

Relative and absolute pressure transmitter type 528

Pressure range
-1 ... 0 – 60 bar

The compact type 528 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.

- Compact, rugged construction
- Negligible temperature influence on accuracy
- Saving time by quick cable mounting by the customer with swift connector
- Large selection of connections available



Technical overview

Pressure range

Relative	-1 ... 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
		MVQ -40 ... +125 °C
	Ambient	-30 ... +85 °C
Storage	-50 ... +100 °C	
Tolerable overload / Repture pressure	-1 ... 4 bar	3.0 x fs
	6 ... 60 bar	2.5 x fs

Materials

Cover	Stainless steel 1.4305 / AISI 303	
Plug accommodation	Polyarylamide 50% GF VO	
Materials in contact with medium	Pressure connection	Stainless steel 1.4305 / AISI 303
	Sensor	Ceramic Al ₂ O ₃ (96%)
	Sealing material	FPM, EPDM, NBR, MVQ

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]	< 20 mA
3 wire	0 ... 5 V	8 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	1 ... 6 V	8 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	0 ... 10 V	12 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	0 ... 10 V	24 VAC ± 15%	>10 kOhm / < 100 nF	< 7 mA
	ratiom. 10 ... 90%	5 VDC ± 10%	>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, Braids	IP 65
Connector RAST 2.5	IP 00
Swift connector, Metri Pack, Connector M12x1	IP 67

Electrical connection

Swift connector with or without cable 1.5 m (PVC spec.)

Connector DIN EN 175301-803-A
Connector DIN EN 175301-803-C (mini DIN)
Metri Pack Serie 150
Connector M12x1
Braids
Connector RAST 2.5 (3 wire, only)

Pressure connection

Inside thread	G ¼	with O-Ring seal FPM spec. (-30 ... +135 °C)
	¼ -18 NPT	
Outside thread	G ¼	sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)
	R ¼	DIN 2999
	G ½	sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)
	G ½	sealed at front

Installation arrangement

Unrestricted

Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
Shock acc. IEC 60068-2-27	25 g, 6 ms half sine wave, all 3 directions.
Drop test EN 60068-2-23	from 1 m on concrete
Vibration acc. IEC 60770-1	5 m/s, 10 ... 1000 Hz, 1 Octave/min 20 constant load per axis

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	U _i = 30 VDC; I _i = 100 mA = P _i = 0.75 W L _i = 0 nH; C _i = 0 nF

Weight

~ 90 g

Packaging (Please state on order)

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

Accuracy acc. to EN 60770-1

Parameter	Unit	
Characteristic line (at reference conditions) ¹⁾	% fs	± 0.8
Resolution	% fs	0.1
Thermal characteristic ²⁾	% fs/10K	± 0.2

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

Order code selection in bar

528. X X X X X X X X X X X

Pressure mode	Relative		9																		
	Absolute		8																		
Pressure range ³⁾	-1 ... + 0 bar		9	0	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											
	EPDM	Ethylene propylene								1											
	NBR	Butadiene Acrylonitrile								2											
	MVQ	Silicone polymer								3											
Version	Not free of oil and grease									0											
	Free of oil and grease (without sealing parts)									1											
Output / power supply	0 ... 5 V	7 ... 33 VDC										1									
	1 ... 6 V	8 ... 33 VDC										6									
	0 ... 10 V	12 ... 33 VDC										2									
	0 ... 10 V	24 VAC ±15%										8	1,2,6								
	ration. 10 ... 90%	5VDC ±10%										7									
	4 ... 20 mA	7 ... 33 VDC										3									
	4 ... 20 mA	10 ... 30 VDC	Ex protection								0	4	1,3								
Electrical connection ⁴⁾	Swift connector																			0	
	Connector DIN EN 175301-803-A																			1	
	Connector DIN EN 175301-803-C (mini DIN)																			2	
	Connector M12x1 ⁵⁾	2w: IN=1 / OUT=3	3w: IN=1 / OUT=4 / GND=3																		3
	Connector M12x1 ⁵⁾	2w: IN=1 / OUT=4	3w: IN=1 / OUT=3 / GND=4																		M
	Connector RAST 2.5										0	7	4								
	Metri Pack Serie 150 ⁵⁾										0		5								
	Braids	80 ±10 mm											6								
	Braids	290 ±10 mm											7								
	Braids	480 ±10 mm											8								
	Braids	730 ±10 mm											9								
	Swift connector with cable 1.5 m												L								
Pressure connection ⁶⁾	Inside thread	G ¼ with O-Ring seal FPM spec. (-30 ... +135 °C)																		1	
	Oustide thread	¼ -18 NPT																		3	
	Oustide thread	G ¼ sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)																		4	
	Oustide thread	R ¼ acc. to DIN 2999																		7	
	Oustide thread	G ½ sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)																		8	
	Oustide thread	G ½ sealed at front																		9	
Pressure tip orifice	without																			1	
	with																			2	
Material ⁶⁾	Stainless steel 1.4305																			N	
Pressure range variation	Indicate W and state range on order (e.g.: W0... + 3bar/OUT0...5V)																			W	

Accessories

	Order number
Swift connector	107359
Female connector DIN EN 175301-803-A with seal	103510
Female connector DIN EN 175301-803-C (mini DIN) with seal	104244
Female connector for connector M12x1	106975

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

²⁾ -15 ... 85 °C

³⁾ Other pressure ranges on request

⁴⁾ Delivery without female connector

⁵⁾ For pressure ranges ≤ 16 bar only possible if deaeration through the cable is assured

⁶⁾ Other pressure connections and materials on request

Order code selection in psi

528. X X X X X X X X X X X X

Pressure mode	Relative		9																	
	Absolute		8																	
Pressure range ¹⁾	-30 ... + 0" hg		9	B	0															
	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																		
	EPDM	Ethylene propylene																		
	NBR	Butadiene Acrylonitrile																		
	MVQ	Silicone polymer																		
Version	Not free of oil and grease																			
	Free of oil and grease (without sealing parts)																			
Output / power supply	0 ... 5 V	7 ... 33 VDC																		
	1 ... 6 V	8 ... 33 VDC																		
	0 ... 10 V	12 ... 33 VDC																		
	0 ... 10 V	24 VAC ±15%																		
	Ratiom. 10 ... 90%	5VDC ±10%																		
	4 ... 20 mA	7 ... 33 VDC																		
	4 ... 20 mA	10 ... 30 VDC	Ex protection																	
Electrical connection ²⁾	Swift connector																			
	Connector DIN EN 175301-803-A																			
	Connector DIN EN 175301-803-C (mini DIN)																			
	Connector M12x1 ³⁾	2w: IN=1 / OUT=3	3w: IN=1 / OUT=4 / GND=3																	
	Connector M12x1 ³⁾	2w: IN=1 / OUT=4	3w: IN=1 / OUT=3 / GND=4																	
	Connector RAST 2.5																			
	Metri Pack Serie 150 ³⁾																			
	Braids	80 ±10 mm																		
	Braids	290 ±10 mm																		
	Braids	480 ±10 mm																		
	Braids	730 ±10 mm																		
	Swift connector with cable 1.5 m																			
Pressure connection ⁴⁾	Inside thread	G ¼ with O-Ring seal FPM spec. (-30 ... +135 °C)																		
	Oustide thread	¼ -18 NPT																		
	Oustide thread	G ¼ sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)																		
	Oustide thread	R ¼ acc. to DIN 2999																		
	Oustide thread	G ½ sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)																		
	Oustide thread	G ½ sealed at front																		
Pressure tip orifice	without																			
	with																			
Material ⁴⁾	Stainless steel 1.4305																			N
Pressure range variation	Indicate W and state range on order (e.g.: W0... + 16psi/OUT1...8V)																			

¹⁾ Other pressure ranges on request
³⁾ For pressure ranges ≤16 bar only possible if deaeration through the cable is assured

²⁾ Delivery without female connector
⁴⁾ Other pressure connections and materials on request

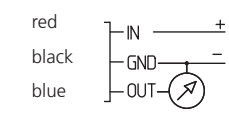
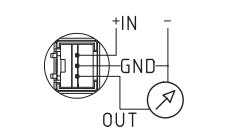
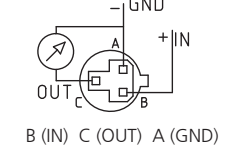
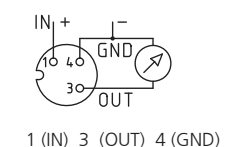
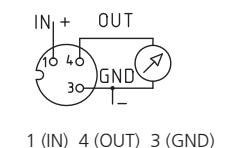
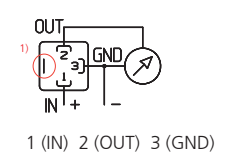
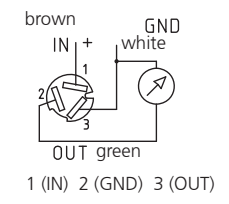
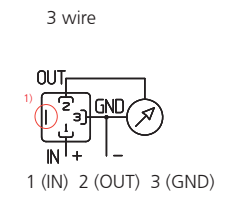
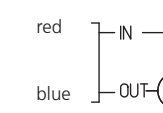
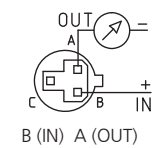
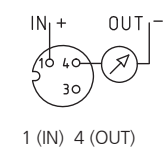
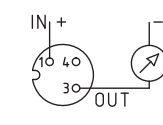
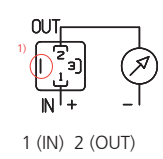
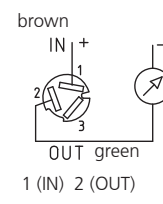
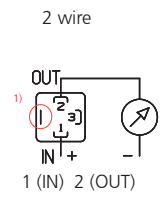
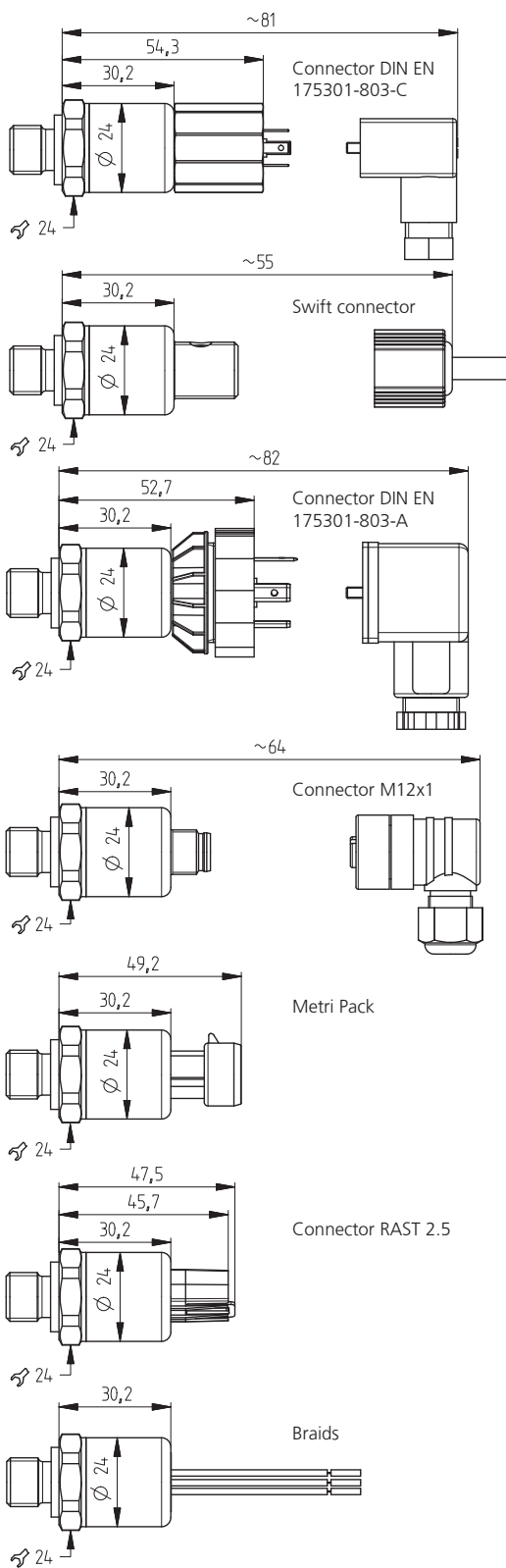
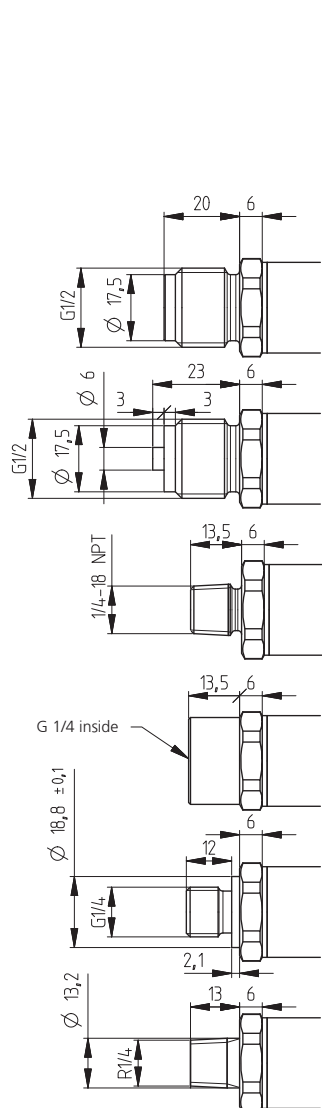
Order code selection in MPa		528. X X X X X X X X X X X X											
Pressure mode	Relative	9											
	Absolute	8											
Pressure range ¹⁾	-0.1 ... + 0 MPa	9	G	0									
	0 ... + 0.1 MPa		G	1									
	0 ... +0.16 MPa		G	2									
	0 ... +0.25 MPa		G	4									
	0 ... + 0.4 MPa		G	5									
	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				
	EPDM Ethylene propylene								1				
	NBR Butadiene Acrylonitrile								2				
	MVQ Silicone polymer								3				
Version	Not free of oil and grease								0				
	Free of oil and grease (without sealing parts)								1				
Output / power supply	0 ... 5 V 7 ... 33 VDC									1			
	1 ... 6 V 8 ... 33 VDC									6			
	0 ... 10 V 12 ... 33 VDC									2			
	0 ... 10 V 24 VAC ±15%									8	1,2,6		
	Ratiom. 10 ... 90% 5VDC ±10%										7		
	4 ... 20 mA 7 ... 33 VDC										3		
	4 ... 20 mA 10 ... 30 VDC Ex protection									0	4	1,3	
Electrical connection ²⁾	Swift connector											0	
	Connector DIN EN 175301-803-A											1	
	Connector DIN EN 175301-803-C (mini DIN)											2	
	Connector M12x1 ³⁾ 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3												3
	Connector M12x1 ³⁾ 2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4												M
	Connector RAST 2.5								0	7	4		
	Metri Pack Serie 150 ³⁾								0		5		
	Braids 80 ±10 mm												6
	Braids 290 ±10 mm												7
	Braids 480 ±10 mm												8
Braids 730 ±10 mm												9	
Swift connector with cable 1.5 m												L	
Pressure connection ⁴⁾	Inside thread G ¼ with O-Ring seal FPM spec. (-30 ... +135 °C)												1
	Outside thread ¼ -18 NPT												3
	Outside thread G ¼ sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)												4
	Outside thread R ¼ acc. to DIN 2999												7
	Outside thread G ½ sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)												8
	Outside thread G ½ sealed at front												9
Pressure tip orifice	without												1
	with												2
Material ⁶⁾	Stainless steel 1.4305												N
Pressure range variation	Indicate W and state range on order (e.g.: W0... + 0.3MPa/OUT1...8V)												W

¹⁾ Other pressure ranges on request

³⁾ For pressure ranges ≤16 bar only possible if deaeration through the cable is assured

²⁾ Delivery without female connector

⁴⁾ Other pressure connections and materials on request



¹⁾ Not connected with transmitter housing

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)

Huba Control AG
Headquarters Schweiz

Industriestrasse 17
5436 Würenlos
Telefon +41 (0) 56 436 82 00
Telefax +41 (0) 56 436 82 82
info.ch@hubacontrol.com

Huba Control AG
Niederlassung Deutschland

Schlattgrabenstrasse 24
72141 Walddorfhäslach
Telefon +49 (0) 7127 23 93 00
Telefax +49 (0) 7127 23 93 20
info.de@hubacontrol.com

Huba Control SA
Succursale France

Rue Lavoisier
Technopôle Forbach-Sud
57602 Forbach Cedex
Téléphone +33 (0) 387 847 300
Télécopieur +33 (0) 387 847 301
info.fr@hubacontrol.com

Huba Control AG
Vestiging Nederland

Hamseweg 20A
3828 AD Hoogland
Telefoon +31 (0) 33 433 03 66
Telefax +31 (0) 33 433 03 77
info.nl@hubacontrol.com

Huba Control AG
Branch Office United Kingdom

Unit 3 Network Point, Range Road
Witney Oxfordshire OX29 0YD
Phone +44 (0) 1993 776667
Fax +44 (0) 1993 776671
info.uk@hubacontrol.com

Huba Control AG
Rep. Office Singapore

No. 16 Ayer Rajah Crescent Witney
#06-06B Tempco Technominium
139965 Singapore
Phone +65 (0) 61 004 822
Fax +65 (0) 63 994 822
info.sg@hubacontrol.com

Huba Control AG
Rep. Office China

CBC Building, 49A Wuyi Road
Shanghai 200050
Phone +86 (0) 21 511 808 21
Fax +86 (0) 21 515 520 99
info.cn@hubacontrol.com