



# L-71L

## Industrial Laundry Tag



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## Industrial Laundry Tag

### 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

<b>Device type</b>	Passive RFID tag
<b>Air interface protocol</b>	<b>UHF:</b> EPCGlobal Class1Gen2 / ISO/IEC 18000-63
<b>Operational frequency</b>	<b>Standard:</b> UHF (865-869 MHz (EU), 902-928 MHz (US))
<b>IC options - UHF</b>	<b>Standard:</b> Alien Higgs 3 (others on request) Optional: EM, Fujitsu, Impinj, NXP (others on request)
<b>EPC memory - UHF</b>	<b>Standard:</b> 128 bit Optional: Up to 240 bit
<b>EPC memory content</b>	Unique 96-bit number encoded
<b>Extended memory - UHF</b>	<b>Standard:</b> 512 bit
<b>TID - UHF</b>	Factory-programmed, non-changeable, unique 64-bit ID.
<b>Read range - UHF</b>	Real-world: 1 – 2 meters
<b>Size</b>	Length: 175 mm Diameter: 2.5 mm wire diameter (for the center 9 mm chip area, chip diameter is 4 mm)
<b>Tag cover material</b>	Teflon
<b>Tensile strength</b>	2500 psi minimum
<b>Applicable surfaces</b>	Any material
<b>Product RoHS compliant?</b>	Yes
<b>Standards compliancy</b>	ATEX-compliant

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### 1.2 DIMENSIONS

Length = 175 mm

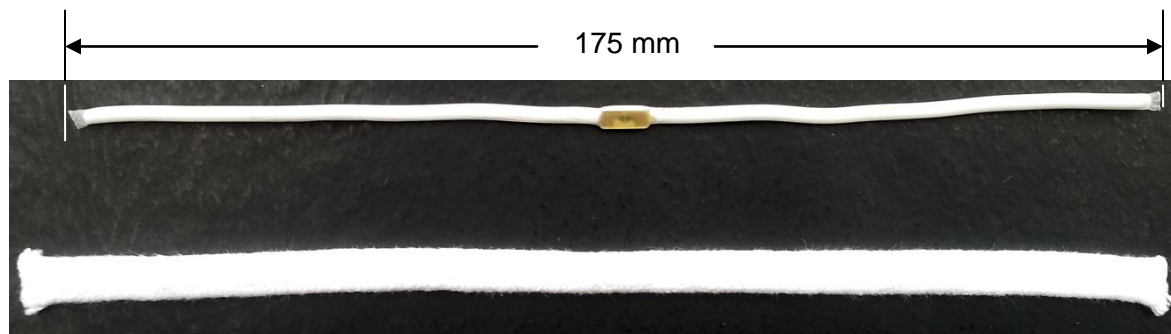
Wire diameter = 2.5 mm

**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

	<b>UHF max read-range on metal with 4W ERP</b>
<b>L-71L</b> 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

<b>Operating temperature</b>	-50°C to +200°C*
<b>Temperature Cycling Test</b>	200 deg C, continuous for 30-days
<b>Autoclave sterilization cycles</b>	120 deg C for 30 minutes or 134 deg C for 15 minutes.
<b>Wringer pressures</b>	40 – 60 kg-bar.
<b>IP classification</b>	IP69K
<b>Weather resistance</b>	Excellent, including UV-resistance and sea water immersion
<b>Chemical resistance</b>	No physical or performance changes in: <ul style="list-style-type: none"> <li>- Salt water</li> <li>- NaOH (depending on concentration)</li> <li>- Sulfuric acid (depending on concentration)</li> <li>- Motor oil (tested in 168 hour exposure)</li> </ul> Generally good against: <ul style="list-style-type: none"> <li>- Most solvents</li> <li>- Most acids and bases</li> </ul>

\* **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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## Industrial Laundry Tag

### 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

<b>Embeddable applications – Laundry principally</b>	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:

### **TROI LLC**

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