FX-2 Nano Tag

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FX-2 Nano Tag

1 PRODUCT DESCRIPTION

The patent-pending **TROI FX-2 Nano Tag** RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas.

The plastic-molded tag is designed to be mounted to any metallic surface by either epoxying it to the surface, or drilling a hole into the material and placing it into the hole. It 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
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.
Read range - UHF	Real-world: 1 – 2 meters
Size	12mm Diameter, 5mm High
Tag material	Resin
Tensile strength	2500 psi minimum
Applicable surfaces	Any material
Product RoHS compliant?	Yes
Standards compliancy	ATEX-compliant

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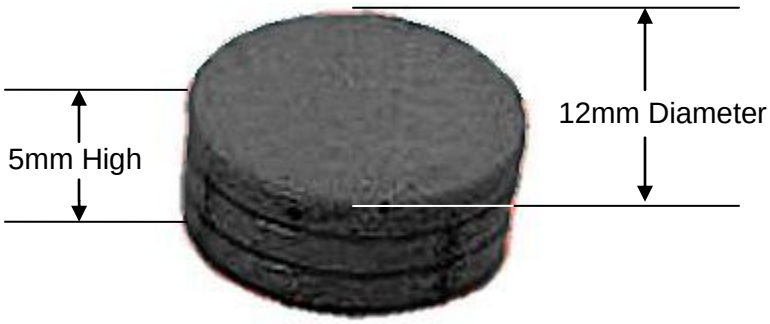
1.2 DIMENSIONS

12mm (Diameter) x 5mm (High)

OBLIQUE VIEW



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1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
FX-2 (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	-50ºC to +150ºC*
Temperature Cycling Test	150 deg C, continuous for 30-days
IP classification	IP68K
Weather resistance	Excellent, including UV-resistance and sea water immersion
Chemical resistance	No physical or performance changes in: - Salt water - NaOH (depending on concentration) - Sulfuric acid (depending on concentration) - Motor oil (tested in 168 hour exposure) Generally good against: - 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

For further details, please contact **TROI LLC** (see Section 3).

1.6 POSSIBLE APPLICATIONS

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

2 INSTALLATION INSTRUCTIONS

Using epoxy: Prepare the surface and mount the tag (see **TROI's AP-1 Adhesive_Paint** datasheet for details).

Embedding: Drill an appropriately sized hole, place the tag into the hole using a "swedge-fit", or an appropriate epoxy to retain the tag in the hole (**TROI's AP-1 Adhesive_Paint** is recommended).

3 CONTACTING TROI LLC

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