

# Seal Tag

## RFID tags with integrated fasteners prevent tampering with the contents of sealed containers

HID Seal Tag transponders are ideal for sealing commercial containers – bags, bins or boxes – to prevent unauthorized access to contents while in storage or during distribution. Seal Tag units integrate powerful RFID chips with high durability components, and secure, tamper-evident fasteners. Access to a sealed container's contents requires severing a tag's cable tie or wire loop – or breaching of the container itself – providing clear evidence of tampering.



### VTAMPER TAGS

Each uniquely encoded Seal Tag vTammer RFID unit attaches anywhere a cable tie can be used, providing visual evidence when that seal is broken. Being waterproof, they have high resistance to aggressive liquids, UV rays, and temperature extremes. Thermoplastic polyurethane (TPU) housings tolerate repeated bending or torsion. Bright colors provide excellent contrast for optical identification when laser engraved or embossed with logos, barcodes or text. Highly rugged on-metal options exist as well.

### ETAMPER TAGS

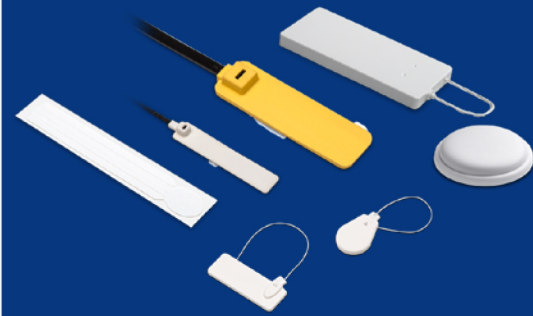
Each Seal Tag eTammer NFC transponder becomes operational when its wire loop is securely closed or the disc sticker is applied. If

the wire loop is broken, the tag is permanently unreadable, leaving evidence detectable both visually and via RFID. The printable coin form factor features the same eTammer functionality: The antenna breaks when the coin is removed - ideal for "proof of presence" applications or payment schemes.

eTammer tags may also be used as an "intelligent" seal for life safety device cabinets, including fire extinguishers, automated external defibrillators (AED) or other equipment.

### EDTAMPER TAGS

Seal Tag edTammer are tamper evident passive contactless Trusted Tag NFC or RAIN RFID UHF transponders allowing detection of their seal status via RFID. Visualizing the tag is not necessary to identify broken seals. The edTammer tags provide a digital notification if a seal has been compromised to quickly scan large sets of sealed items for integrity.



### KEY BENEFITS:






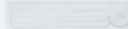


- Security – RFID tags integrated into visually tamper-evident container seals
- Adaptability – Small and flexible to serve a wide range of applications
- Easy application – Attach quickly with integrated cable tie or wire loop
- Clear evidence – Visual recognition of seal status, with option of RFID reader detection of seal security or breach

### TECHNOLOGY HIGHLIGHTS:

- Integrated, secure fastening device
- HF 13.56 MHz version readable with ISO/IEC 15693 or ISO/IEC 14443A compatible devices incl. NFC and HID Trusted Tag® Services
- Broadband RAIN UHF version for worldwide use at 860 to 960 MHz
- Fully interoperable, standards compliant
- Visually, electrically and digitally tamper evident options
- Custom encoding or laser engraving on housing

### APPLICATION AREAS:

- Asset tracking and logistics
  - Industrial bags, sacks and containers
  - Merchandise distribution and retailing
  - Life safety equipment maintenance
- Returnable transport items
  - Reusable shipping vessels, bottles, cartons, bags, and canisters
- Waste management
  - Hazardous waste receptacles

| Seal Tag  |   |   |  |  |   |  |   |               |
|---|---|---|--|--|---|--|---|---------------|
| eTamper   |   | vTamper   |  |  | edTamper  |  |   |               |
| Coin  | Teardrop  | HF  | UHF  | UHF Mini   | HF  | UHF  |   |               |
|  |  |  |               |                       |  |   |  |               |
| <b>Base Model Number</b>  | 7A1941-001 (DESFire)<br>7H5941-101 (TTS)  | 629960  | 729990-202   | 6M6990-500   | 6H2992-500  | 6I6503-101   | 6E5961  | 6K2963        |
| <b>ELECTRONIC</b>   |   |   |  |  |   |  |   |               |
| <b>Operating Frequency</b>  | 13.56 MHz   |   |  | 860-960 MHz (Worldwide)  |   | 13.56 MHz  | 860-960 MHz (Worldwide)   |               |
| <b>Chip Type</b>  | MIFARE DESFire EV1<br>HID Trusted Tag (TTS)                                       | ICODE SLiX  | M730   | MR6-P  | HID Trusted Tag (TTS)   | UCODE G2IM+  | EM   AURA-SENSE   |               |
| <b>Memory</b>   | 4.096 bytes (DESFire)<br>8.096 bytes (TTS)  | 1024 bit EEPROM   | 128 bit EPC  | 128/96 bit EPC,<br>32/64 bit UM  | 144 byte EEPROM   | 112 bit user<br>memory + 256 bit<br>EPC + 96 bit TID                                 | 2 kbit user memory + 416<br>bit EPC + 48 bit TID                                    |               |
| <b>Anti-Collision</b>   | Yes   |   |  |  |   |  |   |               |
| <b>Reading Distance<br/>2W reader ERP,<br/>free space</b>                         | N/A   |   | 20 ft (6 m)  | Up to 13.1 ft (4 m)  | N/A   | Up to 6.6 ft (2 m)   | Up to 13.1 ft (4 m)   |               |
| <b>PHYSICAL</b>   |   |   |  |  |   |  |   |               |
| <b>Dimensions</b>   | 1.5 x 1.5 x 0.3 in<br>(39 x 39 x 8.5 mm)  | Tag:<br>0.9 x 0.7 x 0.1 in<br>(23 x 18 x 3 mm)<br>Seal wire: 2.5 in<br>(65 mm)    | Tag: 3.3 x 1.0 x 0.1 in (85 x 25 x 3 mm)<br>Cable tie: 15.0 x 0.3 x 0.1 in<br>(380 x 6 x 2 mm) | Tag: 2.4 x 0.5 x 0.08 in (60 x 12<br>x 2 mm)<br>Cable tie: 7.8 x 0.1 x 0.05 in<br>(200 x 2.5 x 1.2 mm) | 4.6 x 0.9 in<br>(118 x 23 mm)   | Tag:<br>1.53 x 0.55 x 0.14 in<br>(39 x 14 x 3.6 mm)<br>Seal wire: 3.07 in<br>(78 mm) | Tag: 3.74 x 1.67 x 0.31 in<br>(95 x 42.5 x 8 mm)<br>Seal wire: 3.15 in (80 mm)      |               |
| <b>Mounting Method</b>  | Sticker   | Integrated wire<br>loop   | Integrated cable tie   |  | Self-adhesive   | Integrated wire loop   |   |               |
| <b>Affixes To</b>   | Any material (hanging in free air)  |   |  |  |   |  |   | On metal      |
| <b>Housing Material</b>   | Polycarbonate   |   | Tag: TPU / Cable tie: Nylon 6.6  | Tag: TPU / Cable tie: Nylon 6.6  | Paper   | PC/ABS   | ABS   |               |
| <b>Color</b>  | Black (DESFire)<br>White (TTS)  | White   | Tag: Yellow (Pantone 108)<br>Cable tie: black  | Tag: White<br>Cable tie: Black   | White   |  |   |               |
| <b>Weight</b>   | 0.18 oz (5.25 g)  | 0.04 oz (1 g)   | 0.42 oz (12 g)   | 0.08 oz (2.2 g)  |   | 0.07 oz (2 g)  | 1.13 oz (32 g)  |               |
| <b>CHEMICAL AND MECHANICAL RESISTANCE</b>   |   |   |  |  |   |  |   |               |
| <b>Water</b>  | IP65  |   | IP68, 68° F (20° C), 6.6 ft (2 m) x 24 h   |  | IP67, 68° F (20° C), 3.3<br>ft (1 m) x 35 min                                       |  |   |               |
| <b>Withstands<br/>Exposure To</b>   |   |   | Mineral oil, petroleum, salt mist, vegetable oil,<br>HCL (10%), Bleach (5%); UV light          |  |   |  |   |               |
| <b>Environmental<br/>Test Conditions</b>  | 68° F (20° C), 100 h  |   |  |  |   |  |   |               |
| <b>Flame Resistance</b>   |   |   |  |  |   | UL94V0<br>(self-extinguishing)   |   |               |
| <b>Vibration</b>  | IEC 68.2.6 [10 g, 10 to 2000 Hz, 3 axis, 2.5 h]                                   |   |  |  |   |  |   |               |
| <b>Shock</b>  | IEC 68.2.29 (40 g, 18 ms, 6 axis, 2000 times)                                     |   |  |  |   |  |   |               |
| <b>Impact</b>   |   |   | IEC 62262-IK06   |  | IEC 62262-IK06  |  | IEC 62262-IK06  |               |
| <b>Axial / Radial<br/>Force</b>   |   |   | 1000 N, 10 sec   |  |   | 500 N, 10 sec  |   | 100 N, 10 sec |
| <b>Pull Resistance</b>  | > 150 N   | > 10 N  | > 550 N  | > 65 N   | N/A   | > 10 N   | > 30 N  |               |
| <b>Tag Bending</b>  | N/A   |   | 5.9 in (150 mm)  |  | 5.9 in (150 mm)   |  | N/A   |               |
| <b>THERMAL</b>  |   |   |  |  |   |  |   |               |
| <b>Storage</b>  | -40° to +194° F (-40° to +90° C)  |   | -40° to +158° F (-40° to +70° C)   |  |   | On reel, Shelf life max.<br>1 year at 14° to 104° F<br>(-10° to +40° C)              | -40° to +158° F (-40° to +70° C)  |               |
| <b>Operating</b>  | -13° to +158° F<br>(-25° to +70° C)   | -40° to +185° F<br>(-40° to +85° C)   | -40° to +158° F (-40° to +70° C)   |  |   | -4° to +158° F<br>(-20° C to +70° C)   | -40° to +158° F (-40° to +70° C)  |               |
| <b>Shock / Fatigue</b>  | -40° to +194° F<br>(-40° to +90° C)<br>100 x 5 min<br>with 30 sec<br>transition   |   | -40° to +158° F (-40° to +70° C), 100 x 5 min with 30 sec transition                           |  |   | -40° to +158° F (-40° to +70° C),<br>100 x 5 min with 30 sec transition              |   |               |
| <b>OTHER</b>  |   |   |  |  |   |  |   |               |
| <b>Standards</b>  | ISO/IEC 14443A, NFC<br>Forum Type 4   | ISO/IEC 15693, 18000-3 Mode1,<br>NFC Forum Type 5                                 | UHF EPC Class 1 Gen 2, ISO 18000-6C  |  |   | ISO/IEC 14443A, NFC<br>Tag Type 2  | UHF EPC Class 1 Gen 2, ISO 18000-6C   |               |
| <b>Options</b>  | Printed Logo,<br>Encoding, Color  | Encoding, laser engraving, alternate colors                                       |  |  |   | Encoding, laser engraving, alternate colors  |   |               |
| <b>Box Size</b>   | 1,000 pcs   | 300 pcs   | 1,000 pcs.   | 1,500 pcs.   | 1,000 pcs   | 800 pcs  | 150 pcs   |               |
| <b>Warranty</b>   | 2 Years   |   |  |  |   |  |   |               |

