

# 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

**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	Pressure connection	Polyarylamide 50% GF VO Stainless steel 1.4404 / AISI 316L PVDF
Materials in contact with medium	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	DIN 2999
	R 1/4	
	G 1/2	sealed at back and manometer (combi) with Profile seal ring in FPM spec. (-30 ... +135 °C)
	M20x1.5	sealed at front
G 1/4		
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 Ex II 1/2 D Ex ia IIC T125°C Da/Db
EC type examination certificate	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

**Weight**

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

Single packaging in cardboard	accessories integrated
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Multiple packaging in cardboard (25 pcs)	
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Order code selection in psi		528	X	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							0						
	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										H	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												2
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 16psi/OUT1...8V)												W	

<sup>1)</sup> Other pressure ranges or pressure connections on request

<sup>2)</sup> UL admission applied

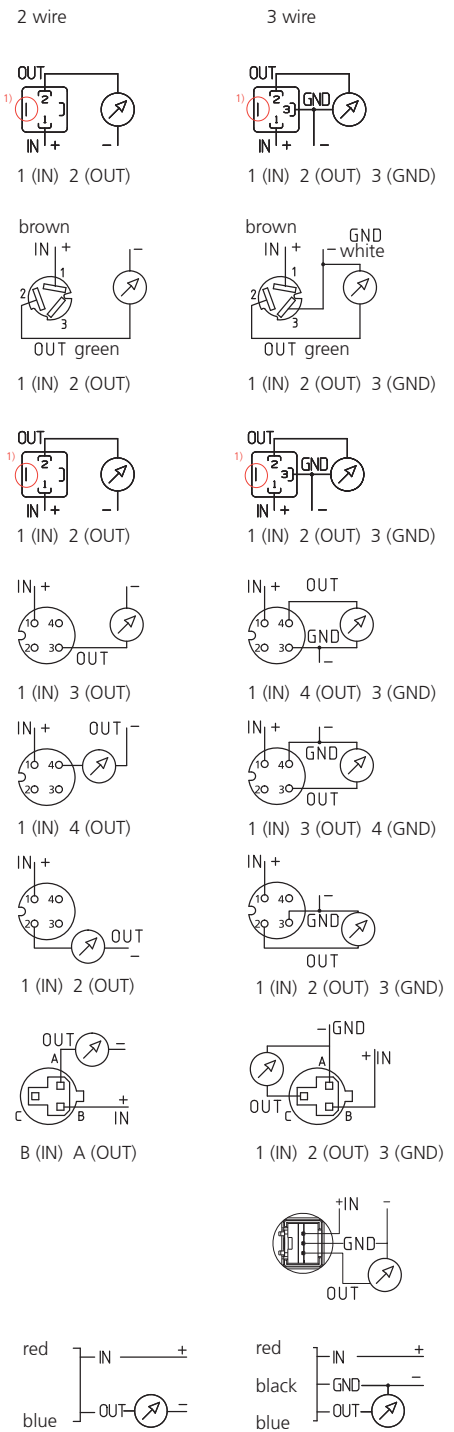
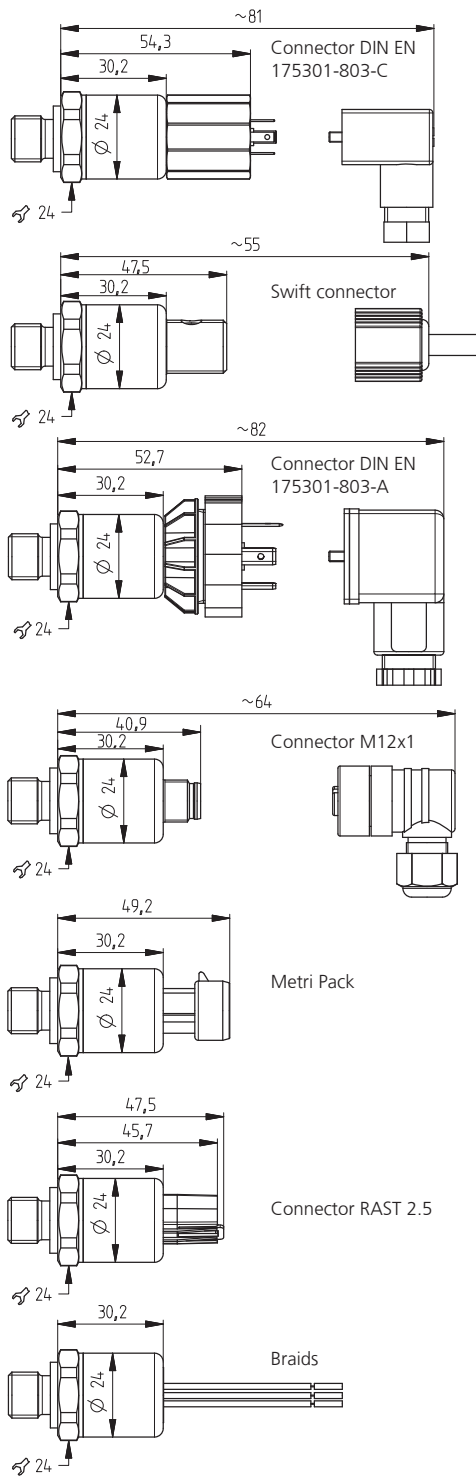
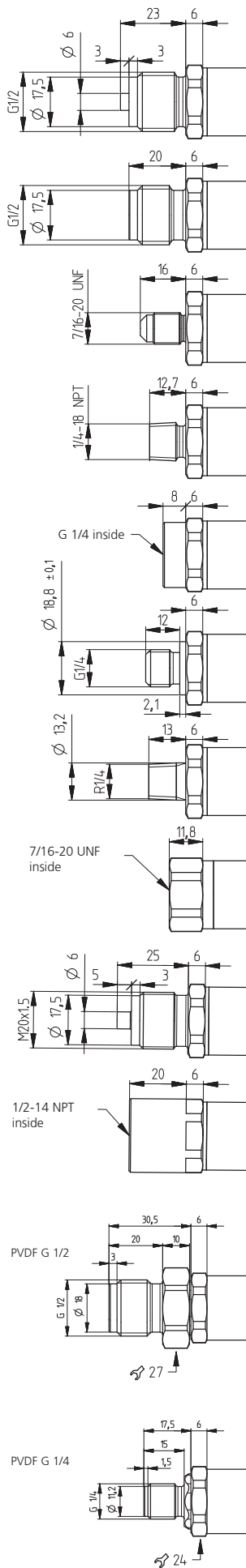
<sup>3)</sup> Delivery without female connector

<sup>4)</sup> For pressure ranges > 200 psi only possible if degradation through the cable is assured

Order code selection in MPA		528	X	X	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 ... 6 V	8 ... 33 VDC													
	0 ... 10 V	12 ... 33 VDC													
	0 ... 10 V	24 VAC ±15% (not possible with M12x1 connector or metri Pack)													
	Ratiom. 10 ... 90%	5VDC ±10%													
	4 ... 20 mA	7 ... 33 VDC													
	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>														
	Connector DIN EN 175301-803-C (mini DIN) <sup>3)</sup>														
	Connector M12x1 <sup>3)</sup>	2w: IN=1 / OUT=3	3w: IN=1 / OUT=4 / GND=3												
	Connector M12x1 <sup>3)</sup>	2w: IN=1 / OUT=4	3w: IN=1 / OUT=3 / GND=4												
	Connector M12x1 <sup>2),3)</sup>	2w: IN=1 / OUT=2	3w: IN=1 / OUT=2 / GND=3												
	Connector RAST 2.5 <sup>3)</sup>					0	7								
	Metri Pack Serie 150 <sup>3),4)</sup>					0									
	Braids	80 ±10 mm													
	Braids	290 ±10 mm													
	Braids	480 ±10 mm													
	Braids	730 ±10 mm													
	Swift connector with cable 1.5 m														
	Swift connector with cable 2.0 m <sup>2)</sup>														
Swift connector with cable 3.0 m <sup>2)</sup>															
Swift connector with cable 5.0 m <sup>2)</sup>															
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												H	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													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>2)</sup> UL admission applied  
<sup>3)</sup> Delivery without female connector <sup>4)</sup> For pressure ranges > 1.6 MPa only possible if degradation 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

# Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT

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