



IOTRON™ SENSORS

INTEGRATED INDUSTRIAL pH SENSOR SPECIFICATIONS

Sensor Part Number & Short Description:

6342 – Slurry & Viscous Resistant pH Sensor for Inline, Immersion & Submersible Installations; Front 3/4" MNPT for Inline & Rear 3/4" MNPT for Immersion / Submersion

Configuration Type:

Front threads interface 3/4" FNPT of tee or process tank for Inline Use or Rear threads interface 3/4" FNPT of insertion tube for immersion or waterproofing seal for submersion

General Sensor Specifications:

Operating Temperature Range:

-5 to 105°C (-35 to 150°C with Extreme Dehydration Resistant "E" Option – PVDF Only)

Operating Pressure Range:

1 to 100 psig (6.9 to 690 kPa) with 3/4" MNPT Front Threads for Inline Installations

Sensor Body Material:

KetaSpire® KT-880 NT (Poly-Ether-Ether-Ketone, PEEK)

Junction Support Matrix Material:

KYNAR® (Poly-Vinylidene-Fluoride, PVDF) Standard or Polypropylene (PP) - **6342PP**

External Dimensions:

See Drawing 6-6

pH Measurement Specifications:

Measurement pH Range:

0 to 14 pH (-0.5 to +14.5 with Wide Range Option Invoked, Alpha Prefix "V")

Measuring Glass Type:

Low-Profile Parabolic Thick-Wall Break-Resistant, Green Glass (MUGG)

pH Glass Dimensions:

0.315" (8.0 mm) DIA

Initial Impedance:

< 1,500 MΩ @ 25 °C

Sodium Ion Error:

Less than 0.15 pH in sodium (Na⁺) solutions at pH 14.00

Acidic Error:

Less than 0.05 pH in hydrochloric acid (HCl) solutions at 0.00 pH

Reference System Specifications:

Type:

Double Junction Standard (Triple Junction Optional, Alpha Prefix "TJ")

Reference Half Cell:

Ag/AgCl, Saturated KCl

Primary Junction:

Porous Ceramic, Sat. KCl in crosslinked polymer, Interfaced to Secondary Junction

Secondary Junction:

Solid-State Non-Porous Cross-Linked Polymer embedded in Kynar/Polypropylene Matrix holds excess KCl assuring saturation at all temps for stability & long sensor service life

Supported Order Options with Alpha Prefix Order Code Designation:

Ammonia gas resistant ("A"), Chlorine gas resistant ("C"), Organic Media Resistant ("L"), Solvent Resistant ("TS"), 3-Wire TC ("M"), ACCU-TEMP Fast TC ("X"), Reduce to 2 ea Protective Tines ("GRO"), No Protective Tines ("NG"), Shielded Preamp Cable ("BL")

Inquire to factory for specials

Example Recommended Applications:

Abrasive slurry & high-viscosity inline, immersion or submersible process installations. Any measurement where aggressive chemical cleaning is needed to remove fouling or low-maintenance operation is required with minimal cleaning and re-calibration.

Storage and Shelf Life:

One (1) year from date of dispatch from factory when stored at indoor ambient room temperature with proper orientation & protector cap. Extreme Dehydration Resistant Option (Alpha Prefix "E") sensors are suitable for cold storage down to -35 °C (-31 °F).

Available Configurations & Options:

Integrated Components:

- Temperature Compensation Element (compatible type must be specified)
- Solution Ground Liquid Earth, 316SS (alpha prefix "Y"), or Platinum (alpha prefix "Pt")
- Analog Conventional or Differential Preamplifier (Contact factory for available options)
- Smart digital sensor board for use with 3TX-HiQ-pH Intelligent pH & ORP transmitters

Analog Sensors without integral preamplifier:

Terminated with Male BNC connector (-MBNC) or Tinned Lead Wires (-TL)

Analog Sensors with integral preamplifier:

Terminated with Tinned Lead Wires (-TL) or Quick Disconnect NEMA 6P Snap (-Q7M)

Analog Dual pH & ORP All-in-one Sensors *without integral preamplifier style only:*

Terminated with tinned lead wires (-TL), Alpha Prefix "PtD", 2 each reference half-cells allow for simultaneous use on two completely separate input channels or transmitters

Digital Smart Sensors:

Terminated standard with quick disconnect IP67/NEMA 6P rated waterproof & corrosion resistant snap HiQ4M connector. For 3TX-HiQ-pH Intelligent pH & ORP transmitters or HiQDT style with RS-485 MODBUS RTU to interface with any suitable PLC or SCADA (Minimum Order Quantity may apply for HiQDT style version, contact factory for details)

