HID®

IronTag®

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

- **Extreme durability** – waterproof, and resistant to flame, 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.

Designed for tracking aircraft parts, IronTag devices tolerate the harsh conditions of vehicle and equipment manufacturing, processing and 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 (<100 bar), vibration and steady flame for short periods. IronTag 206 units deliver the highest flame resistance rating available.

Compact and powerful, these tags offer robust performance with read ranges of up to 13 ft (4 m), and large user memory capacities up to 8192 bits.

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 smaller, lighter-weight IronTag 206 device features flanges on two sides and pre-drilled holes, enabling additional secure fixation options via clamps or screws. Also available in a fully flat 206F version.

Patent-pending designs meet standards for the most demanding industries, including aircraft manufacturing and fleet management. They are ideal for metallic asset tracking applications where a small form factor and durability are vital.
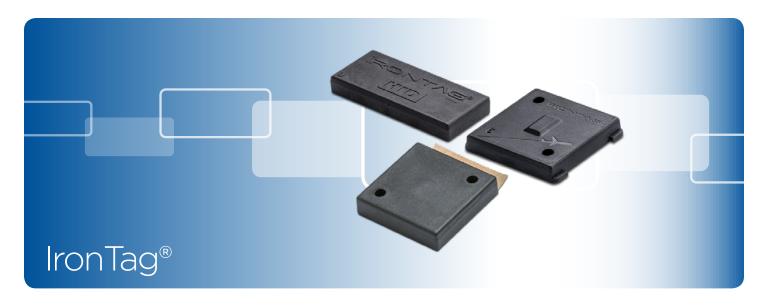
TECHNOLOGY HIGHLIGHTS:

- 869 or 915 MHz
- Up to 8192 bit read-write memory, 128 bit EPC
- Reliable performance on metal surfaces
- Waterproof even under high pressure or high temperature; 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

SPECIFICATIONS

	Iron Tag*				
	176		**206**		**206F**
Base Model Number	698901	698902	6D2903 (2 kbits) 6D3903 (8 kbits)	6D2904 (2 kbits) 6D3904 (8 kbits)	6D2905 (2 kbits) 6D3905 (8 kbits)
ELECTRONIC					
Operating Frequency	869 MHz (EU)	915 MHz (US)	869 MHz (EU)	915 MHz (US)	860-960 MHz (Worldwide)
Chip Type	Higgs 3		Monza X		
User Memory	512 bit		2176 bit or 8192 bit	2176 bit or 8192 bit	2176 bit or 8192 bit
Memory	96 bit EPC, 64 bit TID		128 bit EPC, 96 bit TID		
Anti-Collision	Yes				
Reading Distance (2W reader ERP, free space)	Up to 13.1 ft (4 m), on-metal		Up to 8.2 ft (2.5 m), on-metal		Up to 6.6 ft (2 m), on-metal
PHYSICAL					
Dimensions	2.1 x 0.9 x 0.27 in (53 x 23 x 7 mm)		1.32 x 1.22 x 0.24 in (33.7 x 31.1 x 6.1 mm)		1.22 x 1.22 x 0.24 in (31 x 31 x 6.9 mm)
Mounting Method	Glue, optional sticker		Clamp, glue, screw; optional sticker		
Screw Fixation Hole	n/a		Ø 0.13 in (3.3 mm)		
Affixes To	Metal surfaces				
Housing Material	PPA, Polyphthalamide, (ISO PA6T/6I)		PPS, Polyphenylene Sulfide		
Color	Black				
Weight	0.52 oz (14.7 g)		0.35 oz (9.9 g)		0.03 oz (13 g)
CHEMICAL AND MECHANICAL					
Water	IP68, 68° F (20° C), 3.3 ft (1 m) × 24 h; IP69K (100 bar at 80°C, 30 sek., 16 l/min)		IP67, 68° F (20° C), 3.3 ft (1 m) × 1 h		IP68, 68° F (20° C), 3.3 ft (1 m) × 24 h; IP69K (100 bar at 80°C, 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, food compatible		UL 94 V0		
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-IK07		IEC 62262-IK06		
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		-67° to +302° F (-55° to +150° C), 500 x 5 min with 30 sec transition		-67° to + 212° F (-55° to +100° C), 200 x 5 min with 30 sec transition
Peak (one time)	356° F (180° C) 400 h		302° F (150° C) 1000h, 356° F (180° C) 400 h, 392° F (200° C) 24 h, 428° F (220° C) 10 h		212° F (100° C) 1000 h
OTHER					
Standards	UHF EPC Class 1 Gen 2; ISO/IEC 18000-6C; GS1 EPC TDS 1.6; ATA Spec 2000; SAE AS5678; DIN 40050-9				
Box Size	250 pcs				
Options	High bond, high temperature adhesive (add "-001" after part number); alternate embossed logo				
Warranty	2 Years				

CE | RAIN RFID

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