



COMPACT UHF RFID TAGS THAT ENABLE TRACKING OF METAL ASSETS IN HARSH ENVIRONMENTS

- **Extreme durability** – waterproof, and resistant to chemicals, vibration, shock and temperature fluctuations
- **Exceptional size-to-performance ratio** – reliably read-write when mounted on metal objects from up to 13 ft (4 m)
- **Advanced technology** – UHF permits anti-collision capability and fast data rate communication

IronTag® UHF transponders deliver exceptional performance on metal surfaces, and they are built to withstand vibration, shock, chemical exposure and fluctuating temperatures. The transponders enable radio frequency identification (RFID) tagging of metal equipment and components that are subject to severe conditions.

Originally designed for tracking aircraft parts, IronTag devices tolerate the harsh conditions of manufacturing and processing as well as vehicle and equipment operation. They handle temperatures from -40° F (-40° C) to 428° F (220° C), are waterproof, resist high-pressure/high-temperature washing and withstand exposure to fuels, oils, salt water and ultraviolet light. They are resistant to pressure (>10 bars), vibration and steady flame for short periods.

Compact and powerful, these tags offer robust performance with read ranges of up to 13 ft

(4 m). The 512-bit user memory and 96-bit EPC number are configurable to accommodate longer EPC codes. In addition, the tags offer anti-collision functionality, fast data rate communication, and optional password protection for added security.

The durable IronTag RFID tags mount to any metal surface with industrial glues or optional high-temperature stickers, making them ideal for logistics applications that track metal components through assembly, operation, maintenance and repair.

The patent-pending design meets or exceeds standards for the most demanding industries, including aircraft manufacturing and fleet management. It is also the ideal tag for metallic asset tracking applications where a small form factor and durability are vital.

TECHNOLOGY HIGHLIGHTS:

- 869 or 915 MHz
- 512 bit read-write memory, 96 bit EPC
- Reliable performance on metal surfaces
- Waterproof (high pressure, high temperature washing); chemical, UV and flame resistant
- Thermal protection from -40° F (-40° C) to 428° F (220° C)
- Standards compliant

APPLICATION AREAS:

- **Asset tracking and logistics**
 - Equipment
 - Fleet management
 - Machinery
 - Metal tools
- **Automation and manufacturing**
 - Assembly line management
 - Aircraft parts tracking
 - Industrial component tracking



HID Global can create a custom tag solution to fit your application requirements for chip type, dimensions, programming and materials.

SPECIFICATIONS

Iron Tag®	
176	
Base Model Number	698901-001 (EU) 698902-001 (US)
ELECTRONIC	
Operating Frequency	869 MHz 915 MHz
Chip Type	Higgs 3
Memory	512 bit user memory, 96 bit EPC, 64 bit TID
Anti-Collision	Yes
Reading Distance (2W reader ERP, free space)	Up to 13.1 ft (4 m), on-metal
PHYSICAL	
Dimensions	21 x 0.9 x 0.27 in (53 x 23 x 7 mm)
Mounting Method	Glue, optional sticker
Affixes To	Metal surfaces
Housing Material	PPA, Polyphthalamide, (ISO PA6T/6I)
Color	Black
Weight	0.52 oz (14.7 g)
CHEMICAL AND MECHANICAL	
Water	IP69K, 176° F (80° C), 100 bar, 30 sek. 16 l/min
Withstands Exposure To	Fuel B, mineral oil, petroleum, salt mist, vegetable oil; UV (ISO 4892-2)
Environmental Test Conditions	68° F (20° C), 100 h
Flame resistance	UL 94 HB
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]
Axial / Radial Force	800 N / 500 N, 10 sec
THERMAL	
Storage	-40° to +194° F (-40° to +90° C), 1000 h
Operating	-40° to +185° F (-40° to +85° C)
Shock/Fatigue	-40° to +194° F (-40° to +90° C), 100 x 5 min with 30 sec transition
Peak	356° F (180° C) 400 h, 392° F (200° C) 6 h, 428° F (220° C) 1 h
OTHER	
Standards	UHF EPC Class 1 Gen 2; ISO 18000-6C; DIN 40050-9; compatible with ATA Spec 2000 and SAE AS5678 specifications
Options	Tag without high temperature sticker (remove -001 from P/N)
Warranty	2 Years

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 2012-07-23-hid-rfid-il-iron-tag-ds-en