

## 104482-20 Electrodeless Conductivity Sensor

### Wiring

Terminal numbers will vary with the controller model code. Refer to the instruction manual for your model.

BLK	TEMP-
BLK	TEMP+
SHIELD	R-SHLD
BLU	RCV-
RED	RCV+
GRN	XMT+
WHT	XMT-

### Programming

Cell Constant 25

Temperature Element Pt1000

### Mechanical Specifications

Dimensions: 139.7 mm (5.5") x 44.5 mm (1.75"), 3/4" NPTM

Cable length: 6.1 m (20 ft.) cable standard, Maximum cable length 36 m (120 ft.)

Materials of Construction: GFRPP

Temperature range: -5 to 100 °C (23 to 212 °F)

Pressure range: 0 to 100 PSI (6.9 bar) at 65 °C

Conductivity range: 500 µS/cm-2000 mS/cm

### Walchem Controller Measurement Specifications

Electrodeless Conductivity		
Range	Resolution	Accuracy
500-12,000 µS/cm	1 µS/cm, 0.01 mS/cm, 0.1 mS/m, 0.001 S/m, 1 ppm	1% of reading
3,000-40,000 µS/cm	1 µS/cm, 0.01 mS/cm, 0.1 mS/m, 0.001 S/m, 1 ppm	1% of reading
10,000-150,000 µS/cm	10 µS/cm, 0.1 mS/cm, 1 mS/m, 0.01 S/m, 10 ppm	1% of reading
50,000-500,000 µS/cm	10 µS/cm, 0.1 mS/cm, 1 mS/m, 0.01 S/m, 10 ppm	1% of reading
200,000-2,000,000 µS/cm	100 µS/cm, 0.1 mS/cm, 1 mS/m, 0.1 S/m, 100 ppm	1% of reading

## Installation

### General Guidelines

Mount the sensor as close as possible to the controller. Take care to shield the cable properly. Maximum cable length is 120 feet. If cable is installed in metal conduit (recommended), either flexible conduit should be used, or some other provision made for removal of sensor from the process for maintenance.

Position the sensor such that a fresh, representative sample of the solution is available, and air bubbles, sediment, or oil will not be trapped within the sensing area.

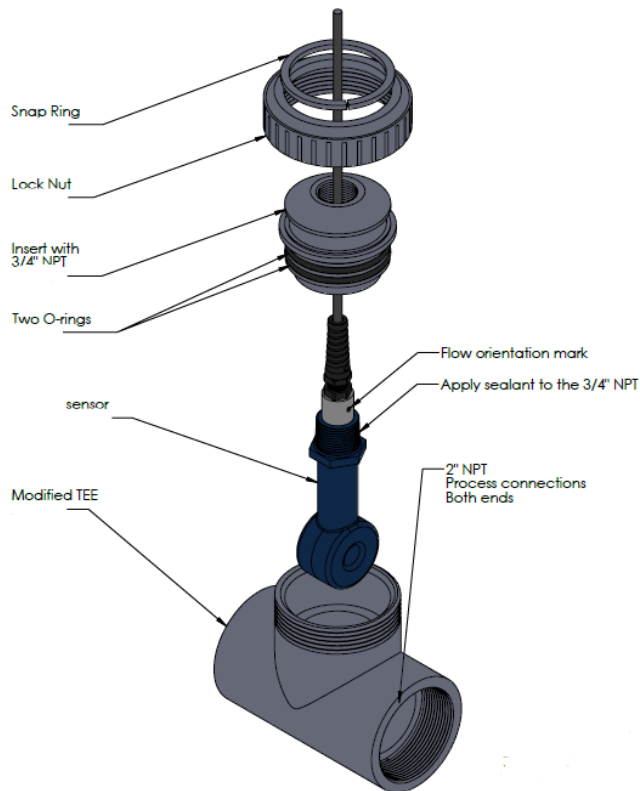
Do not place the sensor in the direct path of the flow of electrical current in the sample.

### Submersion Installation

The submersion sensor requires a 3/4" NPTF coupling for connection to standard compatible pipe (both user-supplied). The sensor should be immersed away from the walls and floor of the tank by a minimum of 2 inches. The support pipe must be long enough to be above solution level. It should be sealed at the top, with a user-supplied cable gland, to prevent moisture from filling the pipe. This pipe will usually be suspended from a bracket attached to the lip of the tank.

If the cable can be exposed to moisture, it must be protected with flexible conduit (preferably metal).

### Inline Installation



An optional mounting tee is available. Pull the cable through the insert, then lock nut and then snap ring. Apply sealant to the sensor threads and screw the sensor into the insert. Orient the sensor with the hole in line with the flow direction and push it into the tee. Hand-tighten the lock nut to hold the sensor in place and then push the snap ring onto the lock nut.