

# ST 3254.X - ST 3214.X

## Electrodeless 4-20mA Loop Conductivity Sensors

- ST 3254.1** 0/10 mS range
- ST 3254.2** 0/100 mS range
- ST 3254.3** 0/1000 mS range
- ST 3214.4** 0/20 mS range
- ST 3214.5** 0/200 mS range
- ST 3214.6** 0/2000 mS range

On request, a model with range 0/300 mS is available.

This E. Conductivity sensor 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. Six models are available for specific measuring range.

### Principle of operation

When the electrodeless conductivity sensor is immersed in the sample 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.

Each sensor contains:

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



### Technical specifications

<b>Measuring method</b>	toroidal
<b>Power supply</b>	11/30 Vdc
<b>Temperature sensor</b>	built-in
<b>Load</b>	600 ohm max. at 24 Vdc
<b>Max. temperature</b>	50 °C part in contact with liquid
<b>Temperature coefficient</b>	2.2 %/°C (2.0 for ST 3214.X)
<b>Temperature reference</b>	25 °C (20 °C for ST 3214.X)
<b>Max. pressure</b>	10 bar at 25 °C
<b>Length</b>	207 mm
<b>Thread</b>	1 1/2" MNPT (both sides)
<b>Body</b>	PVC-C
<b>Cable length</b>	3 m
<b>Installation</b>	in-line or submersible