



Intrinsically Safe Transducer Pro™ Submersible Level Transmitter Installation and Operation Manual TPRO-X-XX-XX

Intrinsically Safe Transducer Pro™ Submersible Level Transmitter

The Intrinsically Safe Transducer Pro™ Submersible Level Transmitter is specifically designed to measure the liquid level in a wastewater or slurry tank referenced to atmospheric pressure. The transmitter consists of a piezoresistive sensing element, which is encased in 316 stainless steel housing. Transducer Pro™ is perfect for wastewater and slurry applications with features to protect the unit from these demanding applications.

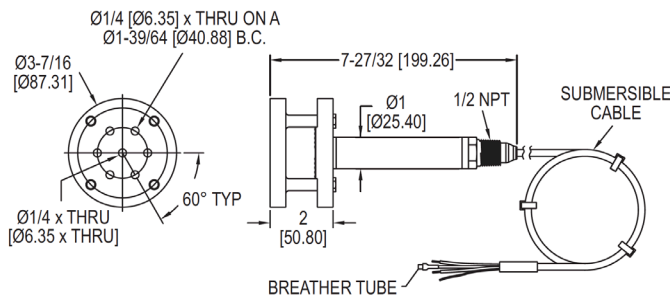
The large diameter 316 stainless steel diaphragm seal is non-clogging and damage-resistant to floating solids. It comes equipped with a 270-pound tensile strength shielded and vented cable. Ventilation tube in the cable automatically compensates for changes in atmospheric pressure above the tank. The vent is protected with a maintenance-free filter, which prevents particulate or water droplets from entering the transducer.

Model	Transducer Pressure Upper Limit	Maximum Water Level: ft (m)	Cable Length: ft (m)
TPRO-X-10-50	10 psi	23 ft (7 m)	50 ft (15 m)
TPRO-X-20-50	20 psi	46 ft (14 m)	50 ft (15 m)

Features:

- Excellent chemical compatibility with 316 SS construction and ETFE cable
- Lightning and surge protection
- Maintenance-free vent filter
- Large diameter, non-clogging, damage resistant, 316 SS diaphragm seal

Dimensions:



WARNING: A voltage potential between the ground wire of the unit and the ground of other equipment can lead to electrolytic corrosion. Always ensure the grounding system provides an equipotential between the transmitter and the earthing ground connection. Avoid using the power system protective ground since this will often have a significant potential difference to the transmitter ground. Also, note that dissimilar metals in the ground system may cause electrolysis corrosion of the transmitter or other components in the ground system.

During installation, connect a voltmeter or ammeter between the shield ground wire and the grounding connection. If there is a measurable voltage or current electrolytic corrosion may be a serious possibility. If there is a potential difference then some isolation system will be required. Improper grounding may lead to damage or poor function.

Electrical Properties:

- **Power Requirement:** 13-30 VDC
- **Output Signal:** 4-20 mA DC, two wire
- **Response Time:** 50 msec
- **Loop Resistance:** 850Ω 30V DC
- **Electrical Connection:** Wire pigtail
- **Accuracy:** ±0.25% full scale (under normal temperature)
- **Thermal Effect:** Less than ±0.02%/°F (Thermal effect of 212°F whole temperature range)

Mechanical Properties:

- **Pressure Limit:** 2X full scale
- **Seals:** Fluoroelastomer
- **Wetted Materials:** 316/316L SS

Operating Condition:

- **Operating Temperature:** -18 - 93°C (0-200°F)
- **Compensated Temperature Range:** -18 - 82°C (0-180°F)
- **Service:** Compatible liquids



www.seewaterinc.com
951.487.8073 • 888.733.9283 • info@seewaterinc.com
22220 Opportunity Way, Suite 101 • Riverside, CA 92518

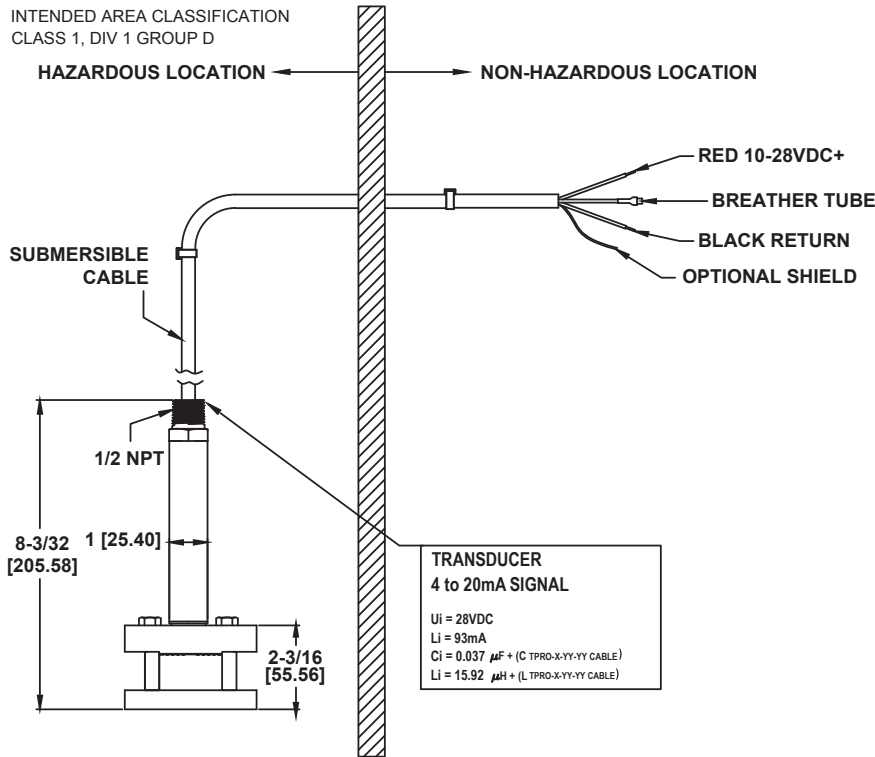


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Installation:

Mounting Orientation: The Transducer Pro™ should be suspended in the tank below the level being measured. The vertical fixed method is best for highest accuracy. The Transducer Pro™ can also be placed on the bottom of the tank on its side.

An external power supply delivering 13-30 VDC with minimum current capability of 40 mA DC (per transmitter) is required to power the control loop. See figure below for connection of the power supply, transmitter, and receiver.



The maximum receiver load resistance (RLmax) for the DC power supply voltage (Vsup) is expressed by the formula below:

$$RL_{max} = \frac{V_{sup} - 13 V}{0.02A}$$

Shielded cable is recommended for control loop wiring.

INSTALLATION NOTICE:

- The Transducer Pro™ is built with a high-accuracy induction diaphragm, which cannot be touch by hand or other objects.
- The accuracy of measurement depends on the installation mode. The vertical fixed method has the highest accuracy.
- There is an air tube in the wire, so the wire cannot be bent at 90 degrees, otherwise measurement accuracy will be affected.

Warranty:

See Water, Inc. warrants that products of its manufacture are free from defects in material and workmanship for a period of 2 years from the date of purchase. This date shall be determined by the date on the invoice and the serial number on the product.

Replacement of the product is at the discretion of See Water, Inc. This warranty is valid when the product is installed in compliance with the manufacturer's installation instructions. The manufacturer's obligation under this warranty shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided that the product is returned to See Water, Inc.'s factory, postage prepaid with proof of original purchase included.

The manufacturer of this warranty shall not be liable under this warranty if the product has not been properly installed; any alterations/additions/changes to the product will result in a void warranty. Failure to properly install and test this product can result in personal injury or equipment malfunction.

See Water, Inc. shall not be liable for any loss, damage or expenses from installation or use of its products.

www.seewaterinc.com

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22220 Opportunity Way, Suite 101 • Riverside, CA 92518