Model 21 Process pH Sensor

Features



- Patented Plunger[1] pH Electrode
- Choice of High Temperature, High pH or ORP Measurement
- Patented Porous[2] Teflon® Liquid Junctions
- Double Junction Reference Cell
- **New** Cast-In-Place Solid Reference Electrolyte
- Optional Integral Unity Gain Preamplifier
- **New** TOP68 Quick Disconnect Cable
- **New** Capillary TC Design
- **New** Non-Metallic Solution Ground

Applications

- Water and Wastewater Treatment
- Coagulation and Flocculation
- Process Monitoring and Control
- Acid / Caustic Neutralization
- Plant Effluent

Description

The Model 21 process pH sensor features the Plunger pH electrode design which permits 360º sensor mounting. The porous Teflon®liquid junction resists fouling and chemical attack. Double junction reference cells increase the service life in applications containing sulfides (H_2S) and metals such as lead, mercury and silver. The new cast-in-place solid reference electrolyte helps maintain a constant reference cell potential by resisting dilution over time with pressure and temperature changes. The new capillary temperature sensor design places the Pt100 or Pt1000 TC behind the pH sensitive membrane for accurate temperature compensation and measurement. The TOP68 quick disconnect cable system provides ease of use and the reliability of fixed cable. The IP68 environmental rating protects the high impedance pH electrode signal from moisture resulting from condensate build up in submersion pipes.

Specifications

Model 21	Specifications
Body Material	Ryton®
O-Rings	Viton®
Measuring Range	0 to 14 pH
Temperature Range	0 to 80ºC (32 to 176ºF) Standard Version 0 to 110ºC (32 to 230ºF) High Temp Version
Pressure Range	0 to 6.9 bar (0 to 100 psig) Standard Version 0 to 10.3 bar (0 to 150 psig) High Temp Version
Drift	< 2.0 mV/week
Response Time @ 25ºC	95% of reading in 10 seconds
Asymmetry Potential	7.0 pH ± 0.2 pH
Theoretical Slope	± 59.16 mV / pH unit @ 25ºC (77ºF)
Sodium Error	< 0.05 pH in 0.1 Molar Na+ Ion @ 12.8 pH
pH Glass Bulb Impedance @ 25ºC	150 Megohms

[1] United States Patent No. 4,333,812
[2] United States Patent No. 4,128,468
® Teflon and Viton are Registered Trademarks of E.I. Dupont de Nemours Company
® Ryton is a registered trademark of Philips 66 Co.

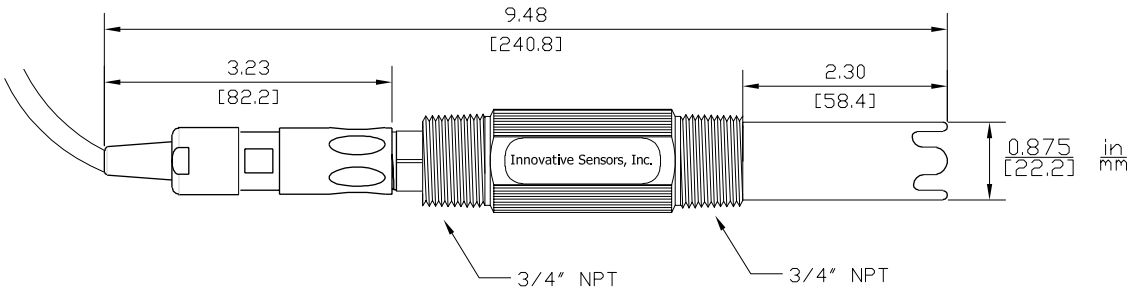
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CERTIFICATE NO. 00-1011

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Ordering Information

Model 21 pH sensor features a protective pH electrode guard and provides an insertion length of 58.4mm (2.3”). The Model 17 is the same as Model 21 except it is designed with 1.0” MNPT process connections.

Model 21 and 17 Ordering Information	Description
M - 21	Process pH Sensor with Protective Guard Double Junction Reference Cell, KCl/AgCl and KNO_3 No Temperature Compensation ¾” MNPT Process Connections 58.4 mm (2.3”) Insertion Length 4.5m (15 ft.) Cable with BNC
M - 17	1.0” MNPT Process Connections
Options	**Description**
T68	TOP68 Quick Disconnect
Amp	Integral Unity Gain Preamplifier
ORP	Platinum ORP electrode
HT	For continuous high temperature use, >80°C (176°F)
HpH	For continuous high pH use, > 11.0 pH
PT100	Temperature Compensation, 100 Ohm RTD
PT1000	Temperature Compensation, 1000 Ohm RTD
3KTC	Temperature Compensation, 3000 Ohm Thermister
SG	Solution Ground
M-21-T68-PT100	**Example Order Number**





Flow Installation
- 1” NPT Pipe Tee (By Others)
- ¾” Reducing Bushing (By Others)
- Use Tefon® Tape on Sensor to permit removal for routine maintenace
- Install shut off valves upstream and downstream of sensor
- Optimum flow rate is 3 to 5 GPM
- Sensor must remain in solution at all times

Note: Variations in design of plastic plumbing parts from different manufactures can be expected. Check tolerances prior to installation.

AYSIX technologies