



**TURTLE
TOUGH**

Application specific pH & ORP sensor for Brine

Code: TT-Na-pH

Turtle Tough's pH & ORP sensor for Brine has a long history of success in applications where high brine levels are present.

Saturated Sodium is brutal on pH sensors, specifically attacking the glass and significantly reducing sensor life. By utilising our specially formulated sodium resistant glass we can ensure superior accuracy, stability and longevity.

The pH and ORP sensor for Brine utilises the highly chemical resistant RYTON body plastics with a 1" MNPT back-end thread or front end 3/4" thread.

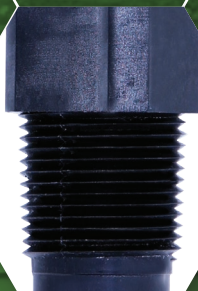
For fully submersible applications this can be threaded onto our stainless steel immersion rod assembly, or supplied with optional extreme waterproofing.

The standard Polypropylene reference provides a very fast response. Alternatively the high capacity double junction KYNAR reference provides exceptional resistance to sulphides and other dissolved gases.

Digital Smart Sensor Technology

This sensor is available with our Digital Smart Sensor technology.

- **With a quick connect fitting**, this plug and play sensor eliminates the need for hard wiring to the analyser.
- **The on-board sensor memory** allows the storage of calibration data, analyser configurations and sensor service history. This allows the sensor to be conveniently maintained and calibrated off-site or in the laboratory and pre-programmed with calibration data and analyser configurations.
- **One device to calibrate and interface with ALL sensors.** The stored information automatically uploads to the analyser upon connection and eliminates the need for any interaction with the analyser, simplifying the change-out of sensors. A service log stored on the sensors is ideal for maintenance and quality assurance records.





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General Specifications

Description	Application Specific pH & ORP Sensor for Brine
Part Number	TT-Na-pH
pH Range	0 to 11pH
Temperature Range	-5°C to 105°C
Pressure	6.9 to 1035 kPa (1 to 150 psig) with 1.25" MNPT sensor holder 6.9 to 690 kPa (1 to 100 psig) with retractable assembly
Body Type	RYTON with ¾" Front-end & 1" MNPT Back-end
Junction Material	Polypropylene
Dimensions	Length: 211mm, Maximum Diameter: 26.7mm
Cable Length	6m (Analogue & Digital)
Temperature Compensation	Pt1000
Preamplifier	N/A
Waterproofing	Immersible
Analogue Connection	Tinned Leads
Digital Connection	Quick Connect DSS4M - NEMA 6P
Special Features	Acid/Fluoride/Sulphide Resistant, Saturated Sodium Resistant Glass
Options	Oxidation-Reduction Potential (-ORP), Direct Smart Sensor (-DSS), Preamplifier (-P), Quick Connect Plugs (-QC7M), Fast Reponse TC (-FTC), Teflon Silicone Sealing (-TS), Standard Water Proofing (-SWP), Water Protection (-WP)

pH Sensor Specifications

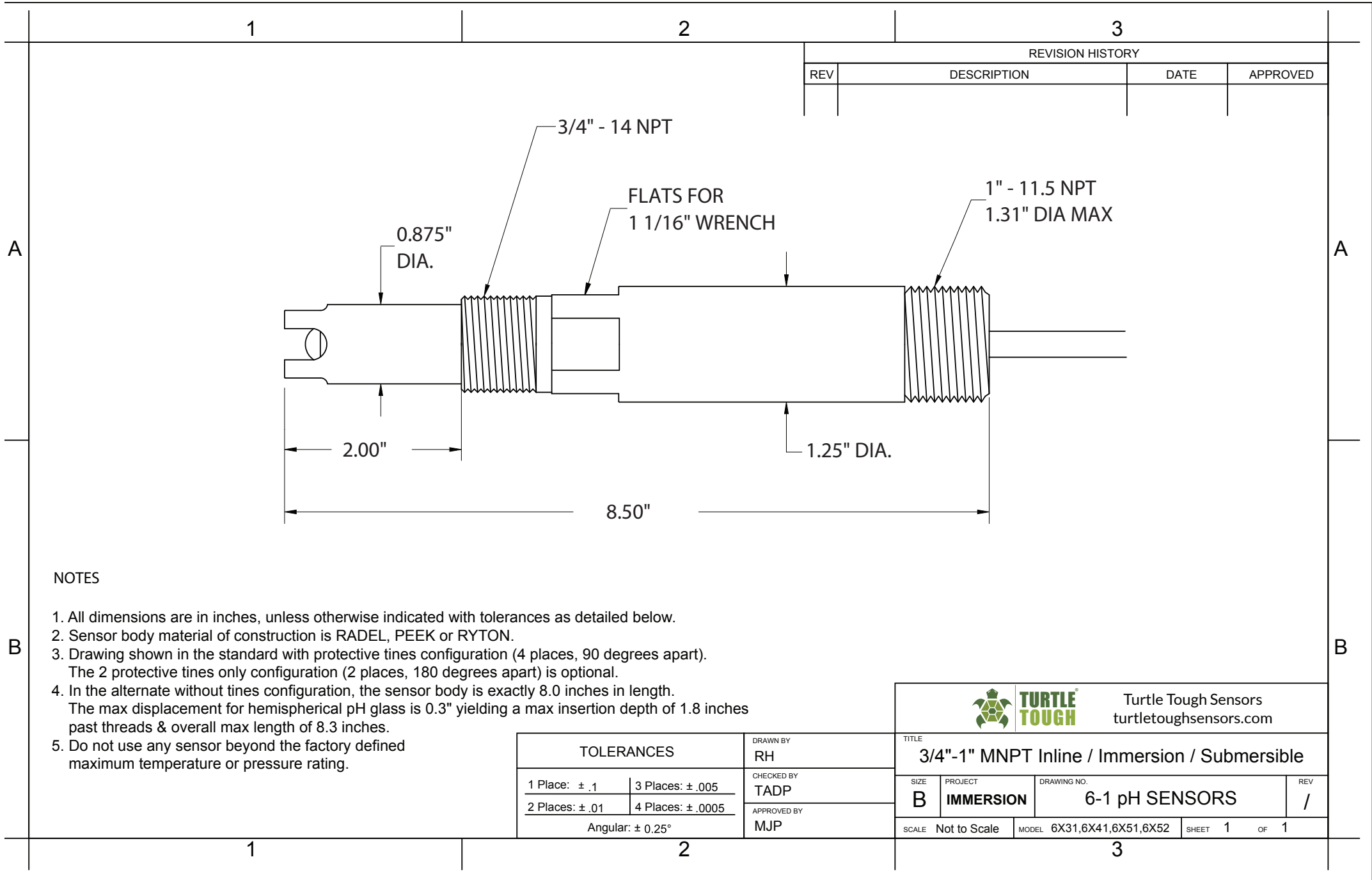
Measuring Glass Type	Saturated Sodium Resistant Glass
Glass Dimensions	8.0mm (0.315") Diameter
Initial Impedance	<800 M Ohms @ 25°C
Sodium Ion Error	< 0.15 pH in saturated Na ⁺ solutions at pH 14.00
Acidic Errors	< 0.05 pH in HCl solutions at 0.00 pH

Reference System Specifications

Type	Double Junction
Reference Half Cell	Ag/AgCl, Saturated KCl
Primary Junction	Primary Junction Porous Ceramic, Saturated KCl in Cross-linked polymer, interfaced to secondary junction
Secondary Junction	Solid-State Non-Porous Cross-Linked Polymer embedded in polypropylene support matrix holds excess KCl assuring saturation at all temps for stability & long sensor service life

Application Specifications

Recommended Applications	Specifically designed for the Brine industry, chemical, food & beverage, semiconductor, pharmaceutical & wastewater. Any measurement where aggressive chemical cleaning is needed to remove fouling or low maintenance operation is required with minimal cleaning and re-calibration
Analyser / Interface	All Turtle Tough pH Analysers
Storage	Item should be kept at room temperature with closed protector cap, filled with storage solution in an upright position. Shelf life warranted for 12 months from the date of purchase
Warranty	12 Month Conditional Warranty Please see www.turtletooughsensors.com/support/warranty-returns




NOTES

1. All dimensions are in inches, unless otherwise indicated with tolerances as detailed below.
2. Sensor body material of construction is RADEL, PEEK or RYTON.
3. Drawing shown in the standard with protective tines configuration (4 places, 90 degrees apart).
The 2 protective tines only configuration (2 places, 180 degrees apart) is optional.
4. In the alternate without tines configuration, 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.

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED

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

		Turtle Tough Sensors turtletoughsensors.com	
TITLE 3/4"-1" MNPT Inline / Immersion / Submersible			
SIZE B	PROJECT IMMERSION	DRAWING NO. 6-1 pH SENSORS	REV /
SCALE Not to Scale	MODEL 6X31,6X41,6X51,6X52	SHEET 1	OF 1