HD-101 Pipe – Frac RFID Tag

CONTENTS

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1 PRODUCT DESCRIPTION

The patent-pending **TROI HD-101 Pipe - FRAC** RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas.
The rubber-covered tag is designed to be mounted to any metallic surface by wrapping, and then crimping, the black-nylon-coated cable around any pipe or round metal object. It can withstand unprecedented high temperature (consistent temperatures of 200 degrees Centigrade), high pressure and severe environmental conditions.

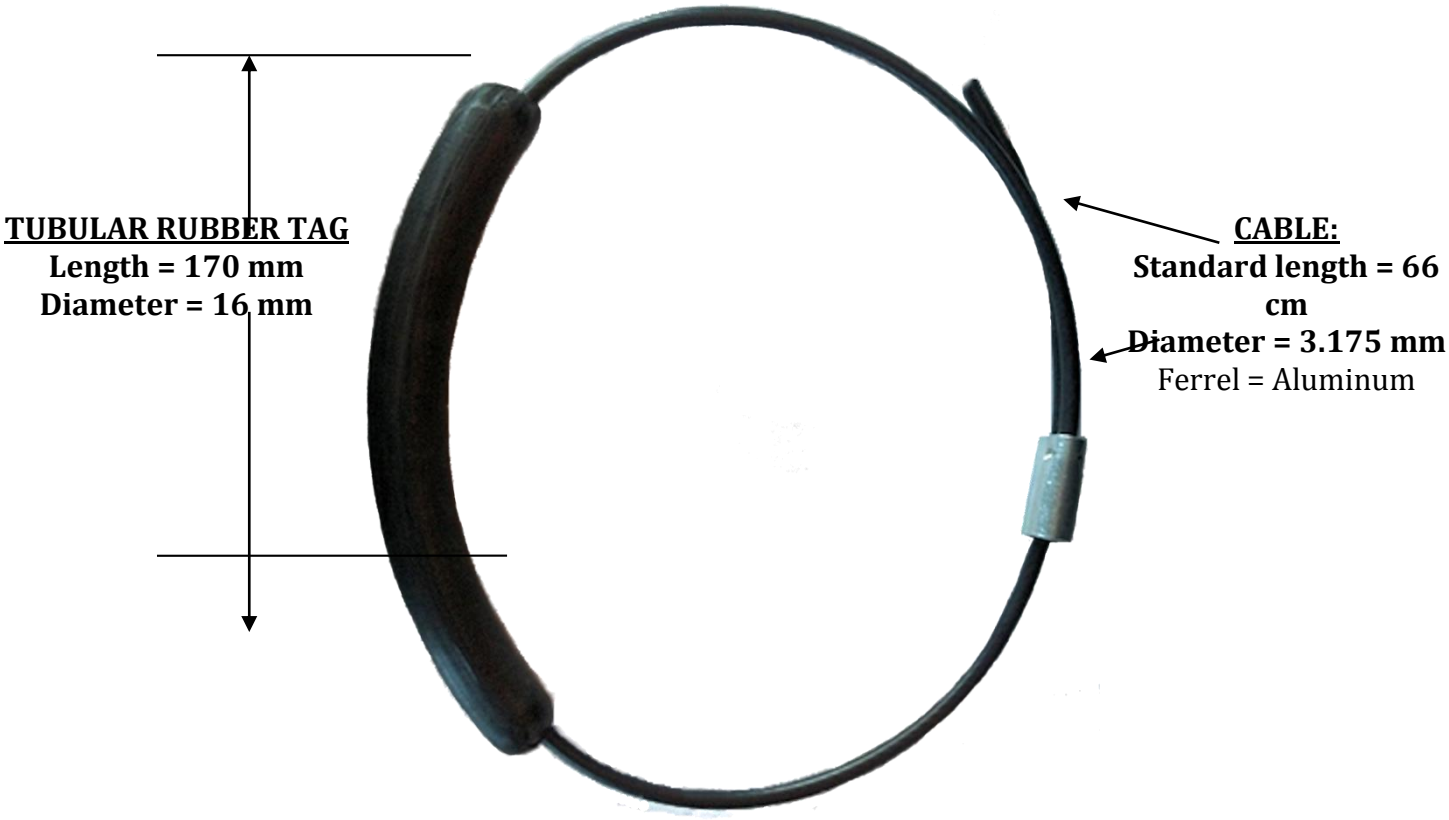
1.1 SPECIFICATIONS

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 Lab environment: 7 meters
Tag material	HVP rubber
Tensile strength	2500 psi minimum
Elongation	400% minimum
Durometer	Shore A 60-70
Cable specifications	Black nylon-coated stainless steel rope Aluminum ferrel for crimp-type retention
Drop test to asphalt	2 meters with 5 Kg's attached @ 100+ times (competition fails at 20) 2 meters with 8 Kg's attached @ 5+ times (competition fails immediately)
Applicable surfaces	Any metallic material
Product RoHS compliant?	Yes
Standards compliancy	ATEX-compliant

1.2 DIMENSIONS

NOTE: Standard cable length = 66 cm; other lengths can be quoted.

PLAN VIEW



1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
HD-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	-50ºC to +200ºC* -50ºF to +392 ºF*
Temperature Cycling Test	200 deg C, continuous for 30-days
IP classification	IP69K EN 62262 IK-25 - Complete protection against dust - Protection against continuous immersion in water
Weather resistance	Excellent, including UV-resistance and sea water immersion
Pressure resistance	RFID tag tested to 30,000 PSI for 30 days
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 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 **AbleID Ltd**.

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

Wrap the black nylon-covered cable around the metal surface and then firmly crimp the aluminum ferrel – done!

3 CONTACTING ABLEID LTD

For additional information and technical support contact:

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ADVISORY

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