



# IOTRON™ SENSORS

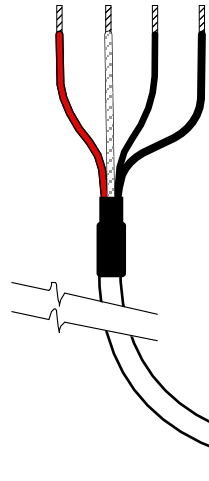
## INTEGRATED INDUSTRIAL ION SELECTIVE SENSOR SPECIFICATIONS

<u>Sensor Part Number &amp; Short Description:</u>	<b>AB 5100 – Fluoride (F)</b> Industrial Ion Selective (ISE) for sanitary & valve retractable use with Double O-Ring seals & 3/4" MNPT for securing into sensor holder
<u>Configuration Type:</u>	<i>For use with ASTI Supplied 1.5", 2.0", 2.5" Sanitary or 1.25" NPT Threaded Sensor Holder or ASTI Supplied Valve Retractable (HOT-TAP) Sensor Holder Only</i>
<u>General Sensor Specifications:</u>	
Operating Temperature Range:	+5 to +50 °C Continuous
Operating Pressure Range:	1 to 20 psig (6.9 to 138 kPa) with ASTI Sanitary / 1.25" MNPT Sensor Holder 1 to 20 psig (6.9 to 138 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 KYNAR® (Poly-Vinylidene-Fluoride, PVDF) Optional
O-Rings Material of Construction:	Viton®-75 is standard, 2 each redundant O-rings are used to ensure seal integrity
External Dimensions:	See Drawing 5-ISE
<u>ISE Measurement Specifications:</u>	
Linear Measurement Range:	0.019 to 19,000 ppm ( $1 \times 10^{-6}$ to 1.0 Molar)
Lowest Limit of Detection	0.001 ppm ( $5 \times 10^{-8}$ Molar)
Interfering Ion(s):	OH <sup>-</sup> when pH is above 12.0
Suitable pH range:	5.5 to 9.5 *
<i>Cases where AB 6100 must be used:</i>	* If pH is below 5.5 or above 9.5 then the AB 6100 sensor must be used instead.
ISE Sensing Element Dimensions:	0.315" (8mm) DIA active sensing region, 0.472" (12 mm) DIA overall sensing electrode
Initial Impedance:	< 20 MΩ @ 25 °C
<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>	3-Wire TC ("M"), ACCU-TEMP Fast Response TC ("X"), Two each Protective Tines Configuration ("GRO"), No Protective Tines ("NG"), Shielded Preamp Cable ("BL")
<b><i>Inquire to factory for specials</i></b>	
<u>Example Recommended Applications:</u>	Municipal potable water and water treatment facilities (POTW) for monitoring and/or control of fluoridation process. Industrial facilities required to monitor and/or treat the fluoride ion level prior to discharge for compliance and other environmental remediation. Environmental monitoring in rivers, lakes and ponds for public health and safety.  Any free fluoride ion measurement that needs to operate with minimal cleaning & recalibration frequency (i.e. remote sites that are unattended for long periods of time). Solid-state fluoride monocrystal and conductive-polymer reference system allows for extremely low cost-of-ownership without any costly reagents or sample conditioning.
<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 &amp; Options:</u>	
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)

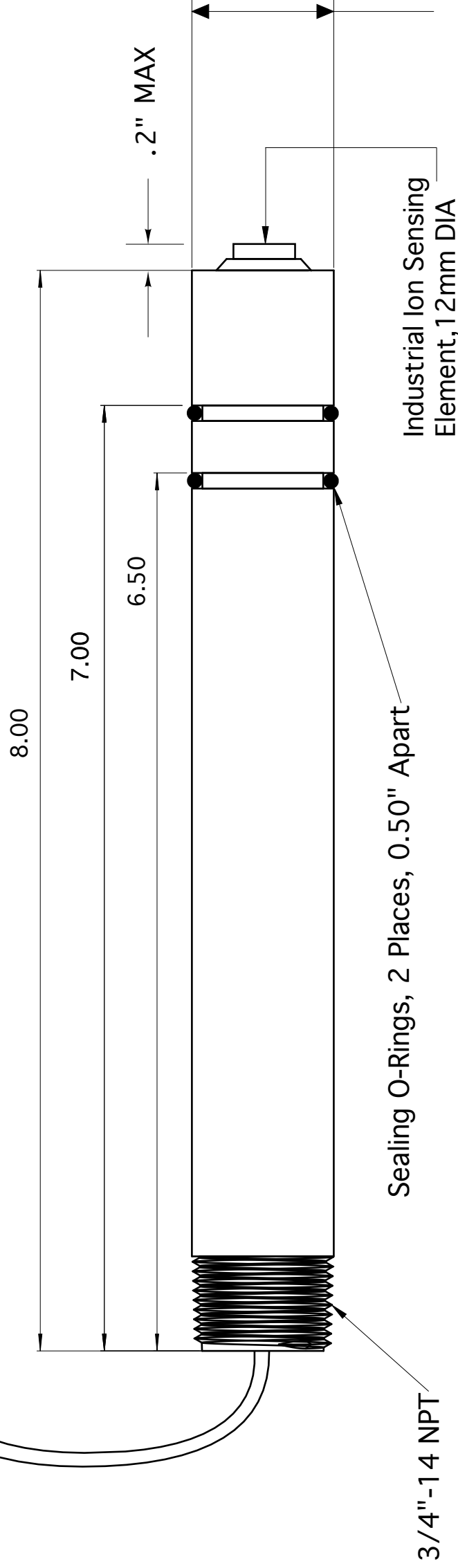
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For end of cable terminations and wiring detail please see spec sheet



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**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 5XX0 series ion selective (ISE) models
3. O-ring material of construction is Viton-75 standard; CV75, Simriz 485 & Kalrez 4079 Optional
4. Drawing shown without protective tines. The maximum displacement of the sensor past the end of the body in this configuration is 0.2" inches yielding a max overall length of 8.2 inches.
5. With Protective tines "GR" (4 places, 90 degrees apart) or "GRO" (2 places, 180 degrees apart) configurations overall sensor length is 8.00 inches.
6. This sensor is only for use with ASTI supplied sanitary and valve retractable sensor holders.
7. See installation procedures for proper insertion of this sensor into the mating holder.

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REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



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

TITLE <b>Sensor for Sanitary &amp; HOT-TAP/Retractable Use</b>			
SIZE <b>B</b>	PROJECT <b>SAN / VR</b>	DRAWING NO. <b>5-ISE Ion Selective Sensor</b>	REV <b>/</b>
SCALE <b>Not to Scale</b>	MODEL <b>5XX0</b>	SHEET <b>1</b>	OF <b>1</b>

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