

# 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	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 / Rupture pressure	≤ 4 bar 3.0 x fs
	> 4 bar 2.5 x fs

### Materials

Plug accommodation	Polyarylamide 50% GF VO
Materials in contact with medium	Pressure connection Stainless steel 1.4404 / AISI 316L
	PVDF
	Sensor Ceramic Al <sub>2</sub> O <sub>3</sub> (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]	< 23 mA
3 wire	0 ... 5 V	7 ... 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
	ration. 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.			
Insulation voltage	500 VDC			

### Protection class

Protection class III
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### 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
Braids (for oxygen applications)	IP 30

### Electrical connection

Swift connector with or without cable 1.5 / 2 / 3 / 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	7/16 - 20 UNF	with O-Ring seal FPM spec. (-30 ... +135 °C)	
	1/2 - 14 NPT		
	G 1/4		
Outside thread	7/16 - 20 UNF	sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)	
	1/4 - 18 NPT		
	G 1/4		
	R 1/4		
	G 1/2		sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)
	M20x1.5		
G 1/4	sealed at front		
G 1/2	sealed at front		

### Installation arrangement

Unrestricted
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### 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
UL recognized component marks	acc. E325110

### 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; li = 100 mA = Pi = 0.75 W Li = 0 nH; Ci = 0 nF

### Weight

~ 90 g
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### Packaging (Please state on order)

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



Order code selection in psi			528.	X	X	X	X	X	X	X	X	X	X	X
Pressure range (relative) <sup>1)</sup>	-30 ... 0" hg		9	B	0									
	0 ... 15 psi		9	B	1									
	0 ... 20 psi		9	B	2									
	0 ... 30 psi		9	B	4	0								
	0 ... 60 psi		9	B	5	0								
	0 ... 100 psi		9	B	7	0								
	0 ... 150 psi		9	C	0	0								
	0 ... 200 psi		9	C	1	0								
	0 ... 300 psi		9	C	2	0								1
	0 ... 500 psi		9	C	3	0								1
	0 ... 750 psi		9	D	0	0								1
Pressure range (absolute) <sup>1)</sup>	0 ... 15 psi		8	B	1									
	0 ... 20 psi		8	B	2									
	0 ... 30 psi		8	B	4									
	0 ... 60 psi		8	B	5									
	0 ... 100 psi		8	B	7									
	0 ... 150 psi		8	C	0									
	0 ... 200 psi		8	C	1									
Sealing material	FPM	Fluoro elastomer				0								
	EPDM	Ethylene propylene				1								
	NBR	Butadiene Acrylonitrile				2								
	MVQ <sup>2)</sup>	Silicone polymer				3								
Application	standard					0								
	for oxygen applications					0	1					1	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% (not possible with M12x1 connector or metri Pack)							8					
	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			1	1	
Electrical connection	Swift connector													
	Connector DIN EN 175301-803-A <sup>3)</sup>											1		
	Connector DIN EN 175301-803-C (mini DIN) <sup>3)</sup>											2		
	Connector M12x1 <sup>3)</sup>	2w: IN=1 / OUT=3	3w: IN=1 / OUT=4 / GND=3									3		
	Connector M12x1 <sup>3)</sup>	2w: IN=1 / OUT=4	3w: IN=1 / OUT=3 / GND=4									M		
	Connector M12x1 <sup>2),3)</sup>	2w: IN=1 / OUT=2	3w: IN=1 / OUT=2 / GND=3									P		
	Connector RAST 2.5 <sup>3)</sup>						0	7	4					
	Metri Pack Serie 150 <sup>3),4)</sup>						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					
	Swift connector with cable 2.0 m <sup>2)</sup>								N					
	Swift connector with cable 3.0 m <sup>2)</sup>								Q					
Swift connector with cable 5.0 m <sup>2)</sup>								R						
Pressure connection <sup>6)</sup>	Inside thread	G ¼ with O-Ring seal FPM spec. (-30 ... +135 °C)										1	1	
	Inside thread	½ -14 NPT										D	1	
	Inside thread	7/16 -20 UNF										K	1	
	Outside thread	7/16 -20 UNF										2	1	
	Outside thread	¼ -18 NPT										3	1	
	Outside thread	G ¼ sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)										4	1	
	Outside thread	G ¼ sealed at front										J	1	2
	Outside thread	R ¼ acc. to DIN 2999										7	1	
	Outside thread	G ½ sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)										8	1	
	Outside thread	M20x1.5 <sup>2)</sup>										E	1	
	Outside thread	G ½ sealed at front										9		
Version	without pressure tip orifice												1	
	with pressure tip orifice <sup>2)</sup>												2	1
Material	Stainless steel 1.4404 / AISI 316L													1
pressure connection	PVDF	≤ 200 psi (without UL-admission)												2
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 16psi/OUT1...8V)													W



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<sup>1)</sup> Other pressure ranges or pressure connections on request  
<sup>3)</sup> Delivery without female connector

<sup>2)</sup> UL admission applied  
<sup>4)</sup> For pressure ranges ≤ 200 psi only possible if deaeration through the cable is assured

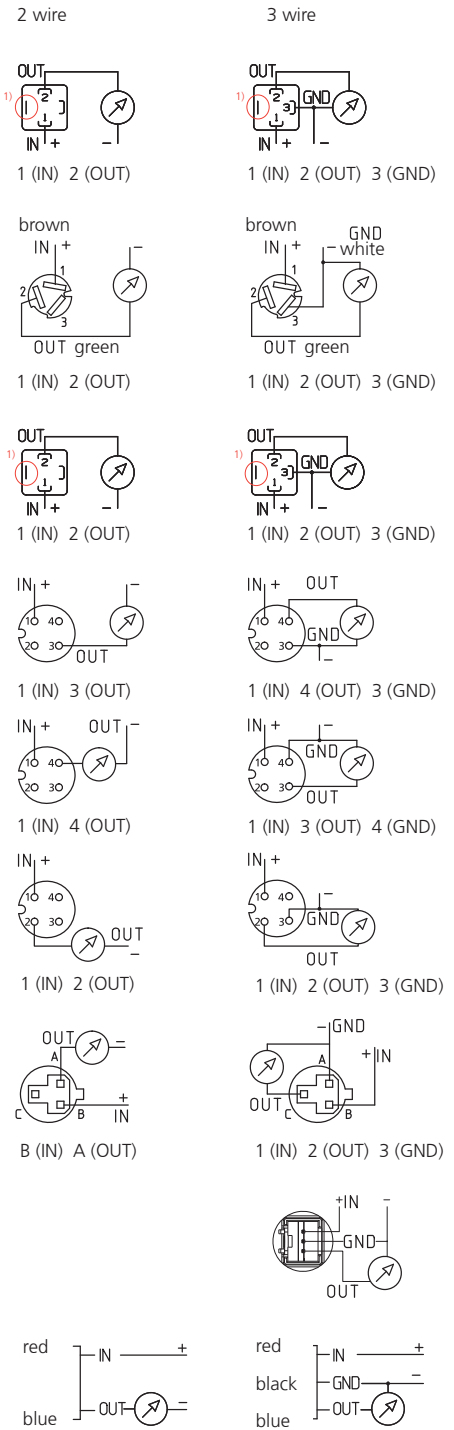
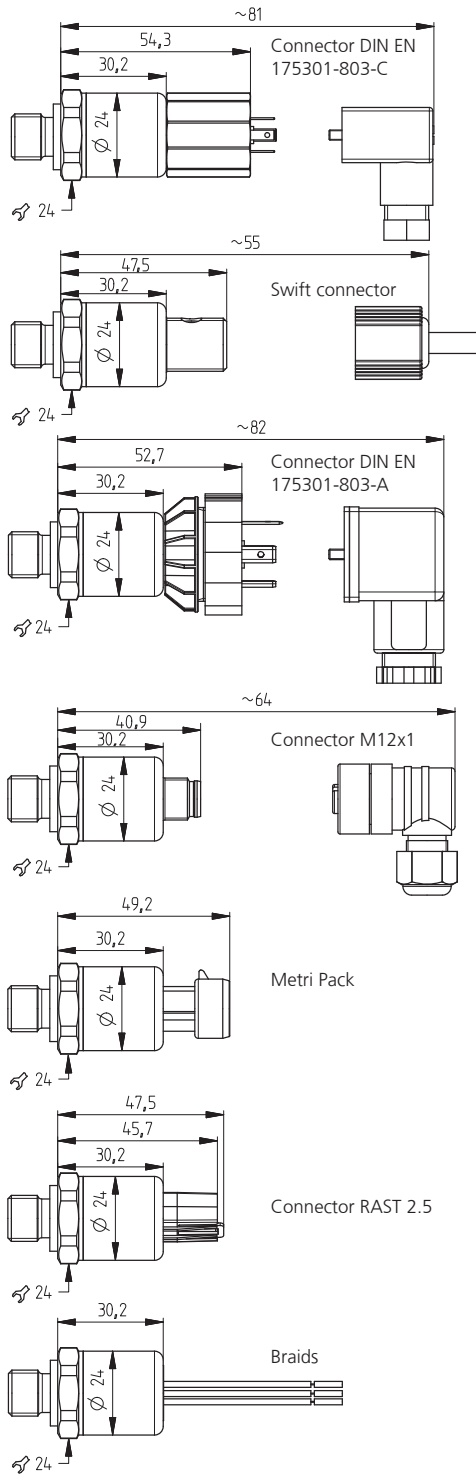
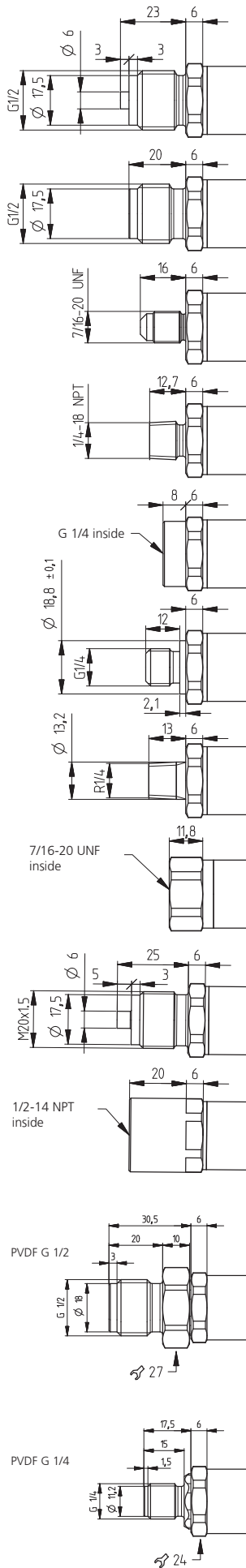
Order code selection in MPa			528.	X	X	X	X	X	X	X	X	X	X	X
Pressure range (relative) <sup>1)</sup>	-0.1 ... 0 MPa		9	G	0									
	0 ... 0.1 MPa		9	G	1									
	0 ... 0.16 MPa		9	G	2									
	0 ... 0.25 MPa		9	G	4	0								
	0 ... 0.4 MPa		9	G	5	0								
	0 ... 0.6 MPa		9	G	7	0								
	0 ... 1 MPa		9	H	0	0								
	0 ... 1.6 MPa		9	H	1	0								
	0 ... 2.5 MPa		9	H	2	0								1
	0 ... 4 MPa		9	H	3	0								1
0 ... 6 MPa		9	K	0	0								1	
Pressure range (absolute) <sup>1)</sup>	0 ... 0.1 MPa		8	G	1									
	0 ... 0.16 MPa		8	G	2									
	0 ... 0.25 MPa		8	G	4									
	0 ... 0.4 MPa		8	G	5									
	0 ... 0.6 MPa		8	G	7									
	0 ... 1 MPa		8	H	0									
	0 ... 1.6 MPa		8	H	1									
Sealing material	FPM	Fluoro elastomer				0								
	EPDM	Ethylene propylene				1								
	NBR	Butadiene Acrylonitrile				2								
	MVQ <sup>2)</sup>	Silicone polymer				3								
Application	standard					0								
	for oxygen applications					0	1					1	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% (not possible with M12x1 connector or metri Pack)								8				
	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			1	1	
Electrical connection	Swift connector													
	Connector DIN EN 175301-803-A <sup>3)</sup>											1		
	Connector DIN EN 175301-803-C (mini DIN) <sup>3)</sup>											2		
	Connector M12x1 <sup>3)</sup>	2w: IN=1 / OUT=3	3w: IN=1 / OUT=4 / GND=3									3		
	Connector M12x1 <sup>3)</sup>	2w: IN=1 / OUT=4	3w: IN=1 / OUT=3 / GND=4									M		
	Connector M12x1 <sup>2),3)</sup>	2w: IN=1 / OUT=2	3w: IN=1 / OUT=2 / GND=3									P		
	Connector RAST 2.5 <sup>3)</sup>						0	7				4		
	Metri Pack Serie 150 <sup>3),4)</sup>						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		
	Swift connector with cable 2.0 m <sup>2)</sup>											N		
	Swift connector with cable 3.0 m <sup>2)</sup>											Q		
Swift connector with cable 5.0 m <sup>2)</sup>											R			
Pressure connection <sup>6)</sup>	Inside thread	G ¼ with O-Ring seal FPM spec. (-30 ... +135 °C)											1	1
	Inside thread	½ -14 NPT											D	1
	Inside thread	7/16-20 UNF											K	1
	Outside thread	7/16 -20 UNF											2	1
	Outside thread	¼ -18 NPT											3	1
	Outside thread	G ¼ sealed at back DIN 3852 form E with Profile seal ring in FPM spec. (-30 ... +135 °C)											4	1
	Outside thread	G ¼ sealed at front											J	1 2
	Outside thread	R ¼ acc. to DIN 2999											7	1
	Outside thread	G ½ sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)											8	1
	Outside thread	M20x1.5 <sup>2)</sup>											E	1
	Outside thread	G ½ sealed at front											9	
Version	without pressure tip orifice													1
	with pressure tip orifice <sup>2)</sup>													2 1
Material	Stainless steel 1.4404 / AISI 316L													1
pressure connection	PVDF	≤ 1.6 MPa (without UL-admission)												2
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 0.3MPa/OUT1...8V)												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
Calibration certificate	104551

<sup>1)</sup> Other pressure ranges or pressure connections on request  
<sup>3)</sup> Delivery without female connector

<sup>2)</sup> UL admission applied  
<sup>4)</sup> For pressure ranges ≤ 1.6 MPa only possible if deaeration through the cable is assured



**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)

Connector M12x1 (Ex)

1 (IN) 2 (OUT)

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

<sup>1)</sup> Not connected with transmitter housing

