BT-3HT

Boltable Tag

Technologies ROI, LLC

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BT-3HT
Boltable Tag

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1 PRODUCT DESCRIPTION

The patent-pending **TROI BT-3HT Boltable RFID Tag** provides identification and tracking capabilities never-before available in a package that is designed for rugged or hazardous use-areas. The **BT-3HT Boltable RFID Tag** was designed to be bolted or adhered to objects, and is able to withstand temperatures up to 300 degrees C.

1.1 SPECIFICATIONS

Device type Passive RFID tag	UHF: (Ultra High Frequency band) 860MHz – 950MHz
Air interface protocol	UHF: EPCGlobal Class1Gen2 / ISO/IEC 18000-6C
Operational frequency	UHF: 865-869 MHz (EU), 902-928 MHz (US)
IC Options	Alien Higgs3™, EM4325
EPC memory	128 bits (Alien), 352 bits (EM4325)
User Memory	512 bits (Alien), 3072 bits (EM4325)
TID	Factory-programmed, non-changeable, unique 64-bit ID (Alien) Factory-programmed, non-changeable, unique 48-bit ID (EM4325)
Read range - UHF	Real-world: 1 – 2 meters, depending on attachment Lab environment: 7 meters
Applicable surfaces	Any material, including sub-surface (back-filled with epoxy [non-metallic materials]). Surface mounting on metal surfaces, both ferrous and non-ferrous.
Material	Tag Body: Proprietary high temperature nylon
Weight	1.5 oz. (43 grams)
Standards compliancy	ISO 17665 – Sterilization of Health Care Products – Moist Steam ISO 11135 - Sterilization of Health Care Products – Ethylene Oxide ATEX-compliant
Product RoHS compliant?	Yes

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1.2 DIMENSIONS

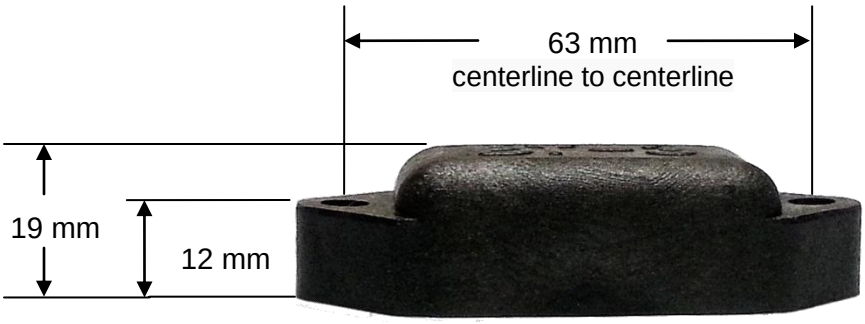
Length: 76 mm

Height: 19 mm

Width: 28 mm

PLAN VIEW

SIDE VIEW



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1.3 READ RANGE

	UHF Max read range on metal with 4W EIRP
BT-3HT Boltable RFID Tag (915 MHz)	3 - 4 meters (10 – 13 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	-50º C to +300º C* -50º F to + 572º F*
Temperature Cycling Test	300 deg C continuous, for 30 days
IP classification	IP68: - Complete protection against dust - Protection against continuous immersion in water (Tested for 5 hours in 1 m [3.3 ft] depth)
Weather-ability	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 the **BT-3HT Boltable RFID Tag** is left at the maximum indicated temperatures such that the internal soak temperature exceeds +80 deg C (+176 deg F). The RFID tag itself will function between -50 deg C and +80 deg C.

1.5 SUPPORTED SERVICES

Several options are available:

- Tag pre-encoding
- Laser engraving on tags surface

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

1.6 POSSIBLE APPLICATIONS

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

2 INSTALLATION INSTRUCTIONS

2.1 TAG PLACEMENT

The **BT-3HT Boltable RFID Tag** must be mounted to the metal surface with the “cup” pointed up and with no metal covering the tag.

When selecting the mounting location, ensure the following:

- ✓ Select an even metal surface so that the entire base of the **BT-3HT Boltable RFID Tag** is in contact with the mounting surface.
- ✓ Place the tag in the middle of the largest metal mounting surface available.
- ✓ It is recommended that the tag be taped to the metal surface before bolting the tag, to check orientation and performance.

The **BT-3HT Boltable RFID Tag’s** performance depends on the shape of the metal object and the tags placement on that surface. The above recommendations are valid for flat surfaces. Testing is recommended to verify performance in each use-case.

2.2 TAG ATTACHING METHODS

The tag can be adhered using pressure-sensitive adhesive or bolted.

2.2.1 Pressure-sensitive adhesive

This is the quickest method of attachment; peel the liner from the adhesive and press to the cleaned mounting surface.

2.2.2 Bolting the tag to the metal surface

Bolting achieves effective mounting and retention in various use conditions.

The **BT-3HT Boltable RFID Tag** can be mechanically attached using;

- Screws (size M6)
- Pop rivets (size 6 mm)

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3 CONTACTING TROI LLC

For additional information and technical support contact:

311 Drury Lane
Mauldin SC 29662
PH: 864-228-9096
pat@troirfid.com
www.troirfid.com

ADVISORY

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