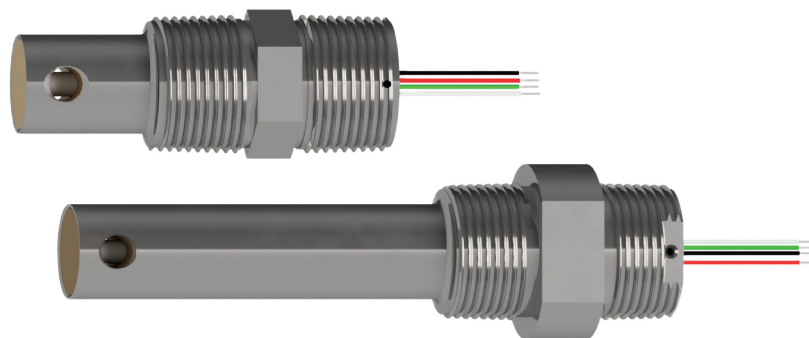




# CS675 High-Temperature & Pressure Stainless-Steel Contacting Conductivity Sensor

## Product Manual



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DESIGNED IN CALIFORNIA

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## Introduction

Thank you for choosing the Sensorex CS675 High-Temperature & Pressure Stainless-Steel Contacting Conductivity Sensor. See below for ordering configurations and product specifications.

## Model # CS675 Ordering Matrix

Description	Code	X	X	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 (customer-specified)</li> </ul>	B C M	○						
<b>TEMPERATURE COMPENSATION</b> <ul style="list-style-type: none"> <li>• No Selection</li> <li>• PT1000 RTD</li> <li>• PT100 RTD</li> <li>• Custom Modification (customer-specified)</li> </ul>	N 1 2 M	○	○					
<b>CABLE LENGTH</b> <ul style="list-style-type: none"> <li>• 6" (15.24cm) Wires ●</li> <li>• 10-ft. Cable (3m) ●</li> <li>• 20-ft. Cable (6m) ●</li> <li>• 33-ft. Cable (10m) ●</li> <li>• 6" (15.24cm) Wires ●</li> <li>• 10-ft. Cable (3m) ●</li> <li>• 20-ft. Cable ●</li> <li>• 33-ft. Cable ●</li> <li>• Custom Modification (customer-specified)</li> </ul> <p>● Standard Two-Wire Cable. Only compatible with "N" under Temperature Compensation. ● High-Temperature Four-Wire Cable. NOT compatible with "N" under Temperature Compensation.</p>	BA BC BD BE DA DC DD DE M	○						
<b>CABLE TERMINATION CONNECTOR</b> <ul style="list-style-type: none"> <li>• Tinned Leads</li> <li>• Custom Modification (customer-specified)</li> </ul>	3 M	○						
<b>BRANDING</b> <ul style="list-style-type: none"> <li>• Sensorex-Branded</li> <li>• No Branding</li> <li>• Custom Modification (customer-specified)</li> </ul>	A B M	○						
<b>FITTING MATERIAL</b> <ul style="list-style-type: none"> <li>• 3/4" NPT Stainless Steel</li> </ul>	5	○						
<b>TEMPERATURE AND PRESSURE RATING</b> <ul style="list-style-type: none"> <li>• 0 - 100° C (32 - 212° F) and 0 - 200 psig</li> <li>• 0 - 200° C (32 - 392° F) and 0 - 250 psig (not available with cable options "BA" to "BE")</li> <li>• 0 - 250° C (32 - 482° F) and 0 - 600 psig (only available for Cell Constant "C" and not compatible with cable options "BA" to "BE")</li> </ul>	C H J	○						
<b>INSERTION LENGTH</b> <ul style="list-style-type: none"> <li>• Standard Length for 0.1 Cell Constant (not available with "J" option under Temperature and Pressure Rating)</li> <li>• Standard Length for 1.0 Cell Constant</li> <li>• Extended Length (not available with "J" option under Temperature and Pressure Rating)</li> <li>• Custom Modification (customer-specified)</li> </ul>	1 2 3 M	○						

For example, choosing "0.1/cm" under Cell Constant would be **B**, "PT1000 RTD" for Temperature Compensation would be **1**, "10 feet (3m)" with the blue option of "Standard 4-Wire Cable" under Cable Length would be **BC**, "Tinned Leads" under Cable Termination Connector would be **3**, "Sensorex-Branded" under Branding would be **A**, "3/4" NPT Stainless Steel" under Installation/Fitting Type would be **5**, "0 - 100° C (32 - 212° F) and 0 - 200 psig" under Temperature and Pressure Rating would be **C**. The order code would then be **"CS675 - B - 1 - BC - 3 - A - 5 - C"**.

## Specifications

### Temperature / Pressure Rating

See ordering matrix.

### Wetted Materials

- 316 Stainless Steel and PEEK® Insulator\*
- Aflas® O-ring\*\* for 200° C (392° F) and 250 psig
- Perfluoro O-ring for 250° C (482° F) and 600 psig

### Cell Constants

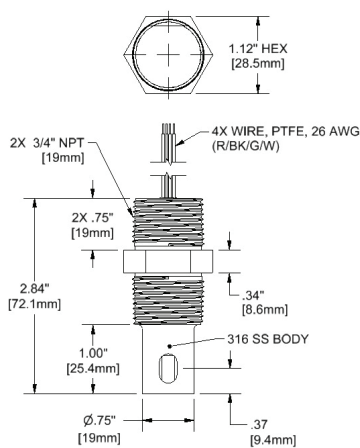
0.1/cm and 1.0/cm (see ordering information for additional details)

### Wire Leads

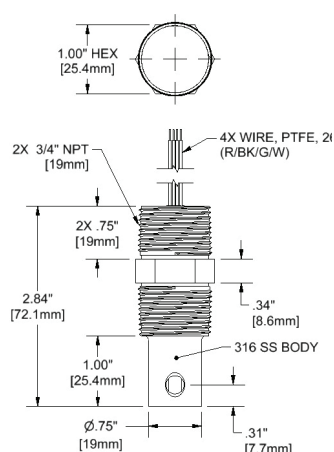
- PVC-jacketed four-wire cable for option "C" under temperature and pressure rating (see ordering matrix)
- PTFE-coated wire for options "H" and "J" under temperature and pressure rating (see ordering matrix)

### Wire Designations

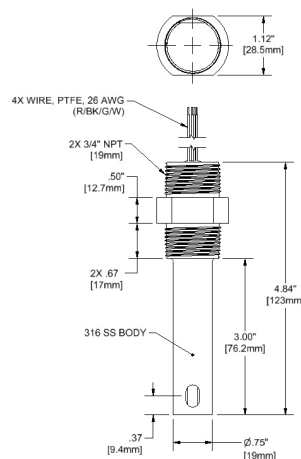
- Red = Body
- Black = Center Pin
- Green/White = Temperature (if applicable)



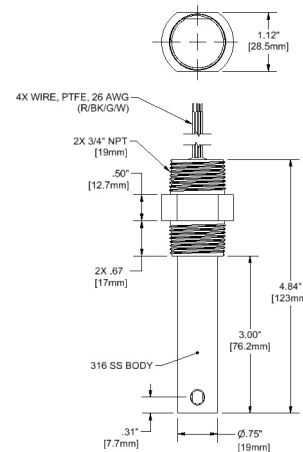
**CS675-B-BA-3-A-5-C-3**



**CS675-C-BA-3-A-5-C-1**



**CS675-B-BA-3-A-5-C-1**



**CS675-C-BA-3-A-5-C-3**

\* PEEK is a trademark of Victrex.

\*\* Aflas is a trademark of Asahi Glass Company.

## Calibration

Calibrate sensor according to meter/controller manufacturer's instructions using known certified conductivity standards. Be sure and calibrate in large beaker or bucket stirring sample with electrode. Avoid bubbles as much as possible as bubbles cause erroneous readings. Always calibrate at zero and another solution above the maximum value of your solution.

## Sensor Installation

### Mechanical

**1.** To install the sensor in-line, the suggested mounting is in 3/4" NPT forged steel tee. For the extended versions, install 1" x 3/4" reducing bushing first. See **FIG 1**.

**2.** Otherwise, install electrode first. Make sure to wrap electrode threads with Pipe Thread Sealing Tape before installing. Align electrode hole in body with tee flow path. See **FIG 2**.

**3.** Next, install conduit box on top of electrode at 3/4" NPT top thread. See **FIG 3**. Outdoor applications or other areas of hosedown should use pipe joint sealant. Ensure the hole is aligned.

### Electrical

**1.** Attach sensor wires to terminal strip in conduit box.

**2.** Next, attach extension wires from terminal strip in conduit box to conductivity controller or transmitter. Wiring is as follows:

**Red:** Sensor

**Black:** Sensor

**Green:** Temperature

**White:** Temperature

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

**3.** Follow wiring instructions supplied with your controller.

### Sensor Cleaning

Do NOT clean sensors with an abrasive brush, as it could scratch the surface of the stainless steel. This will adversely affect the measurement.

