# Model A6-11 Process pH Sensor

## Features



- Patented Plunger[1] pH Electrode Design
- 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 11 process pH sensor features the Plunger pH electrode design which permits 360° 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 11 | Specifications |
|---|---|
| Body Material | Ryton® |
| O-Rings | Viton® |
| Measuring Range | 0 to 14 pH |
| Temperature Range | 0 to 80°C (32 to 176°F) Standard Version<br>0 to 110°C (32 to 230°F) High Temp Version |
| Pressure Range | 0 to 6.9 bar (0 to 100 psig) Standard Version<br>0 to 10.3 bar (0 to 150 psig) High Temp Version |
| Drift | < 2.0 mV/week |
| Response Time @ 25°C | 95% of reading in 10 seconds |
| Asymmetry Potential | 7.0 pH ± 0.2 pH |
| Theoretical Slope | ± 59.16 mV / pH unit @ 25°C (77°F) |
| Sodium Error | < 0.05 pH in 0.1 Molar Na+ Ion @ 12.8 pH |
| pH Glass Bulb Impedance @ 25°C | 150 Megohms |

[1] United States Patent No. 4,333,812
[2] United States Patent No. 4,128,468
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® Ryton is a registered trademark of Philips 66 Co.

INNOVATIVE SENSORS INC.
REGISTERED TO ISO 9001
CERTIFICATE NO. 00-1011

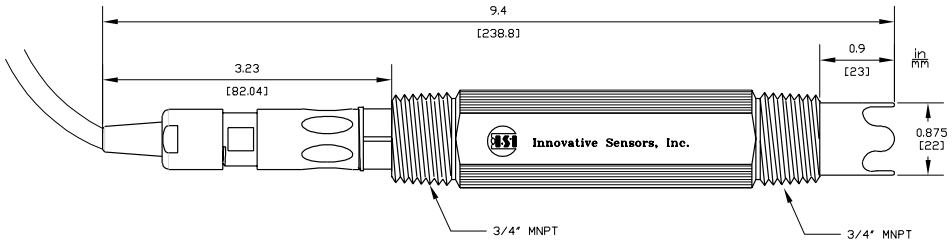
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## Ordering Information

**Model 11 pH sensor** features a protective pH electrode guard and provides an insertion length of 23.0mm (0.9”). Sensors with protective guards are recommended to reduce the risk of accidental breakage and to deflect foreign objects in flowing streams. The Model 15 provides 1.0” MNPT process connections.

| **Ordering Information** | **Description** |
|---|---|
| M - 11 | Process pH Sensor with Protective Guard<br>Double Junction Reference Cell, KCl/AgCl and $KNO_3$<br>No Temperature Compensation<br>¾” MNPT Process Connections<br>23.0 mm (0.9”) Insertion Length<br>4.5m (15 ft.) Cable with BNC |
| M - 15 | 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-11-T68-PT100-SG** | **Example Order Number** |






Submersion Installation

- ¾” Submersion Pipe (By Others)
- Attach Sensor to Pipe with ¾” Union (By Others)
- Use Teflon® Tape on Sensor to permit removal for routine maintenance
- Sensor must remain in solution at all times

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