



Valve Retractable Sensors

ASTI offers unique solutions for process measurement problems:

- Best reference lifetime in process industry through nonporous cross linked conductive polymer
- Rugged industrial grade sensors can operate in a temperature range from -5 to 135 degrees centigrade
- Applications Specific pH glasses service processes such as acid/fluoride, saturated sodium, ultrapure water, cyanide, sulfide, high / ultra high temperature, slurry/viscous materials, paper/pulp
- Each standard sensor selection and/or special sensor design are based upon customer application information
- Plastic housing configuration from general purpose thermoplastic Ultem™ (PEI) to the inexpensive CPVC
- CPVC is a perfectly compatible material for oxidation & sterilization processes, offering excellent value for bleaching and other similar applications





IOTRON™ SENSORS

INTEGRATED pH/ORP SENSOR SPECIFICATIONS

<p>Replacement Sensors <u>REQUIRING</u> Integrated Preamplifiers</p> <p>Instruments with preamplifiers are supplied with the appropriate internal temperature compensation, solution ground & integrated (embedded) OEM compatible high-impedance CMOS operational amplifiers (a.k.a. preamplifiers). Not that some manufacturers can support sensors with or without preamplifiers on the same meter. Appropriate sensor hook-up schematics are provided with each sensor, and can be found this web site.</p>	<p>Replacement Sensors <u>NOT REQUIRING</u> Integrated Preamplifiers</p> <p>Instruments without preamplifiers are supplied with the appropriate internal temperature compensation and/or solution ground signals. Appropriate sensor hook-up schematics are provided with each sensor, and can be found here.</p>
<p>Fully Supported Hardware</p> <p>Electro-Chemical Devices (100% Compatible, FULL SUPPORT) T-20, T-21, T-27, T-28, T-29, T-30, C-22</p> <p>Foxboro (100% Compatible, FULL SUPPORT) 870, 871, 872, 873, 874, 875</p> <p>Leeds and Northrup (Honeywell) (100% Compatible, FULL SUPPORT) 7030, 7075, 7076, 7079, 7081, 7082, 7083, 7084</p> <p>Uniloc-Rosemount (100% Compatible, FULL SUPPORT) 1000, 1001, 1002, 1003, 1050, 1181, 1054, 1054A, 1054B, 1055, 2081, 3081, 81, 54pH/ORP, 54e</p>	<p>Fully Supported Hardware</p> <p>Endress+Hauser (100% Compatible, FULL SUPPORT) CPM 223/253, CPM 152, CPM 431</p> <p>Mettler Toledo (100% Compatible, FULL SUPPORT) 1120, 1140, 2050, 2100, 2220, 2400, 2500, 2800X</p> <p>TBI-Bailey Controls (100% Compatible, FULL SUPPORT) TB515, TBN580, TB701/702, TB82pH, TB84pH</p>
<p>Supported Hardware with Known issues</p> <p>Uniloc-Rosemount (Limited Compatibility, Some Known Issues) 1054, 1054A & 1054B</p> <p>Great Lakes Instruments (Most models supported, Some minor known issues) 33, 53, 60, 62, 63, 70, 83, 90, 95, 570, 670, 671, 690, 691, 692</p> <p>Signet (Limited Compatibility, Some Known Issues) 710 et. al., 2720, 9030, 9040, 8710</p> <p>IC Controls (Limited Compatibility, Some Known Issues) 652, 654, 655, 656</p>	<p>Supported Hardware with Known issues</p> <p>Johnson Yokogawa (Limited Compatibility, Some Known Issues) pH/ORP 200, pH/ORP 400, pH/ORP 202, pH/ORP 402</p> <p><u>PLEASE INQUIRE FOR ANY INSTRUMENTATION NOT LISTED</u></p>



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Standard Applications

- Acid/Fluoride
- High / Ultra High Temperature
- Paper/Pulp
- Slurry/Viscous Materials
- Saturated Sodium
- Oxidation Reduction Potential
- Sulfides
- Ultrapure Water
- General Purpose

Special Applications

- Organic Solvents Resistant
- Cyanide Resistant
- Dissolved Gases:
- Cl₂, ClO₂, NH₃, SO₂ / SO₃ / NO_x Resistant

pH Sensor Case Studies

[# 1 Interactive Ammonium pH Hi-Temp Measurement](#)

[# 3 Interactive Hi-Nitric Acid pH Measurement](#)

[# 4 Interactive Organic Solvents pH Measurement](#)

LIMITS & CAPABILITIES (PARTIAL LIST ONLY)

pH & ORP MEASUREMENTS

- Fluorides up to 50,000 PPM and -0.5 pH
- Sulfides up to Saturation
- Cyanides up to 500 PPM
- High pH range up to 14.5 (with ASTI calibration procedures and buffers)
- Low pH range up to -0.5 (with ASTI calibration procedures and buffers)
- Low Temperature up to -30 °C
- High Temperature up to 150 °C
- High Pressure up to 150 p.s.i.
- Solids Content up to 12% Consistency Pulp
- Almost All Organic Chemical Mixtures (Minimum 1-2 % aqueous content)
- ORP Measurements in Completely Non-Aqueous Medium
- Bleaching Applications using Chlorine and Chlorine Dioxide
- Sterilization Applications using Peroxide, Ozone & Dissolved O₂

pH/ORP Sensor Case Studies

[# 2 Interactive Hi-Sulfide pH/ORP Measurement](#)

[# 10 Interactive Hi-Chlorine pH/ORP Measurement](#)

[PLEASE INQUIRE FOR ANY APPLICATIONS NOT LISTED HERE](#)



IOTRON™ SENSORS

INTEGRATED pH/ORP SENSOR SPECIFICATIONS

1" O.D. Valve Retractable Sensors

Standard, Ultem (PEI) body



CPVC (Chlorinated-Polyvinyl-Chloride) body



[Drawing <9-1> \(pH Bulb\)](#)

[Drawing <9-1-Pt> \(ORP- Platinum Band\)](#)

[Drawing <9-2> \(Flat pH\)](#)



IOTRON™ SENSORS
INTEGRATED pH/ORP SENSOR SPECIFICATIONS

Valve Retractable Sensor Selection Guide



Please select and click on the drawing you wish to download. These line drawings are in PDF (Adobe Acrobat) format. Please contact factory if any documentation is missing from this page.

1" O.D. Valve Retractable Sensors

Sensor Description	Body Housing Ultem™ (PEI)	Body Housing CPVC (Chlorinated- Polyvinyl- Chloride)
General Purpose	9031 <9-1>	9012 <9-1>
High Temperature	9131 <9-1>	Not Available
Slurry/Viscous Material Resistant	9331 <9-2>	9312 <9-2>
Acid/Fluoride Resistant	9431 <9-1>	9412 <9-1>
Paper/Pulp Resistant	9531 <9-1>	9512 <9-1>
Sulfide Resistant	9631 <9-1>	9612 <9-1>
Ultrapure Water Resistant	9731 <9-2>	9712 <9-2>
ORP	9831 <9-1-Pt>	9812 <9-1-Pt>
Saturated Sodium Resistant	9931 <9-1>	9912 <9-1>

Sensor Options

- All sensors are configured with tines (guard)
- Some sensors may be ordered with matched temperature compensation response (Iotron™ AccuTemp™), Surcharge May Apply



1-1/4" Ball Valve Assembly for 1.0" O.D. Valve Retractable Sensors

THE COMPLETE ASTI PART NUMBERING GUIDE

APPENDIX "A"

Custom Applications

Add-On Alpha Prefix

Dissolved Chlorine Gas	"C"
Dissolved Ammonia Gas	"A"
Organic Solvent Applications	"L"
Teflon Silicone Required	"TS"
PolyEthylene Junction	"PE"
Teflon Junction	"TF"
Triple Junction	"TJ"
Position Insensitive Assembly	"H"
Mid-Level HF Resistant	"MF"
High-Level HF Resistant	"HF"
Temperature Fluctuation Resis.	"HR"
AccuTemp Option	"X"
Low Impedance Option	"GP"
Solution Ground Addition	"Y"