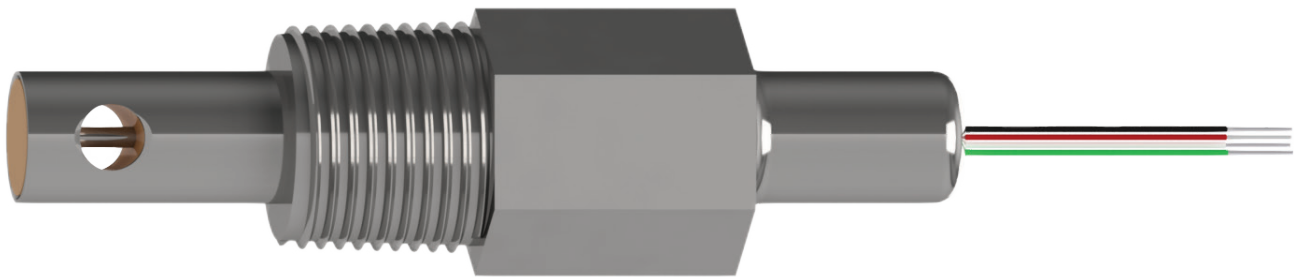




## CS650 Stainless Steel Contacting Conductivity Sensor Product Manual



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## Introduction

Thank you for choosing the Sensorex CS650 Stainless Steel Contacting Conductivity Sensor. See below for ordering configurations and product specifications.

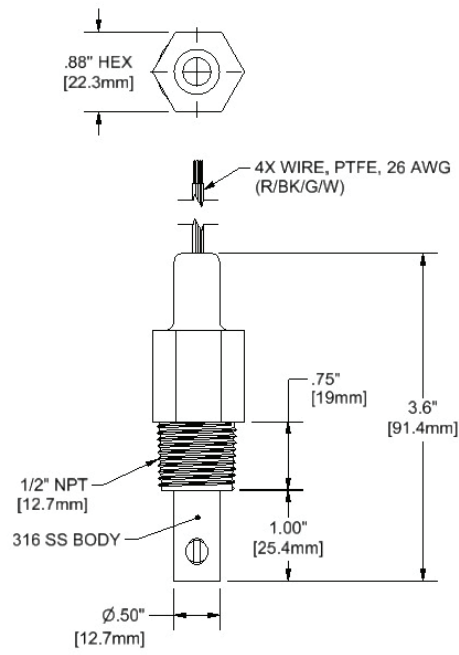
## Model # CS650 Ordering Matrix

Description	Code	X	X	X	X	X
<b>CELL CONSTANT</b> <ul style="list-style-type: none"> <li>0.1/cm</li> <li>1.0/cm</li> <li>Custom Modification (<i>customer-specified</i>)</li> </ul>	B C M	○				
<b>TEMPERATURE COMPENSATION</b> <ul style="list-style-type: none"> <li>No Selection</li> <li>PT1000</li> <li>Custom Modification (<i>customer-specified</i>)</li> </ul>	N 1 M	○	—			
<b>CABLE LENGTH</b> <ul style="list-style-type: none"> <li>6" (15 cm) Wires ●</li> <li>10 ft. (3m) ●</li> <li>6" (15 cm) Wires ●</li> <li>10 ft. (3m) ●</li> <li>Custom Modification (<i>customer-specified</i>)</li> </ul> <ul style="list-style-type: none"> <li>Two-Wire Cable. COMPATIBLE with "N" under Temperature Compensation.</li> <li>Standard Four-Wire Cable. NOT COMPATIBLE with "N" under Temperature Compensation.</li> </ul>	AA AC BA BC M	○	—	—		
<b>CABLE TERMINATION CONNECTOR</b> <ul style="list-style-type: none"> <li>Tinned Leads</li> <li>Custom Modification (<i>customer-specified</i>)</li> </ul>	3 M	○	—	—	—	
<b>BRANDING</b> <ul style="list-style-type: none"> <li>Sensorex-Branded</li> <li>No Branding</li> <li>Custom Modification (<i>customer-specified</i>)</li> </ul>	A B C	○	—	—	—	—

For example, choosing "0.1/cm" under Cell Constant would be **B**, "PT1000" for Temperature Compensation would be **1**, "6" (15 cm) Wires" with the green "Two-Wire Cable" designator under Cable Length would be **AA**, "Tinned Leads" under Cable Termination Connector would be **3**, and "Sensorex-Branded" under Branding would be **A**. The order code would then be "**CS650 - B - 1 - AA - 3 - A**".

## Specifications

<b>Temperature / Pressure Rating</b>	<ul style="list-style-type: none"> <li>• 100° C (212° F)</li> <li>• 100 psig</li> </ul>
<b>Temperature Compensation</b>	See ordering matrix.
<b>Wetted Materials</b>	<ul style="list-style-type: none"> <li>• 316 Stainless Steel</li> <li>• PEEK</li> </ul>
<b>Cell Constants</b>	0.1 cm <sup>-1</sup> and 1.0 cm <sup>-1</sup>



**CS650**

## Calibration

Calibrate sensor according to meter/controller manufacturer's instructions using known certified conductivity standards. Be sure to calibrate in large beaker or bucket, stirring sample with electrode. Avoid bubbles as much as possible; bubbles cause erroneous readings.

## Sensor Installation

### Mechanical

Mounting inline is achieved by threading the 1/2" NPT thread into a tee.

**! CAUTION**  
**ALWAYS USE TEFLON TAPE TO SEAL THREADS.**

For inline mounting, it is suggested that the sensor be mounted through the side of the tee. See **FIG 1**. Mounting through the side of the tee ensures that bubbles rise to top of line and are not trapped in the sensor. Trapped bubbles cause inaccurate readings.

### Electrical

#### Installation for Electrodes *WITHOUT* Temperature Sensor Included

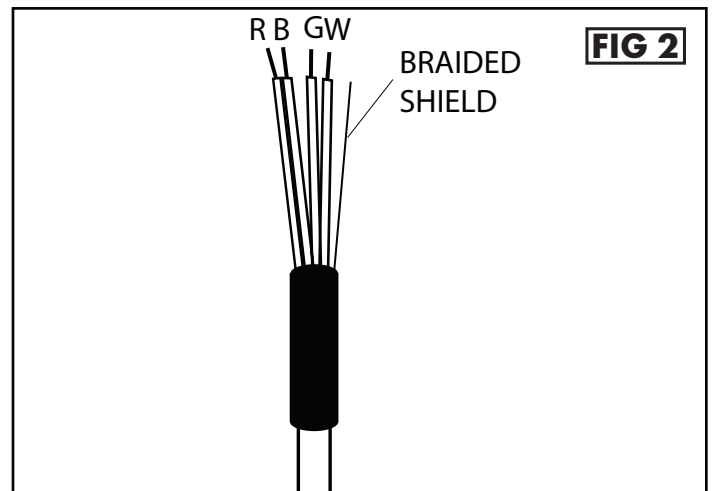
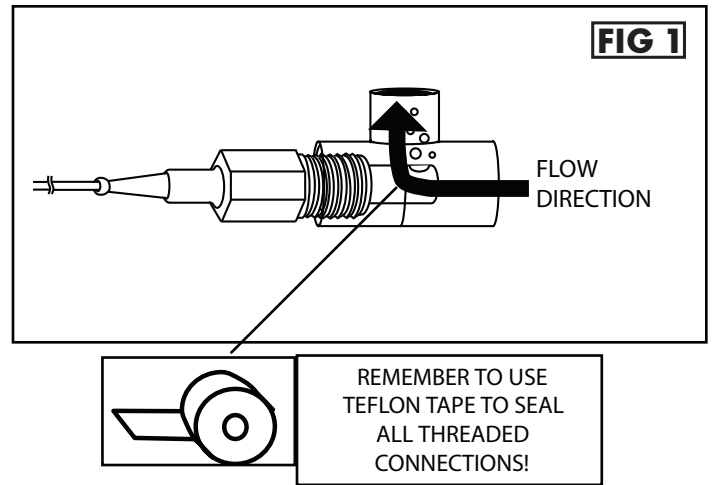
Each electrode is supplied with two connections (**red** and **black**) and optional ground. Please follow instructions from supplier of controller or transmitter for proper wiring procedures.

#### Installation for Electrodes *WITH* Temperature Sensor Included

The temperature wires are **green** and **white**. See **FIG 2**. These temperature wires can be connected to the instrument's temperature input in any order, since the output is a resistant signal (Ohms). Please note that some meters require a three- or four-wire temperature signal input. In these cases, place a jumper wire (for three-wire type) or two jumper wires (four-wire type) from the original lead to open temperature inputs. Please refer to manufacturer's manual for details.

**Note:** Versions without temperature compensation will only contain two wires.

Follow wiring instructions supplied with your controller.



## Sensor Cleaning

The sensor is made of 316 Stainless Steel and PEEK plastic insulator. Clean surfaces with gentle detergent or 5% HCl in cup or beaker. **Do not sand or abrade the steel surface.** Abrasion changes the surface area and will cause erroneous readings.