



# PLN-500

## Submersible Liquid Level Transmitters

- Simple to install liquid level measurement
- High precision, solid state signal: 4-20 mA

STI submersible liquid level transmitters are engineered for a wide variety of industrial and municipal liquid level measurement applications requiring watertight protection. Each transmitter undergoes extensive testing and calibration to achieve an accuracy of 0.25% of span. State-of-the-art surface mount technology provides added protection from shock and vibration. Each unit is temperature compensated to ensure accuracy and long term stability under extreme temperature variations.

The transmitters feature a vented, watertight cable designed to withstand 220 lb. of strain. Longer cables are available on request. This enables the transmitter to be supported without any additional cabling. The unit meets IP68, the International Protection standard for electrical equipment, for submersion to 1000 ft.

The transmitter can be supplied with lightning protection to IEC 801-5 (1.5 KV) standards. Additional sensor weights are available when long cable lengths are utilized.

### ■ Applications

These compact, rugged submersible pressure transmitters are suitable for applications in tank liquid level measurement, water and wastewater, well depth measurement, and offshore water depth measurement (sea water).



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### For the Latest Information

Try Our Fax Back System at **1/916/431-6544**

On the Internet: [www.stiapg.com](http://www.stiapg.com) E-mail: [sales@stiapg.com](mailto:sales@stiapg.com)

■ Specifications

<b>Input:</b> 10-30 VDC*
<b>Accuracy</b>
Linearity (B.F.S.L.): 0.25% of span
Hysteresis: 0.1% of span
Repeatability: 0.05% of span
1 Year Stability: 0.2% of span
Response Time (10-90% full scale): 1 ms
<b>Temperature</b>
Effective Temperature Compensation: 32 to 122°F (0 to 50°C)
Media: 15 to 122°F (-10 to 50°C)
Ambient: 15 to 175°F (-10 to 80°C)
Storage: -30 to 175°F (-30 to 80°C)
<b>Temperature Error:</b> (Reference temperature 70°F (21°C))
On Zero (% span per 18°F (10°C)): 0.2 (< 0.4 for ranges < 100 INWC)
On Span (% span per 18°F (10°C)): 0.2
<b>Electrical Connection:</b> 40 ft. vented watertight cable with free end
Tensile strength: maximum 200 lb.
Other cable lengths available
<b>Enclosure Protection:</b> Submersible up to 1000 ft. (IP68/NEMA 6)
<b>Material</b>
Wetted Parts: 316L SS and 304 SS
Cable: Polyurethane
Shrink Tubing: Polyolefin
Protective Cap: Polyamide
<b>Transmitting Fluid:</b> Silicone oil, other transmitting liquids available
<b>Electrical Protection:</b> Protected against reverse polarity, short circuit output and suppressor diode for high voltage protection. Optional lighting protection to IEC 801-5 (1.5 kV).

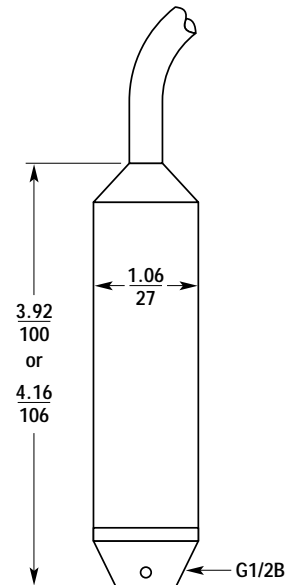
\* Standard and in stock  
Specifications are subject to change without notice.

■ Wiring

<b>2-Wire Current Loop</b>	
Signal	Wire Color
Supply +	Brown
Signal -	Green
<b>3-Wire Voltage Output**</b>	
Signal	Wire Color
Supply +	Brown
Supply-/Signal-	Green
Signal +	White

 For PLN wiring schematics, see page B52.

■ Dimensions — in./mm



(Shown with protective cone in place.)



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## Options Tables

### Standard Ranges Table

Series 500

Range		Maximum*	Burst**
Option	Range	(psi)	(psi)
50 INWC***	0-50 INWC	30	30
100 INWC	0-100 INWC	30	30
150 INWC	0-150 INWC	30	30
250 INWC	0-250 INWC	60	60
400 INWC	0-400 INWC	70	70
5 <sup>s</sup>	0-5 psi	30	30
10 <sup>s</sup>	0-10 psi	60	60
15 <sup>s</sup>	0-15 psi	70	70
25	0-25 psi	145	145
50	0-50 psi	245	245
100 <sup>s</sup>	0-100 psi	500	500
200 <sup>s***</sup>	0-200 psi	1160	1160
400 <sup>s***</sup>	0-400 psi	1160	1160

Notes:

27.7 INWC = 1 psi

- <sup>s</sup> Stock models with 40 ft. of cable, others custom. Allow 6 weeks for delivery.
- \* Maximum pressure, causing no permanent changes in specifications but may lead to adjustable zero and span shifts.
- \*\* Burst pressure, leading to permanent nonadjustable changes in specifications (i.e. zero offsets) or destruction of the transmitter
- \*\*\* Optional, consult STI.

### Output & Load Limitation Table

L1\*: 4-20 mA, 2-wire,  $R_{(max)} = ((V_s - 12V) / 0.02 A) - (0.042 \text{ per ft. of cable})$

\* Standard

### Process Connection Table

P23\*: G1/2B with removable plastic nose cone.

\* Standard

## Ordering Information

	PLN-5	-	-	-	-	-
Standard Ranges	See Standard Ranges Table					
Output and Load Limitation	See Output & Load Limitation Table					
Process Connection	See Process Connection Table					
Options	See Options Table					
Cable Length	Specify feet. (5 ft. is standard)					

\*\* Optional, consult STI.



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# Wiring Schematics

For the PLN-300, PLN-400, and PLN-500



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## 4-20 mA 2 Wire System

The 2 wire system connects the power supply, transmitter, and indicating/recording instruments in a series circuit. This creates a “current loop” with the transmitter functioning as a current regulating device.

## 0-5 V, 1-5 V or 0-10 V 3 Wire System

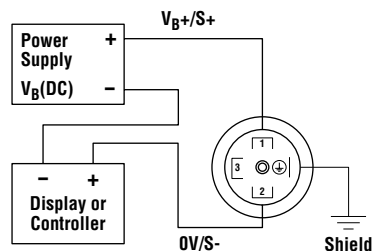
The 3 wire system features separate leads for the signal and power supply. The third lead is common minus for both devices. The signal source and indicating/recording instrument are connected in series, the power supply in parallel.

For information on the PLN-300, see page B42.

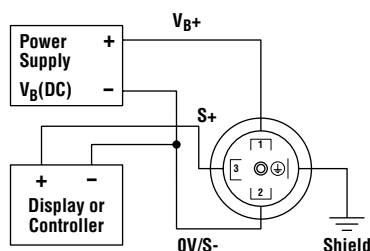
For information on the PLN-400, see page B45.

For information on the PLN-500, see page B49.

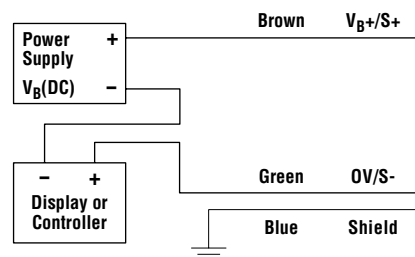
### DIN Connector (PLN-300, 400 and 700 Series only)



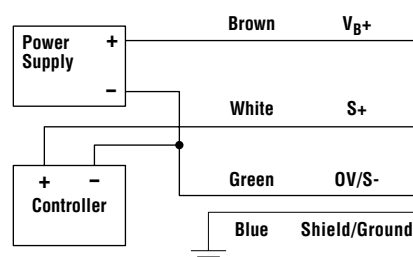
### DIN Connector (PLN-300, 400 and 700 Series only)



### Flying Leads



### Flying Leads



#### Terminal Coding Notes:

- V<sub>B</sub><sup>+</sup>** : Plus power supply
- 0V** : Minus power supply (common, ground)
- S<sup>+</sup>** : Plus output signal
- S<sup>-</sup>** : Minus output signal (common, ground)

**Shield** : Cable shield/transmitter body

The supply voltage must be higher than the minimum required voltage as determined by the load equation for the specific transmitter. Refer to the specifications section of the data sheets for additional information.