



CC-102

Embeddable Tag



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1 PRODUCT DESCRIPTION

The patented (US Patent # 7,928,922) **TROI CC-102 Embeddable** RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas. It can withstand unprecedented high temperature (consistent temperatures of 200 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	Length: 143 mm Diameter: 4 mm NOTE: The wire diameter in the center 25mm chip-area is 4mm
Tag cover material	Polyolefin thermoplastic
Tensile strength	2500 psi minimum
Applicable surfaces	Any material
Product RoHS compliant?	Yes
Standards compliancy	ATEX-compliant
US Patent Number	7,928,922

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1.2 DIMENSIONS

Length: 143 mm

Wire Diameter: 4 mm

NOTE: Picture is not to scale

PLAN VIEW



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1.3 READ RANGE

	UHF max read-range on metal with 4W EIRP
CC-102 915 MHz test (same full range 860 – 960 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 +200°C*
Temperature Cycling Test	200 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 the CC-102 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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1.5 SUPPORTED SERVICES

- Tag pre-encoding

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

1.6 POSSIBLE APPLICATIONS

Embeddable applications	Concrete, industrial garments, molded thermoplastics, compression and injection molding, high value items, aerospace applications, military applications, etc.
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2 INSTALLATION INSTRUCTIONS

The **CC-102** can be embedded into mold- or assembly-processes, and can be attached by clips, bands or adhesive.

3 CONTACTING TROI LLC

For additional information and technical support contact:

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ADVISORY

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