Process Analytical Product Portfolio

pH and ORP Sensors

PH10 and ORP10 DolpHin

PH10 DolpHin Smart

PH10 DolpHin Smart w/PC Interface

PH12

871A

871PH

EP462A

Electrodeless and Flowthrough Conductivity Sensors

871EC

871FT Sanitary

871FT Industrial

EP402

Calibration Plugs

Contacting Conductivity Sensors

871CR

871CR with Ball Valve Assembly

871CC

Analyzers and Transmitters

875 Analyzers

876 Transmitters

Process Analytical

Analyze or control the pH, oxidation-reduction potential (ORP), conductivity, or resistivity of your process with exceptional analytical solutions such as our 875 Series analyzer.

The Process Analytical Experts

Bring us your toughest analytical measurement challenges. We have the intelligent Foxboro analyzers, transmitters, sensors, and solutions you need.

Our analytical history displays an entire galaxy of significant technical firsts. Any survey would include our multi-measurement intelligent transmitters, flow-through conductivity sensors, dissolved oxygen sensor diagnostics, and more. Our unique, long-lived DolpHin sensors are currently revolutionizing pH measurement.

Today, we supply more than just quality instrumentation. Our expert application specialists tackle challenges from feasibility studies for new processes to fine-tuning your existing application.

The Ultimate Analyzer Solution

Our 875 Series intelligent analyzer is the perfect platform for all your analysis needs.

Call on it for accurate, flexible measurement of variables from contacting conductivity and resistivity to pH/ORP and electrodeless conductivity.

No analyzer on today's market is easier to use. All 875 Series models are packed with useful features, from history logs with up to 100 time- and date-stamped events to complete sensor and analyzer diagnostics.

The 875PH analyzer provides auto-buffer recognition for flawless pH calibrations. The 875EC model offers a host of pre-programmed chemical concentration ranges and corresponding temperature compensations. The 875EC model offers application switching and storage of up to three sets of application configurations that include custom curve sets.

Every 875 model has all the advantages you require in an analyzer. It furnishes ultimate speed and simplicity in installation, configuration, calibration, and operation. You get a large, backlit LCD; on-screen help with intuitive menus; field or panel-mounting; and easy wiring access. Plus a host of additional features tailored to your industry or application.

This analyzer is line-powered and certified for Class I, Division 2 environments.

The Ease-of-Use Transmitter Standard

The Foxboro 876 intelligent two-wire transmitter shares many of the 875's advantages. It has become an industry standard, offering the same balance of built-in capabilities, such as advanced sensor diagnostics, with ease of use, including self-prompting menu trees and PC-based configuration.

The 876 is loop-powered, yielding lower wiring costs. This transmitter is also intrinsically safe and certified for Class I, Division 1 areas.

For the lower wiring costs of a loop-powered instrument, turn to our popular 876 transmitter.

Process Analytical

Sensor design, selection, installation, and maintenance are critically important to the success of an analytical measurement. Foxboro products and expertise can help you achieve your desired results.

The Sensors You Seek

We offer the widest array of innovative sensor technologies, materials, sizes, and geometries in the business. From ultrapure water to the most aggressive acids and bases, we can handle your process solution. Among our offerings: Foxboro electrodeless conductivity, pH/ORP/ISE, flow-through conductivity, contacting conductivity/resistivity, and dissolved oxygen sensors. Rely on Foxboro sensors to solve your most challenging applications. Our breadth of line drastically simplifies your requirements for installation, calibration, accessibility, troubleshooting, and maintenance.

The Right Fit for Every Application

Foxboro sensors provide the specific advantages for each required application:

- For pure and ultrapure water measurement, our 871CR sensors supply the highest possible accuracy.
- For aggressive chemicals or industries requiring unbroken process lines, our flow-through 871FT sensors offer an innovative, noninvasive conductivity solution.
- For pH measurement in aggressive chemical solutions, our DolpHin reference technology with internal Nafion ion barrier protects the external junction from fouling and reduces maintenance.
- For measurement of dissolved oxygen, with regular maintenance our tough, rebuildable 871DO sensors can last several years, even in the most challenging applications.

Simplify the calibration of any Foxboro electrodeless conductivity sensor loop by using our high-precision EP485 resistance calibration plugs. Precision calibration… in a shirt-pocket tool!

The pH Benchmark

Our PH10 DolpHin sensor line has revolutionized the field. With remarkable longevity in the harshest environments, plus outstanding ease of use in any application, DolpHin has become the industry standard for pH/ORP sensors. DolpHin technology is also available in our 871PH rebuildable sensors and 12 mm PH12 sensors.

Twice the Life

DolpHin sensors remain extremely accurate for double the service life of competitive sensors in high-temperature and temperature cycling applications up to 121°C (250°F).

This unheard-of stability in the harshest process environments is due in part to our DolpHin sensors' unique pH glass formulation. A flat glass design offers self-cleaning for longer service life. A domed glass version operates longer and more accurately at high temperatures.

The 12 mm pH Standard

The new Foxboro PH12 Series includes the process industry's first PEEK bodied sensor; making it the most durable 12 mm pH sensor available anywhere. It is available with a flat membrane sensing electrode and no metallic wetted parts. Its nonmetallic solution ground is a standard feature, allowing for sensor diagnostics in a cost-effective platform.

Smart pH Sensor

The latest offering from Foxboro is the new PH10-S Smart (coupled with the new 876-S transmitter) providing customers with a robust solution for their pH measurements. The new sensor has internal, digital electronics and carries sensor ID, calibration parameters, and diagnostic history in its non-volatile memory. Calibrations are easier, faster, and more reliable since they can be accomplished in an instrument shop environment.

Foxboro's unique 871FT sanitary electrodeless conductivity flow-through sensor.

The sensors in our extraordinary DolpHin family are designed to reduce probe replacements, cut maintenance calls — and improve your ROI.

Foxboro's new Smart pH Sensor (coupled with the new 876PH transmitter) eliminates the need to bring pH buffer solutions to the field.

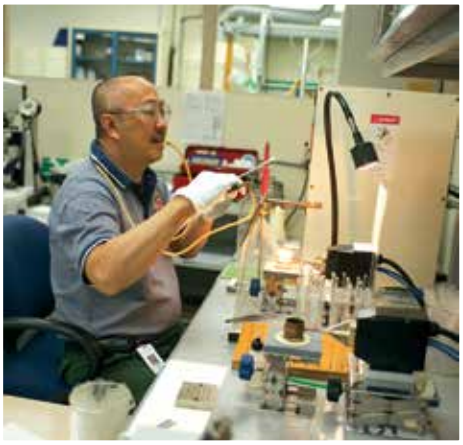
Foxboro analytical sensors provide unmatched ease of use, robustness, and application flexibility in almost any process solution.

For pH applications requiring a rugged, yet cost-effective sensor in a 12 mm form factor, the Foxboro PH12 provides the most durable materials and construction available.

Selection Guide

Analytical pH and ORP Sensors

Model	PH10 DolpHin, Analog	PH10 DolpHin, Smart	ORP10 DolpHin
Sensor Type	pH	pH	ORP
pH Range	0 to 14	0 to 14	N/A
Maximum Temperature	121°C / 250°F	121°C / 250°F	121°C / 250°F
Installation Type	Universal slip fit, submersion, inline, retractable	Universal slip fit, submersion, inline, retractable	Universal slip fit, submersion, inline, retractable
Electrode Type	Domed or flat	Domed or flat	Flat
Maintenance Type	Disposable	Disposable	Disposable
Integral Electronics	Yes, preamp	Yes, analog to digital circuit	Yes, preamp
Features	High performance	HIgh performance, digital output, stores calibration and other data	High performance
Specifications*	PSS 6-1C3 A	PSS 6-1C3 A	PSS 6-1C3 A
Data Sheet*	FD-DS-A-009	FD-DS-A-001	FD-DS-A-009



Proprietary pH glass formulations used in all of our pH sensors provide superior performance in challenging applications.

PH12	871A	871PH	EP462A
pH, ORP	pH, ORP	pH, ORP	pH low conductivity
0 to 14	2 to 12	0 to 14	0 to 14
140°C / 284°F	85°C / 180°F	121°C / 250°F	100°C / 212°F
PG13 connection to accessories, inline, retractable	Submersion, inline, retractable	Submersion, inline, retractable	Twist-lock, submersion, inline
Domed or flat	Flat	Selectable	Domed
Disposable	Disposable	Rebuildable	Disposable
No	Yes, preamp	Yes, preamp	No
12 mm form factor, available lengths 120 mm to 425 mm	Totally flat sensing surface	Small, inexpensive plug-in electrodes	Stable measurements in high-purity water
PSS 6-1C5 A	PSS 6-1C2 B	PSS 6-1C2 A	PSS 6-1C6 A
FD-DS-A-007		FD-DS-A-008	

* Please use this term in our search window on www.schneider-electric.com to access more product details.

Selection Guide

Analytical Electrodeless and Flowthrough Conductivity Sensors






Model	871EC	EP307B	EP307G	871FT	EP402	FT10
Sensor Type	Small and large bore	Barrel geometry	Borosilicate glass	Flowthrough	Flowthrough	Flowthrough
Intallation Type	Invasive, Insertion, Immersion, Retractable	Invasive, Insertion, Immersion, Retractable	Invasive, Insertion, Submersion	Non-invasive, Inline, Sanitary Tri-clamp, Industrial	Non-invasive, Inline, Threaded, Flange	Non-invasive, Inline Flaretek tube, NSP300 tube
Line Size	3" min / DN80	3" min / DN80	3" min / DN80	0.5" to 4" / DN15 to DN100	3/32" to 5/8" / 2.4 to 15.9 mm	1/2", 3/4" and 1" / DN15, DN20, DN25
Calibrate Inline	No	No	No	Yes	Yes	Yes
All Thermoplastic	Yes	Yes	No	No	No	Yes
Specifications*	PSS 6-3C4 A			PSS 6-3Q1 A		PSS 6-3Q1 B
Data Sheet*		FD-DS-A-013	FD-DS-A-018		FD-DS-A-003	FD-DS-A-014
Calibration Plug Accessory	Patented Calibration Plugs are accessories to the conductivity sensors in the above matrix. Versions of these plugs are available for all sensors except EP402. Calibration plugs contain a precision resistor to simulate a conductivity value. They optionally contain a second resistor to simulate temperature. Much easier to use than decade boxes or wet solutions, these plugs are truly a shirt pocket calibration tool with superb accuracy and repeatability. When coupled with the 871FT or FT10 sensor, they help facilitate an inline calibration without the need to remove the sensor from the process.					

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Superior electrodeless conductivity sensor technology, coupled with unique calibration plugs, dramatically reduce your cost of ownership.

Selection Guide

Analytical Contacting Conductivity and Resistivity Sensors

Model	871CR	871CC
Mounting	Insertion, Immersion, Retractable	Insertion, Immersion, Retractable
Installation Type	Universal slip fit	Fixed installation type dictated by model code selection
Temperature Compensation	1,000 ohm 3-wire platinum RTD	100 ohm 2-wire platinum RTD or 100 kohm 2-wire thermistor
Accuracy	0.1% of 0.1 cm^{-1} cell factor	2% of 0.1 cm^{-1} cell factor
Insertion Lengths	Model code selectable	Fixed length
Specifications*	PSS 6-3C2 B	PSS 6-3C2 A

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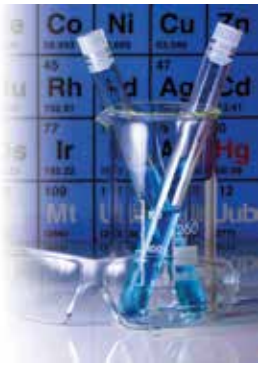
For measurement of pure and ultrapure water, Foxboro contacting conductivity sensors provide highly accurate cell constants and temperature sensors. Users in semiconductor, power generation, beverage, and other industries rely on Foxboro sensors for control of their critical water purity applications.

Selection Guide

Analytical Transmitters

Model	875PH	876PH
Measurements	pH, ORP, ISE	pH, ORP, ISE, Combination pH/ORP[1]
2- or 4-wire	4-wire	2-wire
Power	V ac[3], 24 V dc	12.8 to 42 V dc
Menu-Driven with Help Text	Yes	Yes
Inputs	1 Sensor, 1 Temp, pH/ORP	1 Sensor, 1 Temp, Combination pH/ORP[2]
Alarms	2	0
Certifications and Approvals	Class 1, Div 2 Non-incendive	Class 1, Div 1 and 2 Intrinsically safe
Output	Dual 4-20 mA, HART	4-20 mA, HART
Multi-application		
Custom Curve		
Specifications*	PSS 6-1A1 E	PSS 6-1A4 A
Data Sheet*	FD-DS-A-016	FD-DS-A-005 FD-DS-A-001 (Smart)



Our analyzers provide menu selections for most common chemical concentration applications, and our long history in analytical measurements provides a knowledge base that can greatly assist in specifying the correct sensor for the job.

875EC	876EC	875CR	876CR
Conductivity, Concentration	Conductivity, Concentration	Conductivity and Resistivity	Conductivity and Resistivity
4-wire	2-wire	4-wire	2-wire
V ac[3], 24 V dc	14.7 to 42 V dc	V ac[3], 24 V dc	12.8 to 42 V dc
Yes	Yes	Yes	Yes
1 Sensor, 1 Temp	1 Sensor, 1 Temp	2 Sensor, 2 Temp	1 Sensor, 1 Temp
2	0	2	0
Class 1, Div 2 Non-incendive	Class 1, Div 1 and 2 Intrinsically safe	Class 1, Div 2 Non-incendive	Class 1, Div 1 and 2 Intrinsically safe
Dual 4-20 mA, HART	4-20 mA, HART	Dual 4-20 mA, HART	4-20 mA, HART
Yes	Yes	Yes	Yes
Multiple, auto-switching	Multiple, auto-switching	Multiple, auto-switching	Multiple auto-switching
PSS 6-3N1 C	PSS 6-3N3 A	PSS 6-3A1 B	PSS 6-3A2 A
FD-DS-A-012	FD-DS-A-006	FD-DS-A-011	FD-DS-A-004

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[1] S Smart version available in pH only.

[2] S Smart version available in pH only and one Smart pH sensor input.

[3] See PSS for AC voltage selections.