



---

## PRODUCT CATALOG

Rugged, High-Temperature & Extreme-Condition RFID

---

Oil & Gas • Corrosive Chemicals • High Temperatures  
Down-hole • Sub-sea • Construction • Industrial Laundry



Authorised Distributors For



[www.umd.com.au](http://www.umd.com.au)

[www.troirfid.com](http://www.troirfid.com)

Troi-Product-Catalog-UMD.001

# About TROI

*Pioneering RFID Solutions Since 2002*

---

TROI LLC makes RFID tags and products that meet the most rugged and extreme conditions found in the real world.

## Capabilities at a glance

- High temperature — up to 400°C
- High humidity — up to 100% RH and underwater
- High pressure — up to 50,000 PSI
- Abrasive and chemically corrosive environments

## Our story

Dr Patrick King, a pioneer in the RFID industry, founded Technologies ROI LLC (TROI) in 2002 on the principle that technology must be correctly balanced and integrated into business — hence ROI.

TROI has remained singularly focused on creating the most rugged and highest temperature-resistant RFID tags on the market. Unlike many manufacturers, TROI does not repackage RFID inlays. Instead, we offer solder-bonded electronic versions of RFID capable of surviving extreme conditions. As a result, all TROI tags are rated to 200°C, with many up to 300°C and even 400°C.

Our packaging allows for rapid attachment and harsh-environment integrity. Down-hole is as common a TROI application space as FRAC operations, drill site operations and sub-sea riser stacks. Welding, embedding, banding, cabling, bolting and riveting are all common attachment methods we offer.

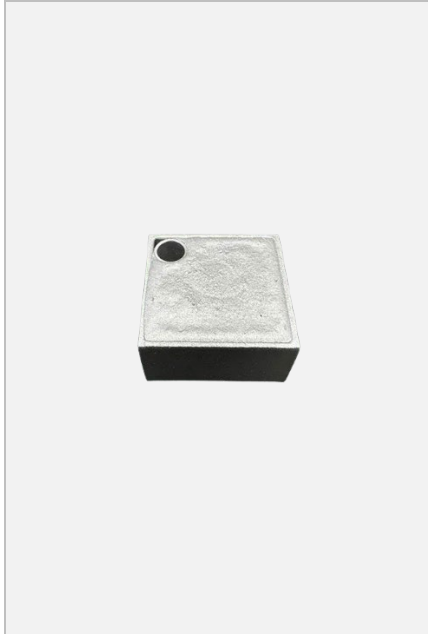
TROI holds over 50 patents in auto-identification and remains an industry innovator. If you don't see what you're looking for, just ask — we can design a custom tag for your application.

## Catalog Contents

- 1. High Temperature Tags** — Super hi-temp / hi-temp / extreme conditions
- 2. Impact Tags** — High-impact, weldable, bandable, cable & sling tags
- 3. Embeddable Tags** — For roads, wood, fiberglass, composites & molds
- 4. Specialty Tags & Products** — Eyelet, tie-wrap, laundry, ceramic, AP-1 adhesive

# 1. High Temperature Tags

*Super Hi-Temp / Hi-Temp / Extreme Conditions*



## PK CUBE 400c

*Newest Bolttable 400°C Tag — Aluminium Frame*

Our newest super high-temperature bolttable RFID tag in a robust aluminium frame, engineered for the most demanding industrial environments.

### Specifications

- Length: 32mm / 1.25"
- Width: 32mm / 1.25"
- Height: 16mm / 0.64"
- Mounting Hole: 6mm / 0.25"
- Operating Temp: up to 400°C

### UMD Order Code

9-9820-861-7 PK Cube 400



## CUBE 400c

*Patented Weldable High-Temperature Tag (US Pat. # 7,928,922)*

Provides identification and tracking capabilities never before available in rugged or hazardous areas. Can be welded to any metallic surface on ANY side, withstanding extreme temperature, pressure and environmental conditions.

### Specifications

- Length: 32mm / 1.26"
- Width: 32mm / 1.26"
- Height: 20mm / 0.04"
- Mounting: Weldable on any side

### UMD Order Code

9-9820-860-6 Cube 400



## Armored 400

*Patented Welded/Bolted 400°C Tag (US Pat. # 7,928,922)*

Mountable to any metallic surface by welding or bolting. Withstands unprecedented temperature, pressure and severe environmental conditions.

### Specifications

- Length: 61mm / 2.4"
- Width: 53mm / 2.09"
- Height: 25mm / 1"
- Mounting hole diameter: 7mm / 0.30"
- Distance between mounting holes: 40mm / 1.60"
- Base diameter: 49mm / 1.94"
- Base height: 7mm / 0.27"

### UMD Order Code

9-9820-864-9 Armored 400



## Armored 300C

*Patented Welded/Bolted 300°C Tag (US Pat. # 9,122,967)*

Mounts to any metallic surface by welding or bolting. Available in Cold Rolled Steel, Unpolished Stainless Steel, and Sandblasted Stainless Steel.

### Specifications

- Length: 55mm / 2.16"
- Width: 44mm / 1.75"
- Height: 14mm / 0.53"
- Mounting Hole / Bolt Size: 6mm / 0.25"
- Available materials: CR Steel, SS, Sandblasted SS

### UMD Order Code

9-9820-862-0 Armored 300



### BT-3 HT

*Patent-Pending Boltable 300°C RFID Tag*

Designed to be bolted or adhered to objects. Withstands temperatures up to 300°C. Available in UHF or HF.

#### Specifications

- Length: 76mm / 0.3"
- Width: 28mm / 1.10"
- Height: 19mm / 0.75"
- Frequency: UHF or HF

#### UMD Order Code

9-9820-841-4 BT-3 UHF

9-9820-852-8 BT-3 HF



### EaT-101 HT

*Most Compact Boltable High-Temp Tag*

Mounted by screw or rivet to any surface. Withstands extreme pressures and temperatures up to 200°C. Available in UHF or HF.

#### Specifications

- Length: 25mm / 1"
- Width: 25mm / 1"
- Height: 10mm / 0.41"
- Mounting Hole Size: 4mm / 0.15"
- Frequency: UHF or HF

#### UMD Order Code:

9-9820-850-8 EaT-101 HF

9-8260-851-7 EaT-101 UHF



## TMT-300

### *Patent-Pending Hi-Temp 300°C Boltable Tag*

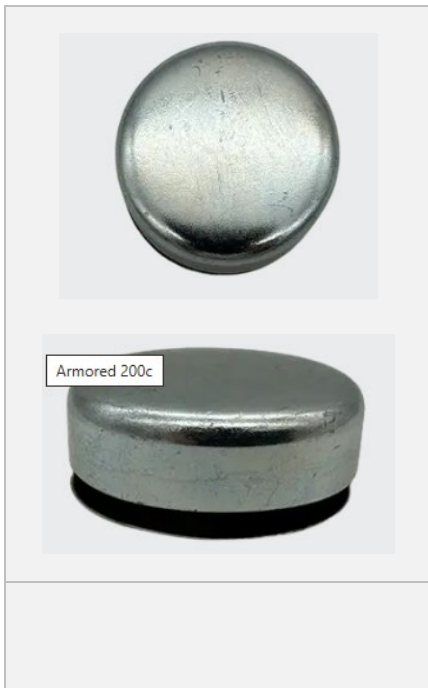
Mounted to any metallic surface by gluing or bolting. Tiny plastic package designed for rugged or hazardous use-areas.

#### Specifications

- Length: 36mm / 1.42"
- Width: 25mm / 1"
- Height (centre chip area): 8mm / 0.31"
- Mounting holes: 3mm / 0.12"
- Distance between mounting holes: 31mm / 1.24"

#### UMD Order Code

9-9820-622-9 TMT-300



## Armored 200

### *Patent-Pending High Temperature Metal Tag*

Adhesive-backed metal tag designed to be mounted to any metallic surface using the adhesive or with TROI's AP-1 Adhesive Paint.

#### Specifications

- Diameter: 35mm / 1.38"
- Height: 14mm / 0.55"
- Mounting: Adhesive backed

#### UMD Order Code

9-9820-681-3 Armored 200

## 2. Impact Tags

*High-impact, weldable, bandable, cable and sling-mounted tags*



### BT-1

#### *Patent-Pending Weldable / Boltable Impact Tag*

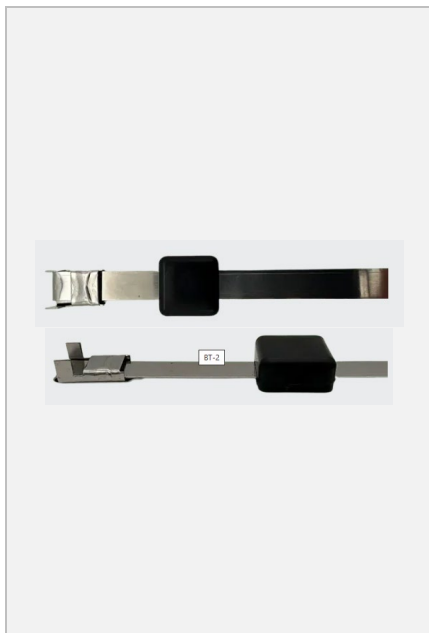
Mountable to any metallic surface by welding or bolting. Withstands unprecedented temperature, pressure and environmental conditions.

#### Specifications

- Length: 50mm / 2"
- Width: 28mm / 1"
- Height: 13mm / 0.51"

#### UMD Order Code

9-9820-720-9 BT-1



### BT-2

#### *Patent-Pending Bandable Tag (200°C)*

Designed for all banding situations (2-inch diameter object and larger) using traditional half-inch wide banding. A weldable version is also offered.

#### Specifications

- Length: 25mm / 0.98"
- Width: 25mm / 0.98"
- Height: 12mm / 0.47"
- Operating Temp: up to 200°C

#### UMD Order Code

9-9820-830-1 BT-2 tag only

9-9820-831-9 BT-2 with stainless steel band



## HD-101

*Patented Pipe / FRAC Cable Tag (US Pat. # 7,928,922)*

Rubber-covered tag designed to be mounted to any metallic surface by wrapping then crimping the black-nylon-coated cable around any pipe or round metal object.

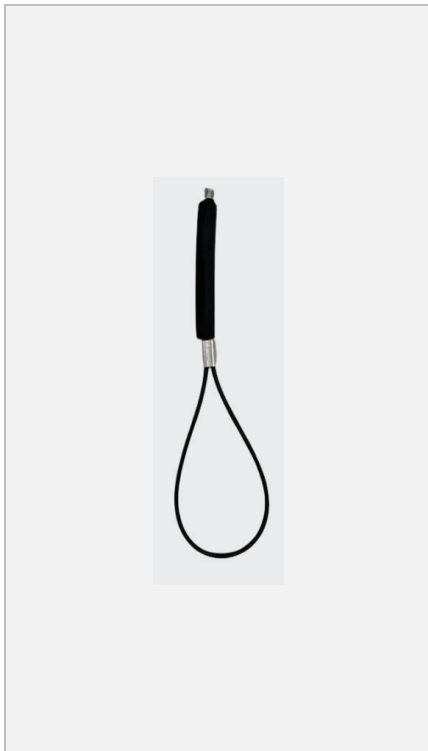
### Specifications

- Tag Length: 175mm / 6.9"
- Tag Diameter: 19mm / 0.71"
- Cable Diameter: 5mm / 0.2"
- Standard Cable Length: 66cm / 26"
- Fits up to 8" pipe (other lengths available)
- Also available with a rod for welding

### UMD Order Code:

9-9820-810-0 HD-101 tag only

9-9820-811-9 HD-101 tag with nylon coated SS cable



## PC-101 Sling

*Patented Sling-Mount RFID Tag (US Pat. # 7,928,922)*

Mounted to any metallic surface by looping the plastic-covered stainless steel wire rope over or through an object and crimping the aluminium ferrule.

### Specifications

- Length: 132mm / 5.2"
- Height: 13mm / 0.39"
- Width: 19mm / 0.75"
- Standard cable diameter: 139.7mm / 5.5"
- Additional lengths available

### UMD Order Code

9-9820-402-1 PC-101 Mini Sling tag with aluminium ferrule

9-9820-400-8 PC-101 Square 6x230mm SS cable tie

9-9820-401-5 PC-101 Mini Dome 6x230 SS cable tie



## PC-102

*Large Pipe & Cylinder Rubber RFID Tag (US Pat. # 7,928,922)*

Rubber-covered tag mountable by (1) screwing/bolting, (2) peel-n-stick adhesive, or (3) epoxy on any pipe or round metal object. Best results with TROI's AP-1 Adhesive Paint.

### Specifications

- Length: 150mm / 6"
- Width: 20mm / 0.78"
- Height: 15mm / 0.60"
- Mounting / Bolt size: 7mm / 0.25"

### UMD Order Code

9-9820-410-7 PC-102 Pipe Cylinder with holes



## RS-102 & RS-102M

*Patented Adhesive-Backed Riser Tag (US Pat. # 7,928,922)*

Rubber-covered tag mounted to any metallic surface via peel-n-stick adhesive or epoxy. Use RS-102M for moulding along curved assets. Best results with TROI's AP-1 Adhesive Paint.

### Specifications

- Length: 147mm / 5.79"
- Width: 24mm / 0.94"
- Height: 12mm / 0.49"

### UMD Order Code

9-9820-760-3 RS-102 Riser Tag with adhesive

9-9820-761-4 RS-102M Riser Tag for curved assets



### WoW-1 Weld

*Patented Weldable RFID Tag (US Pat. # 9,122,967)*

Mounted to any metallic surface by welding. Withstands unprecedented temperature, pressure and environmental conditions.

#### Specifications

- Length: 38mm / 1.5"
- Width: 24mm / 0.96"
- Height: 13mm / 0.5"

#### UMD Order Code

9-9820-670-5 WoW-1 Weldable



### WoW-2 Thin SS

*Patented Thin Stainless Steel Tag (US Pat. # 9,122,967)*

Mounted to any metallic surface by welding or bolting. Slim profile for low-clearance applications.

#### Specifications

- Diameter: 48mm / 1.90"
- Height: 6mm / 0.24"
- Mounting hole diameter: 7mm / 0.28"
- Distance between mounting holes: 36mm / 1.42"

#### UMD Order Code

9-9820-702-3 WoW-2 Thin



## WoW-2 Impact

*Patented Impact-Resistant Tag (US Pat. # 9,122,967)*

Mounted to any metallic surface by welding or gluing. Designed for impact-prone industrial environments.

### Specifications

- Diameter: 44mm / 1.75"
- Height: 12mm / 0.45"

### UMD Order Code

9-9820-701.6 WoW-2 Impact



RS-102 applied tag



RFID Tags with weld bar



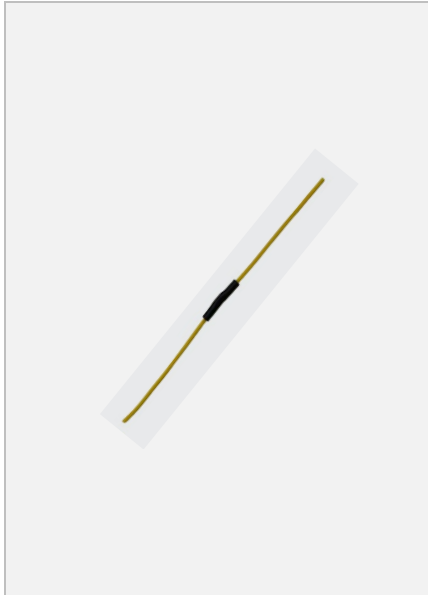
BT-1 Loop Tag



BT-1 Hanging Tag

## 3. Embeddable Tags

*Embed into road surfaces, wood, fiberglass, composites and molds*



### CC-71

*Patented Embeddable Wire Tag (US Pat. # 7,928,922)*

Embeddable RFID tag designed for unique packaging in rugged or hazardous use-areas. Withstands high temperature, high pressure and severe environmental conditions.

#### Specifications

- Length: 170mm / 6.70"
- Wire Diameter: 1.5mm / 0.06"
- Wire Diameter (centre chip area): 4.5mm / 0.18"

#### UMD Order Code

9-9820-020-8 Chip Cover tag



### CC-101 & CC-102

*Patented Embeddable RFID Tags (US Pat. # 7,928,922)*

Embeddable wire tags for rugged or hazardous use-areas. Withstand unprecedented high temperature, high pressure and severe environmental conditions.

#### Specifications

- Wire Diameter: 4mm / 0.16"
- Centre chip-area: 5mm / 0.039"
- CC-101 Length: 142mm / 6"
- CC-102 Length: 180mm / 7"

#### UMD Order Code

9-9820-080-4 Chip Cover 101

9-9820-081-3 Chip Cover 101 heavy duty

9-9820-090-7 Chip Cover 102

9-9820-091-5 Chip Cover 102 heavy duty



## FT-1002

*Patented Flexible Embeddable Tag (US Pat. # 7,928,922)*

Plastic-covered flexible tag mounted by wrapping the tag around any object, or embedding into concrete, wood, fiberglass, composites, compression or injection molds, etc.

### Specifications

- Length: 180mm / 7.09"
- Width: 4mm / 0.16"
- Height: 3mm / 0.13"

### UMD Order Code

9-9820-120-7 Flex Tag 1002



## STI-1 & STI-2

*Patent-Pending Threaded Embeddable Tags*

Mounted to any metallic surface by screwing the tag into a threaded hole. Tiny plastic package designed for rugged or hazardous use-areas.

### Specifications

- STI-1 Diameter: 32mm / 1.25"
- STI-1 Height: 10mm / 0.49"
- STI-1 Thread Pitch: 36mm × 4mm
- STI-2 Diameter: 21mm / 0.83"
- STI-2 Height: 10mm / 0.49"
- STI-2 Thread Pitch: 24mm × 3mm

### UMD Order Code

9-9820-801-4 STI-1

9-9820-802-8 STI-2



### STI-3

*Patent-Pending Cost-Effective Flush-Mount Tag*

Designed to be flush mounted into the asset being tagged. Most cost-effective version of the STI series, made with TROI's proprietary high-impact nylon and TROI epoxy.

#### Specifications

- Height: 8mm / 0.30"
- Diameter: 25mm / 1"

#### UMD Order Code

9-9820-803-3 STI-3



### STI-4

*Patent-Pending Embeddable Flush-Mount Tag*

Designed to be embedded and flush mounted (glued or epoxied). Tiny plastic package for rugged or hazardous use-areas.

#### Specifications

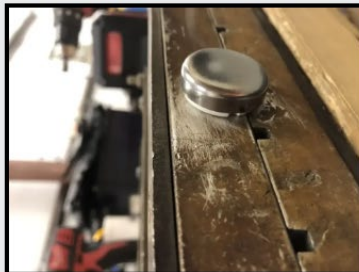
- Height: 8mm / 0.30"
- Diameter: 25mm / 1"

#### UMD Order Code

9-9820-804-6 STI-4



STI Series inserted into round die



Armored STI-4 on Mould



Mounting hole for the STI-1 is on the left, and the STI-2 is on the right



This perspective shows the tags mounted flush with the surface of the block.

## 4. Specialty Tags & Additional Products

Eyelet, tie-wrap, laundry, ceramic and adhesive solutions



### ST-1 Double Eyelet

*Patent-Pending Double-Eyelet RFID Tag*

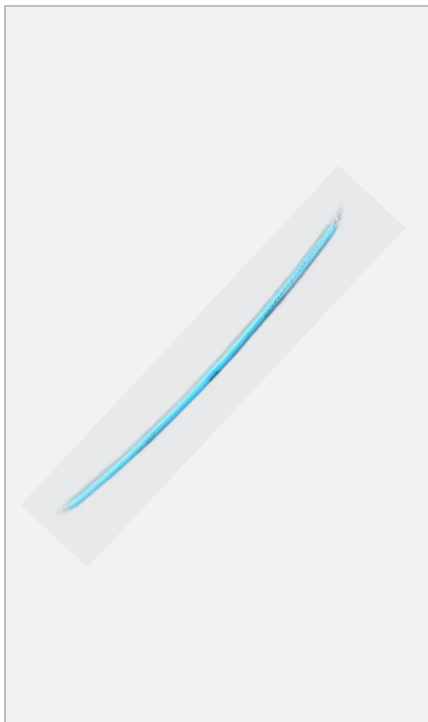
Mounted to any metallic surface using existing mounting bolts. Stainless steel #204 eyelets for industrial bolt-down attachment.

#### Specifications

- Overall Length: 284mm / 11.18"
- Distance Between Mounting Holes: 265mm / 10.43"
- Diameter: 10mm / 0.38"
- #204 SS Eyelet ID: 9mm / 0.36"

#### UMD Order Code

9-9820-520-2 ST-1



### FT-1004

*Patented High-Temperature Embeddable Tag (US Pat. # 7,928,922)*

Mounted by wrapping the tag around the part, or embedding the tag into wood, concrete, fiberglass, composites, compression or injection molds, etc.

#### Specifications

- Length: 184mm / 7.25"
- Diameter: 5mm / 0.2"

#### UMD Order Code

9-9820-130-6 FT-1004 with no eyelets

9-9820-131-3 FT-1004 with no one eyelets

9-9820-132-8 FT-1004 with no two eyelets



## FT-1007

### *Patent-Pending Tie-Wrap RFID Tag*

Plastic-covered tag molded onto a tie-wrap. Mounted to any metallic surface by securing the tie-wrap around any pipe or round metal object.

### Specifications

- SS zip tie length: 360mm / 14.17"
- SS zip tie width: 5mm / 0.039"
- Nylon zip tie length: 388mm / 15.28"
- Nylon zip tie width: 5mm / 0.039"
- Tag height: 5mm / 0.2"

### UMD Order Code

9-9820-160-1 FT-1007 with SS cable tie

9-9820-161-2 FT-107 with Nylon cable tie



## L-71L

### *Patented Embeddable Industrial Laundry Tag (US Pat. # 7,928,922)*

Laundry-rated for 180°C industrial wringers (normal wringer is 140°C). Continues for over a year to successfully meet the needs of industrial laundry: washing, drying, wringing and autoclave.

### Specifications

- Length: 178mm / 7"
- Wire Diameter: 2mm / 0.08"
- Available with or without a cotton sleeve
- Measurements are tag only (excluding sleeve)

### UMD Order Code

9-9820-011-8 L-71L Chip Cover Laundry Tag



## OK-106

### *Patent-Pending High-Temp Ceramic RFID Tag*

High-temperature ceramic-molded, adhesive-backed tag for any metallic surface. Use the adhesive backing or apply with TROI's AP-1 Adhesive Paint.

### Specifications

- Length: 29mm / 1.14"
- Width: 14mm / 0.55"
- Height: 6mm / 0.25"

### UMD Order Code

9-9820-380-3 OK-106



## PT-0 UHF & PT-0 HF

### *Patent-Pending Tie-Wrap RFID Tag*

Plastic-covered tag mounted to any metallic surface by slipping onto a tie-wrap and wrapping around any pipe or round metal object.

### Specifications (tag size)

- PT-0 UHF — Length: 25mm / 1"
- PT-0 UHF — Width: 8mm / 0.31"
- PT-0 UHF — Height: 9mm / 0.04"
- PT-0 HF — Length: 29mm / 1.14"
- PT-0 HF — Width: 16mm / 0.63"
- PT-0 HF — Height: 9mm / 0.04"

### UMD Order Code

9-9820-880-1 PT-0 UHF

9-9820-881-2 PT-0 HF



## PT-101

### *Patent-Pending Micro Bolttable Eyelet Tag*

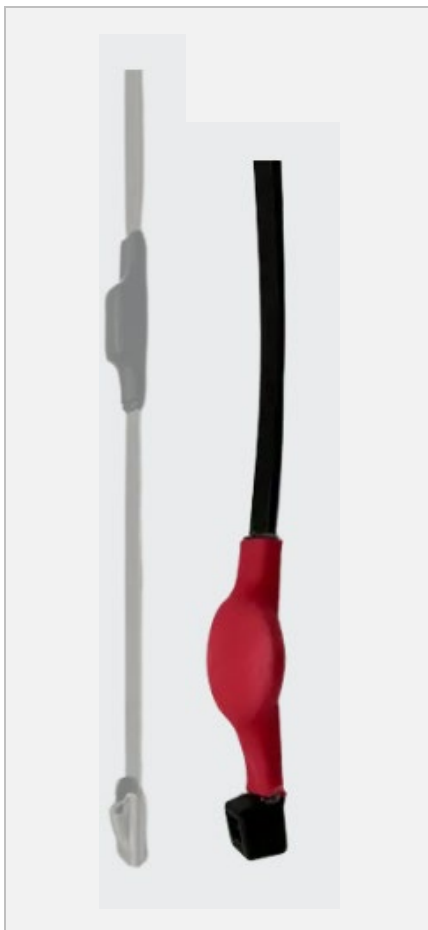
Mounted to any metallic surface using existing mounting bolts. Compact eyelet design for tight installations.

### Specifications

- Length: 29mm / 1.15"
- Width: 11mm / 0.42"
- Height: 7mm / 0.28"
- Eye Diameter OD: 12mm / 0.47"
- Eye Diameter ID: 6mm / 0.26"

### UMD Order Code

9-9820-820-0-1 PT-101



## PT-102 & PT-102 HF

### *Patent-Pending Tie-Wrap RFID Tag*

Plastic-covered tag molded onto either a metal or plastic tie-wrap. Mounted to any metallic surface by securing the tie-wrap around it.

### Specifications

- PT-102 UHF on SS zip tie (tag): L 25mm × W 7mm × H 5mm
- PT-102 HF on Nylon zip tie length: 388mm / 15.28"
- PT-102 HF tag: L 34mm × W 17mm × H 6mm

### UMD Order Code

9-9820-780-1 PT-102 UHF with SS cable tie

9-9820-781-3 PT-102 UHF with Nylon cable tie

9-9820-784-4 PT-102 HF with Nylon cable tie



## TMT-2 No Wing

### *Patent-Pending Plastic Adhesive-Backed Tag*

Mounted to any metallic surface with its adhesive back. Withstands extreme temperature, pressure and environmental conditions.

### Specifications

- Length: 22mm / 0.87"
- Width: 22mm / 0.87"
- Height: 8mm / 0.31"

### UMD Order Code

9-9820-611-8 PT-101 no wings



## TMT-3

### *Patent-Pending Plastic Bolttable Tag*

Mounted to any metallic surface by gluing or bolting. Available in UHF or HF.

### Specifications

- Length: 36mm / 1.42"
- Width: 22mm / 0.87"
- Height (centre chip area): 8mm / 0.31"
- Frequency: UHF or HF

### UMD Order Code

9-9820-620-0 TMT-3 with wings



### AP-1 Adhesive Paint

#### Two-Part Epoxy Resin Bonding System

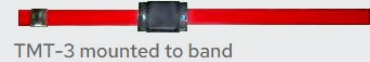
Provides unparalleled tag bonding to metals, plastics, concrete and fiberglass in rugged or hazardous use-areas — on and under the ocean, in the desert or on arctic ice. Commercially proven in maritime vessel and riser stack oil & gas applications. Hardens in about 1 minute, pot life of 5 minutes; provides a permanent bond once cured. Fills cracks and crevices to protect surfaces.

#### Specifications

- Adhesive Paint part number: AP-1
- Dual-tube manual dispenser part number: AP-2
- Disposable tips part number: AP-3

#### UMD Order Code

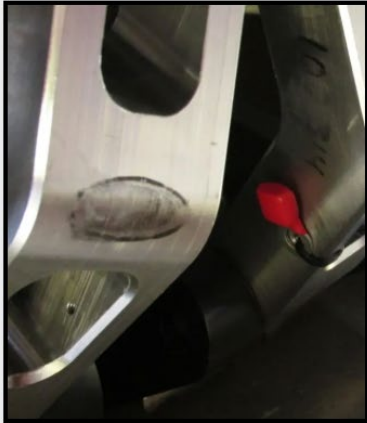
- 9-9829-010-0 AP-1 Cartridge Gun for Dual Tubes
- 9-9829-011-7 AP-1 Mixing Tip (Bag 12)
- 9-9829-020-9 AP-1 Cartridge/Adhesive Paint



TMT-3 mounted to band



Apply the Adhesive\_Paint to the bottom of the part, as well as an over-coat to the part



## Contact & Custom Solutions

*Get in touch with the TROI team*

---

If you don't see what you're looking for, just ask. TROI can design a custom tag for your application — making your idea a reality. We are happy to live, think and work outside the box, as it is there where you find greatness.

### Troi Australian Reseller

Unique Micro Design Pty Ltd (UMD)  
1/200 Wellington Road  
Clayton, Victoria, 3168  
Australia

**Phone:** +61 (03) 9582-7000

**Email:** [sales@umd.com.au](mailto:sales@umd.com.au)

## About Unique Micro Design

Unique Micro Design (UMD), help organisations “add eyes and ears to software”—giving enterprise systems real-world awareness through automated data capture, intelligent devices, and edge-to-cloud integration.

This enables companies to:

- improve productivity through automated data capture
- access specialised custom and standard electronic products
- adopt Physical-AI and Industry 4.0/5.0 practices

Physical-AI and Industry 4.0/5.0 are about connecting edge technologies—RFID, IoT, sensors, machine vision, and terminals—to enterprise software, enabling AI and autonomous agents to deliver insights, automate workflows, and enhance operational resilience.

With over 40 years of engineering experience, we design and deliver interconnected solutions through our deep expertise in:

- electronics design and engineering
- Automatic Identification & Data Capture (AIDC) technologies
- systems integration and wireless networking
- deployment and support services
- cloud, mobile, and embedded software development
- research & development

Our products, systems, and solutions span three core domains:

### **1. Human Interface Devices (HID)**

Mobile terminals, tablets, barcoding, point-of-service, wireless.

### **2. Autonomous Interface Devices (AID)**

IoT, RFID, machine vision, embedded systems, interfaces, and middleware.

### **3. Software, Systems Integration & Services**

Cloud middleware, application services, mobile and embedded software, payment technologies, and full electronic engineering design and support.

For further details, see UMD’s portfolio [here](#).