

# Model 50 Ground Loop pH Sensor

## Model 55 Solution Ground pH Sensor

### Features

- Patented Plunger<sup>1</sup> pH Electrode Design
- Patented Porous<sup>2</sup> Teflon<sup>®</sup> Liquid Junctions
- Double Junction Reference Cell
- Integral Differential Preamplifier or Solution Ground
- Optional ORP Measurement
- **New** TOP68 Quick Disconnect Cable

### Applications

- Metal Tank Installations
- Plating Baths
- Waste Treatment
- Acid / Caustic Neutralization

### Description

These rugged pH sensors feature the Plunger pH electrode design that permits 360° sensor mounting and withstands thermal shock from -5 to 150°C (23 to 302°F). The porous Teflon<sup>®</sup> liquid junction resists fouling and chemical attack. Double junction reference cells increase the service life in applications containing sulfides (H<sub>2</sub>S) and metals such as lead, mercury and silver. The optional TOP68 quick disconnect cable system provides ease of use and the reliability of fixed cable. The TOP68 has an IP68 environmental rating, which means its water tight and corrosion resistant.



### Specifications

Model 50 and 55	Specifications
Body Material	Ryton <sup>®</sup> , 316 SS Housing
O-Rings	Viton <sup>®</sup>
Process Connections	¾" MNPT
Insertion Depth	145 mm (5.75")
Measuring Range	0 to 14 pH
Temperature Range	-5 to 130°C (23 to 266°F)
Maximum Pressure @ 25°C	10.3 bar (150 psig)
Drift	< 2.0 mV/week
Response Time @ 25°C	95% of reading in 10 seconds
pH Glass Bulb Impedance @ 25°C	Model 50 < 1.0 Megohm Model 55 ~ 300 Megohms

<sup>1</sup> United States Patent No. 4,333,812

<sup>2</sup> United States Patent No. 4,128,468

<sup>®</sup> Teflon and Viton are Registered Trademarks of E.I. DuPont de Nemours Company

<sup>®</sup> Ryton is a registered trademark of Philips 66 Co.

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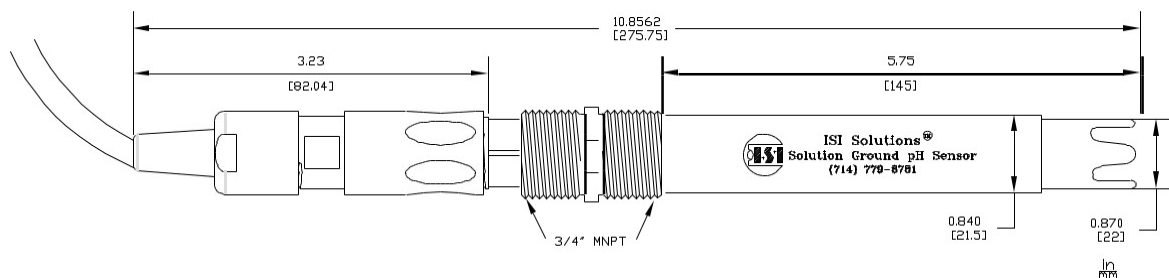
## Model 55 Solution Ground pH Sensor

### Ordering Information

The **Model 50 Ground Loop pH sensor** features a self-powered differential preamplifier to protect against ground loops, which can lead to pH offsets, drift, instability and may shorten sensor life. Typical applications include plating baths and other tank applications.

The **Model 55 Solution Ground pH sensor** provides a solution ground to accommodate pH analyzers and transmitters featuring pH glass electrode and reference cell diagnostics or differential input preamplifiers.

Model 50 and 55 Ordering Information	Description
M-50	Ground Loop pH Sensor Double Junction Reference Cell, KCl/AgCl and KNO <sub>3</sub> Differential preamplifier Solution Ground ¾" Process Connections No Temperature Compensation 146mm (5.75") Insertion Length 6.1m (20.0 ft.) Cable with BNC Connector
M-55	Solution Ground pH Sensor without Differential preamplifier
Options	Description
T68	TOP68 Quick Disconnect
1.5	38mm (1.5") Insertion Length
ORP	Platinum ORP electrode
PT100	Temperature Compensation, 100 Ohm Platinum RTD
PT1000	Temperature Compensation, 1000 Ohm Platinum RTD
3KTC	Temperature Compensation, 3000 Ohm Thermister
<b>M-50-T68-PT100</b>	<b>Example Order Number</b>



#### Insertion Installation

- Select installation location that provides easy access for routine maintenance
- Seal pipe threads with Teflon<sup>®</sup> tape
- Optimum flow rate is 3 to 5 GPM
- Sensor must remain in solution at all times