread G 1/4 sealed at front - inside thread G 1/4	105074
Calibration certificate	104551

Mounting bracket

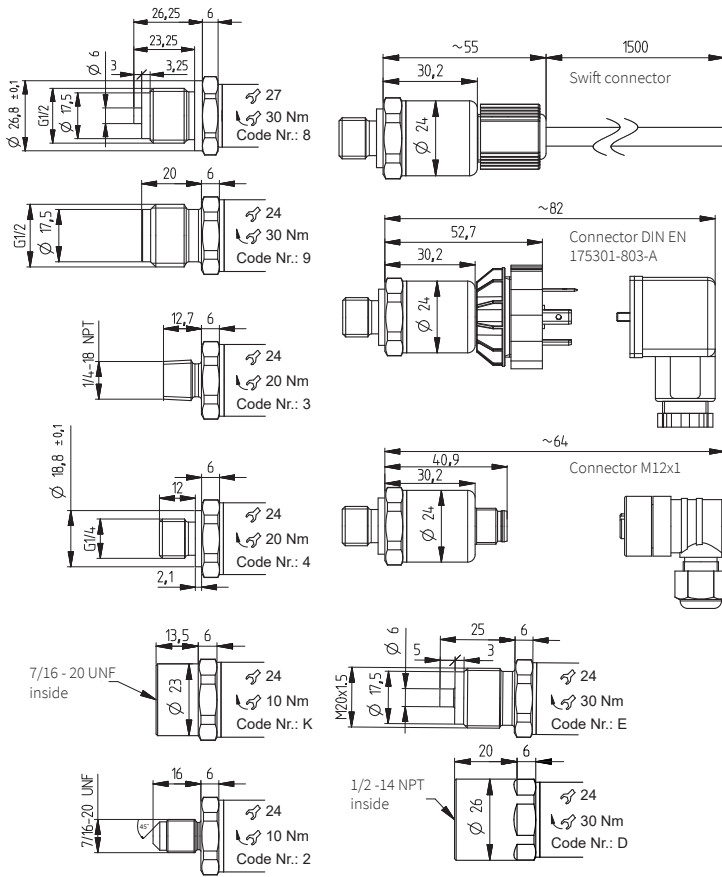


Heat sink

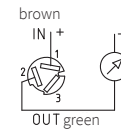


¹⁾ Other pressure ranges on request

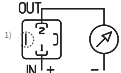
²⁾ Delivery without female connector



2 wire



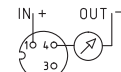
1 (IN) 2 (OUT)



1 (IN) 2 (OUT)

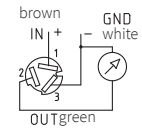


1 (IN) 3 (OUT)

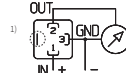


1 (IN) 4 (OUT)

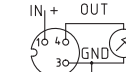
3 wire



1 (IN) 2 (OUT) 3 (GND)



1 (IN) 2 (OUT) 3 (GND)



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



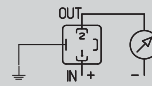
1 (IN) 3 (OUT) 4 (GND)



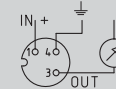
Device design with explosion protection: 4 ... 20 mA
The grounding connection is conductively connected to the transmitter housing.

Connector DIN EN 175301-803-A

Connector M12x1



1 (IN) 2 (OUT) ↓



1 (IN) 3 (OUT) 4 (↓)

Huba Control AG

Headquarters Schweiz
Industriestrasse 17
CH-5436 Würenlos
Telefon +41 56 436 82 00
Fax +41 56 436 82 82
info.ch@hubacontrol.com

Huba Control AG

Niederlassung Deutschland
Schlattgrabenstrasse 24
D-72141 Walddorfhäslach
Telefon +49 7127 2393 00
Fax +49 7127 2393 20
info.de@hubacontrol.com

Huba Control AG

Vestiging Nederland
Hamseweg 20A
NL-3828 AD-Hoogland
Telefoon +31 33 433 03 66
Telefax +31 33 433 03 77
info.nl@hubacontrol.com

Huba Control SA

Succursale France
Rue Lavoisier
Technopôle Forbach-Sud
F-57602 Forbach Cedex
Téléphone +33 3 87 84 73 00
Télécopieur +33 3 87 84 73 01
info.fr@hubacontrol.com

Huba Control AG

Branch Office United Kingdom
Unit 13 Berkshire House, County Park
Business Centre, Shivenham Road
Swindon - Wiltshire SN1 2NR
Phone +44 1993 77 66 67
Fax +44 1993 77 66 71
info.uk@hubacontrol.com

www.hubacontrol.com

