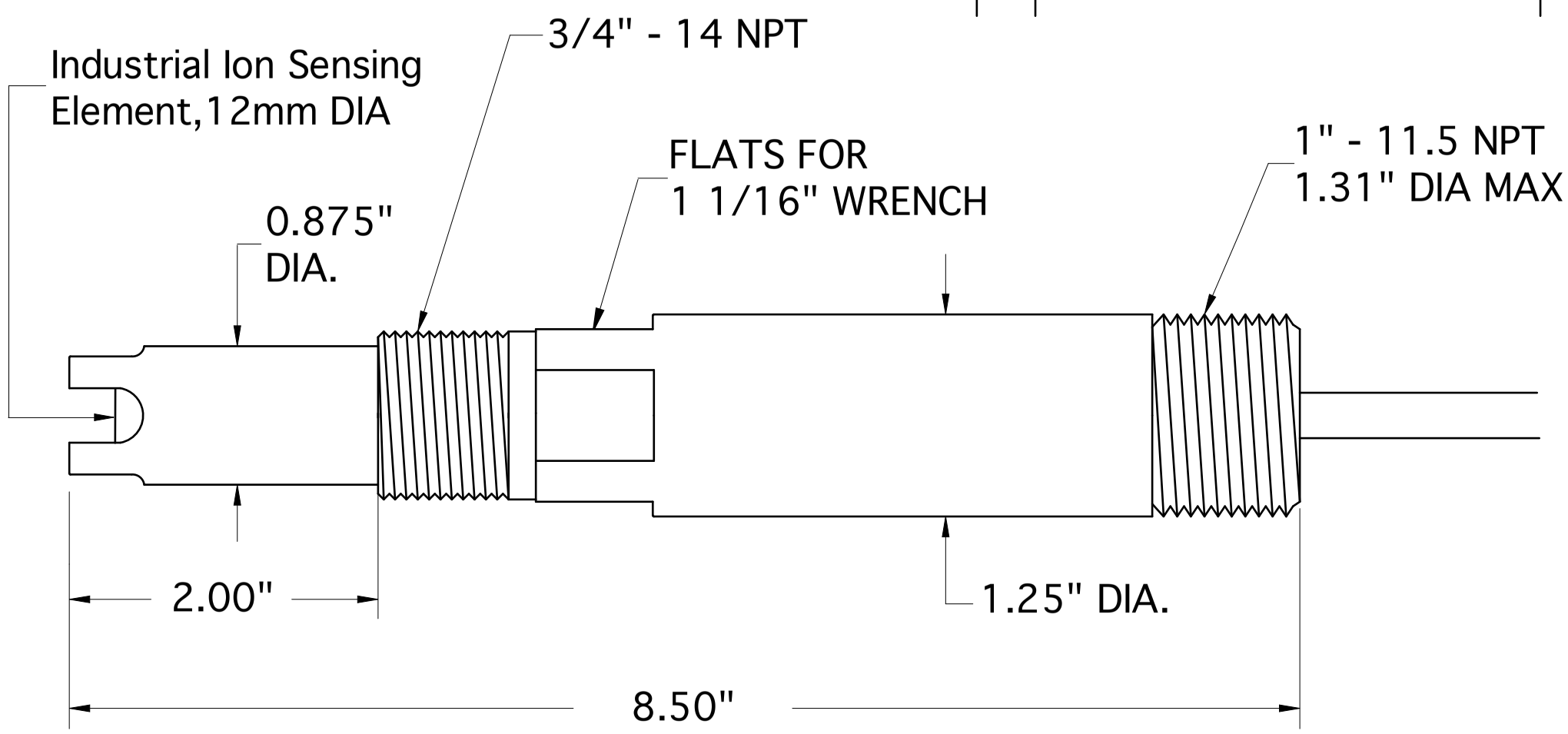
IOTRON™ SENSORS
INTEGRATED INDUSTRIAL ION SELECTIVE SENSOR SPECIFICATIONS

Sensor Part Number & Short Description:	**AB 6400 – Potassium (K^+)** Industrial Ion Selective (ISE) Inline, Immersion & Submersible Sensor; ¾" MNPT for Inline & 1" MNPT for Immersion/Submersible Use
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 +40 °C Continuous (Maximum +50°C with Ultralow Option)
Operating Pressure Range:	1 to 10 psig (6.9 to 69 kPa) with ASTI Sanitary / 1.25" MNPT Sensor Holder 1 to 10 psig (6.9 to 69 kPa) with ASTI HOT-TAP Valve Retractable Assembly
Sensor Body Material:	RADEL® R-5000 NT (Poly-Phenyl-Sulfone, PPSU)
Junction Support Matrix Material:	High-Density Polyethylene (HDPE) Standard for Standard & Ultralow Measurements KYNAR® (Poly-Vinylidene-Fluoride, PVDF) Optional for Aggressive Service Conditions
External Dimensions:	See Drawing 6-ISE
ISE Measurement Specifications:	
Linear Measurement Range:	39.0 to 39,000 ppm (0.390 to 3,9000 with special order ultralow style membrane option)
Lowest Limit of Detection:	39.0 ppm (0.039 with special order ultralow style membrane option)
Given in Ratios of Permissible Excess: Interferring Ion / Measured Ion (in Molarity)	Na^+ ($4X10^3$), Li^+ ($4X10^3$), NH_4^+ (60), Mg^{+2} ($5X10^5$), Ca^{+2} ($1.5X10^4$)
Suitable pH range:	2.0 to 12.0 *
pH Considerations	* Note: The suitable measurement range will change based upon the typical pH value of the sample to be measured. Please inquire to factory for specific feasibility of your planned field measurement and process media.
ISE Sensing Element Dimensions:	0.315" (8mm) DIA active sensing region, 0.472" (12 mm) DIA overall sensing electrode
Initial Impedance:	< 100 MΩ @ 25 °C Standard Version, < 300 MΩ @ 25 °C with Ultralow Option
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 HDPE/KYNAR Support Matrix holds excess KCl assuring saturation at all temps for stability & long sensor life **Ultralow style uses NaCl instead of KCl & ONLY available on special order basis**
Supported Order Options with Alpha Prefix Order Code Designation: ***Inquire to factory for specials***	Dissolved Gas resistant ("A"), 3-Wire TC ("M"), ACCU-TEMP Fast-Response TC ("X"), 4 each Tines ("GR"), 2 each Tines ("GRO"), Shielded/Reinforced Preamp Cable ("BL")
Example Recommended Applications:	Industrial, municipal and food facilities that desire to monitor potassium ion levels in their system as well as environmental monitoring in rivers, lakes and ponds for public health and water quality.
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:	- Pt1000 Temperature Compensation Element - Analog Conventional Preamplifier (Optional for noisy areas and/or long cable runs)
Analog Sensors without integral preamplifier:	Terminated with Tinned Lead Wires (-TL)
Analog Sensors with integral preamplifier:	Terminated with Tinned Lead Wires (-TL) or Quick Disconnect NEMA 6P Snap (-Q7M)

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 for all 6XX0 series ion selective (ISE) models
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 Ion Sensing Element is 0.2" yielding a max insertion depth of 1.7 inches past threads & overall max length of 8.2 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-ISE Ion Selective Sensor	/

SCALE Not to Scale | MODEL 6XX0 | SHEET 1 OF 1