



ST-1

Eyelet Tag



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ST-1 Eyelet Tag



1 PRODUCT DESCRIPTION

The patent-pending **TROI ST-1** Eyelet RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas.

The eyelet tag is designed to be mounted to any metallic surface by simply using an existing mounting bolt and screwing it down. It can withstand unprecedented high temperature (consistent temperatures of 250 degrees Centigrade), high pressure and severe environmental conditions.

1.1 SPECIFICATIONS

Device type	Passive RFID tag
Air interface protocol	UHF: EPCGlobal Class1Gen2 / ISO/IEC 18000-6C
Operational frequency	Standard: UHF 865-869 MHz (EU), 902-928 MHz (US)
IC options - UHF	Standard: Alien Higgs 3 (others on request) Optional: EM, Fujitsu, Impinj, NXP (others on request)
EPC memory - UHF	Standard: 128 bit Optional: Up to 240 bit
EPC memory content	Unique 96-bit number encoded
Extended memory - UHF	Standard: 512 bit
TID - UHF	Factory-programmed, non-changeable, unique 64-bit ID.
Size	Eyelets: Dia of eyelet; 24 mm (0.95 inches) Wire Dia; 4.8 mm (0.2 inches) Tag Body: L 190 mm (7.5 inches) x W 7.86 mm (0.31 inches) Overall Length: 240 mm (9.5 inches)
Read range - UHF	Real-world: 1 – 2 meters Lab environment: 7 meters
Tag material	PTFE Teflon.
Applicable surfaces	Any metallic material
Product RoHS compliant?	Yes
Standards compliancy	ATEX-compliant



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1.2 DIMENSIONS

Eyelets:

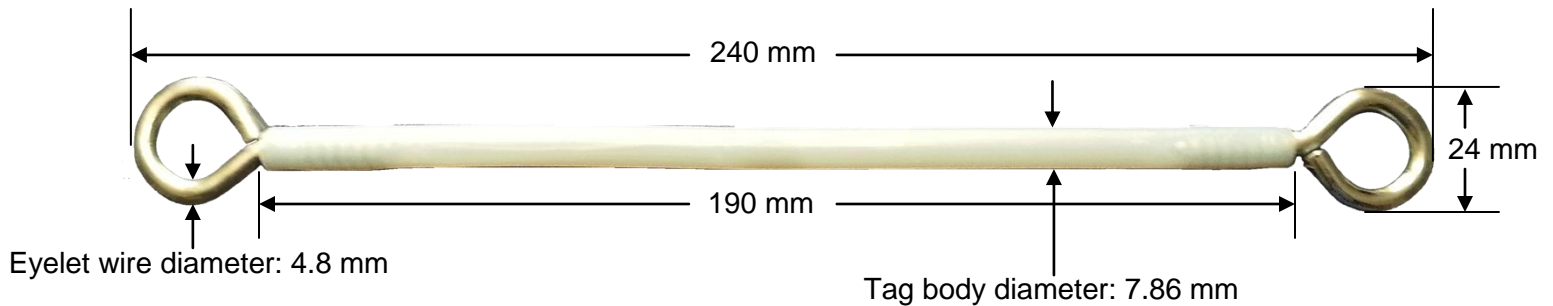
Dia of eyelet; 24 mm (0.95 inches)

Wire Dia; 4.8 mm (0.2 inches)

Tag Body: L 190 mm (7.5 inches) x W 7.86 mm (0.31 inches)

Overall Length: 240 mm (9.5 inches)

TOP VIEW





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Eyelet Tag



1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
ST-1 (915 MHz)	660.4 cm / 260 inches (6.63 m / 21.75 feet)

The read range listed above was obtained from a lab test environment. Actual test results may be different. Testing in actual use environments is strongly recommended.

1.4 ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-50°C (-58°F) to +250°C* (482°F)
Temperature Cycling Test	-25°C to +250°C continuous for 7 days
IP classification	IP69K
Weather resistance	Excellent, including UV-resistance and sea water immersion
Chemical resistance	EFFECTIVELY CHEMICALLY INERT. No physical or performance changes in: <ul style="list-style-type: none"> - Salt water - NaOH (depending on concentration) - Sulfuric acid (depending on concentration) - Motor oil (tested in 168 hour exposure) Generally good against: <ul style="list-style-type: none"> - Most solvents - Most acids and bases

* **NOTE:** The RFID tag will not be functional if the tag is left at the maximum indicated temperatures such that the internal soak temperature exceeds +80 deg C. The RFID tag itself will (resume) function between -50 deg C and +80 deg C.

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1.5 SUPPORTED SERVICES

- Tag pre-encoding

For further details, please contact **TROI LLC**.

1.6 POSSIBLE APPLICATIONS

Metal surfaces	Metal returnable containers, metal canisters, metal pallets, metal pipes, high value metal items, aerospace applications, military applications, etc.
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2 INSTALLATION INSTRUCTIONS

Remove an existing mounting nut, place the eyelet tag over the bolt and replace the nut – done!

3 CONTACTING TROI LLC

For additional information and technical support contact:

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ADVISORY

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