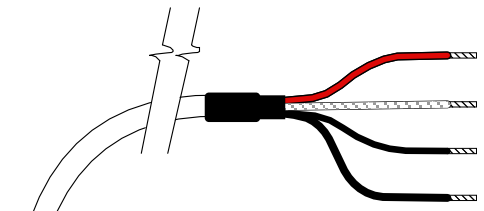
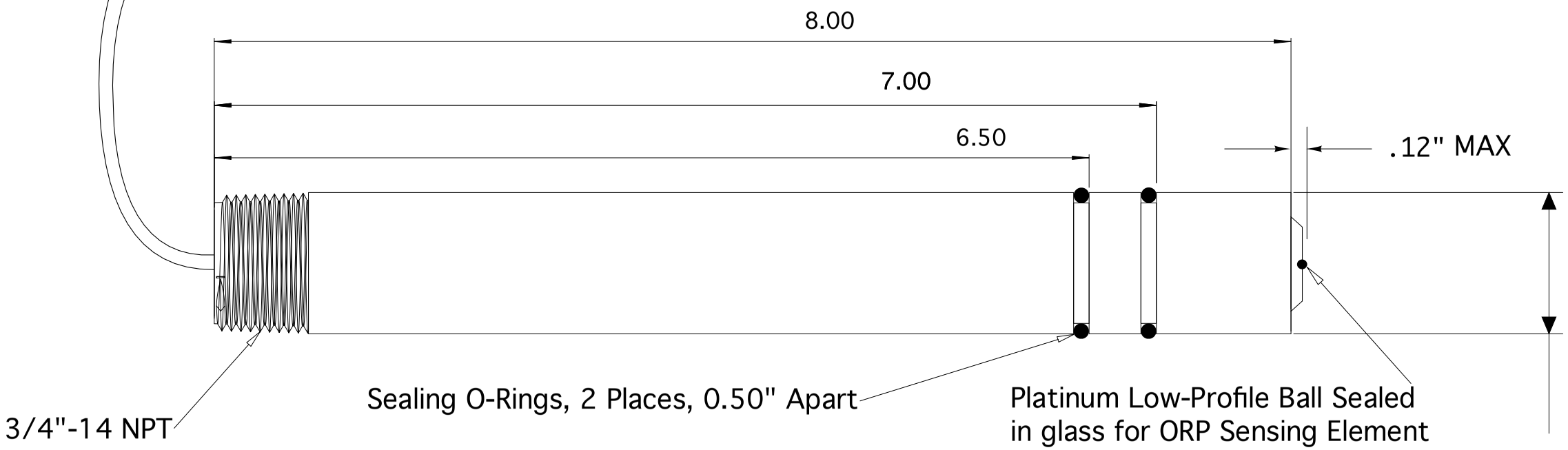
IOTRON™ SENSORS
INTEGRATED INDUSTRIAL ORP SENSOR SPECIFICATIONS

Sensor Part Number & Short Description:	**5831** – Oxidation Reduction Potential (**ORP**) Sensor for Sanitary & HOT-TAP Installs Double O-Ring seals for inline interface & ¾" MNPT for securing into sensor holder
Configuration Type:	*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*
General Sensor Specifications:	
Operating Temperature Range:	-5 to 105°C (-35 to 150°C with Extreme Dehydration Resistant "E" Option – PVDF Only)
Operating Pressure Range:	1 to 200 psig (6.9 to 1379 kPa) with ASTI Sanitary / 1.25" MNPT Sensor Holder 1 to 100 psig (6.9 to 690 kPa) with ASTI HOT-TAP Retractable Assembly
Sensor Body Material:	RADEL® R-5000 NT (Poly-Phenyl-Sulfone, PPSU)
Junction Support Matrix Material:	KYNAR® (Poly-Vinylidene-Fluoride, PVDF) Standard or Polypropylene (PP) - **5831PP**
O-Rings Material of Construction:	Viton®-75 is standard, 2 each redundant O-rings are used to ensure seal integrity; CV-75 ("W"), Simriz® 485 ("U") or Kalrez® 4079 ("K") are available as upgrade options
External Dimensions:	See Drawing 5-1-Pt
ORP Measurement Specifications:	
Measurement mV Range:	-2,000 to +2,000 mV absolute
Measuring Glass Type:	Platinum Ball in Low Profile Configuration; Suitable for Slurries & High Pressure/Velocity
pH Glass Dimensions:	0.197" (5.0 mm) DIA
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"), Chlorine gas resistant ("C"), Organic Media Resistant ("L"), Solvent Resistant ("TS"), 3-Wire TC ("M"), ACCU-TEMP Fast TC ("X"), Add Protective Tines 4 ea ("GR"), Add Protective Tines 2 ea ("GRO"), Shielded Preamp Cable ("BL")
Example Recommended Applications:	Any process media where the redox (ORP) potential is monitored or controlled. Can be combined with other sensor options available for pH sensors such as high temperature resistant, slurry & viscous material resistant, acid fluoride & HF resistant, pulp and paper resistant, sulfide resistant, dissolved gas and organic solvent resistant or saturated brine resistant.
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. Extreme Dehydration Resistant Option (Alpha Prefix "E") sensors are suitable for cold storage down to -35 °C (-31 °F).
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)
Digital Smart Sensors:	Terminated with IP67/NEMA 6P rated waterproof & corrosion resistant snap 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 Quantities may apply)

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



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



NOTES

1. All dimensions are in inches, unless otherwise indicated with tolerances as detailed below
2. Sensor body material of construction is RADEL (5X31), PEEK (5X41) or RYTON (5X51)
3. O-ring material of construction is Viton-75 standard; CV75, Simriz 485 & Kalrez 4079 Optional
4. Drawing shown without protective tines. Max protusion of low-profile platinum ball style X8XX series ORP sensor past body is 0.12" inches yielding a max overall length of 8.12 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.

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: Sensor for Sanitary & HOT-TAP/Retractable Use

SIZE	PROJECT	DRAWING NO.	REV
B	SAN / VR	5-1-Pt Low-Profile ORP	/

SCALE: Not to Scale | MODEL: 5X31, 5X41, 5X51 | SHEET: 1 OF 1