

Intrinsically Safe Level Probe

for applications in hazardous environments

Ex-Standard • Model IL-10

TRONIC LINE

- Pressure ranges from 0 ... 100 mbar to 0 ... 25 bar
- Ex-protection: EEx ia IIC T6 in compliance with ATEX
- Applicable in all hazardous environments:
 - Gases and vapour: Zone 0, Zone 1 and Zone 2
 - Dusts: Zone 20, Zone 21 and Zone 22
- Vented PUR-cable
- Maximum tensile strength of the cable 1000 N
- Ingress protection IP 68 (up to 300 m immersion depth)

Optional extras:

- FEP-cable
- Additional weight

Applications

Areas of application are level measurement in hazardous environments, e.g. in refineries, distilling equipment, painting plants, filling equipment for combustible gases, overfilling systems on tank vehicles, bore holes, waste water plants (biogases from sewage), etc.

General Features

The intrinsically safe level probes have been specially designed to comply with the most difficult requirements of industrial applications. Due to their high grade of accuracy, reliability and excellent compatibility with most media, these instruments are an ideal solution for almost any level measurement in hazardous environments.

The most important feature is the wide ranging certification for hazardous applications (CENELEC certificate complying with ATEX). This certificate will still be valid after June 30, 2003.

Structure

Due to a hermetically sealed, durable stainless steel case with IP 68 weather protection the probe can be immersed to a max. depth of 300 m.

The level probes are supplied via intrinsically safe line transformers or via standard barriers with an input power of 10 ... 30 V. Their output signal is 4 ... 20 mA, two-wire system.



Supplementary data sheet:

- Intrinsically Safe Pressure Transmitter (see data sheet PE 81.22)
- Submersible Pressure Transmitter (see data sheet PE 81.09)

Model IS-1X

**Model LS-10
Model LH-10**

Specifications		Model IL-10													
Pressure ranges	bar	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	25	
Overpressure safety	bar	2	2	2	2	4	5	10	10	17	35	35	80	80	
Burst pressure	bar	2	2	2	2	4	5	10	10	17	35	35	80	80	
Pressure connection		G ½ B recessed daiphragm, pressure channel- Ø 11 mm , removable protective cap													
Material															
• case		stainless steel 1.4571													
• pressure conn./diaphragm		stainless steel 1.4571													
• protective cap		stainless steel 1.4571													
• cable		PUR {FEP up to 10 bar}													
• shrink hose		Polyolefin (not with FEP-cable)													
Power supply U _B	DC V	10 < U _B < 30													
Signal output and		4 ... 20 mA, 2 wire-system													
maximum load R _A		R _A ≤ (U _B – 10 V) / 0.02 A – (0.14 Ohm x cable in m) mit R _A in Ohm and U _B in Volt													
Accuracy*	% of span	≤ 0.25 {0.125 ¹⁾ } (BFSL)													
	% of span	≤ 0.5 {0.25 ¹⁾ } (limit point calibration)													
Hysteresis	% of span	≤ 0.1													
Repeatability	% of span	≤ 0.05													
1-year stability	% of span	≤ 0.2 (at reference conditions)													
Compensated temp.-range	°C	0 ... +50								0 ... +122 °F					
Temperature coefficient in compensated temp range:															
• mean TC of zero	% of span /10K	≤ 0.2 (< 0.4 for pressure ranges 0 ... 0.1 and 0 ... 0.16 bar)													
• mean TX of span	% of span /10K	≤ 0.2													
Ex -protection		categories 2G, {1G, 1D, 2D, M1, M2}													
Signal output		4 ... 20 mA, 2 wire system													
Ex -classification		EEx ia I/II C T6													
Conformity specifications:															
• power supply U _i	DC V	< 30													
• short circuit rating I _i	mA	100													
• power limitation P _i	W	1													
• medium temperature ²⁾	°C	-10 ... +60								-14 ... +140 °F					
• ambient temperature ²⁾	°C	-10 ... +60								-14 ... +140 °F					
• storage temperature	°C	-10 ... +60								-14 ... +140 °F					
• internal capacity C _i	nF	≤ 22 + 0.2 per m cable													
• internal inductivity L _i	µH	0 + 2 per m cable													
		for further safety information please see the EC-type homologation certificate DMT 00 ATEX E 045 X													
CE - conformity		Interference emission and immunity see EN 61 326,													
HF-immunity	V/m	10													
BURST	KV	4													
		EN 50 014 (general part), EN 50 020 (intrinsically safe)													
		{EN 50 284 (zone 0)}, {EN 50 281-1 (dusts)}, {prEN 50 303 (mining industry)}													
Electrical connection		vented PUR-cable, tensile strength 1000 N {FEP-cable}													
Wiring protection		protection against polarity crossing													
Ingress protection															
EN 60 529 / IEC 529		IP 68 (immersion depth up to 300 m, FEP-cable up to 100 m)													
Weight															
• level probe	kg	approx. 0.20													
• cable	kg	approx. 0.08 je m Kabel													
• additional weight	kg	approx. 0.50													
Dimensions	mm	siehe Abmessungen													
Items in curved brackets { } are optional extras for additional price.															

1) Accuracy for pressure ranges < 0.25 bar: < 0.5% of span with limit point calibration (with BFSL: 0.25 % of span)

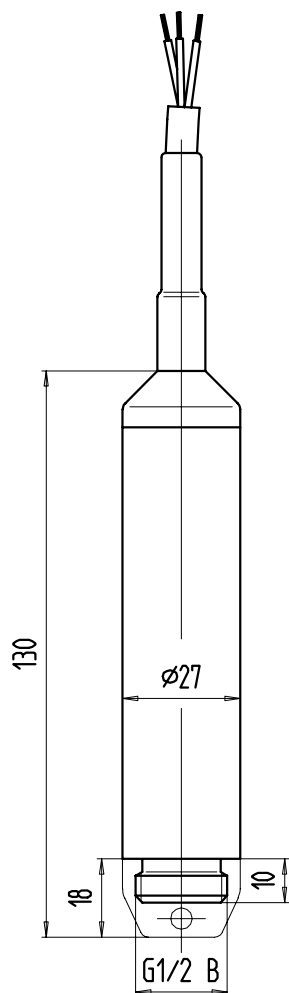
2) See list of Ex-type homologation certificate DMT 00 ATEX E 045 X

* Calibrated in vertical mounting position, pressure connection bottom

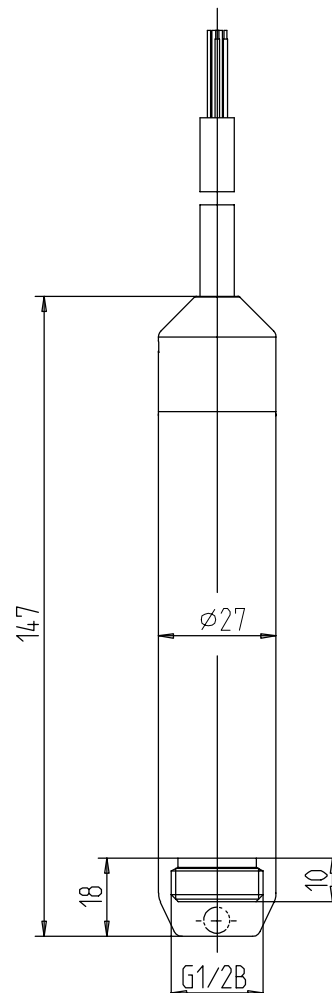
Dimensions in mm

When mounting, no additional strain relief is required as the cable has a max tensile strength of 1000 N, with FEP 500 N.

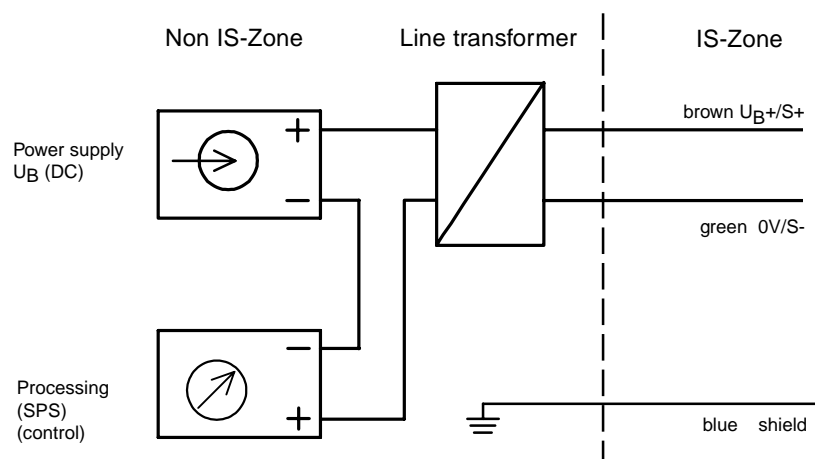
Version with PUR-cable



Version with FEP-cable

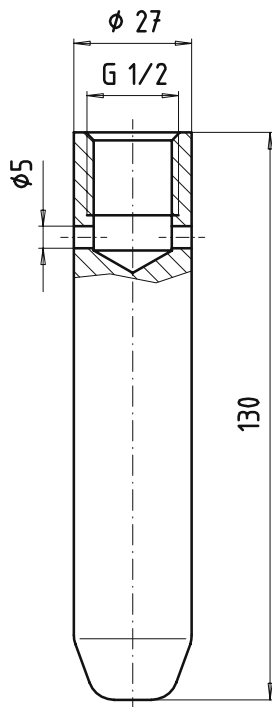


Wiring details, 2-wire system



Accessories

In order to increase the weight of the level probe an **additional weight** can be screwed on.
Order No. 15 24399



Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.
Modifications may take place and materials specified may be replaced by others without prior notice.



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