

FT-1002 Embeddable Tag

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1 PRODUCT DESCRIPTION

The patent-pending **TROI FT-1002 Embeddable** 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-covered flexible tag is designed to be mounted to any surface by wrapping the tag around any object, or embedding it into concrete, wood, fiberglass, composites, compression or injection molds, etc.

The **FT-1002** can withstand unprecedented high temperature (consistent temperatures of 100 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:3-6 meters
Size	L: 17.9 mm Wire Diameter: 3.12 mm Chip Diameter: 4.2 mm
Tag material	Self extinguishing polyolefin
Tensile strength	2500 psi minimum
Applicable surfaces	Any material NOTE: metal reduces read distance significantly unless modified
Product RoHS compliant?	Yes
Standards compliancy	ATEX-compliant

1.2 DIMENSIONS

Length: 179 mm
Wire Diameter: 3.12 mm
Chip Diameter: 4.2 mm

PLAN VIEW



1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
FT-1002 (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 **using an FCC (US) Reader, test results may be different for an ETSI (EU) reader.** Actual test results may be different. Testing in actual use environments is strongly recommended.

Environmental Specifications

Operating temperature	-50°C to +100°C*
Temperature Cycling Test	100 deg C, continuous for 30-days 200c continuous - with degradation of the plastic, but not the tag
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 the FT-1002 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.

1.4 SUPPORTED SERVICES

- Tag pre-encoding

For further details, please contact **AbleID Ltd**.

1.5 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

- Wrap the tag around or along an object.
- Embed the tag into; fiberglass, composites, wood, concrete, compression or injection molds, etc.
- Epoxy the tag onto the surface using **TROI**'s AP-1 Adhesive_Paint.
- Clips or eyelets

3 CONTACTING ABLEID LTD

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