



HEAVY DUTY RFID TAG

FLEX TAG

APPLICATIONS

- High Value Metal Applications
- Aerospace Applications
- Military Applications
- Chemical Areas

FEATURES

- Passive RFID UHF Tag
- Up to 4 m Reading Range
- Polyolefin Thermoplastic
- IP69K Protection Class
- ATEX Compliant

RFID OPTIONS

- EPC Global Class1 Gen2; ISO 18000-6C
- ISO 17665
- ISO 11135

PRODUCT DESCRIPTION

The Flex Tag from iDTRONIC provides automatic identification and tracking capabilities in a unique flexible design. It was developed for embedding into items. It is compliant to the EU directives on explosion protection with ATEX. It covers equipment and protective systems intended for use in explosion-hazard atmospheres.

The Tag consists of Polyolefin thermoplastic and is particularly resistant against most acids, solvents and bases. It was designed for high temperatures from - 50 °C up to + 200 °C. Thanks to the IP69K Protection Class it has an excellent resistance against UV and continuous sea water immersion.

The RFID UHF Tag works in UHF Frequencies of EU: 865 – 869 MHz and US: 902 – 928 MHz and has a reading range of up to 4 meters. The supported Standards are EPC Global Class1 Gen2; ISO 18000-6C, ISO 17665 and ISO 11135. It is also US Patented # 7,928,922.

The Flex Tag can be embedded into mold- or assembly-processes, and can be attached by clips, bands or adhesive to concrete, industrial garments, molded thermoplastics, compression and injection molding, high value items, aerospace applications, military applications, etc.

TECHNICAL DATA

* *READING DISTANCE DEPENDS ON TAG TYPE AND ORIENTATION.*

ELECTRICAL SPECIFICATIONS	
Operating Frequencies	UHF (EU: 865 – 869 MHz US: 902 – 928 MHz)
Interface Protocol	EPC Global Class1Gen2 ISO/IEC 18000-6C
Operating Mode	Passive
Reading Range	Real-world: 4.9 meters air* Lab environment: 4.3 meters rubber*
IC Types	<u>Standard:</u> Alien Higgs 3™ (128 Bytes) <u>Optional:</u> EM, Fujitsu, Impinj, NXP (Up to 240 Bytes)
Memory Content	Unique 96-bit number encoded
Extended Memory	512 Bytes
TID	Factory-programmed, non-changeable, unique 64-bit ID

ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature	- 50 °C to + 200 °C
Temperature Cycling Test	200 °C continuous, for 30 days
Protection Class	IP 69K
Weather Resistance	Excellent, incl. UV-resistance and continuous sea water immersion
Pressure Resistance	30,000 psi for 30 days
Chemical Resistance	<u>No physical or performance changes in:</u> - Salt water - NaOH - Sulfuric acid - Motor oil
	<u>Generally good against:</u> - Most solvents - Most acids and bases

MECHANICAL SPECIFICATIONS	
Dimensions	Length: 143 mm Diameter: ø 4 mm <small>NOTE: The wire diameter in the center 25 mm chip-area is 4 mm</small>
Weight	5 g
Housing Material	Polyolefin Thermoplastic (2.500 psi minimum)
Housing Colour	Black
Applicable Surfaces	Concrete, industrial garments, molded thermoplastics, compression and injection molding, high value items, aerospace applications, military applications, etc.
Mounting Options	Embedding into mold- or assembly-processes, and can be attached by clips, bands or adhesive

APPLICABLE STANDARDS	
ISO 18000-6C	E.g.: Alien Higgs 2/3/4, Fujitsu Impinj Monza, NXP UCODE, etc.
ISO 17665	Sterilization of Health Care Products – Moist Steam
ISO 11135	Sterilization of Health Care Products – Ethylene Oxide
RoHS 2	2011/65/EU
US Patent Number	7,928,922
ATEX Compliant	

PERSONALIZATION OPTIONS
• Tag Pre-Encoding

APPLICATION EXAMPLES

CHEMICAL AREAS



The Flex Tag of iDTRONIC is especially suitable for harsh environments at chemical areas with high temperatures.

The robust housing of the Tag is very resistant to chemicals like salt water, NaOH, sulfuric acid, motor oil and most solvents, acids and bases.

It can be securely embedded into concrete, industrial garments, molded thermoplastics, compression and injection molding, high value items, molds, etc.

MILITARY AREAS



The Flex Tag can be used for military purposes within harsh environments under high pressures.

The RFID Tag is particularly resistant to the most common chemicals. The identification of pipes with metallic surfaces can be secured with this flexible Tag. High pressures within bomb-hazards withstands the tag till 30,000 psi.

It can be securely embedded into concrete, industrial garments, molded thermoplastics, compression and injection molding, high value items, molds, etc.

INSTALLATION INSTRUCTIONS

- Embed the tag into: Concrete, industrial garments, molded thermoplastics, compression and injection molding, high value items
- Epoxy the tag onto the surface using Adhesive Paint, Clips or Bands

MECHANICAL VIEWS



ORDER CODES

VERSION	ORDER CODE
Alien Higgs 3™ (128 Bytes)	ST-UHF-TR-CC-102-ALIEN
EM (Up to 240 Bytes)	ST-UHF-TR-CC-102-EM
Fujitsu (Up to 240 Bytes)	ST-UHF-TR-CC-102-FU
Impinj (Up to 240 Bytes)	ST-UHF-TR-CC-102-IM
NXP (Up to 240 Bytes)	ST-UHF-TR-CC-102-NXP
Extended Memory: 512 Bytes	ST-UHF-TR-CC-102-EXM

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