



# PT-103

## Tie-Wrap Tag



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## Tie-Wrap Tag

### 1 PRODUCT DESCRIPTION

The patent-pending **TROI PT-103 Tie-Wrap** RFID tags provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas.

The plastic-covered tag is molded onto a tie-wrap and is designed to be mounted to any metallic surface by just securing the tie-wrap around it. The tag can withstand unprecedented high temperature (consistent temperatures of 150 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 (-63) <b>HF:</b> EPCGlobal Class1Gen2 / ISO/IEC 18000-6B (-62)
<b>Operational frequency</b>	<b>UHF:</b> 865-869 MHz (EU), 902-928 MHz (US) <b>HF :</b> 13.56 MHz
<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>Read range - UHF</b>	Real-world: 1 – 2 meters
<b>Size</b>	<b>Standard</b> tie length: 102 mm (4 inches) Tie material can be nylon or metal, and many lengths – contact us!
<b>Tag material</b>	Plastic covered tag mounted to either a metal or plastic tie-wrap
<b>Tensile strength</b>	<b>Metal Tie-Wrap:</b> <b>Plastic Tie-wrap:</b>
<b>Applicable surfaces</b>	Any material
<b>Product RoHS compliant?</b>	Yes
<b>Standards compliancy</b>	ATEX-compliant



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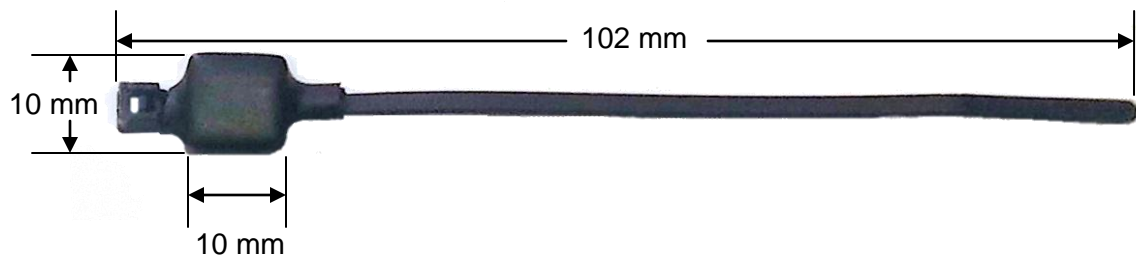
### 1.2 DIMENSIONS

Tie wrap: **L:** 102 mm (4 inches) x **W:** 2.4 mm (0.094 inches) x **H:** 0.8 mm (0.3 inches)

Tag body: **L:** 10 mm (0.4 inches) x **W:** 10 mm (0.4 inches) x **H:** 5 mm (0.2 inches)

**NOTE:** Pictures not to scale

#### TOP VIEW



#### SIDE VIEW



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## Tie-Wrap Tag

### 1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
PT-103 (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 to +150°C* (-58°F to 302°F)
<b>Temperature Cycling Test</b>	150 deg C, continuous for 30-days
<b>IP classification</b>	IP69K
<b>Weather resistance</b>	Excellent, including UV-resistance and sea water immersion
<b>Chemical resistance</b>	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 it 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
- Laser marking

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

### 1.6 POSSIBLE APPLICATIONS

**Any surface**

Returnable containers, canisters, pallets, pipes, high value items, aerospace applications, military applications, etc.

## 2 INSTALLATION INSTRUCTIONS

Wrap the tie-wrap around the surface, insert the tail of the tie-wrap into the head of the tie-wrap and firmly pull the tie-wrap to secure the tag to the object – done!

## 3 ATTACHMENT PHOTO'S

The photo's below show a PT-103 attached to one of the power lines inside an electrical distribution box (see red circles).





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#### 4 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

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