

# Schneider Electric Smart pH Product Portfolio

## PH10 and PH12 Smart Sensors 876PH-S Transmitter



876PH-S



PH10-S



PH12-S

Schneider Electric has expanded its Smart pH product offering into a broad global portfolio. Now the Model PH12-S 12-mm pH Sensor and enhanced Model 876PH-S transmitter join the Model PH10-S 3/4-inch NPT pH sensor to provide Smart pH measurement solutions across a wider array of industries, applications, and geographies.

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# What's New?

## 876PH-S Smart Transmitter

- Backlit display
- Operable in 7 languages
- Sensor service prediction
- Sensor response time calculation

## PH12-S Smart, 12-mm, PG 13.5 sensor family

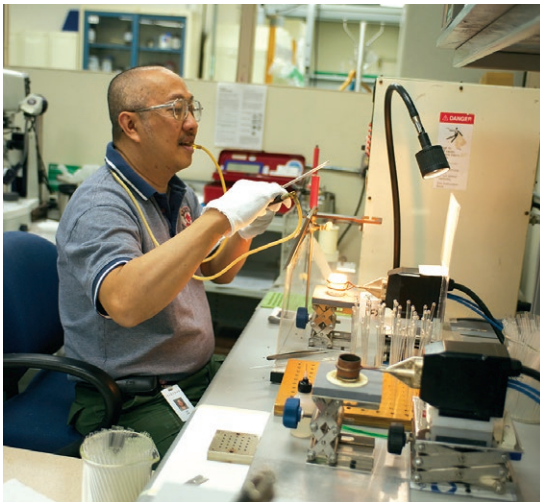
- Integral electronics with digital communications
- Manufacturing, calibration, and diagnostic data stored in sensor memory
- Smart ORP and simultaneous Smart pH and ORP options

## PH10-S

- Enhanced with new PC Interface features

## PC Interface

- “1-click” email of sensor history to Schneider pH expert
- Operable in 9 languages



*Glass blowing in Neponset Factory in Foxboro, MA USA*



*Clean-in-Place Application*

# Smart pH Value Proposition

## Smart sensors that are also robust!

- Longer service life and reduced need for cleaning with NAFION™ ion barrier in both PH10-S and PH12-S
- Rugged plastic bodies and abrasion-resistant flat glass membranes for harsh process fluids
- No metallic process-wetted parts

PH12-S



NAFION™ Internal Reference

## Advanced Transmitter Features

- Backlit LCD display
- Lower maintenance costs by servicing only when needed using Sensor Service Prediction
- Operation in 7 languages

876PH-S with Backlit LCD



## Lab Calibration with Sensor PC Interface and DTM

- Less measurement down time by exchanging a shop calibrated sensor instead of calibrating in the process environment
- Operable in English, French, German, Spanish, Portuguese, Italian, Russian, Chinese, and Japanese



Lab calibration with Smart Sensor PC Interface (BS814ME)

## Full Line of Installation Accessories

- Faster, safer sensor insertion and removal with FIT12 Insertion/Retraction and BVA Ball Valve Insertion assemblies, bushings and tees

BVA Adjustable Ball Valve Insertion Assembly



# Specifications

	PH12-S	PH10-S
Product Specification Sheet	PSS 6-1C5 A	PSS 6-1C3 A
Model Code for Smart Option	PH12-2 S	PH10-S 2 or PH10-S 4
Process Connection	PG 13.5	¾-in NPT
Measurement Electrode Types	<ul style="list-style-type: none"> <li>• Domed glass</li> <li>• High-temperature domed glass</li> <li>• Rugged flat glass</li> <li>• Platinum (Pt) ORP</li> <li>• Combination pH/ORP any glass/Pt</li> </ul>	<ul style="list-style-type: none"> <li>• Domed glass</li> <li>• Rugged flat glass</li> <li>• Antimony</li> </ul>
Reference Electrode	<ul style="list-style-type: none"> <li>• Double-junction</li> <li>• NAFION™ ion barrier</li> </ul>	<ul style="list-style-type: none"> <li>• Double-junction</li> <li>• NAFION™ ion barrier</li> </ul>
Measurement Performance	<ul style="list-style-type: none"> <li>• Range: 0 – 14 pH</li> <li>• Slope: 98.5 ±1.5%</li> <li>• Accuracy and Stability ±0.02 pH/24 hrs</li> <li>• Response Time: &lt;15 s</li> <li>• Sodium &lt;0.2 pH in 0.5 M Na at pH 12.4 (Domed) or 12.0 (Flat)</li> <li>• ORP: -1800 to +1800 mV</li> </ul>	<ul style="list-style-type: none"> <li>• Range: 0 – 14 pH</li> <li>• Slope: 99.3 ±0.7%</li> <li>• Accuracy and Stability ±0.02 pH/24 hrs</li> <li>• Response Time: &lt;15 s</li> <li>• Sodium &lt;0.2 pH in 0.5 M Na at pH 12.4</li> </ul>
Body	<ul style="list-style-type: none"> <li>• PEEK (120, 225, 360, or 425 mm)</li> <li>• Glass (120 mm only)</li> </ul>	PVDF
Temperature Sensor	Pt 1000	Pt 1000
Sensor Termination	Smart connector	Smart connector
Cable	<ul style="list-style-type: none"> <li>• High temperature -25 to 150 C</li> <li>• Length up to 100 m</li> </ul>	<ul style="list-style-type: none"> <li>• High temperature -25 to 150 C</li> <li>• Length up to 100 m</li> </ul>
Hazardous Location Certifications	Intrinsically Safe FM, CSA, ATEX, IECEx	Intrinsically Safe FM, CSA, ATEX, IECEx
Process Temperature Limits	-25 to 140 °C (-13 to 284 °F)	0 to 121 °C
Process Pressure Limits	-48 to 1034 kPag (-7 to 150 psig)	0 to 700 kPag (0 to 100 psig)
Wetted Materials	<ul style="list-style-type: none"> <li>• PEEK or glass body</li> <li>• Glass sensor</li> <li>• PEEK/ceramic reference junction</li> <li>• PVDF solution ground</li> <li>• VITON, EPDM, or FFKM O-ring</li> </ul>	<ul style="list-style-type: none"> <li>• PVDF body</li> <li>• Glass sensor</li> <li>• Ceramic reference junction</li> <li>• PVDF solution ground</li> <li>• VITON, EPDM, or Chamraz O-ring</li> </ul>
Sanitary Compliance	<ul style="list-style-type: none"> <li>• 3-A (74-xx), FDA</li> <li>• Steam-sterilizable</li> <li>• Autoclavable</li> </ul>	No
Biocompatibility Certificate	ISO 10993-5 and USP 87	No
Installation Accessories	<ul style="list-style-type: none"> <li>• Adjustable Retraction/Insertion</li> <li>• Adjustable Ball Valve</li> <li>• Flow chamber</li> <li>• Various bushings and fittings</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustable Ball Valve</li> <li>• Flow chamber</li> <li>• Various bushings and fittings</li> </ul>

# Specifications

876PH-S	
Product Specification Sheet	PSS 6-1A4 A
Measurements	<ul style="list-style-type: none"> <li>• Smart pH</li> <li>• Smart ORP and Simultaneous pH and ORP (PH12 only)</li> <li>• Temperature</li> <li>• Glass electrode resistance</li> <li>• Reference electrode resistance</li> </ul>
Outputs	<ul style="list-style-type: none"> <li>• 4 to 20 mA analog mappable to pH, ORP, or Temperature</li> <li>• 4 Hart 7 digital outputs independently mappable to pH, ORP, mV, solution temperature, temperature sensor resistance, glass electrode resistance, reference electrode resistance</li> </ul>
Configuration	<ul style="list-style-type: none"> <li>• Local display and keypad</li> <li>• HART handheld configurator</li> <li>• PC-based Field Device Tool (FDT)-certified DTM (Device Type Manager)</li> </ul>
Local Interface	<ul style="list-style-type: none"> <li>• Membrane-covered keypad</li> <li>• Backlit LCD display</li> <li>• Operable in 7 languages (English, French, German, Italian, Spanish, Portuguese, Russian) with local interface plus Japanese and Chinese with DTM</li> </ul>
Sensor and Transmitter Diagnostics	<ul style="list-style-type: none"> <li>• Measurement, compensation, and analog output overrange and underrange</li> <li>• Coated reference electrode</li> <li>• Aging glass and broken glass electrode</li> <li>• Calibration required</li> <li>• Liquid leakage into sensor body</li> <li>• Temperature measurement short or open</li> <li>• Sensor response time</li> <li>• Sensor service prediction</li> </ul>
Power Requirements	Loop-powered, 13.5 to 42 V dc
Environmental	<ul style="list-style-type: none"> <li>• Operating and storage temperature: -30 to +70 °C (-22 to +158 °F)</li> <li>• Relative humidity: 5 to 90% non-condensing</li> <li>• Vibration: 2.5 m/s<sup>2</sup> (0.25 g) 5 to 200 Hz (panel-mount)</li> <li>• Vibration: 10 m/s<sup>2</sup> (1 g) 5 to 200 Hz (pipe- or surface-mount)</li> </ul>
Enclosure	<ul style="list-style-type: none"> <li>• Aluminum (copper content 1%)</li> <li>• Hinged bezel with captive screws</li> <li>• IP66 ingress protection per IEC 60529</li> <li>• NEMA 4X</li> <li>• Optional storm door</li> <li>• Surface-, panel-, or pipe-mounted</li> </ul>
Hazardous Location Certifications	<ul style="list-style-type: none"> <li>• High temperature -25 to 150 C</li> <li>• Length up to 100 m</li> </ul>
Hazardous Location Certifications	ATEX, FM, IECEx, CSA Intrinsically Safe Zones 0 or 2

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