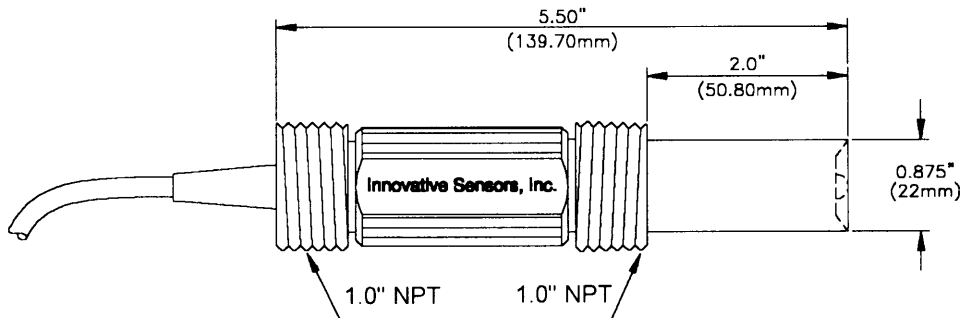




# Innovative Sensors, Inc.

ISI SOLUTIONS - Specialty Sensors for Difficult Applications

## Model 18 - Robust, General Purpose pH Sensor with Long Insertion Length



The Model 18 is a combination pH sensor designed for insertable use in process and waste water applications where greater pipeline penetration is required.

The outer body material is PPS (Ryton®) and has 1" NPT front and rear facing threads with a 2" (50.8mm) insertion depth. The sensor features sealed double junction construction which is highly resistant to electrode poisoning solutions, typically those with cyanide, ammonia, sulfide and heavy metals in appreciable concentrations. The use of the non-fouling patented POROUS TEFLON® liquid junction ensures a steady presence of reference electrolyte. Coupled with the novel PLUNGER® pH glass electrode design, the Model 18 assures a low maintenance service life in most applications.

Use of the High Temperature version is recommended where service temperatures continuously exceed 80°C.

### Applications

The Model 18 is recommended as a general purpose sensor for insertion into large diameter pipes. It is also ideally suited for flange or tank wall mounting.

### Specifications

Body Material	PPS (Ryton®)
pH Range	0 to 14 pH
Temperature Range	0°C to +80°C (Standard version) 0°C to +110°C (High Temperature version)
Pressure Range	0 to 100psig (Standard version) 0 to 150psig (High Temperature version)
Accuracy	±0.1% over full range
Sodium Error	Less than 0.05 pH in 0.1 Molar Na <sup>+</sup> ion @ 12.8 pH
Impedance	150Mohm @ 25°C
Reference Cell	Double Junction KNO <sub>3</sub> and KCl/AgCl
Zero Potential	7.0 pH ± 0.2 pH
Wetted Materials	PPS (Ryton®), Teflon®, Viton®, Glass
Response Time	95% of reading in 10 seconds
Drift	Less than 2 mV per week



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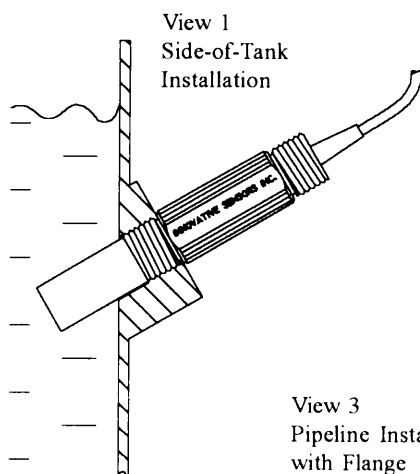


## Available Options

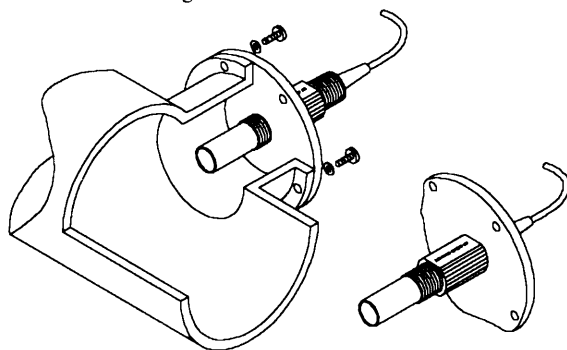
M-18	General purpose for insertion into large diameter pipes. Ideally suited for flange or tank wall mounting.
M-18-AMP	Integral unity gain amplifier boosts the signal to a noise free level allowing the signal to be transmitted hundreds of feet.
M-18-ORP	Redox measurement in waste water treatment. Platinum sensing element.
M-18-HT	For use in temperatures above 80°C, <b>except</b> where ethers, ketones and most aromatic hydrocarbons are present. If these solvents are present the standard version should be used, regardless of the temperature.
M-18-HpH	High pH (high alkalinity) version for use where pH is consistently above pH 11.
M-18-HT-HpH	High Temperature version of the M-18-HpH.
M-18-PT100	Includes DIN standard PT100 RTD.
M-18-PT1000	Includes DIN standard PT1000 RTD.
M-18-3KTC	Includes standard 3000 ohm temperature compensator.

The Model 18 is supplied with a 15 foot TPE high temperature/ultra low noise cable and a BNC connector as standard.

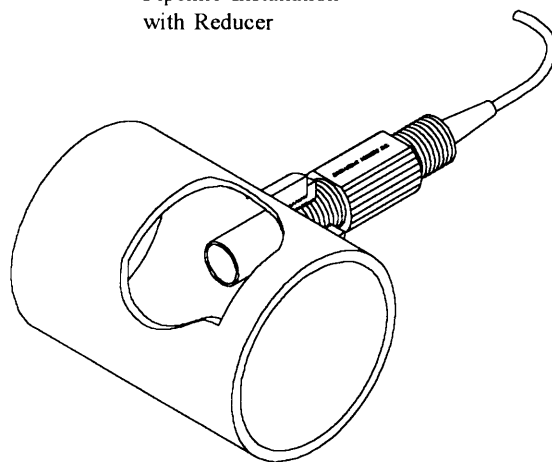
## Installation Guide



View 3  
Pipeline Installation  
with Flange



View 2  
Pipeline Installation  
with Reducer



The sensing tip should be installed in the center of the pipe where the flow is at a maximum.

\* Patent No. 4,333,812

\*\* Patent No. 4,128,468

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Ryton® is a registered trademark of Phillips 66 Co.

Kynar® is a registered trademark of Elf Autochem North America.

**Mounting Tees are available in  
PVC, PVDF (Kynar®) and  
Stainless Steel**



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