



In-line 2750

Submersible  
2750

2750-7  
2750-8

DryLoc® Electrodes sold separately

The Signet 2750 pH/ORP Sensor Electronics featuring the DryLoc® connector, provides a variety of functions to suit various requirements.

The 2750 has a preamplified signal and features two different outputs: a two-wire 4 to 20 mA loop output with EasyCal function or a digital (S<sup>3</sup>L) output which allows for longer cable lengths and is compatible with the Signet 8900 or 9900 instruments, and Profibus Concentrator.

The 2750 self-configures for pH or ORP operation via automatic recognition of the electrode type. The optional EasyCal feature allows simple push-button calibration and includes an LED indicator for visual feedback.

The DryLoc electrode connector quickly forms a robust assembly for submersible and in-line installations. NEMA 4X junction enclosures are integral parts of the 2750 in-line version and are also available as accessories for the submersible 2750.

The 2750 submersible preamplifier can also be used as an in-line preamplifier when used with the 3/4" or 1" threaded sensors including the 2724, 2734, 2774 and 2764 series electrodes. The 2750 In-line preamplifier can be used with Signet fittings up to DN100 (4 in.) and wet-tap assemblies.

## Features

- In-line integral mount and submersible installation versions
- Automatic temperature compensation
- Auto configuration for pH or ORP operation
- Optional EasyCal calibration aid with automatic buffer recognition
- Junction boxes for convenient wiring
- Patented DryLoc® connector provides a quick and secure connection to the sensor\*



## Applications

- Water and Wastewater Treatment
- Neutralization Systems
- Scrubber Control
- Effluent Monitoring
- Surface Finishing
- Flocculent Coagulation
- Heavy Metal Removal and Recovery
- Toxic Destruction
- Sanitization Systems
- Pool & Spa Control
- Aquatic Animal Life Support Systems

# Specifications

## General

### Compatible Electrodes

Signet DryLoc pH and ORP Electrodes, Models 2724-2726, 2734-2736, 2756-2757 Wet-Tap, 2764-2767, 2774-2777

Operating Range	pH	0 to 14 pH
	ORP	±2,000 mV
Response Time	pH	< 6 sec. for 95% of change
	ORP	Application dependent
Materials	In-line	Valox® (PBT)
	Submersible	CPVC

## Electrical

Cable	4.6 m	15 ft	3-conductor shielded (3-2750-3, -4 submersible and -7, -8 in-line sensor electronics only)	
	22 AWG	For 9900, Profibus Concentrator, and 4 to 20 mA max. cable length is 300 m (1000 ft.) (For 8900 please refer to the Cable Calculation Table on for max. cable length)		
Power	12 to 24 VDC	±10%, regulated for 4 to 20 mA output		
	5 to 6.5 VDC	±5% regulated recommended, 3 mA max., for digital (S <sup>3</sup> L) output		
Current Output	pH	Fixed 4 to 20 mA, isolated, 0 to 14 pH (custom scaling available with 0252 tool)		
	ORP	Fixed 4 to 20 mA, isolated, -1000 to 2000 mV (custom scaling available from ±2000 mV with 0252 tool)		
Max Loop Resistance	100 Ω max. @ 12 V	325 Ω max. @ 18 V	600 Ω max. @ 24 V	
Accuracy	±32 µA			
Resolution	±5 µA			
Update Rate	0.5 seconds			
Error Indication	3.6 mA			
Digital (S <sup>3</sup> L) Output	Serial ASCII, TTL level 9600 bps			
Accuracy	pH	±0.03 pH @ 25 °C	±0.03 pH @ 77 °F	
	ORP	±2 mV @ 25 °C	±2 mV @ 77 °F	
Resolution	pH	≤ 0.01 pH		
	ORP	1 mV		
	Temperature	≤ 0.2 °C (0.36 °F)		
Update Rate	0.5 seconds			
Available Data	Raw mV, pH or ORP, temperature (pH)			
Error Indication	Open input diagnostic			
Input Impedance, Z	>10 <sup>11</sup> Ω			

## Environmental

Enclosure	3-2750-1, -2, -7, -8	NEMA 4X/IP65 with electrode connected
	3-2750-3 & -4	NEMA 6P/IP68 with electrode and watertight conduit and/or extension pipe connected

## Max. Temperature/Pressure Rating

Operating Temperature		
Submersible	0 °C to 85 °C	32 °F to 185 °F
	0 °C to 85 °C	32 °F to 185 °F
Storage Temperature	-20 °C to 85 °C	-4 °F to 185 °F
Relative Humidity	0 to 95%, non-condensing (without electrode connected)	

## Shipping Weight

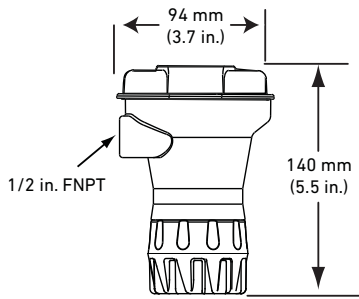
	3-2750-1, -2	0.75 kg	1.65 lb
	2750-3, -4, -7, -8	0.64 kg	1.41 lb

## Standards and Approvals

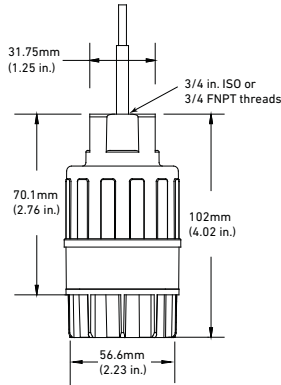
CE, FCC
RoHS compliant, China RoHS
Manufactured under ISO 9001 for Quality and ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety

# Dimensions

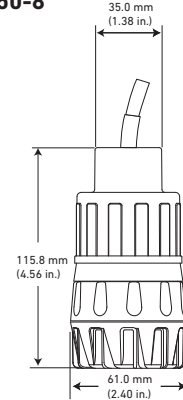
3-2750-1,-2



3-2750-3, -4



3-2750-7  
3-2750-8



## In-Line Installation

Panel Mount	Pipe, Tank, Wall	4 to 20 mA Input	Automation System
Signet Instruments 8900 9900 	Signet Instrument 9900 and Rear Enclosure 	3-2750 Sensor Electronics and Customer Supplied Chart Recorder, Programmable Logic Controller, or Programmable Automation Controller 	3-0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or Programmable Automation Controller 
<b>Signet 2750 Sensor Electronics</b> 	<b>Signet 2750 Sensor Electronics</b> with Signet 3-8050-2 Universal Junction Box or Signet 3-8052-2 Junction Box (EasyCal) 		<b>Signet 2750 Sensor Electronics</b> 
Signet Electrodes 2724-2726 2734-2736 2764-2767 2774-2777 			
2724-2726 and 2734-2736 DryLoc® Electrodes: Use GF fittings* or customer supplied 3/4 in. NPT fittings		2764-2767 and 2774-2777 DryLoc® Electrodes: Use customer supplied 3/4 in. or 1 in. NPT fittings	
		All sold separately	

System Overview

## Submersible Installation




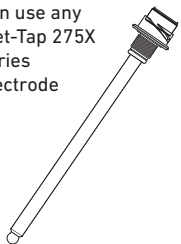
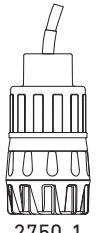
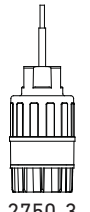

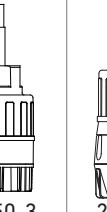
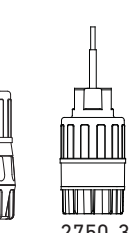
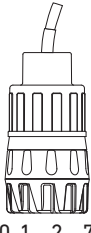
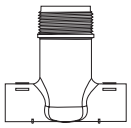
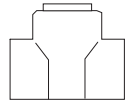
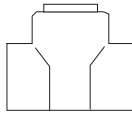
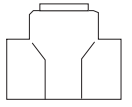



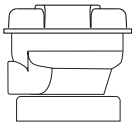
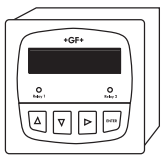

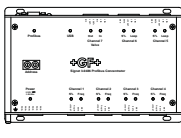

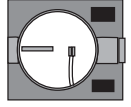
## Wet-Tap Installation

Panel Mount	Pipe, Tank, Wall	4 to 20 mA Input	Automation System
Signet Instruments 8900 9900 	Signet Instrument 9900 and Rear Enclosure 	2750 Sensor Electronics and Customer Supplied Chart Recorder, Programmable Logic Controller, or Programmable Automation Controller 	0486 Profibus Concentrator and Customer Supplied Programmable Logic Controller or Programmable Automation Controller 
<b>Signet 2750 Sensor Electronics</b> with customer supplied pipe extension or conduit, 3/4 in. NPT or ISO 7/1-R 3/4 threads** 	<b>Signet 2750 Sensor Electronics</b> with Signet Wet-Tap Electrode 2756, 2757 and Signet 3719 Wet-Tap 		
Signet Electrodes 2724-2726 2734-2736 2764-2767 2774-2777 	GF Tees and Fittings see model 3719 for more info 		
			All sold separately

\* See fittings section for more information.

\*\*Refer to the Signet Submersion Kit brochure (3-0000.707) located on our website for installation suggestions and options.

# 2750 Product Selection Guide

<p><b>1. Choose the Electrode</b></p>	<p>2724-2726, 2734-2736</p> <p>Can use any 3-272X or 273X series Electrode</p> 	<p>2764-2767 Differential</p> <p>3-2764-1 3-2764-2 3-2766-1 3-2766-2</p> 	<p>2774-2777</p> <p>ORP electrodes must have 10K ID resistor use: 3-2775, 3-2777</p> <p>pH Electrodes can be either the 1K or 3K use: 3-2774, 3-2774-1, 3-2776, 3-2776-1</p> 	<p>2756 and 2757 Wet-Tap</p> <p>Can use any Wet-Tap 275X series electrode</p> 		
<p><b>2. Determine the mounting style:</b></p> <p>In-line</p> <p>And</p> <p>-In-line fitting</p> <p>Or</p> <p>Submersible</p>	 <p>2750-1, -2, -7 or -8</p>	 <p>2750-3 or -4</p>	 <p>2750-1, -2, -7 or -8</p>	 <p>2750-3 or -4</p>	 <p>2750-1, -2, -7 or -8</p>	 <p>2750-1, -2, -7 or -8</p>  <p>Signet fitting</p>  <p>3/4" reducing tee</p>  <p>1" threaded tee</p>  <p>3/4" reducing tee</p>   <p>+</p>  <p>3719 Wet-Tap Assembly</p> <p>(Submersible not applicable with Wet-Tap assembly)</p>
<p><b>3. Junction Boxes</b></p>	<p>3-8050-1: Use when extending the submersible cable over long distance.</p> <p>3-8050-2: Use with the submersible 2750-3 or -4 and the in-line 2750-1 for best calibration results with the EasyCal function when using the blind 4 to 20 mA output.</p> <p>3-8052-1: Use when extending the cable.</p> <p>3-8052-2: Use with submersible 2750-3 or -4 and the in-line 2750-1 for best calibration results with the EasyCal function.</p>					
<p><b>4. Choose the output instrument</b></p> <p>Digital (S<sup>2</sup>L)</p> <p>Or</p> <p>4 to 20 mA</p>	   <p>8900 or 9900 Instruments, Profibus Concentrator</p>				<p>OR</p>   <p>PLCs or Chart Recorders</p>	

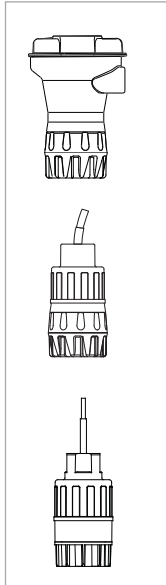
### **Model 2750 Ordering Information**

- 1) Model 2750 requires 12 to 24 VDC to function as a blind 4 to 20 mA output transmitter.
- 2) Order a 3-2750-2 or any other 2750 with a junction box 3-8050-2 or 3-8052-2 if the EasyCal feature is desired.
- 3) Conduit and mounting brackets for submersion installation must always be used (customer supplied).
- 4) The 3-2759 System Tester must be ordered with the adapter cable 3-2759.391 for exclusive use with the 2750.
- 5) All sensor electronics, preamplifiers and connectors require a DryLoc electrode for full system installation.

### **Application Tips**

- The EasyCal feature automatically recognizes standard 4.0, 7.0, and 10.0 pH buffer or ORP quinhydrone solutions of 87 and 264 mV and simplifies calibration. 3-2750-1, -3, -4, and -7 require either a 3-8050-2 or 3-8052-2 junction box to use the EasyCal feature.
- Frequency of calibration of electrodes is dependent upon the application.

## Ordering Information



Mfr. Part No.	Code	Description
In-line Sensor Electronics (Yellow body)		
3-2750-1	<b>159 000 744</b>	Recommended for 8900 or 9900 instruments
3-2750-2	<b>159 000 745</b>	with EasyCal, recommended for 4 to 20 mA use
3-2750-7	<b>159 001 671</b>	with 4.6 m (15 ft) cable, 3/4 in. NPT threads
3-2750-8	<b>Special Order</b>	with 4.6 m (15 ft) cable, ISO 7/1R 3/4 threads

Submersible Sensor Electronics (Gray body)		
3-2750-3	<b>159 000 746</b>	with 4.6 m (15 ft) cable and 3/4 in. NPT threads
3-2750-4	<b>159 000 842</b>	with 4.6 m (15 ft) cable and ISO 7/1R 3/4 threads

Sensor Electronics with preamplified signal and Digital (S<sup>3</sup>L) output (for use with the Multi-Parameter Instruments) or 4 to 20 mA output - power supplied to unit dictates output type. 3-2750-1, -3, -4, and -7 require either a 3-8050-2 or 3-8052-2 junction box for EasyCal functionality.

## Accessories and Replacement Parts

Mfr. Part No.	Code	Description
<b>Calibration</b>		
3-2700.395	<b>159 001 605</b>	Calibration kit: includes 3 polypropylene cups, box used as cup stand, 1 pint pH 4.01, 1 pint pH 7.00
3822-7115	<b>159 001 606</b>	20 gm bottle quinhydrone for ORP calibration (must use pH 4.01 and/or pH 7.00 buffer solutions)
3-2759	<b>159 000 762</b>	pH/ORP system tester (adapter cable sold separately)
3-2759.391	<b>159 000 764</b>	2759 adapter cable for use with 2750 DryLoc sensor electronics
3-0700.390	<b>198 864 403</b>	pH buffer kit (1 each 4, 7, 10 pH buffer in powder form, makes 50 ml of each)
3822-7004	<b>159 001 581</b>	pH 4 buffer solution, 1 pint (473 ml) bottle
3822-7007	<b>159 001 582</b>	pH 7 buffer solution, 1 pint (473 ml) bottle
3822-7010	<b>159 001 583</b>	pH 10 buffer solution, 1 pint (473 ml) bottle
<b>Mounting</b>		
3-8050.390-1	<b>159 001 702</b>	Retaining nut replacement kit, Valox K4530
3-8050-1	<b>159 000 753</b>	Universal mount junction box
3-8050-2	<b>159 000 754</b>	Universal mount junction box w/EasyCal, use with 3-2750-1, -3, -4, -7 where 4 to 20 mA is required
3-8052-1	<b>159 000 755</b>	3/4 inch NPT mount junction box for cable extension
3-8052-2	<b>159 000 756</b>	3/4 inch NPT mount junction box w/EasyCal. use with 3-2750-1, -3, -4, -7 where 4 to 20 mA is required
3-9000.392-1	<b>159 000 839</b>	Liquid tight connector kit, NPT (1 connector)
3-9000.392-2	<b>159 000 841</b>	Liquid tight connector kit, PG 13.5 (1 connector)
<b>Other</b>		
5523-0322	<b>159 000 761</b>	Sensor cable (per ft), 3-cond. plus shield, 22 AWG, black/red/white (for use with 2750)
3-0252	<b>159 001 808</b>	Configuration Tool

3-2750.099 Rev K (07/16)

© Georg Fischer Signet LLC

3401 Aero Jet Avenue, El Monte, CA 91731-2882 U.S.A. • Tel. (626) 571-2770 • Fax (626) 573-2057 • www.gfsignet.com • e-mail: signet.ps@georgfischer.com  
Specifications subject to change without notice. All rights reserved. All corporate names and trademarks stated herein are the property of their respective companies.