



IOTRON™ SENSORS

INTEGRATED INDUSTRIAL pH SENSOR SPECIFICATIONS

<u>Sensor Part Number & Short Description:</u>	6731 – Aggressive Dissolved Gas & Volatile Solvent Resistant pH Sensor; Inline Use with ¾” MNPT Threads & Immersion/Submersion Installations with 1” MNPT Threads
<u>Configuration Type:</u>	<i>Interface with ¾” FNPT threads of tee or process tank for Inline Use or 1” FNPT threads on insertion tube for immersion or waterproofing seal for submersible installations</i>
<u>General Sensor Specifications:</u>	
Operating Temperature Range:	-5 to 105°C (-35 to 150°C with Extreme Dehydration Resistant “E” Option – PVDF Only)
Operating Pressure Range:	1 to 150 psig (6.9 to 1035 kPa) with ¾” MNPT Front Threads for Inline Installations
Sensor Body Material:	RADEL® R-5000 NT (Poly-Phenyl-Sulfone, PPSU)
Junction Support Matrix Material:	KYNAR® (Poly-Vinylidene-Fluoride, PVDF) Standard or Polypropylene (PP) - 6731PP
External Dimensions:	See Drawing 6-1
<u>pH Measurement Specifications:</u>	
Measurement pH Range:	0 to 14 pH (-0.5 to +14.5 with Wide Range Option Invoked, Alpha Prefix “V”)
Measuring Glass Type:	Hemispherical, Green Glass (MUGG)
pH Glass Dimensions:	0.315” (8.0 mm) DIA, 0.354” (9.0 mm) DIA with Low-Impedance (“Z”) Option
Initial Impedance:	< 800 MΩ @ 25 °C, < 400 MΩ @ 25 °C with Low-Impedance (“Z”) Option
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
<u>Reference System Specifications:</u>	
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/Polypro Matrix Special redundant sealing ensure long service life in volatile gases & solvents
<u>Supported Order Options with Alpha Prefix Order Code Designation:</u>	Ammonia gas resistant (“A”), Chlorine gas resistant (“C”), Solvent Resistant * (“TS”) , Organic Media Resistant * (“L”) , 3-Wire TC (“M”), ACCU-TEMP Fast TC (“X”), 2 each Protective Tines (“GRO”), No Protective Tines (“NG”), Shielded Preamp Cable (“BL”)
<u>Inquire to factory for specials</u>	
<u>Example Recommended Applications:</u>	Any application that contains aggressive dissolved gases or volatile organic solvents in process. * “L” & “TS” options are INCLUDED STANDARD on X7XX series sensors . Any measurement where aggressive chemical cleaning is needed to remove fouling or low-maintenance operation is required with minimal cleaning and re-calibration.
<u>Storage and Shelf Life:</u>	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).
<u>Available Configurations & Options:</u>	
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 <i>without integral preamplifier style only:</i>	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)

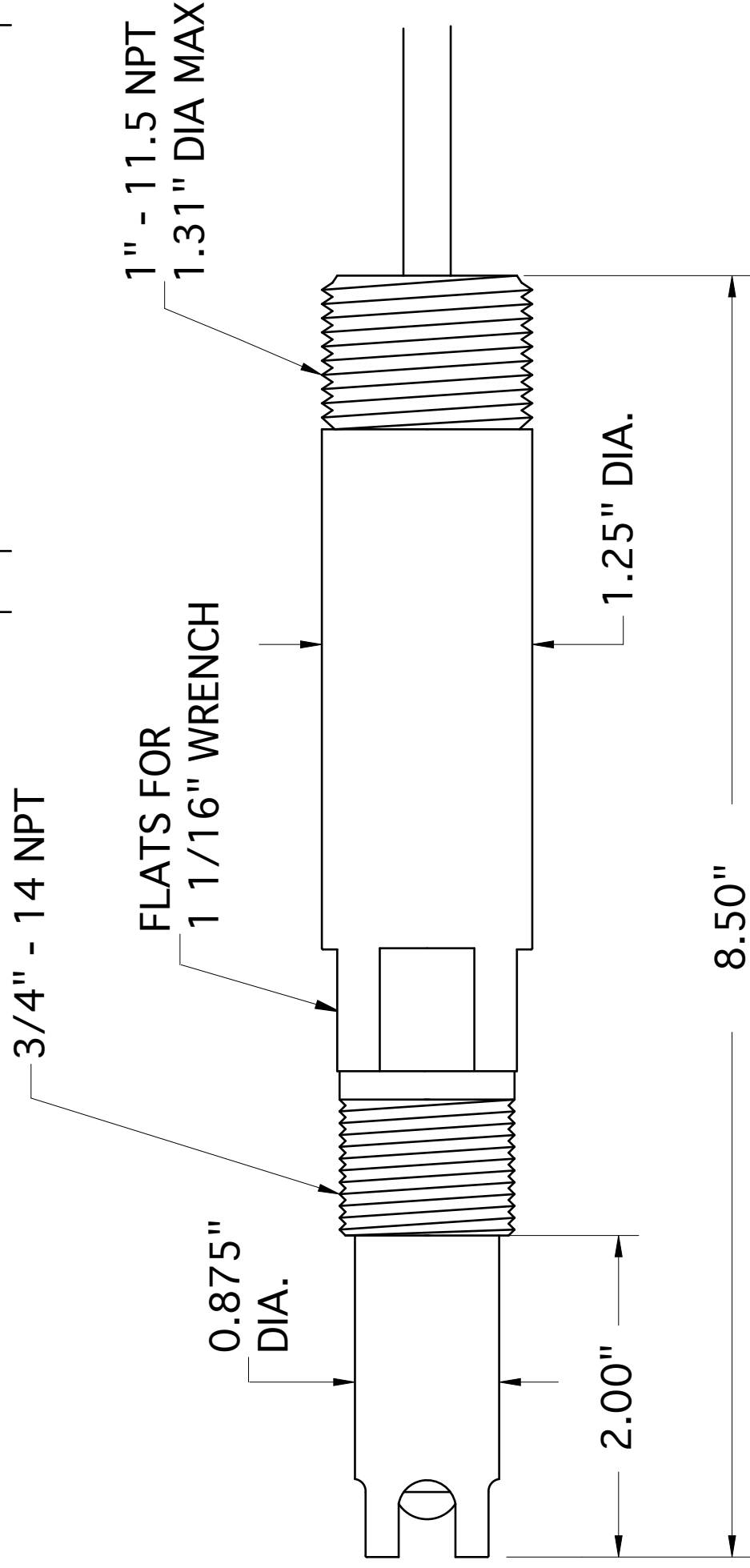
1

2

3

REVISION HISTORY		
REV	DESCRIPTION	DATE

APPROVED



A

B

NOTES

- All dimensions are in inches, unless otherwise indicated with tolerances as detailed below
- Sensor body material of construction is RADEL (6X31), PEEK (6X41) or RYTON (6X51, 6X52)
- Drawing shown in the standard with protective tines configuration (4 places, 90 degrees apart). The 2 protective tines only "GRO" configuration (2 places, 180 degrees apart) is optional.
- In the alternate without tines configuration ("NG") the sensor body is exactly 8.0 inches in length. The max displacement for hemispherical pH glass is 0.3" yielding a max insertion depth of 1.8 inches past threads & overall max length of 8.3 inches.
- Do not use any sensor beyond the factory defined maximum temperature or pressure rating.



Advanced Sensor Technologies U.S.A.
 Website: <http://www.astisensor.com>

TITLE		3/4"-1" MNPT Inline / Immersion / Submersible	
SIZE	PROJECT	DRAWING NO.	REV
B	IMMERSION	6-1 pH SENSORS	/
SCALE	Not to Scale	MODEL	SHEET
		6X31,6X41,6X51,6X52	1 OF 1

1

2

3