High Performance
Submersible Liquid Level Transmitters
Type LH-10 - 50 INWC to 400 PSI

Tronic

(Previous model number 891.13.535)

- 0.125% B.F.S.L. accuracy with 0.05% repeatability
- Rated IP 68 for permanent submersion
- Available with integral Pt 100 temperature sensor for simultaneous level and temperature monitoring
- Vented polyurethane cable withstands 220 pounds of strain
- For depth measurement to 1000 feet

WIKA LH-10 submersible liquid level transmitters and transducers 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 ≤ 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 1000 feet.

Available options include Teflon cable, lightning protection, 6 volt supply for battery powered operation, and integrated Pt 100 element for temperature measurement.

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.

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:
* Maximum pressure, causing no permanent changes in specifications but may lead to adjustable zero and span shifts.
** Burst pressure, leading to destruction of transmitter.

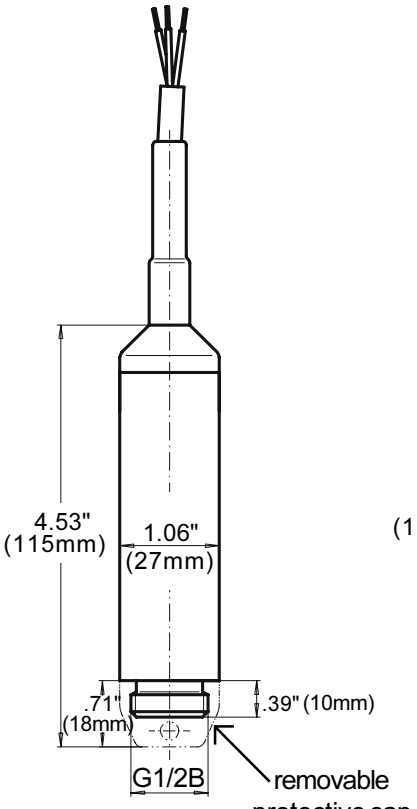
Specifications	Units	Type LH-10
Sensing principle		piezoresistive
Pressure ranges	PSI	standard ranges as listed {custom ranges available}
Pressure reference		relative pressure through vent tube in cable
Pressure connection		G1/2B with .43" (11mm) diameter pressure port and removable protective cap
Materials:		
wetted parts:		
-case		1.4571 (316 ss) stainless steel
-cable		PUR (polyurethane) {Teflon cable up to 100 PSI}
-protective cap		polyamid
-shrink hose		polyolefin (not included with Teflon cable option)
-internal transmitting liquid		silicone oil
Supply voltage U_B	DC Volts	10 - 30 (14 - 30 with 0 - 10 V output signal)
Output signals		4-20 mA 2-wire {0-20 mA 3-wire} {0-5 V 3-wire} {0-10 V 3-wire} {0.5-2.5V 3-wire for battery operation} {Pt 100 4-wire per DIN IEC 751}
maximum load:		
-milliamp output signal		R_A[Ohm] $\leq$ ((U_B [V] -10V) / 0.02 A)-(0.042 ohms per foot of cable)
-voltage output signal		R_A > 100 kOhms
Response time (10...90%)	milliseconds	$\leq$ 1
Accuracy (linearity, including hysteresis and repeatability)	% of span	$\leq$0.125% (B.F.S.L.) (Calibrated in vertical mounting position with process connection down)
Repeatability	% of span	$\leq$ 0.05
Hysteresis		$\leq$ 0.1
1 year stability	% of span	$\leq$ 0.2 (under reference conditions)
Temperature		
Media		+15°F to +122°F (-10°C to +50°C) {+15°F to +185°F (-10°C to +85°C) with Teflon cable}
Storage		-22°F to +176°F (-30°C to +80°C)
Compensated range		+32°F to +122°F (0°C to +50°C)
Temperature error (reference 70°F)		
on zero point	%	$\leq$ 0.2 per 18°F (10°C) change ($\leq$ 0.4 per 18°F (10°C) for ranges $\leq$ 100 INWC)
on span	%	$\leq$ 0.2 per 18°F (10°C) change
CE conformity		Interference emission per EN 50 081-1 (March 1993) and EN50 081-2 (March 1994), Interference immunity per EN 50 082-2 (March 1995)
Electrical connection		Vented polyurethane cable, tensile strength 220 lbs {Teflon cable}
Weight:		
-Head assembly	oz	approximately 6.5 (0.20 Kg)
-cable	oz per foot	approximately .85 (0.08 kg per meter)
-Additional weight	lb	Approximately 1.1 (0.5 kg)
Dimensions		see drawings
Electrical protection		protected against reverse polarity, short circuit, and overvoltage {lightning protection to IEC 801-5, 1.5kV}
Environmental protection		IP 68 (NEMA 6P) submersible to 1000 feet

Notes: Items in curved brackets { } are available as special order options

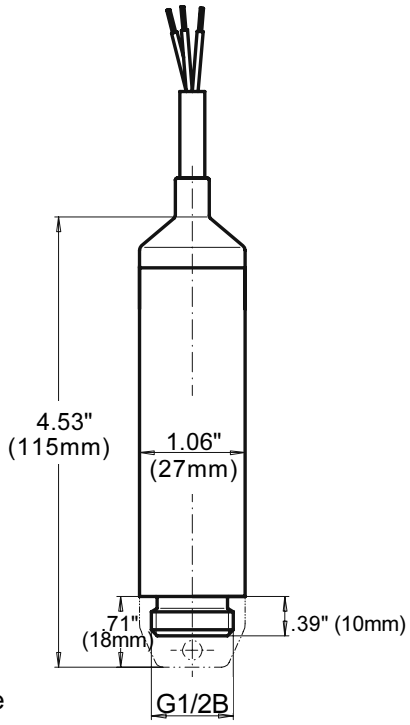
[1] for presure ranges $\geq$ 100 INWC

[2] 0.25% B.F.S.L. for 50 INWC range

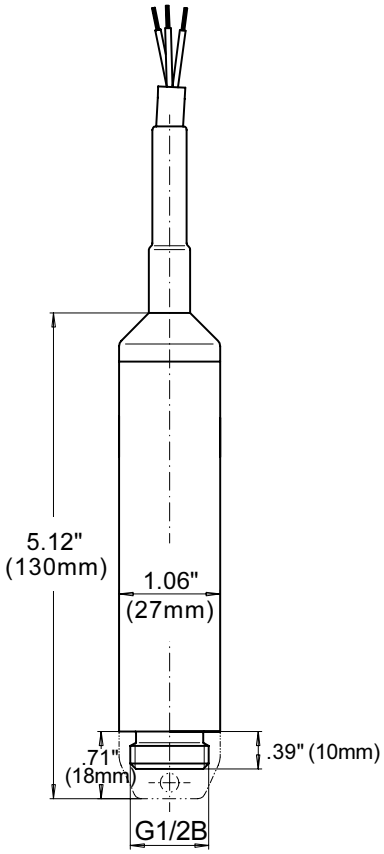
Dimensions



LH-10



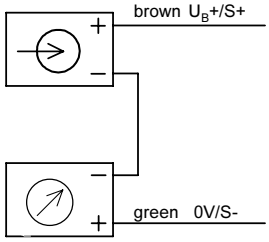
LH-10 with Teflon cable option



LH-10 with IEC 801-5 lightning protection

Wiring

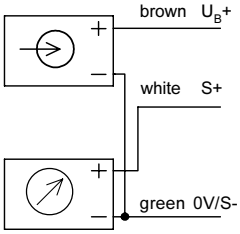
2-wire system



2-wire system

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

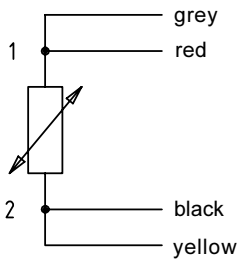
3-wire system



3-wire system

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

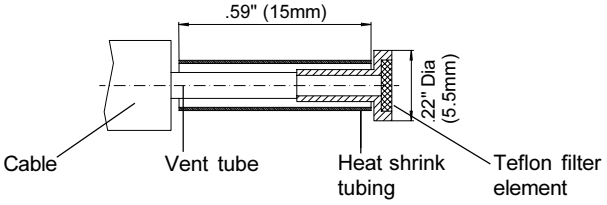
Temperature sensor option
Pt 100-element, 4-wire system



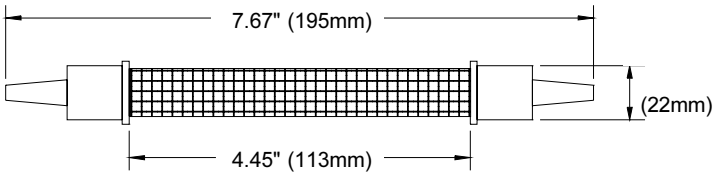
Accessories

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.



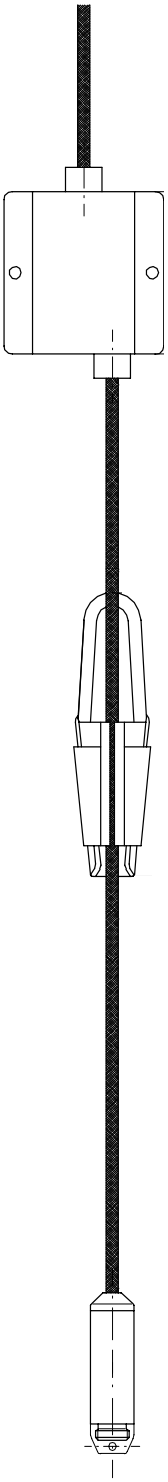
Accessories
(continued)

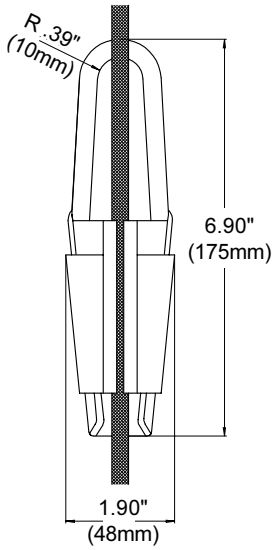


Desiccant drying cartridge part # 9836700

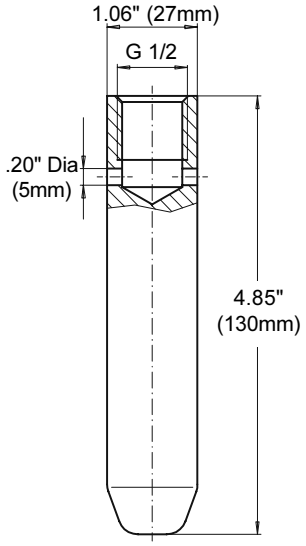
The optional desiccant drying cartridge helps prevent moisture buildup inside the vent tube.

Mounting example

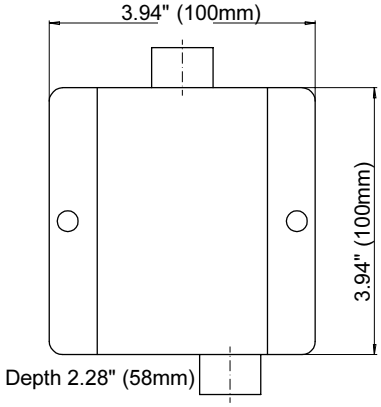




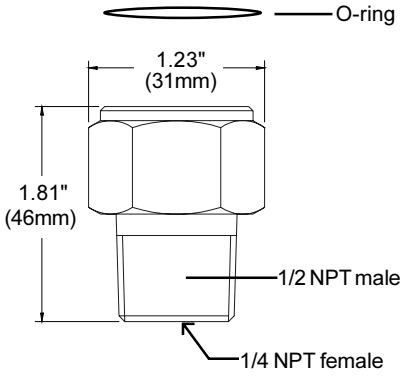
Cable clamp Part# 2074257
The cable clamp secures the cable without bending or kinking that can damage the vent tube or outer jacket.



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.



Cable junction box Part# 2074460
The cable junction box is rated NEMA 3S / IP 54 and is suitable for mounting outside tanks or shafts or inside dry control boxes.



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.

THE MEASURE OF

Total Performance™

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

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