+GF+ SIGNET 2750 pH/ORP Sensor Electronics

**Features**
- Two-wire fixed 4 to 20mA loop output
- S³L™ Digital Interface
- No additional pre-amplifier required
- In-line integral mount and submersible installation versions
- Automatic Temperature Compensation (pH)
- New DryLoc™ electrode connector
- Auto configuration for pH or ORP operation
- Optional Local Easy-Cal calibration aid
- Automatic buffer recognition
- Junction boxes for convenient wiring

**Application**
- Water/Wastewater Treatment
- Neutralization Systems
- Scrubber Control
- Effluent Monitoring
- Surface Finishing
- Flocculent Coagulation
- Heavy Metal Removal and Recovery
- Toxics Destruction
- Sanitization Systems
- Commercial Pools & Spas
- Aquatic Animal Life Support Systems

**Description**
+GF+ SIGNET 2750 pH/ORP Sensors provide two-wire 4 to 20mA loop output for pH and ORP measurements, without the expense of local display and other luxuries available in full-featured transmitters. Pre-amplification is built-in, reducing system costs while ensuring absolute signal integrity up to 304.8m/1,000 feet. These sophisticated field-mount devices also provide the S³L (Signet Sensor Serial Link™) digital interface, the latest development in leading-edge technology from +GF+. SIGNET. The 2750 Sensor Electronics self-configure for pH or ORP operation via automatic recognition of electrode type, and the new DryLoc™ electrode connector quickly forms a robust assembly for submersible and in-line installations. NEMA 4X Junction Boxes are integral parts of the in-line version and are available as accessories for the submersible version. The optional Local EasyCal feature allows simple push-button calibration and includes an LED for visual feedback.

**Technical Features**
- a) 4 to 20mA or S³L output connection
- b) Easy push-button calibration (Local EasyCal option)
- c) LED indicator
- d) Sensor input connections
- e) Local EasyCal enable for S³L output

*Electrodes sold separately.*
### Dimensions

#### 3-2754 Flat pH
- 30.5 mm/1.2 in.
- 65 mm/2.6 in.
- 86 mm/3.4 in.

#### 3-2755 Flat ORP
- 23 mm/0.9 in.

#### 3-2756 Bulb pH
- 30.5 mm/1.2 in.
- 65 mm/2.6 in.
- 86 mm/3.4 in.

#### 3-2757 Bulb ORP
- 23 mm/0.9 in.

### Installation

#### In-Line Installation (3-2750-1,-2)

- It is recommended that you do not install standard electrodes within 30° of horizontal.
- Special electrodes for horizontal or inverted installation are available - contact factory.

#### Submersible Installation (3-2750-3,-4)

- 2.2 in. minimum opening in tank cover required to accommodate 2750 installation and removal.

### Fitting Types for In-Line Installations

See +GF+ SIGNET Measurement & Instrumentation Product Catalog for a complete listing of installation fittings.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic tees</td>
<td>• Available in 1/2 in. to 4 in. sizes</td>
</tr>
<tr>
<td>PVC saddles</td>
<td>• Available in 2 in. to 4 in. sizes</td>
</tr>
<tr>
<td>Iron strap-on saddles</td>
<td>• Available in 2 in. to 4 in. sizes</td>
</tr>
<tr>
<td>Carbon steel weldolets</td>
<td>• Available in 2 in. to 4 in. sizes</td>
</tr>
<tr>
<td>Carbon steel threaded tees</td>
<td>• Available in 2 in. to 2 in. sizes</td>
</tr>
<tr>
<td>Universal pipe adapters</td>
<td>• Use for installation in pipes &gt; 4 in. (1-1/4 in. NPT)</td>
</tr>
</tbody>
</table>

[www.gfsignet.com](http://www.gfsignet.com)
Technical Data

General
Compatible Electrodes: +GF+ SIGNET 3-275x pH/ORP Electrodes
Operational Range: pH: 0.00 to 14.00
ORP: ± 2,000 mV
Temp.: 0° C to 85° C (32 to 185°F)
Response Time*: pH: < 6 seconds for 95% of change
ORP: application dependent
Temp τ: 140 seconds (27541), 196 seconds (2756)
* includes response time of electrodes
Enclosure: 2750-1&2 (in-line): NEMA 4X/IP65
2750-3&4 (submersible): NEMA 6P/IP68 (with pipe extension and/or watertight conduit)
Materials: 2750-1&2 (in-line): Valox® (PBT)
2750-3&4 (submersible): CPVC
Weight: 2750-1&2 (in-line): 0.75 kg (1.65 lb)
2750-3&4 (submersible): 0.64 kg (1.41 lb)
Immunity: EN 50082-2
Emissions: EN 50081-1

Electrical
Cable: 4.5m/15 ft., 3-conductor shielded 22AWG
Power: 12 to 24VDC for 4 to 20mA Loop
5VDC ± 5% regulated, 3mA max.
Current output: pH: Fixed 4 to 20mA, isolated, = 0.00 to 14.00 pH (custom scaling available)
ORP: Fixed 4 to 20mA, isolated, = -1000 to 2000mV (custom scaling available from -2000 to 2000mV)
Max Loop Resistance: 50Ω max. @ 12V
325Ω max. @ 18V
600Ω max. @ 24V
Accuracy: ± 32µA
Resolution: ± 5µA
Update Rate: 0.5 seconds
Error indication: 3.6mA
S³L output Serial ASCII, TTL level 9600 bps
Accuracy: pH: ± 0.03 pH @ 25° C (77°F)
ORP: ± 2mV @ 25° C (77°F)
Resolution: pH: ≤ 0.02 pH
ORP: ≤ 1mV
Temp.: ≤ 0.2° C (32.3°F)
Update Rate: 0.5 seconds
Error indication: Initiates "Check Sensor" command via S³L output
Input Impedance, Z: >10¹¹Ω

Environmental
Operating Temp.: 0° to 85° C (32° to 185°F)
Storage Temp.: -20° to 85° C (-4° to 185°F)
Relative Humidity: 0 to 95%, non-condensing (without electrode connected)
Enclosure Rating: 3-2750-1&2: NEMA 4X/IP65 with electrode connected
3-2750-3&4: NEMA 6P/IP68 with electrode and watertight conduit and/or extension pipe connected

Standards and Approvals
• CE
• Manufactured under ISO 9001 and ISO 14001
**Ordering Information**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2750-1</td>
<td>159 000 744</td>
<td>In-line Sensor Electronics w/Junction Box</td>
</tr>
<tr>
<td>3-2750-2</td>
<td>159 000 745</td>
<td>In-line Sensor Electronics w/Jct. Box &amp; Local EasyCal</td>
</tr>
<tr>
<td>3-2750-3</td>
<td>159 000 746</td>
<td>Submersible Sensor Electronics with 4.5m/15 ft. cable (NPT)</td>
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<tr>
<td>3-2750-4</td>
<td>159 000 842</td>
<td>Submersible Sensor Electronics with 4.5m/15 ft. cable (ISO)</td>
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<tr>
<td>3-2754</td>
<td>159 000 747</td>
<td>Flat pH Electrode</td>
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<tr>
<td>3-2754-HF</td>
<td>159 000 748</td>
<td>Flat pH Electrode, HF Resistant</td>
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<tr>
<td>3-2755</td>
<td>159 000 749</td>
<td>Flat ORP Electrode</td>
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<tr>
<td>3-2756</td>
<td>159 000 750</td>
<td>Bulb pH Electrode</td>
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<tr>
<td>3-2756-DI</td>
<td>159 000 751</td>
<td>Bulb pH Electrode, DI Resistant</td>
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<tr>
<td>3-2757</td>
<td>159 000 752</td>
<td>Bulb ORP Electrode</td>
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</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Mfr. Part No.</th>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>3-8050-1</td>
<td>159 000 753</td>
<td>Universal Mount Junction Box</td>
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<tr>
<td>3-8050-2</td>
<td>159 000 754</td>
<td>Universal Mount Jct. Box w/Local EasyCal</td>
</tr>
<tr>
<td>3-8052-1</td>
<td>159 000 755</td>
<td>3/4&quot; NPT Mount Junction Box</td>
</tr>
<tr>
<td>3-8052-2</td>
<td>159 000 756</td>
<td>3/4&quot; NPT Mount Jct. Box w/Local EasyCal</td>
</tr>
<tr>
<td>3-9000.392-1</td>
<td>159 000 839</td>
<td>Liquid Tight Connector Kit, NPT (1 connector)</td>
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<tr>
<td>3-9000.392-2</td>
<td>159 000 841</td>
<td>Liquid Tight Connector Kit, PG13.5 (1 connector)</td>
</tr>
<tr>
<td>3-2759</td>
<td>159 000 762</td>
<td>pH/ORP Simulator/System Tester (adapter cable sold separately)</td>
</tr>
<tr>
<td>3-2759.391</td>
<td>159 000 764</td>
<td>2759 Adapter Cable for use w/2750</td>
</tr>
<tr>
<td>3-2759.393</td>
<td>159 000 765</td>
<td>2759 Adapter Cable for use w/2720</td>
</tr>
<tr>
<td>3-0700.390</td>
<td>198 864 403</td>
<td>pH Buffer Kit</td>
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<tr>
<td>P31515-0P200</td>
<td>159 000 630</td>
<td>Universal Pipe Adapter PVC</td>
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<tr>
<td>P31515-0C200</td>
<td>159 000 631</td>
<td>Universal Pipe Adapter CPVC</td>
</tr>
<tr>
<td>P31515-0V200</td>
<td>159 000 459</td>
<td>Universal Pipe Adapter PVDF</td>
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</tbody>
</table>

**Engineering Specifications**

- The sensor shall meet CE standards.
- The submersible sensor body shall be made of CPVC. The in-line assembly shall be constructed of Valox (PBT).
- The in-line sensor enclosure shall be NEMA 4X/IP65. The submersible version shall be NEMA 6P/IP68.
- The sensor shall provide a 4 to 20mA or Signet Sensor Serial Link™ (S3L™) output connection.
- The sensor shall operate at a range of 0.00 to 14.00 pH or ±2,000mV ORP within a temperature range of 0 to 85°C (32 to 185°F).
- The sensor shall be compatible with +GF+ SIGNET 3-275X pH/ORP Electrodes.
- The sensor shall be +GF+ SIGNET, Model 2750 pH/ORP Sensor.

For more information on these products, please contact:

KTH Sales, Inc.
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Merrillville, IN 46410
Ph: 219-736-0060  * Fax: 219-769-0263
www.KTHSales.com

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*+GF+ SIGNET*

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