HID®

Seal Tag

RFID TAGS WITH INTEGRATED FASTNERS PREVENT TAMPERING WITH THE CONTENTS OF SEALED CONTAINERS

- **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 compatible devices incl. NFC
- 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, e.g. Airplane life vests, fire extinguishers, automated external defibrillators (AED)
- Returnable transport items
  - Reusable shipping vessels, cartons, bags, and canisters
- Waste management
  - Hazardous waste receptacles

HID Global® 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 vTamper 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 elastomer (TPE) 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 eTamper NFC transponder becomes operational when its wire loop is securely closed. 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 eTamper functionality: The antenna breaks when the coin is removed - ideal for "proof of presence" applications or payment schemes.

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

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

	Seal Tag						
	eTamper		**vTamper**				**edTamper**
	HF	**HF**	**HF**	**UHF**	**UHF**	**UHF Mini**	**UHF**
Base Model Number	7A1941-001	629960	729990-202	798990-202	7F2900	69899A-202	6E5961
ELECTRONIC							
Operating Frequency	13.56 MHz			860-960 MHz (Worldwide)			
Chip Type	MIFARE DESFire EV1	ICODE SLIx		Higgs 3	Higgs 4	Higgs 3	UCODE G2iM+
Memory	4.096 bytes application memory	1024 bit EEPROM		512 bit user memory + 96 bit EPC + 64 bit TID	128 bit user memory + 128 bit EPC + 64 bit TID	512 bit user memory + 96 bit EPC + 64 bit TID	112 bit user memory + 256 bit EPC + 96 bit TID
Anti-Collision	Yes						
Reading Distance 2 W reader ERP, free space	N/A			Up to 26 ft (8 m)	Up to 32.8 ft (10 m)	Up to 16.4 ft (5 m)	Up to 6.6 ft (2 m)
PHYSICAL							
Dimensions	1.5 × 1.5 × 0.3 in (39 × 39 × 8.5 mm)	Tag: 0.9 × 0.7 × 0.1 in (23 × 18 × 3 mm) Seal wire: 2.5 in (65 mm)	Tag: 3.3 × 1.0 × 0.1 in (85 × 25 × 3 mm) Cable tie: 15.0 × 0.3 × 0.1 in (380 × 6 × 2 mm)		Tag: 3.5 × 2.2 × 1.4 in (89 × 56 × 35 mm) Cable tie: 17.1 × 0.4 × 0.08 in (450 × 9 × 2 mm)	Tag: 2.4 × 0.5 × 0.08 in (60 × 12 × 2 mm) Cable tie: 7.8 × 0.1 × 0.05 in (200 × 2.5 × 1.2 mm)	Tag: 1.53 × 0.55 × 0.14 in (39 × 14 × 3.6 mm) Seal wire: 3.07 in (78 mm)
Mounting Method	Sticker	Integrated wire loop	Integrated cable tie				Integrated wire loop
Affixes To	Any material (hanging in free air)						
Housing Material	Polycarbonate		Tag: TPE / Cable tie: Nylon 6.6		Tag: High-impact plastic / Cable tie: Nylon 6.6	Tag: TPE / Cable tie: Nylon 6.6	PC/ABS
Color	Black	White	Tag: Yellow (Pantone 108) Cable tie: black		Black	Tag: White Cable tie: Black	White
Weight	0.18 oz (5.25 g)	0.04 oz (1 g)	0.42 oz (12 g)		2.33 oz (66 g)	0.08 oz (2.2 g)	0.07 oz (2 g)
CHEMICAL AND MECHANICAL RESISTANCE							
Water	IP65		IP68, 68° F (20° C), 6.6 ft (2 m) x 24 h				
Withstands Exposure To			Mineral oil, petroleum, salt mist, vegetable oil, HCL (10%), Bleach (5%); UV light				
Environmental Test Conditions		68° F (20° C), 100 h					
Flame Resistance							UL94V0 (self-extinguishing)
Vibration	IEC 68.2.6 [10 g, 10 to 2000 Hz, 3 axis, 2.5 h]						
Shock	IEC 68.2.29 (40 g, 18 ms, 6 axis, 2000 times)						
Impact			IEC 62262-IK06		IEC 62262-IK08	IEC 62262-IK06	
Axial / Radial Force			1000 N, 10 sec				500 N, 10 sec
Pull Resistance	> 150 N	> 10 N	> 550 N		> 780 N	> 65 N	> 10 N
Tag Bending	N/A		5.9 in (150 mm)			5.9 in (150 mm)	N/A
THERMAL							
Storage	-40° to +194° F (-40° to +90° C)		-40° to +158° F (-40° to +70° C)				
Operating	-40° to +194° F (-40° to +90° C)	-40° to +185° F (-40° to +85° C)	-40° to +158° F (-40° to +70° C)				
Shock / Fatigue		-40° to +194° F (-40° to +90° C) 100 x 5 min with 30 sec transition	-40° to +158° F (-40° to +70° C) , 100 x 5 min with 30 sec transition				
OTHER							
Standards	ISO/IEC 14443A, NFC Forum Type 4	ISO/IEC 15693, 18000-3 Mode 1, NFC Forum Type 5		UHF EPC Class 1 Gen 2, ISO 18000-6C			
Options	Printed Logo, Encoding, Trusted Tag, Color	Encoding, laser engraving, alternate colors					
Box Size	1,000 pcs	300 pcs	1,000 pcs.		100 pcs	1,500 pcs.	800 pcs
Warranty	2 Years						

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