



OMNTEC

Advanced Tank Monitoring & Leak Detection



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PS SERIES SENSORS

PART NUMBERS: BX-PDWF-PS | BX-LWF-PS | PDWF-PS | LWF-PS

INSTALLATION GUIDE



PULL STRING STYLE SENSORS

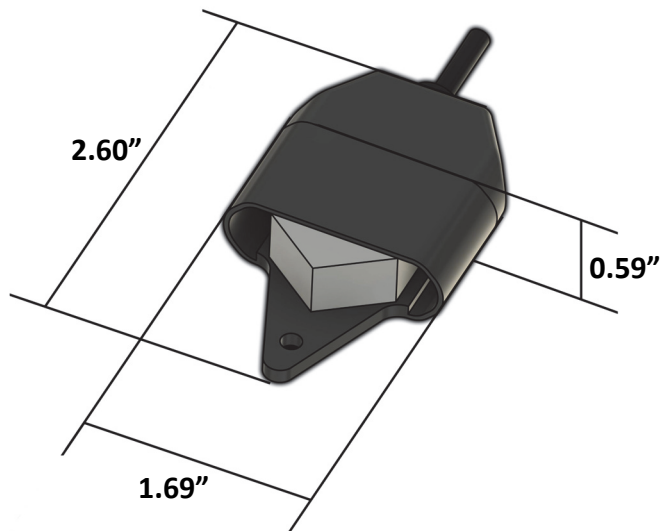
Revision 2616

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The PS Series sensors employ OMNTEC's electro-optic technology to detect the presence of liquid leaks. This technology provides reliable and continuous monitoring with self-test capability. With their slim design and pull-string installation, they are easily deployed into the dry interstitial space of double wall tanks.

Versions are available in non-discriminating (liquid only) and product-discriminating.

Please see the chart below (**Table 1.0**) for sensor capability and console compatibility.



PS Series Versions:

Sensor Part Number	Capability	Compatible System
BX-LWF-PS	Non-Discriminating (liquid only)	OEL-8000II, OEL-8000III
BX-PDWF-PS	Product-Discriminating	OEL-8000II, OEL-8000III
LWF-PS	Non-Discriminating (liquid only)	LU Series Controllers
PDWF-PS	Product-Discriminating	LU, LPD Series Controllers

^ Table 1.0

Operating Specifications:

Sensor Cable:	Shielded 22 AWG with drain wire (25 feet)
Principles of Operation:	
Normal Condition:	Normally closed beam of light
Alarm Condition:	Normally closed beam of light opens
Water Condition: (Product-Distinguishing Version Only)	Immersed in conductive fluid
Response Time:	Immediate
Operating Temperature:	-40° to 85° C
Approvals:	UL listed, CUL listed, CE

^ Table 1.1

Component Kit Includes:

- Optic sensor, with attached 22 AWG shielded cable with drain wire (25 feet). *
- Cord grip (3/4 inch).
- SK-4 sealant kit (includes wire nuts and cable ties). Refer to our document 400128.

PLEASE NOTE: Pull-string is not included; it must be supplied by the customer. 50 feet recommended.

* 22 AWG shielded field wire (OMNTEC EC-4). Maximum length is 2,000 feet.

Sensor Cable Marking Calculation Procedure:

The PS sensor (**Figure 2.0**; purple) must rest at the bottom-most point within the interstitial space of the double wall tank. Measure the RISER PIPE HEIGHT (A), (**Figure 2.0**; green). Add this value (inches) to the LENGTH column for the coinciding DIAMETER OF TANK. Reference **Table 2.0** (below) for STANDARD DIAMETER OF TANK and their respective LENGTH (B). LENGTH (B) refers to half the circumference of the tank (**Figure 2.0**; red).

This measurement determines where you will mark the SENSOR CABLE (**Figure 2.0**; orange), from the sensor prism. This marking ensures the sensor is properly positioned at the bottom-most point of the double wall tank. Incorrect calculation, marking, and deployment may result in improper functionality of the PS Series sensor.

Standard Diameter of Tank (Feet)	Length (B) (Inches)
4	75
6	113
8	151
10	188
12	226

^ Table 2.0

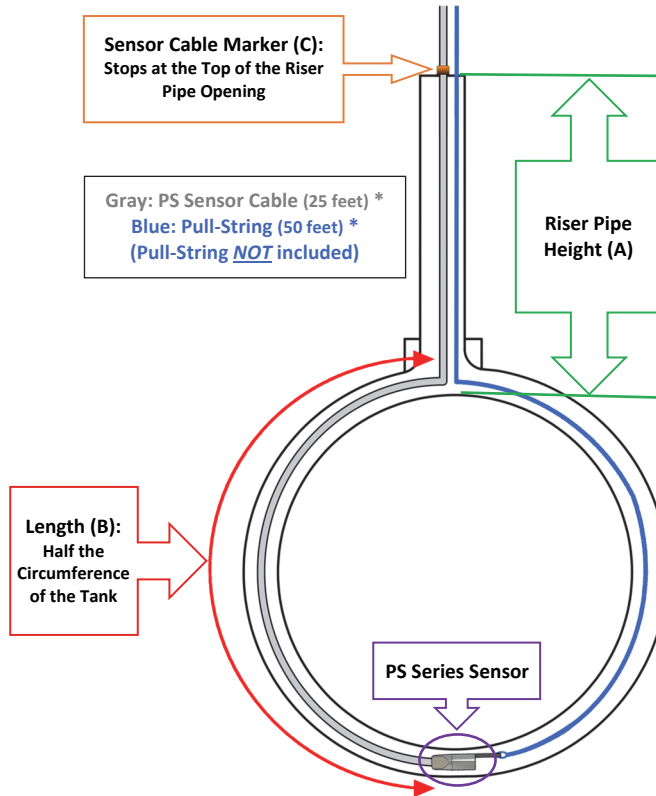


Figure 2.0 (cross section of a double wall tank with riser pipe)
 *Note: colors depicted are document references

PLEASE NOTE: Your specific tank may not be of a standard tank diameter listed in **Table 2.0**. If this is the case, use the following non-standard tank formula to determine your specific LENGTH (B):

Non-Standard Tank Formula

$$1.57 \times (\text{TANK DIAMETER}) = \text{LENGTH (B)}$$

$$\text{Example: } 1.57 \times 48 \text{ inches (4 feet)} = 75 \text{ inches}$$

Use the worksheet below to calculate your specific SENSOR CABLE MARK LENGTH:

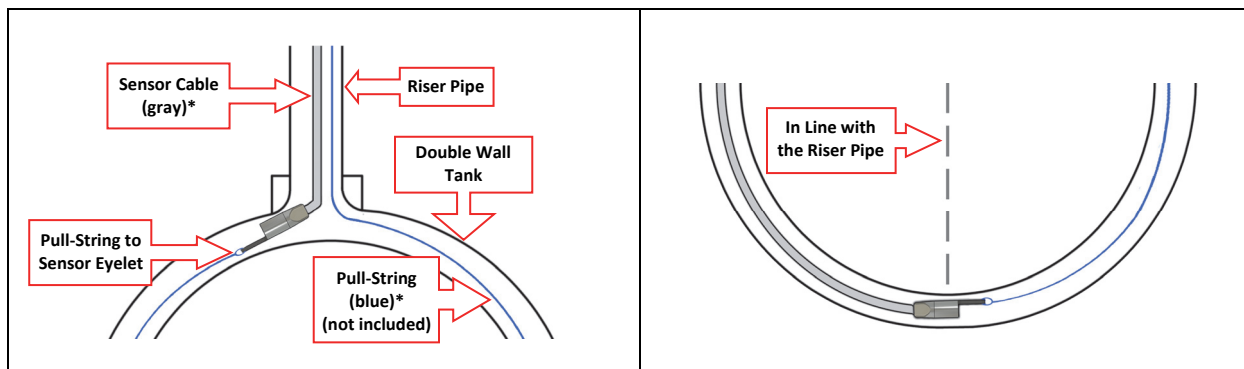
Step 1: Measure the RISER HEIGHT.	A	_____ inches
Step 2: Determine the LENGTH.	B	_____ inches
Step 3: Calculate your SENSOR CABLE MARK LENGTH.	C	_____ inches

$$\text{RISER HEIGHT (A) + LENGTH (B) = SENSOR CABLE MARK LENGTH (C)}$$

^ Table 2.1

Sensor Installation and Deployment:

Confirm no liquid is present in the annular space of the double wall tank. After installing the 50-foot pull-string (not included) into the space and back out the top of the riser, attach and secure the pull string to the eyelet hole on the PS sensor. Using the opposite end of the pull-string, lead the sensor into the riser and interstitial space until the sensor cable mark is at the top opening of the riser (**Figure 2.0**). This ensures the sensor is at the bottom of the double wall tank, based on your (**Table 2.1**) calculations.
(See **Figure 3.0** and **Figure 3.1**).



^ **Figure 3.0** (top of double wall tank and riser pipe)
*Note: colors depicted are document references

^ **Figure 3.1** (bottom of double wall tank)



Snake the pull-string (start end) down the riser pipe, around the interstitial space of the double wall tank, and back out the top of the riser pipe. Attach and secure the PS sensor to the other end of the pull string, at its eyelet, and carefully lead it down into the riser pipe and interstitial space by pulling on the start end of the pull-string.


The PS sensor must sit at the bottom of the interstitial space of the tank, in line with the riser pipe. Stop pulling the pull-string when the calculated sensor cable marking is at the top opening of the riser pipe. This confirms the PS sensor is at the bottom of the tank. Refer to **Table 2.0** and **Table 2.1** for calculating the cable sensor mark for your specific tank.

Be sure to seal the cap and cord grip properly to prevent possible water intrusion.

For (Bright Eye Series) BX-PS sensors, ATG wiring and programming is required. Please refer to the proper ATG installation and programming manuals for step-by-step instructions. Both installation and programming should be performed by an OMNTEC authorized technician.

Manuals are available on our website at <https://www.omntec.com/support/documents>.

 <p>WARNING</p> <p>FAILURE TO COMPLY CAN CREATE AN ELECTRIC SHOCK OR EXPLOSION HAZARD CAUSING DEATH, PERSONAL INJURY, OR PROPERTY DAMAGE.</p>	 <p>CAUTION</p> <p>FAILURE TO MAKE ELECTRICAL SPLICES, CONDUITS, AND JUNCTION BOXES WATER-TIGHT CAN RESULT IN SYSTEM FAILURE DUE TO WET WIRES.</p>
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CAUTION

FAILURE TO COMPLY WILL RESULT IN IMPROPER SYSTEM OPERATION.