



# SC-300



**TROI™**

# Tubular Silicone Pipe Tag

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## 1 PRODUCT DESCRIPTION

The patent-pending **TROI SC-300 Tubular Silicone Pipe** RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas.

The tubular silicone tag is designed to be mounted around any metallic pipe or round metal object. The **SC-300** can withstand unprecedented high temperature (consistent temperatures of 150 degrees Centigrade), high pressure and severe environmental conditions.

### 1.1 SPECIFICATIONS

<b>Device type</b> Passive RFID tag	UHF (Ultra High Frequency band)
<b>Air interface protocol</b>	EPCGlobal Class1Gen2 / ISO/IEC 18000-6C
<b>Operational frequency</b>	865 - 928 MHz
<b>IC options</b>	<b>Standard:</b> Alien Higgs 3 (others on request) Optional: EM, Fujitsu, Impinj, NXP (others on request)
<b>EPC memory size</b>	<b>Standard:</b> 128 bit Optional: Up to 240 bit
<b>EPC memory content</b>	Unique 96-bit number encoded
<b>Extended memory</b>	<b>Standard:</b> 512 bit
<b>TID</b>	Factory-programmed, non-changeable, unique 64-bit ID.
<b>Read range</b>	Real-world: 1 – 2 meters Lab environment: 7 meters
<b>Applicable surfaces</b>	Any metallic material
<b>Tag material</b>	Silicone
<b>Tensile strength</b>	8 Mpa
<b>Durometer</b>	Shore A: 50
<b>Elongation</b>	500%
<b>Specific gravity</b>	1.12 g/mL
<b>Drop test to asphalt</b>	2 meters with 5 Kg's attached; 250+ times (competition fails at 20) 2 meters with 8 Kg's attached; 150+ times (competition fails immediately) 2 meters with 18Kg's attached; 25+ times (competition fails immediately)
<b>Standards compliancy</b>	ATEX-compliant
<b>Product RoHS compliant?</b>	Yes



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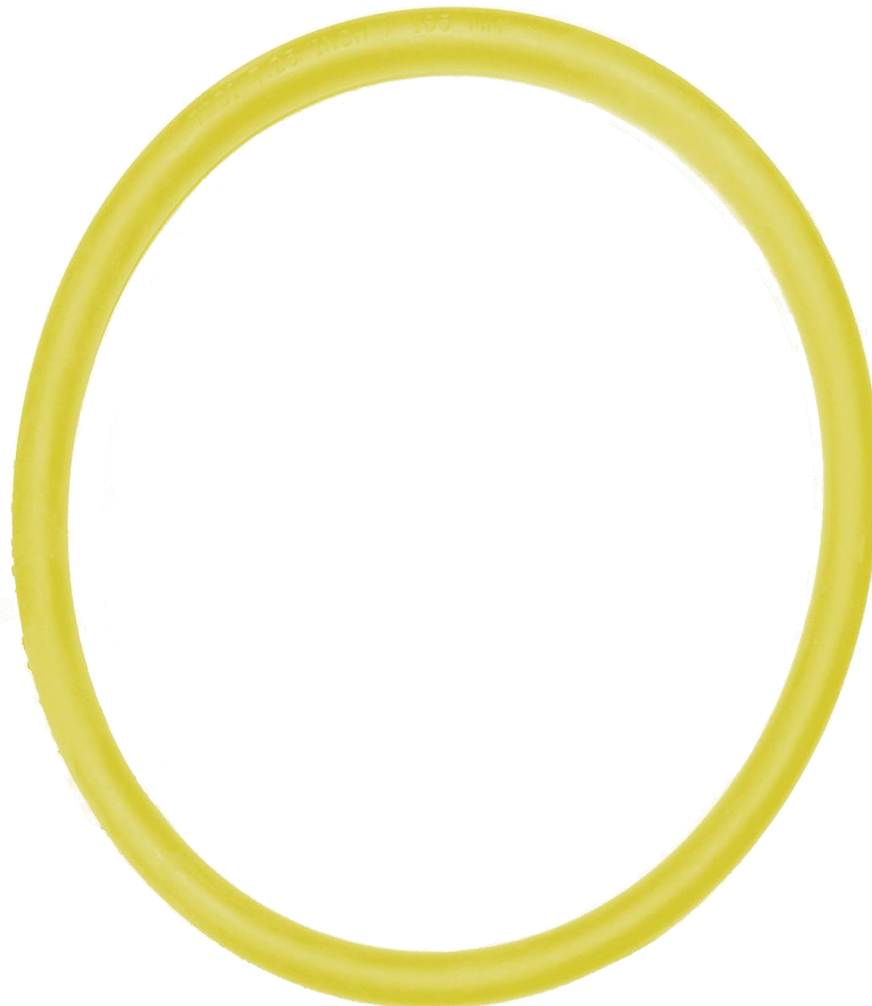
### 1.2 DIMENSIONS

Currently available SC-300 Tubular Silicone Pipe Tag **inner diameters:**

- 225.3 mm (8.87 inches)
- 184.15 mm (7.25 inches)
- 174.5 mm (6.87 inches)
- 110 mm (4.33 inches)

Average silicone ring tubular diameter: 12.5 mm (0.5 inches)

#### PLAN VIEW





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### 1.3 READ RANGE

	UHF max read-range on metal with 4W ERP
SC-300 (@ 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>	-46° C to +150° C* -51° F to +302 ° F*
<b>Temperature Cycling Test</b> With no negative affects	-46 deg C for 5 hours 225 deg C for 70 hours in air and distilled water 225 deg C for 70 hours in oil (IRM-901)
<b>IP classification</b>	IP68: - Complete protection against dust - Protection against continuous immersion in water (Tested for 5 hours in 1 m [3.3 ft] depth)
<b>Weather resistance</b>	Excellent, including UV-resistance and sea water immersion
<b>Pressure resistance</b>	RFID tag tested to 30,000 PSI for 30 days
<b>Chemical resistance</b>	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 -40 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

**Metal surfaces**

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

1. Simply stretch the **SC-300 Tubular Silicone Pipe Tag** over the item and you're done!





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## TROI™ Tubular Silicone Pipe Tag

### 3 APPLICATION / USE VIDEO LINK

From this link there are a number of other **TROI LLC** video's that show the SC-300 in use.

<http://www.youtube.com/watch?v=rr0tx7SqY8w&list=UU0r9GQH2wU2WUeYIR8mwssw&index=1>

### 4 CONTACTING TROI LLC

For additional information and technical support contact:

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#### **ADVISORY**

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