**Sensor Part Number & Short Description:**

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<th>Part Number</th>
<th>Description</th>
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<tr>
<td>6811</td>
<td>Oxidation Reduction Potential (ORP) Sensor for Inline Use with ¾” MNPT Front Threads and Immersion/Submersion Type Installations with ¾” MNPT Rear Threads</td>
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**Configuration Type:**

- Front threads interface ¾” FNPT of tee or process tank for Inline Use or Rear threads interface ¾” FNPT of insertion tube for immersion or waterproofing seal for submersion

**General Sensor Specifications:**

- Operating Temperature Range: CPVC Body -5 to +70°C with HDPE junction, -5 to +95°C with Polypropylene junction
- Operating Pressure Range: 1 to 100 psig (6.9 to 690 kPa) with ¾” MNPT Front Threads for Inline Installations
- Sensor Body Material: Chlorinated-Polyvinyl-Chloride (CPVC) Standard or RYTON® R-4-230BL (Poly-Phenylene-Sulfone, PPS) when Alpha Prefix “PPS” is invoked (MOQ may apply)
- Junction Support Matrix Material: Compact Style High-Density Polyethylene (HDPE) or Polypropylene (PP) - 6811PP
- External Dimensions: See Drawing 6-3-Pt or Drawing 6-5-Pt in “GR” protective tines configuration

**ORP Measurement Specifications:**

- Measurement mV Range: -2,000 to +2,000 mV absolute
- Measuring Glass Type: Platinum Ball in Low Profile Configuration; Suitable for Slurries & High Pressure/Velocity
- pH Glass Dimensions: 0.197” (5.0 mm) DIA

**Reference System Specifications:**

- Type: Double Junction Standard
- Reference Half Cell: Ag/AgCl, Saturated KCl
- Primary Junction: Porous Ceramic, Sat. KCl in crosslinked polymer, Interfaced to Secondary Junction
- Secondary Junction: Compact Style Solid-State Non-Porous Cross-Linked Conductive Polymer embedded in HDPE or Polypropylene (PP) Support Matrix holds gross excess KCl crystals assuring saturation at all temperatures for stability & long sensor service life in applications where little or no maintenance will be performed such as remote installations.

**Supported Order Options with Alpha Prefix Order Code Designation:**

- 3-Wire TC (“M”), Add Protective Tines 4 ea (“GR”), Add Protective Tines 2 ea (“GRO”), Shielded Preamp Cable (“BL”)

**Example Recommended Applications:**

Any process media where the redox (ORP) potential is monitored or controlled. Can be combined with other sensor options available for pH sensors such as slurry & viscous material resistant, acid fluoride & HF resistant, or saturated brine resistant. Any measurement where aggressive chemical cleaning is needed to remove fouling or low-maintenance operation is required with minimal cleaning and re-calibration. Optional protective tines “GR” or “GRO” configuration is recommend for immersion and submersible type installations.

**Storage and Shelf Life:**

One (1) year from date of dispatch from factory when stored at indoor ambient room temperature with proper orientation & protector cap.

**Available Configurations & Options:**

- Temperature Compensation Element (compatible type must be specified)
- Analog Conventional Preamplifier (Contact factory for available options)
- Smart digital sensor board for use with 3TX-HiQ-pH Intelligent pH & ORP transmitters
- Terminated with Male BNC connector (-MBNC) or Tinned Lead Wires (-TL)
- Terminated with Tinned Lead Wires (-TL) or Quick Disconnect NEMA 6P Snap (-Q7M)
- Terminated standard with quick disconnect IP67/NEMA 6P rated waterproof & corrosion resistant snap HiQ4M connector. For 3TX-HiQ-pH Intelligent pH & ORP transmitters or HiQDT style with RS-485 MODBUS RTU to interface with any suitable PLC or SCADA (Minimum Order Quantity may apply for HiQDT style version, contact factory for details)
1. All dimensions are in inches, unless otherwise indicated with tolerances as detailed below.
2. Sensor body material of construction is CPVC standard or RYTTON when Alpha Prefix "PPS" is invoked.
3. Drawing shown in the standard without protective tines configuration typical for inline installations.
4. In no guard configuration the max displacement for ORP sensing element is 0.1" yielding max insertion depth of 1.6 inches past front 3/4" MNPT threads yielding an overall max length of 7.6 inches.
5. Optional protective tines guard recommended for immersion & submersible installations (not shown).
6. Overall sensor length is 8.00 inches in either the "GR" or "GRO" configuration with 0.5 inch guard.
7. Do not use any sensor beyond the factory defined maximum temperature or pressure rating.