



PT-102 PT-102HF Tie-Wrap Tags

TECHNOLOGIES ROI, LLC



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1 PRODUCT DESCRIPTION

The patent-pending **TROI PT-102** and **PT-102HF Tie-Wrap** RFID tags provide 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 either a metal or plastic 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

Device type	Passive RFID tag
Air interface protocol	UHF: EPCGlobal Class1Gen2 / ISO/IEC 18000-6C (-63) HF: ISO/IEC 18000-6B (-62)
Operational frequency	UHF: 865 - 928 MHz HF : 13.56 MHz
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.
Read range - UHF	Real-world: 1 – 2 meters
Read range - HF	Real-world: up to 1.5 meters
Size	Standard tie length: 14+ inches Tie material can be nylon or metal, and many lengths – contact us!
Tag material	Plastic covered tag mounted to either a metal or plastic tie-wrap
Applicable surfaces	Any material
Product RoHS compliant?	Yes
Standards compliancy	ATEX-compliant



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1.2 DIMENSIONS

Metal Tie Wrap:

Tie wrap: L: 362 mm (14.25 inches) x W: 4 mm x H: 0.2 mm

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

Plastic Tie Wrap:

Tie wrap: L: 368 mm (14.50 inches) x W: 4 mm x H: 0.2 mm

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

TOP VIEW

PT-102 – with metal tie wrap



PT-102HF – with plastic tie wrap



SIDE VIEW

PT-102



PT-102HF





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1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
PT-102 (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 to +150°C* (-58°F to 302°F)
Temperature Cycling Test	150 deg C, continuous for 30-days
IP classification	IP69K
Weather resistance	Excellent, including UV-resistance and sea water immersion
Chemical resistance	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 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.
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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 CONTACTING TROI LLC

For additional information and technical support contact:

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ADVISORY

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