



Pressure level transmitter

Level sensing pressure transmitter Type 711

The level sensing pressure transmitters of type 711 with a relative pressure measuring cell have an adjusted and amplified sensor signal. Cable length from 3 to 300 meters as well as ex-versions and versions with drinking water approval are available.



Pressure range
0 ... 0.1 - 16 bar

- + Ex-version available
- + Sea water resistant
- + High accuracy
- + Large variety of cable length (3 to 300 m)
- + Low pressure ranges

Technical overview

Pressure range

Relative	0 ... 0.1 - 16 bar
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Operating conditions

Medium		Fuel oil, ultra-light ¹⁾	SN 181 160-2
		Fuel oil, heavy ¹⁾	SN 181 160-2
		Diesel oil ¹⁾	
		Benzine ¹⁾	
		Sea water	
		Drinking water (with EPDM O-ring)	
Temperature	Medium and ambient ²⁾	-10 ... +80 °C	
	Storage	-20 ... +80 °C	
Overload		see order code selection table	

Materials in contact with medium

Case	Stainless steel 1.4404 / AISI 316L
	Stainless steel 1.4539 / AISI 904L
Sensor	Ceramic Al ₂ O ₃ (99.6%)
Cable	PE / FEP
Cable grommet	PPE / ETFE
Protection cover	PPE / ETFE
Sealing material	FPM / EPDM

Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	10 ... 33 VDC (with Ex - 10 ... 30 VDC)	$< \frac{\text{power supply} - 10 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 22 mA
Polarity reversal protection	Short circuit proof and protected against polarity reversal.			
Overvoltage protection				36 VDC
Electric strength towards case				500 VDC

Dynamic response

Response time	< 0.1 s
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Runtime

Time starts at the moment of application of minimal supply voltage	< 1 s
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Electrical connection

Cable length 3 ... 300 m	Protection standard	Protection class
	P 68, continuous immersion at max. overload (see order code selction table)	III

Test / Admissions

Electromagnetic compatibility	CE conform acc. EN 61326-2-3
Drinking water approval	ACS
	WRAS
	Germanischer Lloyd
	American Bureau of Shipping
Shipbuilding	Bureau Veritas
	Det Norske Veritas
	Lloyd's Register
UL	UL 61010-1
EAC	

Ex-protection

IECEx SEV 12.006	Ex ia IIC T4 Ga
SEV 12 ATEX 0138	II 1 G Ex ia IIC T4 Ga

Weight

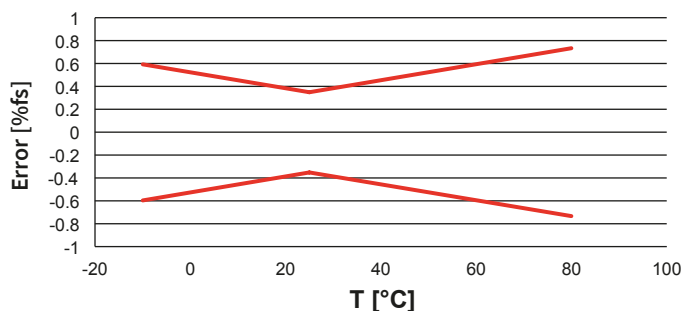
Niveau transmitter	~ 375 g
Cable	~ 80 g/m

Packaging

Single packaging	
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Accuracy

Parameter	Unit	
Characteristic line ³⁾ (at 25 °C)	% fs	± 0.35
Resolution	% fs	< 0.1
Long term stability acc. IEC EN 60770-1	% fs	± 0.25
Thermal characteristic ⁴⁾	% fs/10K	± 0.07



¹⁾ Check Ex Zone for your application

²⁾ non-congealing media

³⁾ incl. zero point, full scale, linearity, hysteresis and repeatability

⁴⁾ at -10 ... +80 °C

			1	2	3	4	5	6	7	8	9	10	11
Order code selection table			711.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾		overload											
	0 ... 0.1 bar	1.5 bar	9	0	1								
	0 ... 0.2 bar	1.5 bar	9	0	2								
	0 ... 0.3 bar	1.5 bar	9	0	3								
	0 ... 0.4 bar	2 bar	9	0	4								
	0 ... 0.5 bar	2 bar	9	0	5								
	0 ... 0.6 bar	2 bar	9	1	0								
	0 ... 1.0 bar	5 bar	9	1	1								
	0 ... 2.0 bar	10 bar	9	1	3								
	0 ... 4.0 bar	20 bar	9	1	5								
	0 ... 6.0 bar	20 bar	9	1	7								
	0 ... 10.0 bar	20 bar	9	3	0								
	0 ... 16.0 bar	24 bar	9	3	1								
▲ Full scale signal at these pressures													
Sealing material	FPM	Fluoro-elastomer					0						
	EPDM	Ethylene propylene (for drinking water)					1						
Output / power supply		4 ... 20 mA 10 ... 33 VDC (with Ex: 10 ... 30 VDC)					0						
Electrical connection ²⁾	Cable	3 m						0	1				
		5 m						0	2				
		7 m						0	3				
		10 m						0	4				
		15 m						0	5				
		20 m						0	6				
		25 m						0	7				
		30 m						0	8				
		40 m						0	9				
		50 m						1	0				
		60 m						1	1				
		70 m						1	2				
		80 m						1	3				
		90 m						1	4				
		100 m						1	5				
		125 m						1	6				
		150 m						1	7				
		175 m						1	8				
		200 m						1	9				
		225 m						2	0				
		250 m						2	1				
		275 m						2	2				
		300 m						2	3				
Cable material	PE	(for drinking water)								0			
	FEP									1			
Case material	Stainless steel 1.4404 / AISI 316L										0		
	Stainless steel 1.4539 / AISI 904L (recommend sea water)										1		
Admission	without											0	
	Ex protection (max. cable length 300 m)											1	
	Drinking water approval					1				0		2	
ressure range variation (optional)		Indicate W and state range on order (e.g.: W 0 ... +3 bar/OUT 10 ... 16 mA)											W

Electrical connections

4 ... 20 mA

brown

black

blue

IN

CASE

OUT

Device design with explosion protection:

4 ... 20 mA

The grounding connection is conductively connected to the level transmitter housing. The ground conductor of level transmitter must be connected to the equipotential bonding system of the plant.

brown

black

blue

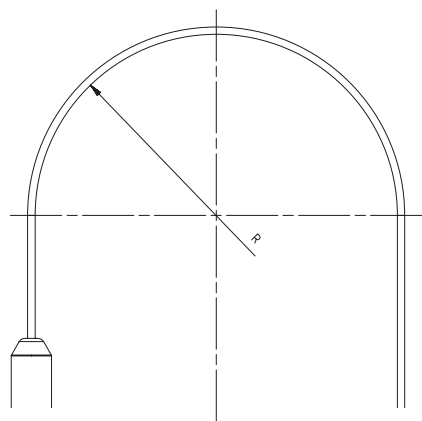
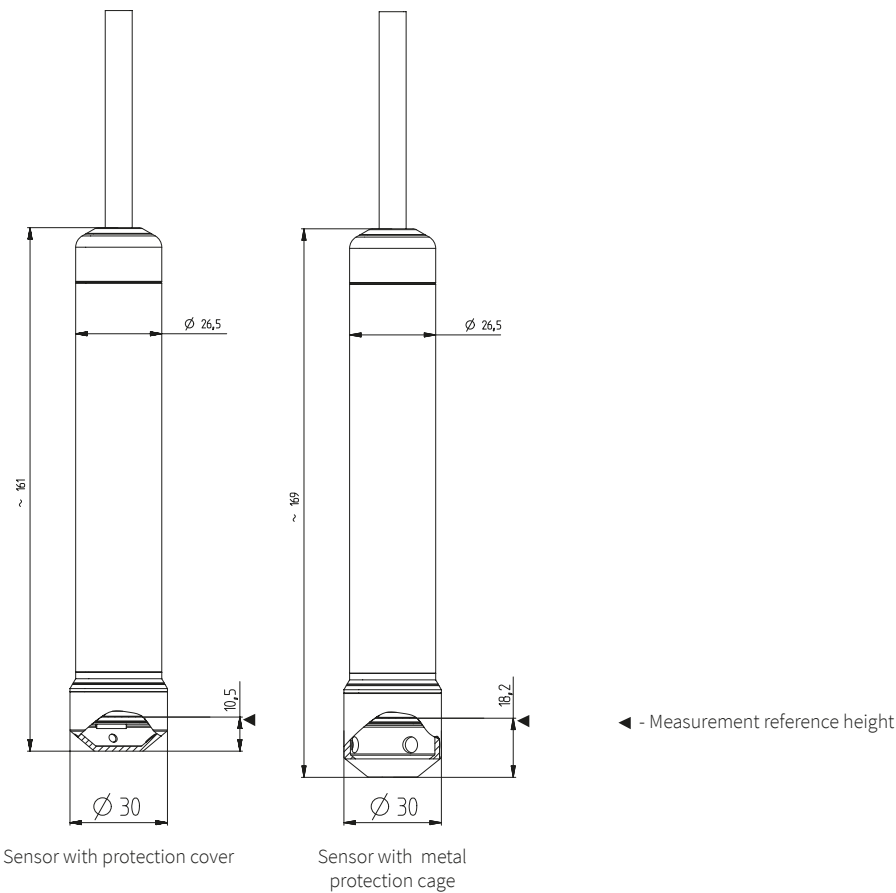
IN

CASE

OUT

¹⁾ Other pressure range on request

²⁾ Other cable length on request

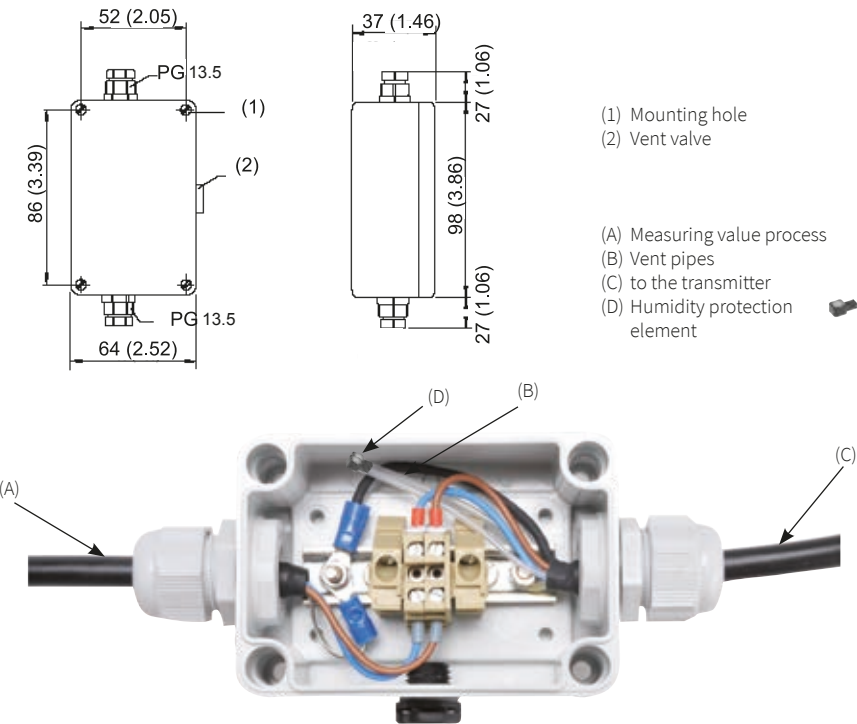


Bend radius				
Cable material	fixed	flexible	Installation temp.	Temperature range
PE	≥ 100 mm	≥ 200 mm	0°C ... +60°C	-10°C ... +80°C
FEP	≥ 50 mm	≥ 100 mm	-20°C ... +60°C	-50°C ... +80°C

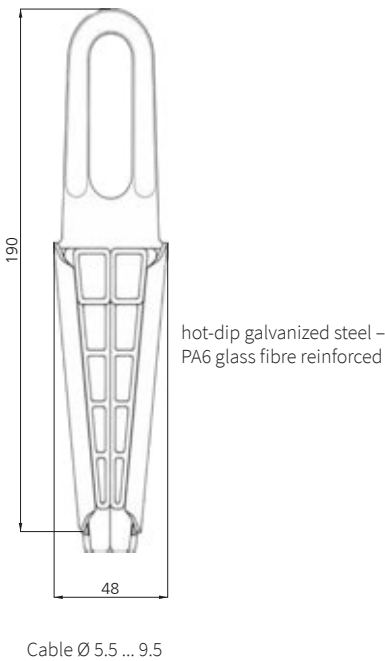
- Important:** The cable must NOT:
1. Be bent smaller than the bending radius.
The individual wires on the inside are compressed, the individual wires on the outside are stretched and break off.
 2. Be guided around sharp-edged corners.
In addition to the risk of individual wires being torn off, there is also the risk of the isolation being worn through by e.g. vibration. Use cable bushings, corrugated pipes, edge protection, etc. to protect the cable when drilling holes.

Accessories (delivery incl. - Level transmitter with plastic protection cover, humidity protection elements and operating instruction)	Order number
Cable hanger	118835
Connection box	118836
Protection cage (stainless steel 1.4404 / AISI 316L)	118837
Protection cage (stainless steel 1.4539 / AISI 904L)	119688
Protection cover PPE for PE cable (pack of 10)	118838
Protection cover ETFE for FEP cable (pack of 10)	118839
Humidity protection element (pack of 10)	119217
Calibration certificate	104551

Connection box



Cable hanger



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