



# Innovative Sensors, Inc.

## Continuous On-Line Industrial Measurement

### Process pH Sensors

**Process pH sensors** are for submersion, insertion of flow installations. All sensors feature the plunger electrode and porous Teflon<sup>®</sup> double junction reference cells. Double junction reference extend the services life in process applications containing sulfides (H<sub>2</sub>S), metals (pb, Hg, Ag) and in sugar processing. Select automatic temperature compensation and other options as required

Model 11, 12	Specifications
Body Material	Ryton <sup>®</sup>
O-Rings	Viton <sup>®</sup>
Measuring Range	0 to 14 pH
Temperature Range	0° to 80°C (32° to 176°F) Standard Version 0° to 110°C (77° to 230°F) 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 @ 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 <sup>+</sup> Ion 12.8 pH
pH Glass Bulb Impedance @ 25°C	150 Megohms



**Model 11 pH sensors** 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, or to deflect foreign objects in flowings streams. The Model 15 provides 1.0" MNPT process connections.

**Model 11 Ordering Information**

M - 11

**Descriptions**

Process pH Sensor with Protective Guard  
 Double Junction Reference Cell, KCl / AgCl and KNO<sub>3</sub>  
 3/4" MNPT Process Connections  
 23.0 mm (0.9") Insertion Length  
 4.5 m (15 ft.) Cable with BNC

**Options**

T68  
 AMP  
 ORP  
 HT  
 HpH  
 PT100  
 PT1000  
 3KTC  
 SG

**Descriptions**

TOP68 Quick Disconnect  
 Integral Unity Gain Preamplifier  
 Platinum ORP electrode  
 For continuous high temperature use, >80°C (176°F)  
 For continuous high pH use, > 11.0 pH  
 Temperature Compensation, 100 Ohm RTD  
 Temperature Compensation, 1000 Ohm RTD  
 Temperature Compensation, 3000 Ohm Thermister  
 Solution Ground

**M - 11 - AMP -PT100****Example Order Number**

**Model 12 pH sensors** features a concave probe design with a short insertion length of 12.7 mm (0.5"). Concave probe designs tend to be self-cleaning and are recommended for flow applications containing suspended solids. Select a flat probe for viscous and fibrous solutions such as pulp stock applications

**Model 12 Ordering Information**

M - 11

**Descriptions**

Process pH Sensor with Concave Probe Design  
 Double Junction Reference Cell, KCl / AgCl and KNO<sub>3</sub>  
 3/4" MNPT Process Connections  
 12.7 mm (0.5") Insertion Length  
 4.5 m (15 ft.) Cable with BNC

**Options**

T68  
 AMP  
 HT  
 HpH  
 PT100  
 PT1000  
 3KTC  
 FLAT  
 SG

**Descriptions**

TOP68 Quick Disconnect  
 Integral Unity Gain Preamplifier  
 For continuous high temperature use, >80°C (176°F)  
 For continuous high pH use, > 11.0 pH  
 Temperature Compensation, 100 Ohm RTD  
 Temperature Compensation, 1000 Ohm RTD  
 Temperature Compensation, 3000 Ohm Thermister  
 Flat pH Electrode  
 Solution Ground

**M - 11 - HpH - PT100**

**Model 10 pH sensor** is designed for use in general purpose water applications. Typical applications include potable water, cooling towers, fresh and salt-water aquariums, and surface water such as lakes and rivers including fish farms. The large volume single junction reference cell coupled with the non-fouling porous Teflon® liquid junction assures a long life in general service.



### Model 10

### 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 0° to 110°C (77° to 230°F) High Temp Version
Pressure Range	0 to 6.9 bar (0 to 100 psig) Standard Version
Drift	< 2.0 mV / week
Response Time @ 25°C	95 % of reading in 10 seconds
pH Glass Bulb Impedance @ 25°C	80 Megohms (Standard Version) 150 Megohms High Temp Version)

### Model 10 Ordering Information

### Descriptions

M - 10	Process pH Sensor with Protective Guard Single Junction Reference Cell 1/2" MNPT Process Connections 16.5 mm (0.65") Insertion Length 3.3 m (10 ft.) Cable with BNC
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### Options

### Descriptions

ORP	Platinum ORP Electrode
HT	For continuous high temperature use, >80°C (176°F)
PT100	Temperature Compensation, 100 Ohm RTD
PT1000	Temperature Compensation, 1000 Ohm RTD
3KTC	Temperature Compensation, 3000 Ohm Thermister

**M - 10 - PT100**