

Pressure Transmitter for High Temperature with Flush Diaphragm ED 530



- Application** Measurement of absolute and relative pressure of gases and liquids for temperatures up to 300°C
- Construction** Flush diaphragm
Seal either flush (for food applications) or behind thread according to DIN 3852 form A
External zero point and span adjustment
- Pressure range** 100 mbar ... 400 bar
- Output signal** 0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V DC, 0 ... 10 V DC
- Static error band** ≤ 0,25% FS typ., ≤ 0,15% FS typ.
- Medium temperature** -40 ... 300°C
- Electrical connection** Cable or plug
- Pressure connection** Male thread G½, G 1 with cone
- Type of protection** IP 65, IP 67
- EMC** Protected for industrial environments, conforming to EN 50081-2, EN-50081-1 and EN 50082-2
- Accessory** Test certificate



Selection Chart

Ordering example:		ED 530 / 3 1 4 . 2 1 1 / 025				
System design	EEEx ib IIC (ATEX) ¹⁾	ED 530	EDX 530			
Pressure type	Gauge pressure	3	4			
Static error band (T_{amb} = 25°C)	0,4% FS (T _{med} = 25°C), comp. temp. 0 ... 50°C	1				
	0,2% FS (T _{med} = 25°C), comp. temp. 0 ... 50°C	2				
	0,4% FS at specified adjusted temp. ²⁾	7				
	0,2% FS at specified adjusted temp. ²⁾	8				
Electrical connect.	Cable 2 m	IP 65 ³⁾	1			
	Plug Bendix	IP 65 ³⁾	2			
	Plug DIN 41 524 (Binder)	IP 65 ³⁾	3			
	Plug DIN 43 650	IP 65 ³⁾	4			
	Cable 2 m with relative tube	IP 67 ³⁾	9			
Output signal	I _A = 0 ... 20 mA			1		
	I _A = 4 ... 20 mA			2		
	U _A = 0 ... 10 V DC			4		
	U _A = 0 ... 5 V DC			5		
Pressure connect.	G½ with cone				1	
	G1 with cone				2	
Diaphragm	Stainless steel 1.4404/316 L					1
	Hastelloy C-276					2
	Stainless steel, gold plated					8
Pressure range	also other pressure ranges and versions in Pa, psi, H ₂ O etc. available					

¹⁾Version 4 ... 20 mA only (with IP 42)

²⁾Temperature adjustments

If the adjustment of the media temperature deviates from 25°C, the order code must be defined with /9007/XXXX.

Ordering example: adjustment on 150°C, order code /9007/0150.

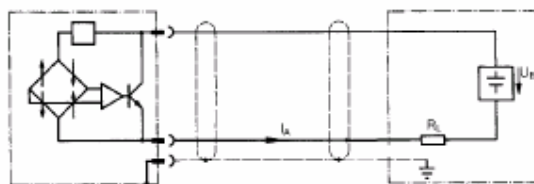
The compensated temperature range is ±25°C of the adjusted temperature. If the adjusted temperature is above 125°C, the compensated temperature range will always be 100°C to 150°C.

³⁾Not available for EEx.

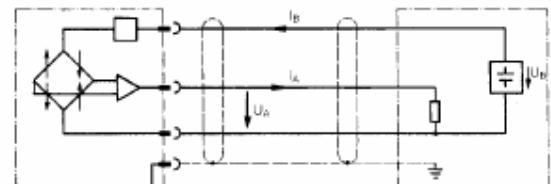
Special Designs see D6.901 E / Accessories see D6.911 E

Electrical Connection (Pin assignments and cable colours see D0.320 E)

I_A = 4 ... 20 mA



I_A = 0 ... 20 mA, U_A = 0 ... 5 V, U_A = 0 ... 10 V





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Technical Data

Pressure range 1	0 ... +P	bar		0.1	0.16...0.25	0.4...0.6	1...1.6	2...4	5...10	16...25	40...60	100...160	200...400
Maximal Pressure	P max.	bar		4	4	6	10	15	30	75	100	250	600
Deviation of characteristic curve (T _{amb} = 25°C)	ED 530x1	± % FS	≤	0.25 typ./0.4 max. (see diagram D0.320)									
	ED 530x2	± % FS	≤	0.15 typ./0.2 max. (see diagram D0.320)									
Hysteresis and reproducibility		± % FS	≤	0.2 (p < 0.4 bar) / 0.1 (p ≥ 0.4 bar)									
TC zero point ¹⁾		± % FS/10 K	≤	1.8	1.0	0.5	0.35	0.2/0.4 ²⁾	0.2	0.2	0.2	0.2	
TC sensitivity ¹⁾		± % FS/10 K	≤	0.2									
Operating temp. (medium)		°C		-40 ... 300 (see diagram medium pressure)									
Housing temperature ²⁾		°C		-20 ... 80									
Storage temperature		°C		-40 ... 80									
Supply voltage U _B	I _A = 0 ... 20 mA	V DC		16 ... 30									
	I _A = 4 ... 20 mA	V DC		10 ... 30 (see diagram)									
	U _A = 0 ... 5 V DC	V DC		9 ... 30									
	U _A = 0 ... 10 V DC	V DC		14 ... 30									
Reverse polarity protection for supply voltage U _B				yes									
Short circuit proof output				yes									
Overvoltage protection				yes									
Load (R _L + R _{Lmax})	I _A = 0 ... 20 mA	Ohm	≤	500									
	I _A = 4 ... 20 mA	Ohm	≤	1000 (see diagram D0.320)									
	U _A = 0 ... 5 V DC	kOhm	≥	5									
	U _A = 0 ... 10 V DC	kOhm	≥	10									
Zero point adjusting range		± % FS		2									
Insulation resistance at 750 V DC		MOhm	≥	1.2									
Type of protection (DIN 40 050, IEC 144)				according selection chart									
EMC emission (EN 50 081-1 and -2)				fulfilled									
EMC immunity (EN 50 082-2)				fulfilled									
IEC 1000-4-2 / EN 61000-4-2		level 3 (8 kV)		fulfilled									
IEC 1000-4-3 / EN 50140		level 3 (10 V/m)		fulfilled									
IEC 1000-4-4 / EN 61000-4-4		level 4 (4 kV)		fulfilled									
IEC 1000-4-6 / EN 50141		level 1 (10 kV)		fulfilled									
Weight		kg		0.25									

¹⁾ Calibration temperature ± 25°C.

²⁾ The ambient air should not rise above 50°C; otherwise the temperature of the transmitter section may exceed the admissible limit.

³⁾ For pressure connection G½.

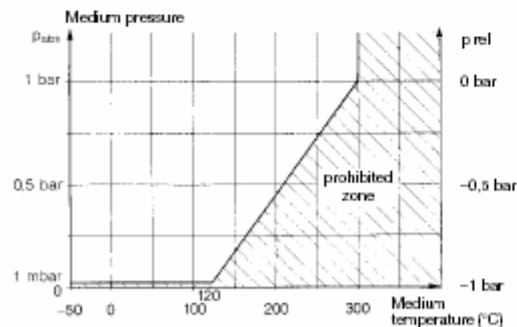
Construction and Function

The pressure transmitter for high temperature duty consists of a pressure connection with its heat-resistant welded inox pressure transmitting diaphragm and an inox transmitter section containing the electronics and the electrical connection. The pressure sensor is located in the transmitter section and is separated from the pressure connection section by a capillary tube.

Four inox rods link the pressure connection to the transmitters section in order to avoid mechanical stress to the capillary tube. The pressure sensor's signal is converted by an amplifier to a signal of 0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V DC oder 0 ... 10 V DC. The transmitters are equipped with external zero point and span adjustment.

Medium pressure

Admissible medium pressure as a function of medium temp.

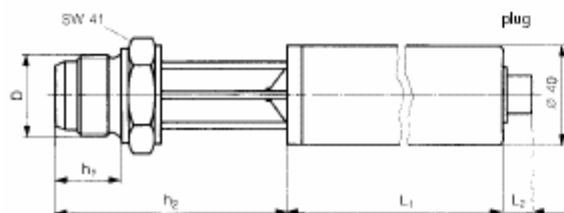


Dimension chart

Plug	Bendix	DIN
L ²	12,5	10

D	h ₁	h ₂	L ₁
G½"	22	85	96,5
G1"	27	89	91

Dimensions



screw in-torque: 60 Nm
(85 Nm for 1000 bar)

