



# PC-101

## Mini-Sling Tag

TECHNOLOGIES ROI, LLC



### CONTENTS

1	PRODUCT DESCRIPTION .....	2
1.1	Specifications.....	2
1.2	Dimensions .....	3
1.3	Read Range.....	4
1.4	Environmental Specifications .....	4
1.5	Supported Services.....	5
1.6	Possible Applications .....	5
2	INSTALLATION INSTRUCTIONS .....	5
3	CONTACTING TROI LLC .....	5



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### 1 PRODUCT DESCRIPTION

The patent-pending **PC-101Mini-Sling** RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas.

The PC-101 tag is designed to be mounted to any metallic surface by simply looping the plastic-covered stainless steel wire rope over or through an object and then crimping the aluminum ferrel to securely fasten the tag.

The tag can withstand unprecedented high temperature (consistent temperatures of 180 degrees Centigrade), high pressure and severe environmental conditions.

#### 1.1 SPECIFICATIONS

<b>Device type</b>	Passive RFID tag
<b>Air interface protocol</b>	<b>UHF:</b> EPCGlobal Class1Gen2 / ISO/IEC 18000-6C (-63) <b>HF:</b> EPCGlobal Class1Gen2 / ISO/IEC 18000-6B (-62)
<b>Operational frequency</b>	<b>Standard:</b> UHF 865-869 MHz (EU), 902-928 MHz (US) Optional: HF 13.56 MHz
<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 Lab environment: 7 meters
<b>Tag material</b>	HVP rubber
<b>Tensile strength</b>	2500 psi minimum
<b>Elongation</b>	400% minimum
<b>Durometer</b>	Shore A 60-70
<b>Cable specifications</b>	Black nylon-coated stainless steel rope Aluminum ferrel for crimp-type retention
<b>Drop test to asphalt</b>	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)
<b>Applicable surfaces</b>	Any metallic material
<b>Product RoHS compliant?</b>	Yes
<b>Standards compliancy</b>	ATEX-compliant



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## 1.2 DIMENSIONS

**Overall (with loop):** Varies from ~305 mm (12 inches) to ~380 mm (15 inches)

**Tag:**

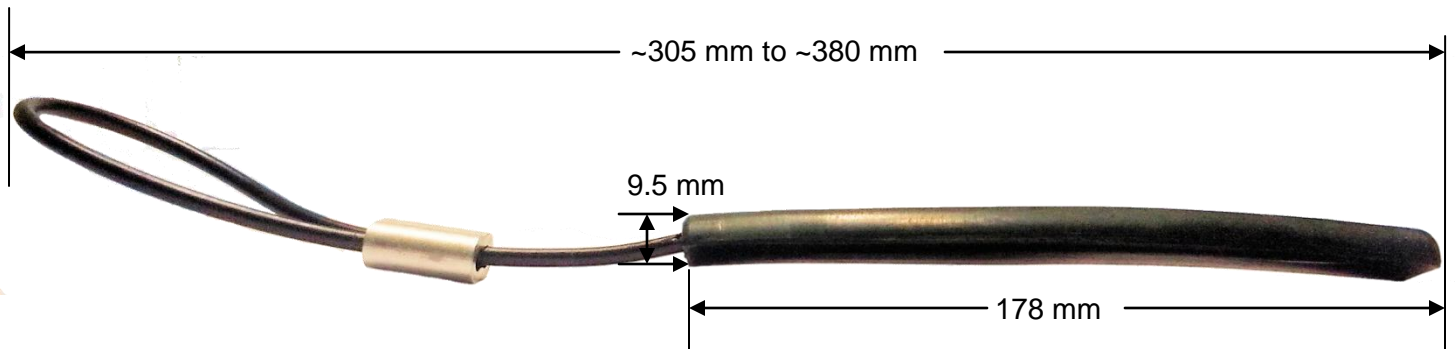
**L** 178 mm (7 inches)

**W** 19 mm (0.75 inches)

**H** 9.5 mm (0.375 inches)

**Plastic-covered wire rope diameter:** 4 mm (0.16 inches)

*SIDE VIEW*



*BOTTOM VIEW*





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### 1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
<b>PC-101</b> GLOBAL (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. Actual test results may be different. Testing in actual use environments is strongly recommended.

### 1.4 ENVIRONMENTAL SPECIFICATIONS

<b>Operating temperature</b>	-50°C (-50°F) to +180°C* (356°F)
<b>Temperature Cycling Test</b>	-25°C to +85°C continuous for 7 days
<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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### 1.5 SUPPORTED SERVICES

- Tag pre-encoding

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

### 1.6 POSSIBLE APPLICATIONS

<b>Metal surfaces</b>	Metal returnable containers, metal canisters, metal pallets, metal pipes, high value metal items, aerospace applications, military applications, etc.
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## 2 INSTALLATION INSTRUCTIONS

Wrap the stainless steel wire rope around or through the object; push the wire rope into the ferret on the tag and crimp the ferret to secure the tag to the object.

## 3 CONTACTING TROI LLC

For additional information and technical support contact:

**TROI LLC**

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