



**TURTLE
TOUGH**

The Rosemount compatible pH & ORP Sensor is an affordable all-rounder that will outperform the OEM. Tough, reliable and cost-effective.

Rosemount compatible pH & ORP Sensor

Code: TT-FR-pH

Features

- Rosemount compatible pH & ORP Sensor
- RYTON with 3/4" Front-end – 1" Back-end MNPT
- -5°C to 105°C
- High capacity polypropylene reference
- 7.5m (Analogue) / 6m (Digital) Cable
- Coat Resistant Materials Reduce Fouling
- Acid/Fluoride Resistant
- Ammonia, Chlorine And Sulphide Gas Resistant
- Immersible, Submersible If Threaded On Sealed Immersion Rod With Sufficient Sealing Tape
- Double Junction (*Triple optional*)
- Proprietary Toughened Glass
- Options:
 - High Impact, Solvent Resistant, Extreme Dehydration
 - Integrated preamplifier required for certain models





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Turtle Tough Fisher Rosemount compatible pH & ORP Sensor is without a doubt our most supplied sensor. In the early years of Turtle Tough when we didn't have our own analyser hardware we forged our reputation on building tough pH sensors that mate up with Fisher Rosemount analysers.

Rosemount Analysers are legendary & rightly so as they've built a reputation as having some of the best hardware in the industry. Rosemount analysers such as the 1056, 1181, 2081, 3081, 5081, XMT's (just to mention a few) supported some of our toughest features which few other vendors could. As a result, some of the most resilient sensors we've designed are compatible with Rosemount hardware, and virtually all our application specific sensors can be designed to interface with these analysers.

Our replacement OEM sensor for the Rosemount product is designed as an affordable all-rounder and can be special ordered with nearly any option.

The double junction sensor is sulphide resistant and can be special ordered in a triple junction. The RYTON body plastic is standard, for added physical strength and abrasion resistant RADEL body is available.

This OEM replacement is not simply a substitute. It will outlast and outperform the OEM product several times over. 20 years of evidence guarantees it.

The standard sensor is supplied without a preamplifier & supports a 7.5 metre cable run. For greater distances, the sensor can be fitted with an integral preamplifier that supports cable runs of up to 100 meters. With or without a preamplifier, tinned leads are supplied in the OEM wiring conventions for easy connectivity to any analyser.

Extreme dehydration, slurry/abrasion resistance, high HF are all options supported by preamplifier versions of this sensor.

The result is a sensor that in all cases will outperform the OEM because of our application specific approach to improved sensor performance.

There are many good reasons why some of the biggest names in the industry are using Turtle Tough sensors on a Rosemount Analyser, but the main reason is reliability and a lower cost of ownership.





General Specifications

Description	Rosemount compatible pH & ORP Sensor
Part Number	TT-FR-pH
pH Range	0 to 14 pH
Temperature Range	-5°C to 105°C
Pressure	6.9 to 690 kPa absolute (1 to 100 psig)
Body Type	RYTON with ¾" Front-end – 1" Back-end MNPT
Junction Material	Polypropylene
Dimensions	Length: 216mm Maximum Diameter: 33.3mm
Cable Length	7.5m (Analogue) / 6m (Digital)
Temperature Compensation	Pt1000
Preamplifier	Not fitted – optional
Waterproofing	Immersible, Submersible if threaded on sealed immersion rod with sufficient sealing tape
Connection Analogue	Tinned leads
Connection Digital	N/A
Special Features	Acid/Fluoride, Slurry and Sulphide Resistant
Options	Oxidation-Reduction Potential (-ORP), Extreme Dehydration (-ED), Slurry/Abrasion Resistance (-Radel), High HF (-HF), Preamplifier (-P), Quick Connect Plugs (-QC7M), Fast Reponse TC (-FTC), Teflon Silicone Sealing (-TS), Triple Junction (-TJ)

Ph Sensor Specifications

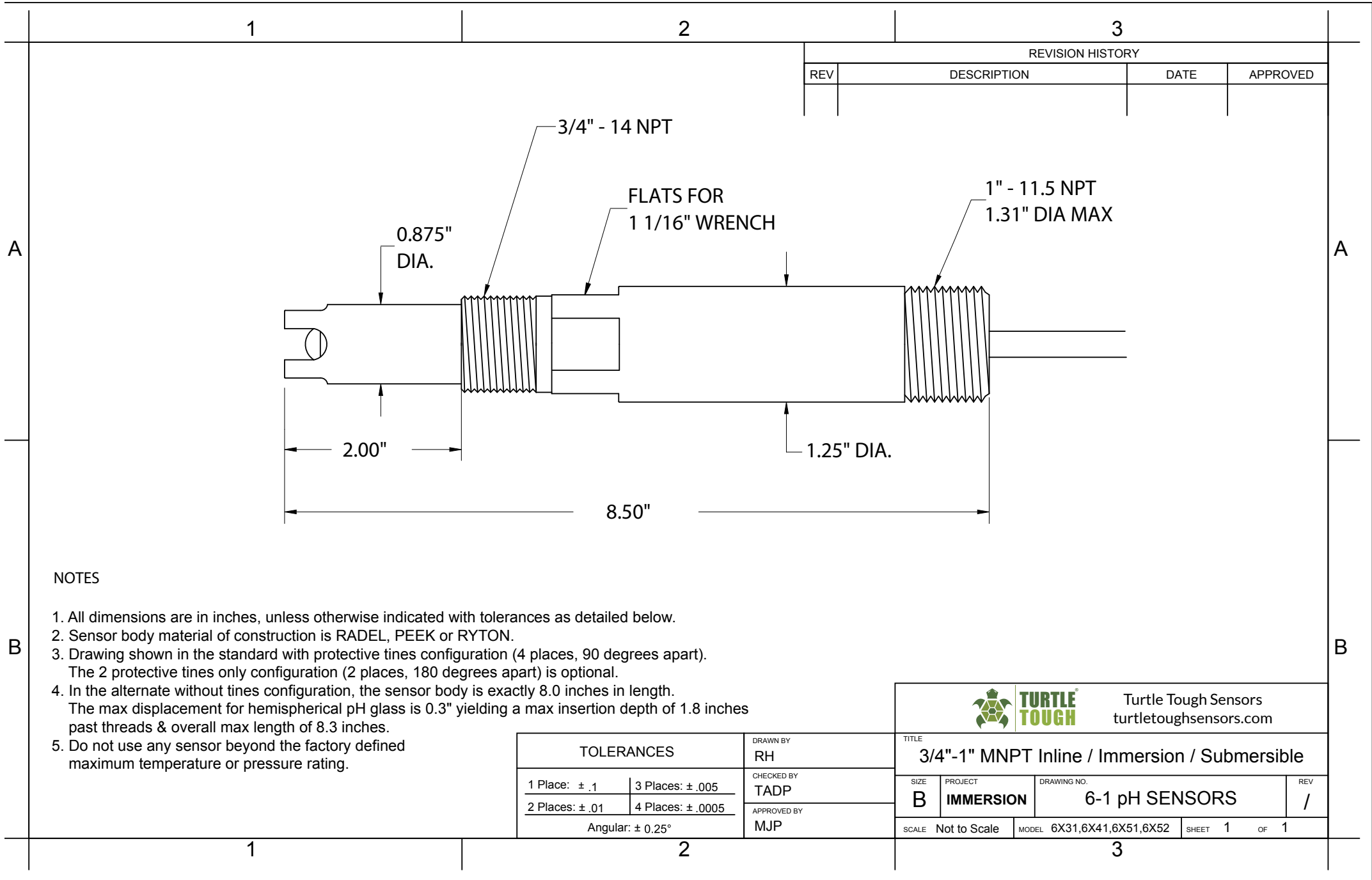
Measuring Glass Type	Proprietary Tough Glass
Glass Dimensions	8.0mm (0.315") Diameter
Initial Impedance	<800 M Ohms @ 25°C
Sodium Ion Error	< 0.15 pH in saturated Na ⁺ solutions at pH 14.00
Acidic Errors	< 0.05 pH in HCl solutions at 0.00 pH

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	Industrial, 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	Compatible with most Fisher Rosemount analogue 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




REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED

NOTES

- All dimensions are in inches, unless otherwise indicated with tolerances as detailed below.
- Sensor body material of construction is RADEL, PEEK or RYTON.
- 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.
- 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.
- Do not use any sensor beyond the factory defined maximum temperature or pressure rating.

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°		



TURTLE TOUGH 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