

Foxboro® 871PH Series Sensors

Rebuildable pH and ORP Sensors



Model 871PH Series Sensor Description

New options bring Foxboro's flagship DolpHin™ sensing technology and other enhancements to our popular rebuildable sensor line.

Purchasers who choose from the Foxboro® 871PH family of rebuildable pH and ORP sensors can now specify our innovative DolpHin pH glass as an electrode selection. This allows applications up to 250°F (121°C), and has proven to offer significantly longer life in high-temperature and temperature cycling environments. Other benefits: greater accuracy and faster response in those applications than competitively tested sensors.

In addition, an optional double junction ion barrier reference — also a patented DolpHin technology — adds improved measurement stability and longer life to your 871PH sensor.

Other enhancements include the options to specify a Variopin quick cable connector on sensor or cable end; alternate O-ring materials (Viton® is standard; new options are EPDM and Chemraz®); and a smooth, nonstick ptfе collar for added electrode protection and minimal coating.

All options above are also supported via available new rebuild kits, adding an economical alternative to disposable sensors.

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Features / Benefits

- Reuseable sensor body
 - Replaceable electrode and junction
 - Economical alternate to disposable sensor
- DolpHin pH glass option
 - Proven longer life in high-temperatures and temperature-cycling environments
 - Greater application range
 - Increased accuracy
 - Faster response
- DolpHin reference junction option — double-junction ion barrier
 - Improved measurement stability
 - Longer sensor life
- Variopin connector option
 - Quick, easy connection
- O-ring material options
 - Viton, Chemraz, and EPDM available
- Nonstick (ptfe) collar option
 - Added electrode protection plus smooth surface to minimize coating
- Available rebuild kits for all new options

Model Code Specifications

Description	Model
Rebuildable Style pH/ORP Sensor	871PH

Sensor Body Material and Diagnostic Configuration

Ryton, Standard Configuration, Integral Preamplifier	(a) –1
CPVC, Standard Configuration, Integral Preamplifier	(a) –2
Ryton, Intelligent Configuration, Integral Preamplifier	(b) –3
CPVC, Intelligent Configuration, Integral Preamplifier	(b) –4
Ryton, Intelligent Configuration, No Preamplifier	(b) –5
CPVC, Intelligent Configuration, No Preamplifier	(b) –6

Measuring Electrode and Body Material

Spherical Glass, pH, Ryton	A
Antimony, pH, Ryton	B
Platinum, ORP, Ryton	D
Gold, ORP, Ryton	E
Flat Ruggedized Glass, pH, Ryton (c)	F
Domed High Temperature Glass, pH, Ryton	G
Spherical Glass, pH, ptfe	P
Antimony pH, ctfe	Q
Platinum, ORP, ctfe	R
Gold, ORP, ctfe	S
Flat Ruggedized Glass, pH, ptfe (c)	T
Domed High Temperature Glass, pH, ptfe	U
None	X

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Sensor Wetted Metallic Parts Material

Titanium	1
Carpenter 20 Cb	2
AISI Type 316L Stainless Steel (316L ss)	3
Monel®	5
Tantalum	6

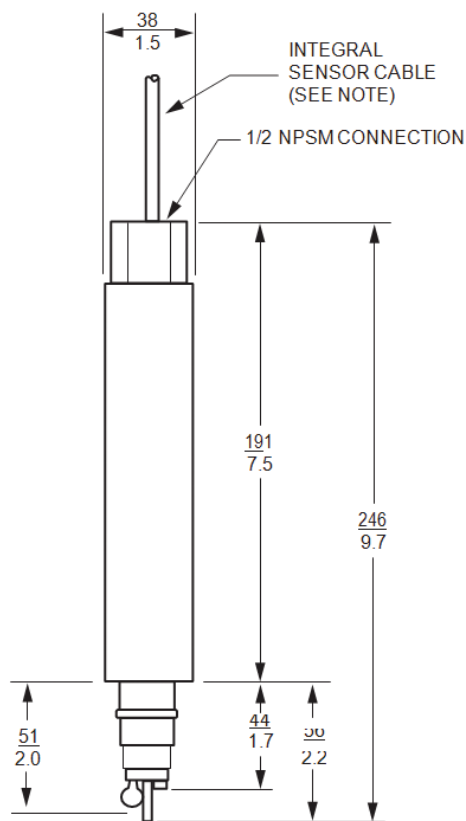
Reference Junction and Body Material

Ceramic, Ryton	A
Ceramic, ptfе	B
Ceramic, Double Junction, Ion Barrier, pvdf	D

Optional Selections

Nonstandard Integral Cable Length (d)	-3
Nonstandard Integral Cable Length, terminated in generic connector plug (d)(e)(f)(g)	-5
Standard Integral Cable Length 6m (20ft), terminated in generic connector plug (e)(f)(g)	-7
Integral High Temperature Cable rated 125°C (255°F) (with sensor body -5, -6)	-H
Integral Cable Terminated w/Variopin Quick Connector (f)(i)	-B
Variopin Quick Connector Integral to Sensor Body (f)(i)	-Q
EPDM O-Rings (standard O-rings are Viton®)	E
Chemraz O-Rings (standard O-rings are Viton)	-C
No spade lug terminals attached to end of cable (h)	-4
Nonstick ptfе Collar	-T

871PH SENSOR STANDARD SELECTION



NOTE:

THE STANDARD INTEGRAL CABLE LENGTH IS 6 m (20 ft), AND TERMINATED WITH STRAIGHT PIN LUGS. THE INTEGRAL STANDARD CABLE IS RATED AT 85°C (185°F). OPTIONAL INTEGRAL CABLES, AND ALSO HIGH TEMPERATURE CABLE RATED AT 125°C (255°F), ARE AVAILABLE. VARIOPIN CONNECT OPTION NOT SHOWN.

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- (a) Does not support the sensor diagnostic features of 870ITPH Transmitter and 875PH Analyzer.
- (b) Compatible with 870ITPH Intelligent Transmitter and 875PH Analyzer only.
- (c) Optimum accuracy is in the range of 2 to 12 pH. It can, however, be used with pH instruments ranged from 0 to 14 pH.
- (d) Standard cable length if not specified = 6 m (20 ft). Maximum integral cable length with Transmitters or Analyzers is:
 - 33 m (100 ft) for 870PH pH/ORP transmitters
 - 150 m (500 ft) for 870ITPH Transmitters, and for 873PH, 873APH, and 873DPX, and 875PH Analyzers.
- (e) Requires Patch Cable. See Accessories section in PSS 6-1C2A.
- (f) Not compatible with ball valve assembly mountings.
- (g) Compatible with 871PH-1 and 871PH-2 only; this option is NOT a Variopin style connector.
- (h) All cables that do not have connectors, have leads terminated with straight pin lugs, and are now compatible with all Foxboro Analyzers and Transmitters. Option -4 is no longer required for compatibility with 873 Series. Option -4 is included for customers who automatically order it.
- (i) When used with 871PH-3, -4, the standard 3-wire 1000 ohm RTD is supplied as a 2-wire, 1000 ohm RTD.