



L-71L

Industrial Laundry Tag



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1 PRODUCT DESCRIPTION

The patent-pending **TROI L-71L Embeddable Industrial Laundry** RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous conditions. It can withstand unprecedented high temperature (consistent temperatures of 200 degrees Centigrade), high pressure and severe environmental conditions.

The **L-71L** is laundry-rated for 180 deg C industrial wringers (normal wringer is 140 deg C) and continues (for over a year) to successfully meet the needs of an industrial laundry facility; washing + drying + wringer + autoclave.

1.1 SPECIFICATIONS

Device type	Passive RFID tag
Air interface protocol	UHF: EPCGlobal Class1Gen2 / ISO/IEC 18000-63
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: 175 mm Diameter: 2.5 mm wire diameter (for the center 9 mm chip area, chip diameter is 4 mm)
Tag cover material	Teflon
Tensile strength	2500 psi minimum
Applicable surfaces	Any material
Product RoHS compliant?	Yes
Standards compliancy	ATEX-compliant

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1.2 DIMENSIONS

Length = 175 mm

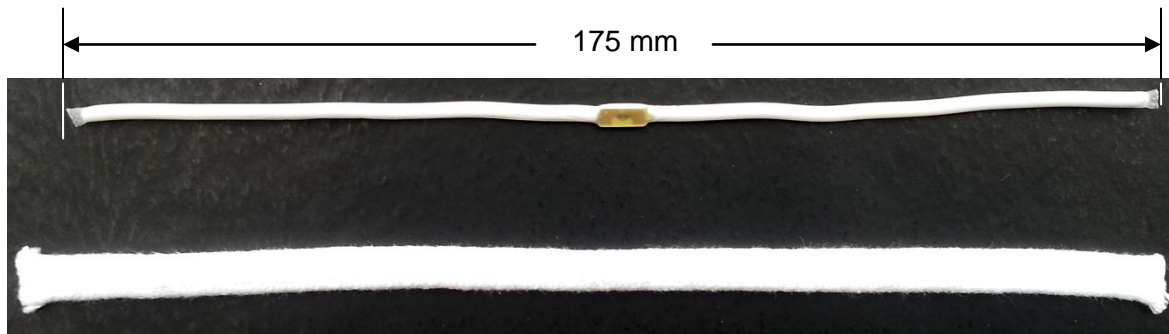
Wire diameter = 2.5 mm

NOTE: For the center 9 mm of the tag, the chip diameter is 4 mm

PLAN VIEW

In the picture below, the L-71L tag is in the top of the picture; the synthetic sleeve is in the bottom of the picture.

The L-71L RFID tag is shipped from the factory with the tag inserted into the synthetic sleeve.



1.3 COMPARISON TO CC-71 RFID TAG

While **TROI's CC-71 Embeddable** RFID tag and **L-71L Industrial Laundry** RFID tag are very similar, there are differences – size being the most telling.

In the photo below, the **CC-71** is on the top, and the **L-71L** is on the bottom; notice the wire diameter differences, as well as the chip-area diameters. And, the **L-71L** is more “pliable” than the **CC-71**.





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1.4 READ RANGE

	UHF max read-range on metal with 4W ERP
L-71L 915 MHz test	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.

1.5 ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-50°C to +200°C*
Temperature Cycling Test	200 deg C, continuous for 30-days
Autoclave sterilization cycles	120 deg C for 30 minutes or 134 deg C for 15 minutes.
Wringer pressures	40 – 60 kg-bar.
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 it 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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1.6 SUPPORTED SERVICES

- Tag pre-encoding
- Laser-etching human-readable data (tracking number, company name, client's name, etc.)

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

1.7 POSSIBLE APPLICATIONS

Embeddable applications – Laundry principally	Industrial garments, concrete, molded thermoplastics, compression and injection molding, high value items, aerospace applications, military applications, etc.
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2 INSTALLATION INSTRUCTIONS

It can be embedded into mold- or assembly-processes, and 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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