

+GF+ SIGNET 2750 pH/ORP Sensor Electronics

3-2750.099 (A-8/01)



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 EasyCal 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

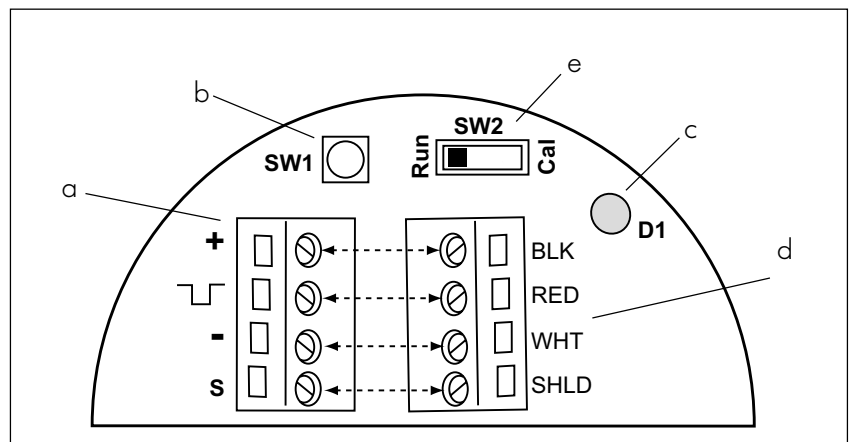
Description

+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.

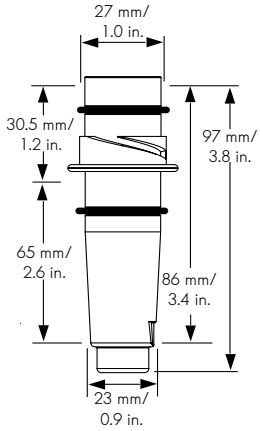
Technical Features

- 4 to 20mA or S³L output connection
- Easy push-button calibration (Local EasyCal option)
- LED indicator
- Sensor input connections
- Local EasyCal enable for S³L output

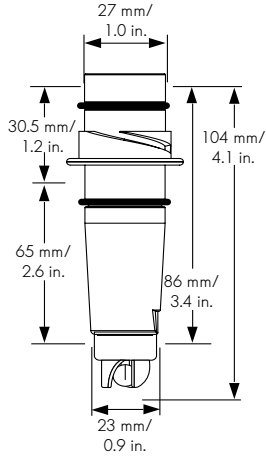


Dimensions

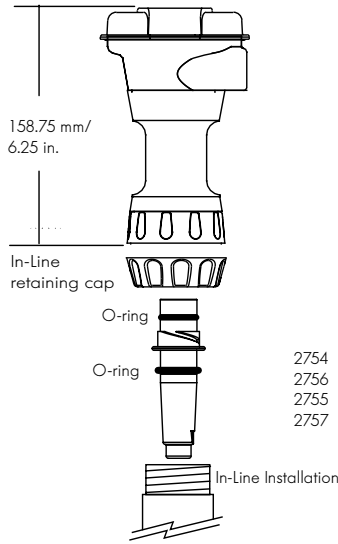
3-2754 Flat pH
3-2755 Flat ORP



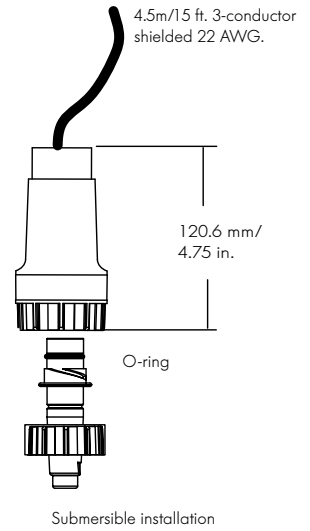
3-2756 Bulb pH
3-2757 Bulb ORP



3-2750-1,-2

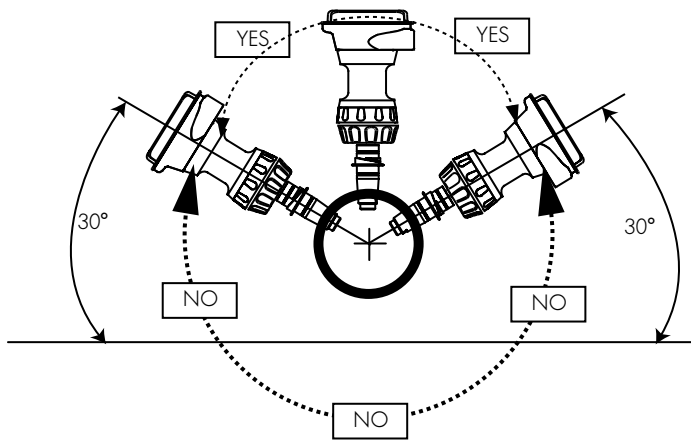


3-2750-3,-4



Installation

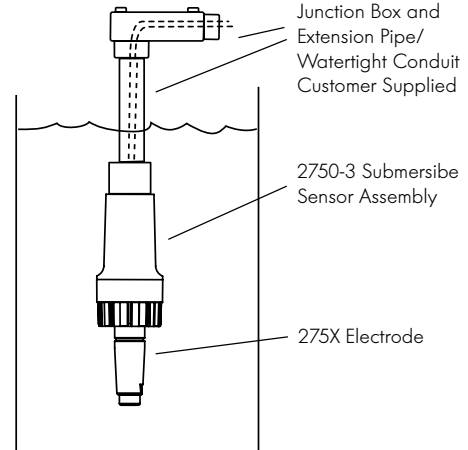
In-Line Installation (3-2750-1,-2)



In-Line Installation

- 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)


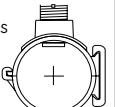
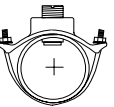


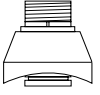

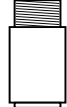
Submersible Installation

- 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.

Type	Description
 Plastic tees	<ul style="list-style-type: none"> • Available in 1/2 in. to 4 in. sizes • PVC, CPVC w/solvent cement socket • PVDF and PP w/union end fittings
 PVC saddles	<ul style="list-style-type: none"> • Available in 2 in. to 4 in. sizes • Requires 1-7/16 in. hole in pipe
 Iron strap-on saddles	<ul style="list-style-type: none"> • Available in 2 in. to 4 in. sizes • Requires 1-7/16 in. hole in pipe

Type	Description
 Carbon steel weldolets	<ul style="list-style-type: none"> • Available in 2 in. to 4 in. sizes • Requires 1-7/16 in. hole in pipe • Install by certified welder only
 Carbon steel threaded tees	<ul style="list-style-type: none"> • Available in 1/2 in. to 2 in. sizes • Female NPT ends
 Universal pipe adapters	<ul style="list-style-type: none"> • Use for installation in pipes > 4 in. (1-1/4 in. NPT) • PVC, CPVC, or PVDF versions • Specify socket or 1-1/4 inch NPT male threads

Technical Data

General

Compatible Electrodes: +GF+ SIGNET 3-275x pH/ORP Electrodes

Operational Range: pH: 0.00 to 14.00
ORP: $\pm 2,000$ 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 (2754), 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 $\pm 5\%$ 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: 50 Ω max. @ 12V
325 Ω max. @ 18V
600 Ω max. @ 24V

Accuracy: $\pm 32\mu\text{A}$
Resolution: $\pm 5\mu\text{A}$
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: ± 2 mV @ 25° C (77°F)

Resolution: pH: ≤ 0.02 pH
ORP: ≤ 1 mV
Temp.: $\leq 0.2^\circ$ C (32.3°F)

Update Rate: 0.5 seconds
Error indication: Initiates "Check Sensor" command via S³L output

Input Impedance, Z: $>10^{11}\Omega$

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

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

Accessories

Mfr. Part No.	Code	Description
3-8050-1	159 000 753	Universal Mount Junction Box
3-8050-2	159 000 754	Universal Mount Jct. Box w/Local EasyCal
3-8052-1	159 000 755	3/4" NPT Mount Junction Box
3-8052-2	159 000 756	3/4" NPT Mount Jct. Box w/Local EasyCal
3-9000.392-1	159 000 839	Liquid Tight Connector Kit, NPT (1 connector)
3-9000.392-2	159 000 841	Liquid Tight Connector Kit, PG13.5 (1 connector)
3-2759	159 000 762	pH/ORP Simulator/System Tester (adapter cable sold separately)
3-2759.391	159 000 764	2759 Adapter Cable for use w/2750
3-2759.393	159 000 765	2759 Adapter Cable for use w/2720
3-0700.390	198 864 403	pH Buffer Kit
P31515-OP200	159 000 630	Universal Pipe Adapter PVC
P31515-OC200	159 000 631	Universal Pipe Adapter CPVC
P31515-OV200	159 000 459	Universal Pipe Adapter PVDF

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:

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Merrillville, IN 46410

Ph: 219-736-0060 * Fax: 219-769-0263

www.KTHSales.com

+GF+ SIGNET

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