EaT-101 Push RFID Tag

CONTENTS

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1 PRODUCT DESCRIPTION

The patent-pending **TROI EaT-101** provides identification and tracking capabilities never-before available in such a tiny plastic package designed for rugged or hazardous use-areas.
The EaT-101 was designed to be mounted to the surface of the part by pushing the mounting prong on the back of the tag into a 6 mm (0.236 inch) hole.
The tag is able to withstand extreme pressures and temperatures up to 200 degrees C.

1.1 SPECIFICATIONS

Device type Passive RFID tag	**Standard**: UHF (Ultra High Frequency band; 860MHz – 950MHz))
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**: Impinj Monza 4
EPC memory - UHF	**Standard**: 128 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, depending on attachment Lab environment: 7 meters
Applicable surfaces	Any material Surface mounting on metal surfaces, both ferrous and non-ferrous
Material	High temperature plastic: Proprietary impact resistant filled nylon
Weight	20 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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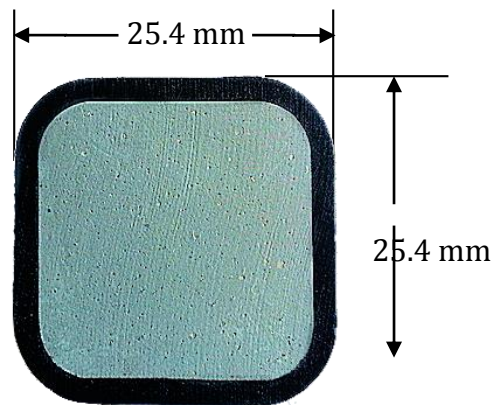F: +44 (0)845 474 2006   W: www.ableid.com

1.2   DIMENSIONS

TAG ONLY: 25.4 mm Long x 25.4 mm Wide x 10 mm High
TAG & MOUNTING PRONG: 25.4 mm Long x 25.4 mm Wide x 27.6 mm High
NOTE**:** Pictures are not to scale

PLAN VIEW

25.4 mm

25.4 mm

PROFILE VIEW

10 mm

17.6 mm

6.7 mm

27.6 mm
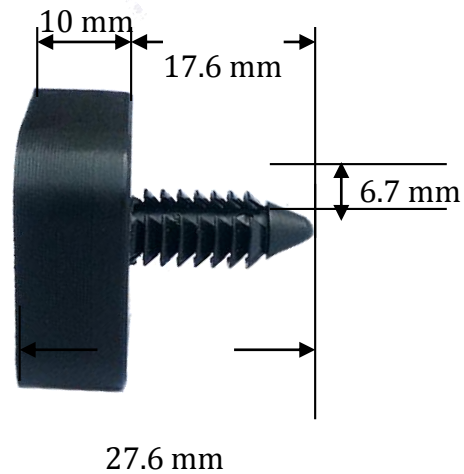
1.3 READ RANGE

	UHF Max read range on metal with 4W ERP
EaT-101 (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.

1.4 ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-50º C to +200º C* -50º F to + 392º F*
Temperature Cycling Test	200 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 it 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 **AbleID Ltd**.

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 EaT-101 tag must be mounted with the prong pushed through a suitably-sized hole, and flush with the mounting surface.
If the tag is not flush with the mounting surface, it might affect the tag's performance.

- Drill a hole approximately 7 mm in diameter in the surface that the tag is to be mounted on to.
  - o NOTE: The mounting prong needs at least 18 mm of clearance (depth – not counting the width of the mounting surface [if mounting to thin sheet stock]) to mount the tag properly.
- Push the mounting prong into the hole until the tag is flush with the surface.
- Done!

The EaT-101's performance depends on the shape of the metal object and the tags placement on that surface. Testing is recommended to verify performance in each use-case.

3   CONTACTING ABLEID LTD

For additional information and technical support contact:

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ADVISORY

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