

Pressure Transmitter for depth measurement ED 752



Zero setting

Accuracy < 0.2% FS

Quick response time < 25 ms

High long-term stability

Excellent repeatability

Active compensation for temperature drifts

4...20 mA and Voltage outputs

ATEX II 1 G, EEx ia IIC T4 / T6 (Pending)



Description

The ED 752 is a pressure transmitter suitable for hydrostatic depth measurement, available in 4...20 mA current loop or in voltage output signal versions. This transmitter offers a very high accuracy over a wide temperature range, an excellent repeatability and very long term stability.

The piezo-resistive silicon sensor is anodic bonded on a very stable glass base, which is attached to a stainless steel construction. This assembly guarantees an excellent thermal isolation.

The sensor is isolated from the process by a stainless steel diaphragm (1.4404 / 316L) and a filling liquid.

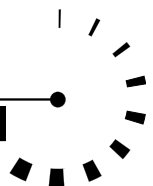
The electronics are located within the hermetically sealed transmitter housing which give the ED 752 an excellent resistance to shock and vibration. Protection class IP 68.

The electronics are a state-of-the-art signal processing unit fitted with a fast micro-controller allowing the compensation of drift effects due to temperature on the sensor signal, over a wide temperature range with a fast response time. The device is protected against lightning.

The ED 752 is available with various membrane protections.

**BOURDON
HAENNI**

made to measure



Ordering Details

Ordering code digit	1	2	3	4	5	6	7	8	9	10	11	12
Pressure connection												
Male thread M27 x 1.5 without protection ¹⁾	S											
Stainless steel cap with grating, without grating protection	T											
Stainless steel cap with grating, with grating protection	U											
Stainless steel cap with grating and G ¹ / ₄ " female thread	V											
Output signal												
4 ... 20 mA		2										
0 ... 10 V DC		4										
0 ... 5 V DC		5										
4 ... 20 mA with external zero setting		6										
Approvals												
None			0									
ATEX (pending)			1									
Electrical connection												
5 meter shielded cable 3 conductors						D						
10 meter shielded cable 3 conductors						E						
20 meter shielded cable 3 conductors						F						
30 meter shielded cable 3 conductors						G						
Customer specific length (for cable length greater than 30 m)						0						
Accuracy												
0.4% FS, Compensated Temperature -10 ... 80°C					1							
0.2% FS, Compensated Temperature -10 ... 80°C					2							
Pressure units												
Gauge pressure						3						
Pressure range												
100 mbar up to 40 bar								See code page 3				
Wetted parts												
Housing stainless steel, cable polyurethan										1		
Housing stainless steel, cable Teflon (ETFE)										8		
Oil filling												
Standard, FDA approved white oil											1	
Silicon											0	
Silicon free / oxygen service (Pending)											2	

1) The membrane is up front (flush diaphragm)

Ordering details (continued)

Pressure range details

Code	Range mbar	Code	Range bar	Code	Range bar
126	0...100	025	0...1	095	0...25
136	0...160	035	0...1.6	105	0...40
A56	0...200	A15	0...2		
A46	0...250	045	0...2.5		
156	0...400	055	0...4		
A66	0...500	A25	0...5		
166	0...600	065	0...6		
		075	0...10		
		085	0...16		
		A35	0...20		

Code	Range mH ₂ O	Code	Range mH ₂ O	Code	Range mH ₂ O
028	0...1	078	0...10	148	0...250
038	0...1.6	L18	0...12	158	0...400
A18	0...2	088	0...16		
048	0...2.5	A38	0...20		
L38	0...2.8	098	0...25		
058	0...4	L58	0...30		
A28	0...5	L78	0...32		
068	0...6	108	0...40		
L48	0...7	A48	0...50		
L08	0...8	118	0...60		
L28	1...10	L88	0...64		
		L68	0...70		
		128	0...100		
		L98	0...128		
		B08	0...150		
		138	0...160		

Options

Cable length greater than 30 m, / 9001 / LLLL with LLLL in 0.1 meter.
 For LLLL = 0300 (30 m) up to LLLL = 1000 (100 m) steps of 10 m.
 For LLLL > 1000 (100 m) steps of 25 m.
 Calibration at specific pressure range / SETR, range in text (e. g. / SETR, 0...10.5 mH₂O).
 Calibration for specific temperature / 9007 / TTTT with TTTT temperature in °C (e. g. / 9007 / 0015 = 15 °C).

Accessories

Cleat D13765.0000

Technical data

Measurement characteristics

Pressure range

Gauge pressure 0... 100 mbar, 0... 40 bar

Pressure ranges available within the defined ordering code.

Adjustment Only with version 4...20 mA with external zero setting

Overpressure At least 3 times nominal value

Accuracy According to ordering code 5

Hysteresis and repeatability $\pm 0.05\%$ FS

Long term stability +/- 0.2 % FS/year

Temperature influence (compensated range -10 ... 80°C)

Accuracy code 5 = 1 ($\pm 0,4\%$ FS)

TC zero = $\pm 0.2\%$ FS/10K

TC Span = $\pm 0.15\%$ FS/10K

Accuracy code 5 = 2 ($\pm 0.2\%$ FS)

TC zero = $\pm 0.1\%$ FS/10K

TC Span = $\pm 0.1\%$ FS/10K

Response time 10 ... 90%, 25 ms

Electrical specification

Supply voltage 10 ... 30 V DC

Insulation Resistance >1 GOhm, 500 V DC

Load $R_L < 50 \times U_B - 450$

Influence of the Power supply

Protected against reverse signal polarity.

Temperature characteristics (with Silicon oil)

Operating Temperature -10°C ... 80 °C Compensated

Compensated Temperature -10 ... 80°C

Storage Temperature -20° ... 125°C

Temperature characteristics (with FDA white oil)

Minimal temperature -10°C

Materials specification

Wetted part

Stainless Steel W.1.4435 (fitting body) and W.1.4404 (AISI 316L, diaphragm), stainless steel W.1.4301 (housing), polyurethan or ETFE for cable.

Certificate EN10204 3.1B available on request

EMC

Influence of EMC Less than 0.15% FS

Conformity EN 50081-1, EN 50082-2, EN 61326, EN 50121-4

Environmental specification

Vibrations According to EN 60068-2-6

Shocks According to EN 60068-2-6

Protection class

IP 68

Mounting

Position at calibration time: Vertical

Switch ON time

5 sec.

Test Certificate

Delivered with the transmitter. Test certificate, 6 points rising at ambient temperature ($T_{amb} = 25^\circ\text{C}$).

Physical characteristics

Weight

140 g, without grating

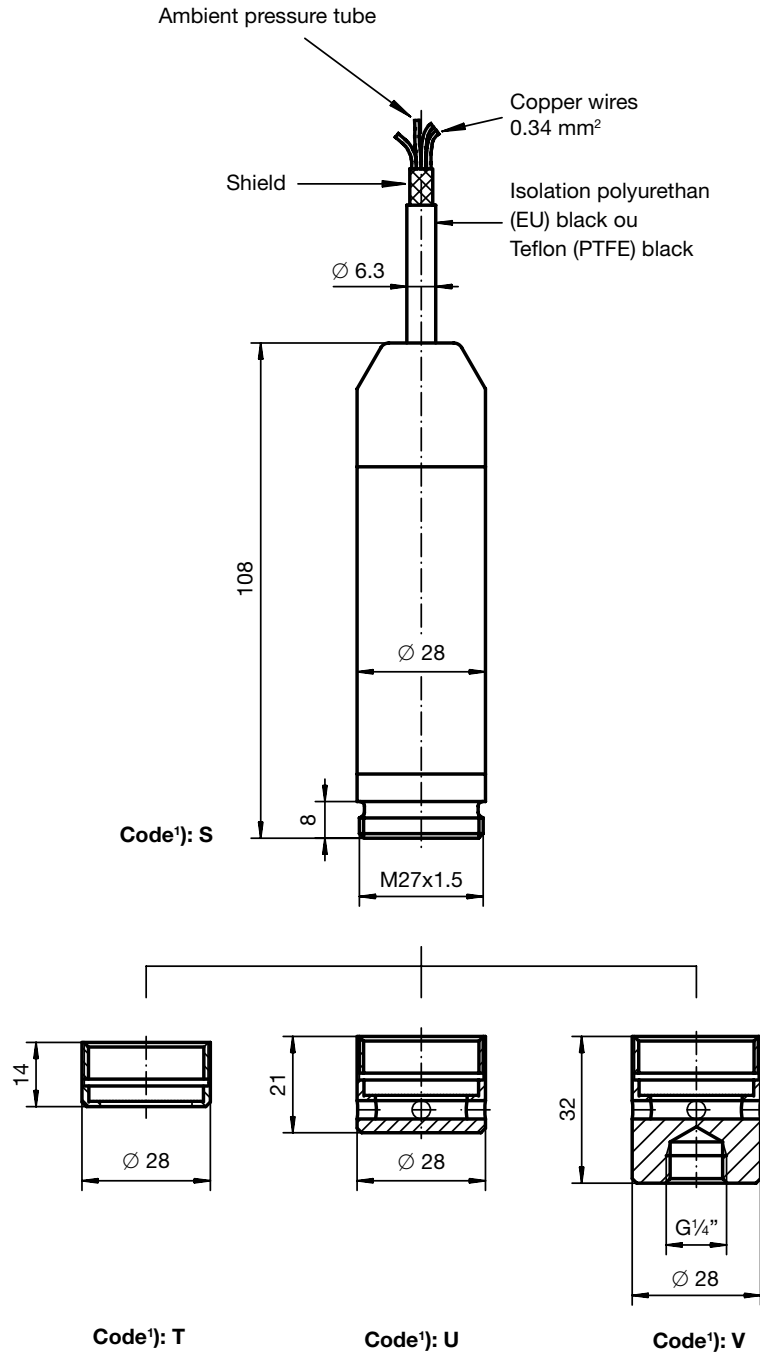
Dimensions

See drawings.

Zero setting function

The zero setting function is activated by short-circuiting b and c contacts of the electrical connector. Activating this function will cause the applied pressure to be considered as zero.

Drawing (all dimensionens in mm)

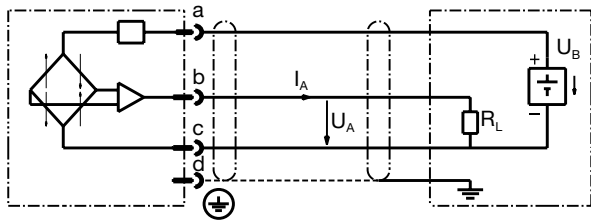


1) Cross reference to ordering code digit 1, process connection, see page 2

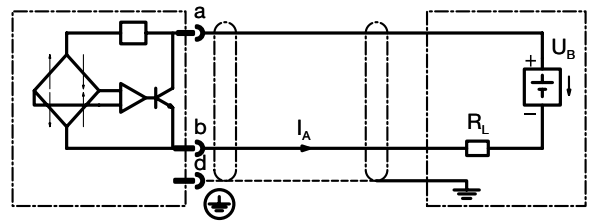
Connecting diagram

Electrical connection

For Voltage signal Output 0 ... max. 10 V



For 4 ... 20 mA current loop version



Pin assignment

Contact Cable 3 conductors IP 68

4...20 mA 0...5/10 V DC

a Blue Blue

b Red Red

c - White

d

