



IOTRON™ SENSORS

INTEGRATED INDUSTRIAL ION SELECTIVE SENSOR SPECIFICATIONS

<u>Sensor Part Number & Short Description:</u>	AB 6410 – Ammonium (NH₄⁺) Industrial Ion Selective (ISE) Inline, Immersion & Submersible Sensor; ¾" MNPT for Inline & 1" MNPT for Immersion/Submersible Use
<u>Configuration Type:</u>	<i>Interface with ¾" FNPT threads of tee for Inline Use or 1" FNPT threads on insertion tube for immersion or waterproofing seal for fully submersible installations</i>
<u>General Sensor Specifications:</u>	
Operating Temperature Range:	+5 to +40 °C for Standard Version or Maximum +50 °C with "Ultralow" Option or Maximum +60 °C with "SH" Option
Operating Pressure Range:	1 to 10 psig (6.9 to 69 kPa) with ¾" MNPT Front Threads for Inline Installations
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
<u>ISE Measurement Specifications:</u>	
Linear Measurement Range:	0.090 to 18,000 ppm (5X10 ⁻⁶ to 1.0 Molar)
Lowest Limit of Detection	0.004 ppm (5X10 ⁻⁷ Molar)
Given in Ratios of Permissible Excess: Interfering Ion / Measured Ion (in Molarity)	Na ⁺ (5X10 ³), H ⁺ (1X10 ⁵), K ⁺ (5) Standard or K ⁺ (20) with Ultralow Option
Suitable pH range:	2.5 to 11 *
<i>Cases where pH Compensation is necessary to compute total ammonia species</i>	* Note: When pH is above 8.0 to 9.0 (depending upon process temperature) then the sum of the measured unbound ammonium ions and dissolved ammonia gas form must be computed as a function of both realtime continuous pH & temperature parameters.
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 Std, < 300 MΩ @ 25 °C for "Ultralow", < 500 MΩ @ 25 °C for "SH"
<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 HDPE/KYNAR Support Matrix holds excess KCl assuring saturation at all temps for stability & long sensor life
<u>Supported Order Options with Alpha Prefix Order Code Designation:</u>	Ammonia gas resistant ("A"), 3-Wire TC ("M"), ACCU-TEMP Fast TC ("X"), Two each Protective Tines ("GRO"), No Protective Tines ("NG"), Shielded Preamp Cable ("BL")
<u>Inquire to factory for specials</u>	
<u>Example Recommended Applications:</u>	Municipal potable water and water treatment facilities for chloramination monitoring. Municipal wastewater treatment for aeration basin monitoring & control of nitrification and denitrification process (usually together with dissolved oxygen measurement). Industrial facilities required to monitor and/or treat ammonia prior to discharge for compliance and environmental remediation. Environmental monitoring in rivers, lakes and ponds for public health and safety. Any free or total ammonia measurement that needs to operate with minimal cleaning & recalibration frequency (i.e. remote sites).
<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.
<u>Available Configurations & Options:</u>	
Integrated Components:	- Pt1000 Temperature Compensation Element - Analog Conventional Pre-amplifier (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)

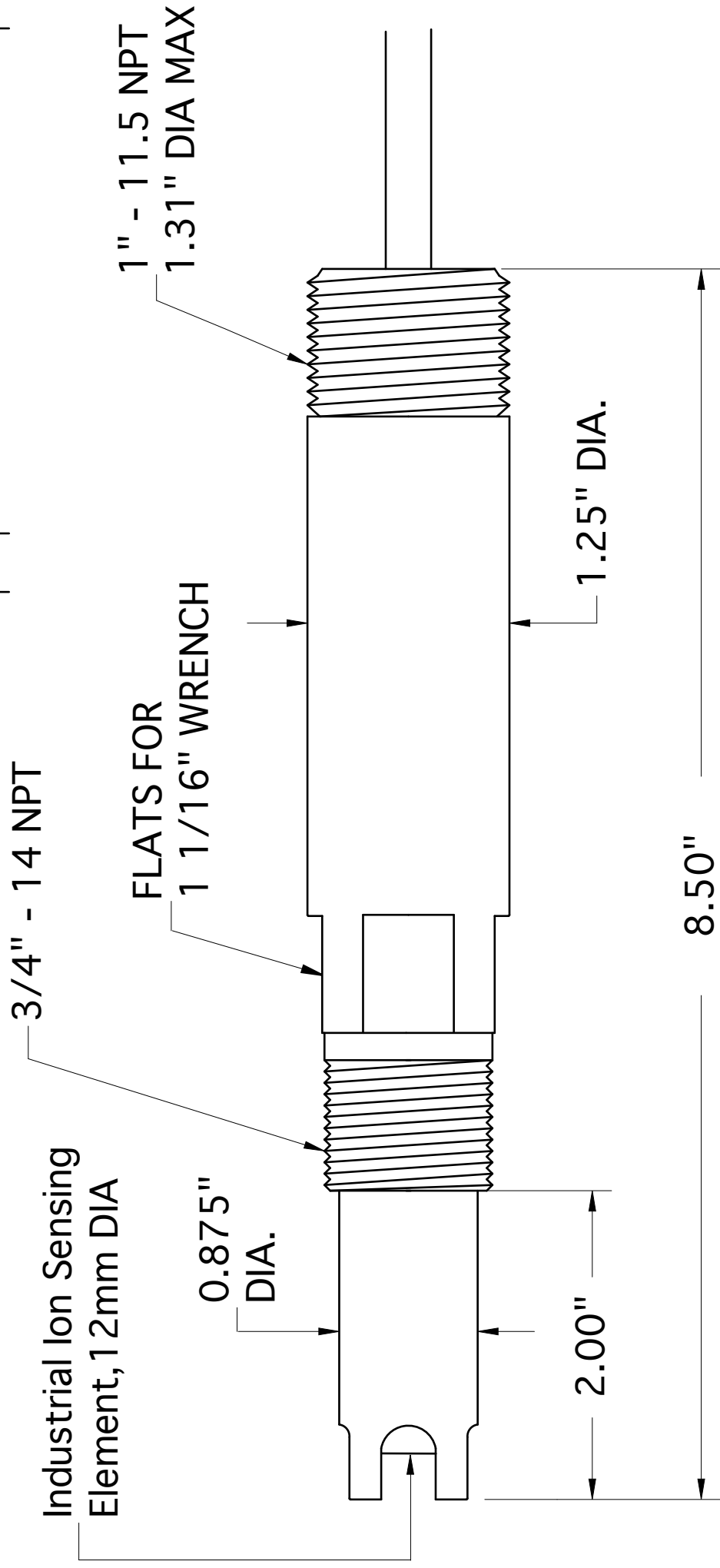
1

2

3

REVISION HISTORY		
REV	DESCRIPTION	DATE

APPROVED



A

A

NOTES

- All dimensions are in inches, unless otherwise indicated with tolerances as detailed below
- Sensor body material of construction is RADEL for all 6XX0 series ion selective (ISE) models
- 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 Ion Sensing Element is 0.2" yielding a max insertion depth of 1.7 inches past threads & overall max length of 8.2 inches.
- Do not use any sensor beyond the factory defined maximum temperature or pressure rating.

B

B



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

TOLERANCES		DRAWN BY	RH
1 Place: ± .1	3 Places: ± .005	CHECKED BY	TADP
2 Places: ± .01	4 Places: ± .0005	APPROVED BY	MJP
Angular: ± 0.25°			

1

2

3