Submersible Flat-Surface, Self-Cleaning pH and ORP Electrodes

Quick disconnect design saves time and money
Installs in seconds, no tools necessary
Flat surface design resists coating
CPVC or PVDF models available
Available with or without ATC elements

The submersion pH and ORP electrodes from Sensorex are designed for measurements in tanks, flumes and sewer lines. Submersion designs are also well suited for high suspended solids applications, flocculation operations which require low velocities, or in tanks with high agitation.

Where low velocities are present and coating is a problem, the electrode can be mounted at a 45 degree angle facing into the flow so as to obtain increased scrubbing action across the measuring surface.

The cartridge quick disconnect design makes changing electrodes a snap and minimizes down time due to electrode maintenance.

Model S651CD offers a pH glass protection feature and the extra performance of acrylamide reference gel.

Specifications

Range
0-14pH (0-12pH without Na+ error)
+/- 2000mV for ORP

Wetted Materials
Body/Junction: CPVC/HDPE ("CD" models)
PVDF/ Porous PVDF ("KD" models)
Measuring Surface: pH glass (pH), Platinum or Gold (ORP)
O-rings: Viton
Gasket: EPR

Temperature/Pressure Range
(all models ending in "-CD") = 0°C* - 75°C (0-100psig), 80°C (0-85psig)
(all models ending in "-KD") = 0°C* - 100°C (0-100psig)

Note: From 0 to 10°C, electrodes will exhibit slower response time.

Reference Type
Ag/AgCl, Sealed Double Junction

Parts covered by this product data sheet include:
CPVC Electrodes

**pH - S650CD, S650CD-HT, S650CD-LC**

- BNC RECEPTACLE
- VITON O-RINGS
- EPR GASKET
- POROUS HDPE JUNCTION
- pH GLASS
- Ø 0.90”

**ORP - S650CD-ORP, S650CD-ORP-HT, S650CD-ORP-LC, S650CD-AU**

- BNC RECEPTACLE
- VITON O-RINGS
- EPR GASKET
- POROUS HDPE JUNCTION
- 0.020” OD PLATINUM SEALED IN GLASS

**pH & ORP - S651CD, S651CD-ORP**

- BNC RECEPTACLE
- VITON O-RINGS
- EPR GASKET
- POROUS HDPE JUNCTION
- PROTECTIVE BUMP x4
- pH GLASS
- Platinum (0.020” OD) sealed in glass

**CPVC CABLES WITHOUT ATC - S653**

- 1/2” NPT COAXIAL CABLE
- Dimple x4 for grip
- 2.45” (62mm)
- 0.83” (21mm)

**CPVC CABLES WITH ATC - S653TC**

- 1/2” NPT COUPLER
- 2.75”
- Ø 1.30”

[Diagram of CPVC Electrodes with specifications]
PVDF Electrodes

**pH - S650KD, S650KD-HT, S650KD-LC**
- BNC RECEPTACLE
- VITON O-RINGS
- POROUS PVDF JUNCTION
- pH GLASS Ø 0.90" 3.20"

**PVDF CABLE WITHOUT ATC -S653K**
- 1/2" COUPLER AND EXTENSION PIPE (USER SUPPLIED)
- 4.50" 1.25"

**ORP - S650KD-ORP, S650KD-ORP-HT, S650KD-ORP-LC**
- BNC RECEPTACLE
- VITON O-RINGS
- POROUS PVDF JUNCTION
- 0.020" OD PLATINUM SEALED IN GLASS Ø 0.90" 3.20"

**PVDF CABLE WITH ATC - S653TK**
- 1/2" COUPLER AND EXTENSION PIPE (CUSTOMER SUPPLIED)
- TEMPERATURE SENSOR INSIDE
- 4.80" 1.32"
### ORDERING INFORMATION

**Systems without temperature compensation**

<table>
<thead>
<tr>
<th>ORDER 2 ITEMS</th>
<th>DESCRIPTION</th>
<th>CPVC PARTS</th>
<th>PVDF PARTS</th>
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<tbody>
<tr>
<td>1. Select one electrode (pH or ORP)</td>
<td>pH combination electrode</td>
<td>S650CD</td>
<td>S650KD</td>
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<tr>
<td></td>
<td>pH combination electrode (high temp)</td>
<td>S651CD</td>
<td>S650KD-HT</td>
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<tr>
<td></td>
<td>pH comb electrode w/protective tip</td>
<td>S651CD</td>
<td>N/A</td>
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<tr>
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<td>Model for Low Ionic samples</td>
<td>S650CD-LC</td>
<td>S650KD-LC</td>
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<tr>
<td></td>
<td>Model for acidic HF samples</td>
<td>S650CD-HF</td>
<td>S650KD-HF</td>
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<td></td>
<td>ORP combination electrode</td>
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<td>S650KD-ORP-HT</td>
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<tr>
<td></td>
<td>ORP combination electrode (Gold tip)</td>
<td>S650CD-ORP-AU</td>
<td>S650KD-ORP-AU</td>
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<tr>
<td>2. Select one cable assembly</td>
<td>For conduit use</td>
<td>S653-“cable length”-“Connector”</td>
<td>S653K-“cable length”-“Connector”</td>
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### SELF-CLEANING OPERATION

- **Spherical Electrode**
- **Flat Electrode**

### ABRASION-FREE OPERATION

- **Spherical Electrode**
- **Flat Electrode**

### VISCOUS MATERIAL OPERATION

- **Spherical Electrode**
- **Flat Surface**