

## Dolphin Series Sensors

### pH and ORP Sensors



#### Description

Dolphin™ Series Models PH10 and ORP10 sensors introduce a family of high-performance pH and ORP sensors engineered for the toughest in-line applications.

Users report double the service life of competitive sensors in high-temperature and temperature cycling environments up to 121°C (250°F). In those challenging applications, accurate, stable Dolphin sensors deliver proven response times up to twice as fast as conventional probes. They also contribute to cost savings in maintenance and equipment by significantly reducing cleaning, calibrating, and replacement requirements.

Dolphin sensors utilize a unique, glass formulation for high-temperature service. Their breakthrough performance comes in a robust, easy-to-use package. The innovative reference electrode is stabilized and protected from process contamination and clogging through a double junction design and an ion barrier.

Versions are available for either pH or ORP measurement. These disposable sensors are housed in chemical-resistant PVDF bodies, and are available with a choice of measuring electrodes to meet various application criteria.

#### Features/Benefits

- Fast, accurate family of disposable electrochemical pH and ORP sensors
- Twice the service life of conventional sensors in demanding, high-temperature applications
- Up to twice the response speed
- Savings and ease of use in installation, maintenance, replacement
- Available with domed or flat-glass pH electrodes
- Specified with or without integral preamplifier
- Available with several types of integral temperature compensators
- Optional Variopin connector for removal without cable replacement
- Full complement of sensor diagnostics when used with Foxboro 870IT transmitter or 875 analyzer

# Models PH10 and ORP10 DolpHin Series pH and ORP Sensors

## Specifications

pH Range:	0-14 (domed glass) 2-12 (flat glass)	Electrometric Response:	< 15 seconds (domed glass)
Temperature Range (a):	0-121°C (domed glass) 0-85°C (flat glass)	Temperature Response:	< 1 minute (temperature compensation selections 3 or 4)
Pressure Range:	0-100 psi	Process-Wetted Material:	PVDF Glass pH, antimony pH, platinum or gold ORP Ceramic reference junction Viton O-rings; options available
EMF Efficiency:	99.3% ± 0.7% (domed glass)	Temperature Compensation:	2-wire 100 Ω Pt RTD or 3-wire 1000 Ω Pt RTD
Stability:	± 0.02 pH over 24 hours (domed glass)	Cable:	10 feet, terminated with crimped-on straight pin lugs; options available

(a) Refer to PSS 6-1C3A for effects of sensor preamp and installation on this specification.

## Ordering Information

Model Code – pH Sensor (a)

<b>Description</b>	Model
DolpHin pH Sensor	PH10

### pH Electrode Type

Domed, High Temperature, Glass Bulb with Protective Guard	-1
Domed, High Temperature, Glass Bulb without Protective Guard	-2
Flat Ruggedized Glass	-3
Antimony	-4

### Preamplifier

None	N
Internal Preamplifier (b)	P

### Temperature Compensation

2-Wire, 100 Ω Platinum RTD	1
3-Wire, 1000 Ω Platinum RTD (b)	2
2-Wire, 100 Ω Platinum RTD, Enhanced Response Speed	3
3-Wire, 1000 Ω Platinum RTD, Enhanced Response Speed (b)	4
2-Wire, 3 kΩ Balco RTD	5

### Sensor Termination

10 ft (3.05 m) Integral Cable Terminated with Crimped-on Straight Pin Lugs	A
10 ft (3.05 m) Integral Cable Terminated with Variopin Quick Connector (b) (c)	B
Variopin Quick Connector Integral to Sensor (b) (c)	Q

### Optional Selections

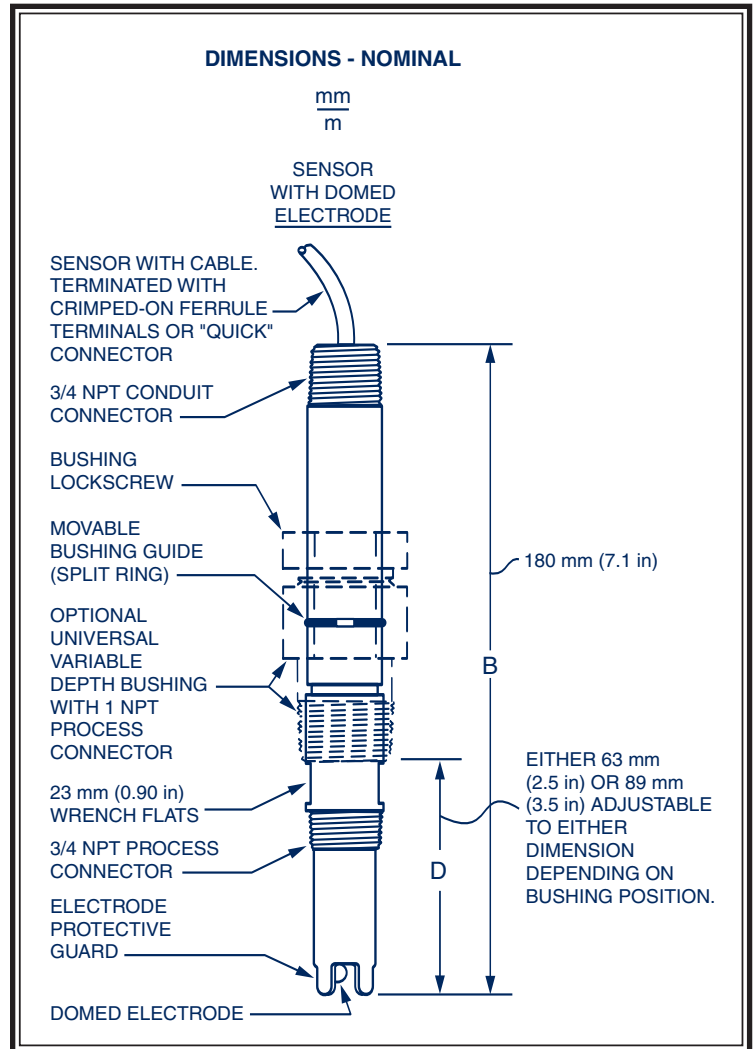
EPDM O-Rings (d)	-E
Chemraz O-Rings (d)	-C

Example: PH10-1N3B-E

- (a) This is an abbreviated model code. The full model code includes options for extra cable in increments of 10 feet. Also, this code shows just the pH version; ORP versions are also available. For complete model codes, refer to PSS 6-1C3A.
- (b) Selection of Preamp ("P"), with 3-wire RTD ("2" or "4") and with Variopin Quick Connector ("B" or "Q") may not be made at the same time. Any two are allowed together, but not all three.
- (c) Requires mating patch cord with integral Variopin Quick Connector, if not customer-supplied.
- (d) Standard O-ring material is Viton

### Optional universal bushing assembly (recommended for easy installation of DolpHin series sensors)

- BS810XC 316 ss with 1 NPT process connection
- BS810XD 316 ss with ISO R 1½ process connection
- BS810XB PVDF with 1 NPT process connection
- BS810XE PVDF with ISO R-2 process connection



**Note:** This is a drawing of the sensor version with domed electrode. For other sensor versions, refer to PSS 6-1C3A



**Foxboro**  
**Foxboro, MA 02035-2099**  
**1-508-549-2424**  
**1-888-FOXBORO**  
**Fax: 1-508-549-4999**  
**www.foxboro.com/instrumentation**

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