Powering the trusted identities of the world’s people, places & things

Tamper Evident RFID – Tags for security critical Applications
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About HID Global

- Privately held company and an ASSA ABLOY Group brand
- Headquartered in Austin, TX
- 3,300+ employees worldwide
- International offices that support 100+ countries
- Production facilities in U.S., South America, Asia and Europe
- Primary brands include ActivID®, OMNIKEY®, EasyLobby®, FARGO®, IdenTrust®, LaserCard®, Lumidigm®, Quantum Secure®, Arjo Systems®, Bluvision®
- Serves a variety of markets: PACS (physical access control), LACS (strong authentication / credential management, card personalization, visitor management), Government ID, Bluetooth Low-Energy (BLE) and (RAIN®) RFID identification technologies for a range of industrial applications
Pick the right Tag for your Application

When do I need Security?

Logical Security

Physical Security
Logical Security (Cryptography)

- Common use cases
  - Access Control
  - Contactless Payment
  - Brand Protection
    (finished goods or consumables)

- Different security levels and complexity
  - Password
  - Symmetric Key(s)
  - Public/private asymmetric keys
  - PKI certificates ...

Graphic by NXP Semiconductors
Physical Security: Tamper Evident vs. Tamper Proof

Tamper Evident
- Piggy bank with a hammer indicating tampering.

Tamper Proof
- Vault with a person trying to break it open, showing strength in security.

Tamper Respondent
- Hand holding a bottle with a tamper-evident seal, indicating response to tampering.
Passive Tag Examples
SlimFlex™ Seal Tag vTamper

Includes a built-in cable tie for fast retrofit and visually tamper evident application.

- Standard SlimFlex Seal Tag HF and UHF
- Mini SlimFlex Seal Tag UHF
- Large Seal Tag Black UHF

Seal Tag vTamper

HF Chip: ICODE SLiX2
UHF Chip: Higgs 3/4,
Read range up to: 8m (26 ft)
Sealing Bags of Ore

- Seal Tag vTamper used to tag bags of Ore helping optimization and logistics
- Proves that bag has not been opened between mine site and refinery
Advanced Seal - electrical Tamper

**Electrical tamper Tag:** Stops functioning when tampered
Good when verifying individual items

**Seal Tag eTamper Evident HF/NFC ICODE SLiX**
- App: NFC eTamper seal for cabinet, fire extinguisher, maintenance

**eTamper Sticker / Coin MIFARE DESFire EV1 / HID Trusted Tag**
- App: NFC Parking payment, Commercial Refueling, ...

- size 18 x 23 x 3.5 mm
- HF Chip: ICODE SLiX

- size Diam 39 x 7 mm
- HF Chip: DESFire, TTS

Seal Tag eTamper
Advanced Seal- electrical detection

**Seal Tag edTamper Evident UHF UCODE G2iM+**

- Electrical detection: Tag provides alarm info when tampered
- Check integrity of Seal for life jacket. Crew can walk along the aisle once with an RFID reader and if a seal is broken or missing, the software can pinpoint the seat

Other applications: cabinet, evidence/equipment handling for police

Size 39 x 14 x 2.6 mm

Seal Tag edTamper
Seal Tag edTamper Padlock

- One-time use Padlock type passive tag
- To close industrial containers or similar compartments
- Splash water resistant
- Designed for outdoor use
- Provides different status when lock has been opened

Size 60 x 30 x 111 mm
Chip: UCODE G2IM+
Active Tag Examples
Active Theft Detection

- BEEKs™ tamper evident BLE beacon
- Item with beacon moved out of allowed zone (RTLS) → Alert
- Beacon removed → Alert
- Beacon destroyed → Alert
- Optional combination with temperature and/or vibration sensors for condition monitoring
- Remote management via Bluzone™ Cloud and BluFi™ gateways
Enabling powerful Solutions

- The combination of BEEKs™ BLE beacons, BluFi™ gateways and Bluzone Cloud™ services enables centrally managed professional IoT applications
- Real-Time Location (RTLS) and zone based location for workplace optimization and theft detection
Example of combining Physical and Logical Security
Proof of Presence

HID Global Trusted Tag™ Services
Secure Electronic Visit Verification

1. Provide Authentication
   For both home visits and
   visits to healthcare
   facilities and
   institutions

2. Visit Documentation
   sent via text or email
   with signature
   verification

3. Simple Proof of Presence
   MID and Full
   documentation
   support of
   presence

4. Patient documentation & care provider
   confirmation of visit details

Electronic Visit Verification
(e.g. Home Healthcare)

Guard Tours

Maintenance and Compliance Inspections
Building High-Rise: Fire & Safety Implementation

Key Building Challenges

1. Compliance with building, federal and local safety inspection regulations
2. Thousands of industrial equipment parts, on paper labels
3. Improve traceability of maintenance logs
4. Antiquated maintenance scheduling
Industrial Sprinkler Equipment Systems

Mission:  
*Simplify and streamline maintenance & inspection process for industrial sprinkler equipment*

**Deployment Technical Requirements:**

1. Easy **integration** into various sprinkler equipment and **CMMS** software applications
2. Must be **mobile** environment for field workers
3. Digital “proof of **compliance**” and reporting for regulatory mandates
4. **Authenticate** the technician to the specific equipment that is being serviced
5. Tag application must be **flexible**, and **robust** to affix to the various equipment & conditions
The Solution: Trusted Automated Maintenance & Inspection

Facilitates a secure, efficient transaction when technician taps their smartphone on the tagged sprinkler system.
- **RFID** is a great way to **wirelessly identify** / authenticate objects.
- For certain applications it is essential to ensure tags are not cloned and remain with the item to identify.
- **Logical Security** (cryptography) prevents against tag cloning, eavesdropping, man-in-the middle etc. and enables applications like access control, payment and authentication.
- **Physical security** can be achieved with different approaches (vTamper, eTamper, edTamper) – mostly for tamper evidence purposes due to cost/benefit requirements.
- Combining both approaches leads to powerful solutions like „Proof of Presence“ across technologies.
HID
Powering
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hidglobal.com/rfid