

ST 315.21 Toroidal submersible probe



Principle of operation

When the electrodeless conductivity sensor is immersed in the solution to be measured, a conductive loop is created through the two toroidally wound coils. An alternating current is applied to one of the coils which induces a current in the conductive loop. The second coil is used to measure the conductivity which is proportional to the induced current in the solution. The advantages of the electrodeless method are more apparent in measurement applications in which electrodes contamination and polarization of a conventional conductivity system can lead to erroneous readings.

Probe assembly

The submersible probe is a 5 part assembly:

- a sensing toroidal element with a built-in temperature sensor
- a mounting adapter screwed to the back of the sensing element. The back end is FNPT threaded for 1" pipe mounting.
- a mounting adapter screwed to the bottom of the microtransmitter. The back end is FNPT threaded for 1" pipe mounting.
- a microtransmitter type 080315
- an extension pipe threaded two ends MNPT, not included in the package

This probe is compatible with C 7685 and C 565.2 B&C Electronics controllers.

Specifications

Installation: submersible

Microtransmitter: model 080315 (PVC housing)

Cell: toroidal

Temperature sensor: Pt100

Materials: PVC

Extension: 3 m max

Max. Temperature: 40 °C part in contact with liquid

Temperature coeff.: TC of the liquid + 0.3 %/°C

Max. Pressure: 3 Atm. at 25 °C

Cable length: 3.5 m

Protection: IP68

Accessories

SZ 9481 10 m cable with connector 2231520

SZ 9483 30 m cable with connector 2231520

2231520 IP67 connector for cable

Toroidal E. Conductivity Loop powered transmitters



ST 3254.1 0/10 mS range

ST 3254.2 0/100 mS range

ST 3254.3 0/1000 mS range

ST 3214.5 0/200 mS range

This E. Conductivity probe consists of a loop powered transmitter and an electrodeless conductivity sensor in a single package. Temperature compensation is accomplished with a built-in sensor. Applications include water treatment, cooling tower and water monitoring. Four models are available for specific measuring range.

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Each probe contains:

- two measuring toroidal coils
- temperature sensor
- 4/20 current loop amplifier

Specifications

Measuring method: toroidal

Power supply: 11/30 Vdc

Temperature sensor: built-in

Load: 600 ohm max. at 24 Vdc

Max. temperature: 50 °C part in contact with liquid

Temperature Coefficient: 2.2 %/°C (2.0 for ST 3214.5)

Temperature Reference: 25 °C (20 °C for ST 3214.5)

Max. Pressure: 10 bar at 25 °C

Length: 207 mm

Thread: 1 1/2" MNPT (both sides)

Body: PVC-C

Cable length: 3 m **Installation:** in-line or submersible