



**Intrinsically Safe Submersible  
Liquid Level Transmitters**  
Type IL-10 - 50 INWC to 400 PSI

**Tronic**

- FM approved intrinsically safe for Class I Division I and Class 1 Zone 0 locations when used with an approved barrier
- 0.125% B.F.S.L. accuracy with 0.05% repeatability
- Rated IP 68 for permanent submersion
- Vented polyurethane cable withstands 220 pounds of strain
- Teflon cable available as an option
- For level measurement to 900 feet



Intrinsically safe for Class I, Division I, Groups A, B, C, and D  
Class II, Division I, Groups E, F, and G

WIKAL IL-10 intrinsically safe submersible liquid level transmitters are engineered for a wide variety of industrial and municipal liquid level measurement applications. Each transmitter undergoes extensive quality control testing and calibration to achieve an accuracy  $\leq 0.125\%$  full scale. The printed circuit boards use state-of-the-art surface mount technology for protection against mechanical shock and vibration. Each is temperature compensated to assure accuracy and long term stability when exposed to severe ambient temperature variations.

The transmitter features a watertight, vented polyurethane cable that can withstand over 220 pounds of strain. This allows the transmitter to be supported without any additional cabling. The transmitter meets NEMA 6P and IP 68 requirements for submersion up to 900 feet.

This compact, rugged submersible pressure transmitter is suitable for applications in level measurement, water and wastewater treatment, well depth measurement, and offshore water depth measurement where performance and intrinsically safe ratings are required.



**STANDARD RANGES**

RANGE	MAXIMUM*	BURST**
0-50 INWC	30 PSI	30 PSI
0-100 INWC	30 PSI	30 PSI
0-150 INWC	30 PSI	30 PSI
0-250 INWC	60 PSI	60 PSI
0-400 INWC	70 PSI	70 PSI
0-5 PSI	30 PSI	30 PSI
0-10 PSI	60 PSI	60 PSI
0-15 PSI	70 PSI	70 PSI
0-25 PSI	145 PSI	145 PSI
0-30 PSI	145 PSI	145 PSI
0-50 PSI	245 PSI	245 PSI
0-100 PSI	500 PSI	500 PSI
0-200 PSI	1160 PSI	1160 PSI
0-400 PSI	1160 PSI	1160 PSI

(27.7 INWC = 1 PSI)

Notes:

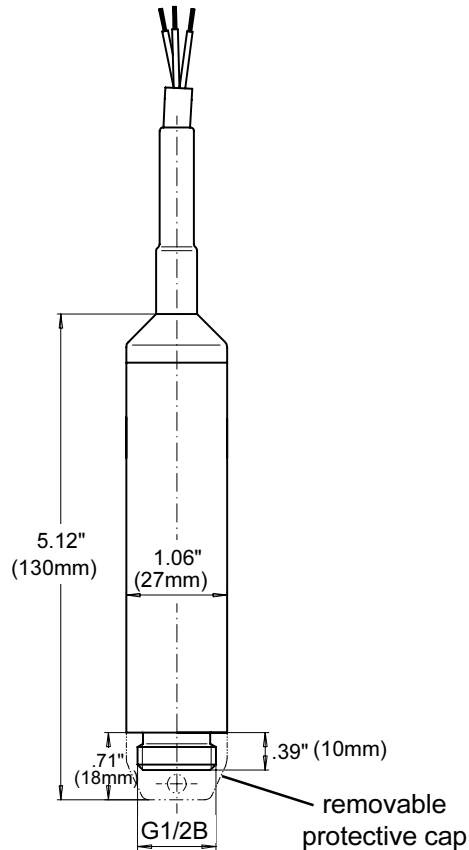
\* Pressure applied up to the maximum rating will cause no permanent change in specifications.

\*\* Exceeding the burst pressure may result in destruction of the transmitter

Specifications	Units	Type IL-10
Sensing principle Pressure ranges Pressure reference	PSI	piezoresistive standard ranges as listed {custom ranges available} relative pressure through vent tube in cable
<b>Pressure connection</b>  <b>Materials:</b> -pressure connection -case -cable -protective cap -shrink hose -internal transmitting liquid		G1/2B with .43" (11mm) diameter pressure port and removable protective cap { NPT adapter available}  1.4571 (316 ss) stainless steel 1.4571 (316 ss) stainless steel PUR (polyurethane) {Teflon cable up to 100 PSI} 1.4571 (316 ss) stainless steel polyolefin (not included with Teflon cable option) synthetic oil
<b>Supply voltage</b> $U_B$  Output signal: maximum load: Response time (10...90%):	DC Volts  milliseconds	10-30  4-20 mA 2-wire $R_A[\text{Ohm}] \leq ((U_B [\text{V}]-10\text{V}) / 0.02 \text{ A})-(0.042 \text{ ohms per foot of cable})$ $\leq 1$
<b>Accuracy</b> ( linearity, including hysteresis and repeatability )  Repeatability Hysteresis 1 year stability	% of span  % of span	$\leq 0.125\%$ (B.F.S.L.) (Calibrated in vertical mounting position with process connection down)  $\leq 0.05$ $\leq 0.1$ $\leq 0.2$ (under reference conditions)
<b>Intrinsically Safe certifications:</b> -Approvals  <b>Conformity specifications:</b> power supply V max short circuit rating I max power limitation Pi internal capacitance Ci internal inductance Li  <b>Temperature</b> Media Ambient Storage  compensated range Temperature error (reference 70°F) on zero point on span	DC Volts mA Watts nF $\mu\text{H}$      % of span % of span	See approvals table on page 4  < 30 100 1 22 + 0.2 per meter of cable 0.1 + 2 per meter of cable  +15°F to +140°F (-10°C to +60°C) +15°F to +140°F (-10°C to +60°C) +15°F to +140°F (-10°C to +60°C)  +32°F to +122°F (0°C to +50°C)  $\leq 0.2$ per 18°F (10°C) ( $\leq 0.4$ per 18°F (10°C) for ranges $\leq 100$ INWC) $\leq 0.2$ per 18°F (10°C)
EMI values  HF-immunity Burst	Volts / meter KV	Interference emission and immunity per EN 61 326  10 {30} 4
Electrical connection  <b>Weight:</b> -Head assembly -cable -Additional weight  Dimensions  Electrical protection  Environmental protection	oz oz per foot lb	Vented polyurethane cable, tensile strength 220 lbs {Teflon cable} maximum cable length 914 feet (279 meters)  approximately 6.5 (0.20 kg) approximately .85 (0.08 kg per meter) Approximately 1.1 (0.5 kg)  see drawings  protected against reverse polarity  IP 68 (NEMA 6P) submersible to 900 feet

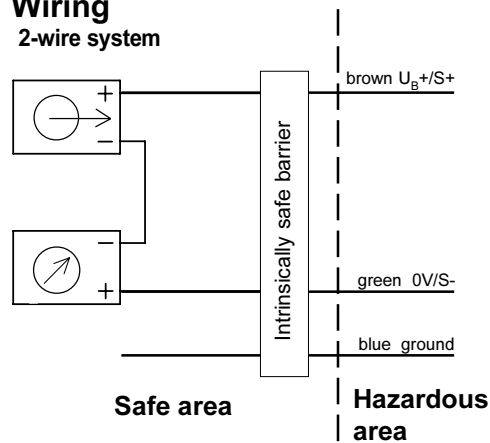
Notes: Items in curved brackets { } are available as special order options  
\*0.25% B.F.S.L. for 50 INWC range

## Dimensions



## Wiring

2-wire system



## 2-wire system

Wire	Coding	Wire Color
Supply +	$U_B+ / S+$	brown
Signal -	$0V / S-$	green

Use blue wire for ground

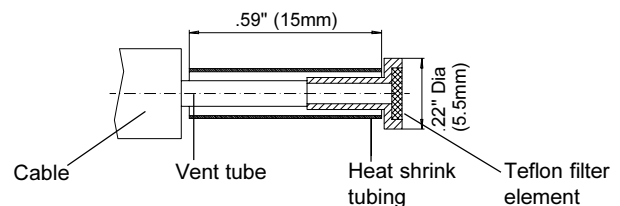
Note: intrinsically safe transmitters require the use of an approved zener barrier or power supply to provide full protection when installed in Class I Division 1 hazardous areas. Be sure to follow all safety procedures when installing, operating, or servicing these transmitters.

## Accessories

### Vent tube filter

Part # 7193131

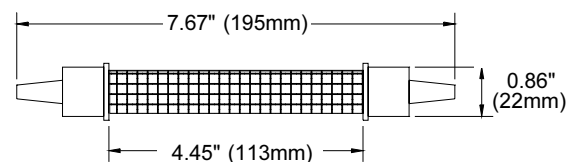
The optional Teflon vent tube filter protects the vent opening and protects against the entry of dirt and moisture. It is installed on the vent tube using the supplied heat shrink tubing.



### Desiccant drying cartridge

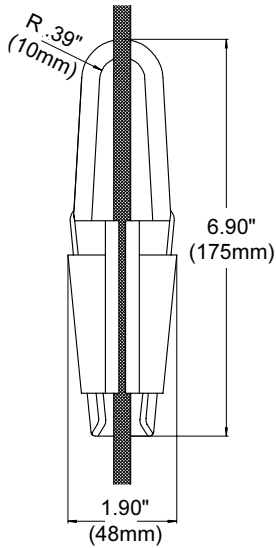
part # 9836700

The optional desiccant drying cartridge helps prevent moisture buildup inside the vent tube.

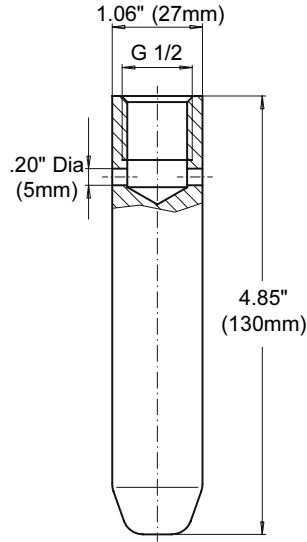


## Accessories

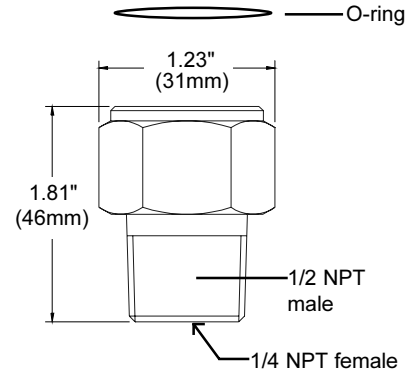
(continued)



**Cable clamp** Part# 2074257  
The cable clamp secures the cable without bending or kinking that can damage the vent tube or outer jacket.



**Additional weight** Part# 1524399  
The additional weight replaces the protective cap and helps to stabilize the transmitter in turbulent conditions.  
Weight: approximately 1.1 lb, 316ss.



**NPT adapter** Part# 1631322  
The 316 ss G1/2 adapter replaces the protective cap and converts the threads to 1/2"NPT male external, 1/4" female internal threads. Includes O-ring.

### Approval authority

FACTORY MUTUAL intrinsically safe with entity approval for:

Class I, Zone 0, A Ex ia IIC  
Class I, II, III, Division 1, Groups A,B,C,D,E,F,G  
Dust ignition proof Class II, III, Division 1, Groups E,F,G  
Non incandive Class I, Division 2, Groups A,B,C,D

V max = 30      VCi = 22 nF  
I max = 100 mA    Li = 0.1 uH  
Pi = 1 Watt

T6 at 60°C, T5 at 70°C, T4 at 85°C

### Codes compliance

FM- 3600, 3610, 3611, 3810 intrinsic standard

THE MEASURE OF  
**Total Performance™**

### Ordering Information:

State computer part number (if available) / type number / range / output / process connection / electrical connection / other required options.

Specifications given in this data sheet represent the state of engineering at the time of printing. Modifications may take place and the specified materials may change without prior notice.

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