



# 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

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



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## 1.2 DIMENSIONS

### Eyelets:

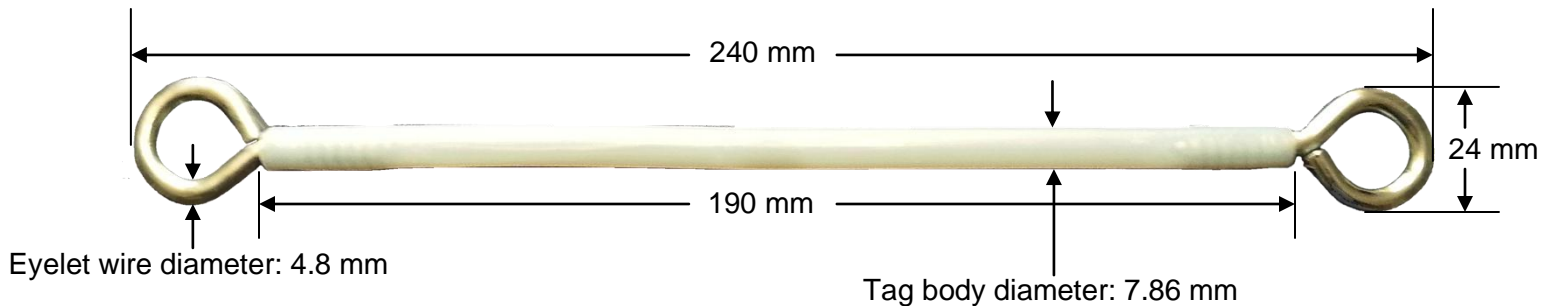
**Dia of eyelet;** 24 mm (0.95 inches)

**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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### 1.3 READ RANGE

	UHF max read-range on metal with 4W EIRP
<b>ST-1</b> (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

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

\* **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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# ST-1

## Eyelet Tag



### 1.5 SUPPORTED SERVICES

- Tag pre-encoding

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

### 1.6 POSSIBLE APPLICATIONS

<b>Metal surfaces</b>	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:

### **TROI LLC**

311 Drury Lane  
Mauldin SC 29662  
PH: 864-228-9096

pat@troirfid.com  
www.troirfid.com

### **ADVISORY**

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