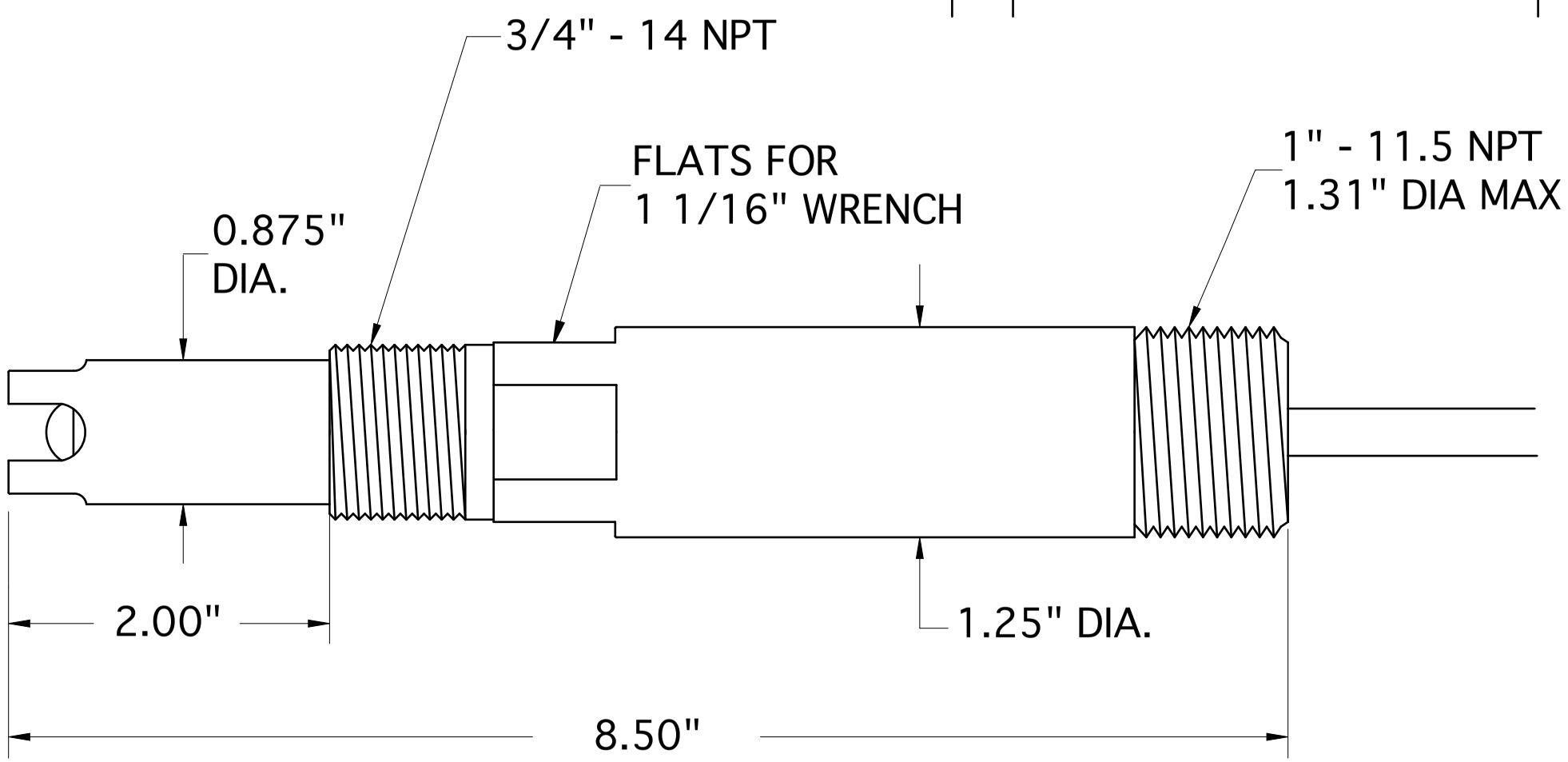
IOTRON™ SENSORS
INTEGRATED INDUSTRIAL pH SENSOR SPECIFICATIONS

Sensor Part Number & Short Description:	**6951** – Saturated Sodium (Brine) Resistant pH Sensor for Inline Use with ¾" MNPT Front Threads & Immersion/Submersion Installations with 1" MNPT Rear Threads
Configuration Type:	*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*
General Sensor Specifications:	
Operating Temperature Range:	-5 to 105°C (-15 to +135 °C in High Temperature Resistant Configuration – PVDF Only)
Operating Pressure Range:	1 to 100 psig (6.9 to 690 kPa) with ¾" MNPT Front Threads for Inline Installations
Sensor Body Material:	RYTON® R-4-230BL (Poly-Phenylene-Sulfone, PPS)
Junction Support Matrix Material:	KYNAR® (Poly-Vinylidene-Fluoride, PVDF) Standard or Polypropylene (PP) - **6951PP**
External Dimensions:	See Drawing 6-1
pH Measurement Specifications:	
Measurement pH Range:	0 to 11 pH
Measuring Glass Type:	Hemispherical, Clear Glass
pH Glass Dimensions:	0.354" (9.0 mm) DIA
Initial Impedance:	< 1,500 MΩ @ 25 °C
Sodium Ion Error:	Less than 0.05 pH in saturated sodium (Na^+) brine solutions at pH 11.00
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/Polyproylene Matrix holds excess KCl assuring saturation at all temps for stability & long sensor service life
Supported Order Options with Alpha Prefix Order Code Designation: ***Inquire to factory for specials***	Ammonia gas resistant ("A"), 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")
Example Recommended Applications:	Any process application where high levels of brine may be present. **Saturated sodium resistant pH glass ensures accurate readings, stability and longevity in brines**. 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.
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)

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



NOTES

1. All dimensions are in inches, unless otherwise indicated with tolerances as detailed below
2. Sensor body material of construction is RADEL (6X31), PEEK (6X41) or RYTON (6X51, 6X52)
3. 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.
4. 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.
5. Do not use any sensor beyond the factory defined maximum temperature or pressure rating.

TOLERANCES	
1 Place: ± .1	3 Places: ± .005
2 Places: ± .01	4 Places: ± .0005
Angular: ± 0.25°	

DRAWN BY: RH
CHECKED BY: TADP
APPROVED BY: MJP

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 6X31,6X41,6X51,6X52 | SHEET 1 OF 1