iDTRONIC
PROFESSIONAL RFID

MAGNETIC TAG

MICRO TAG

HEAVY DUTY RFID TAGS
MICRO TAGS

APPLICATIONS

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

FEATURES

- Passive RFID UHF Tags
- Up to 2 m Reading Range
- Tag consists of Resin
- IP68K Protection Class
- ATEX Compliant

RFID OPTIONS

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

PRODUCT DESCRIPTION

The Micro Tags from iDTRONIC are exclusively designed for harsh environments. The tiny housings are especially suitable for embedding applications with narrow space. They are compliant to the EU directives on explosion protection with ATEX. It covers equipment and protective systems intended for use in explosion-hazard atmospheres.

The tags are available as an normal embeddable version (Micro) or as a magnetic-based version (Magnetic). Both consist of resin and are resistant against most acids, solvents and bases. They are also protected against salt water, NaOH, sulfuric acid and motor oil. Both versions are designed for high temperatures from - 50 °C up to + 150 °C. Thanks to the IP68K Protection Class they have an excellent resistance against UV and continuous sea water immersion.

The RFID UHF Tags work in UHF Frequencies of EU: 865 – 869 MHz and US: 902 – 928 MHz and have a reading range of up to 2 meters. The supported Standards are EPC Global Class1 Gen2; ISO 18000-6C, ISO 17665 and ISO 11135. They are also US Patented # 9,122,967.

Both versions can be epoxed to the surface, or drilling a hole into the material and placing it into the hole on metal returnable containers, metal canisters, metal pallets or high value metal items. The magnetic-based tag can also be mounted to any metallic surface by either using the magnet base to hold it to the surface.

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: 1 – 2 meters*
IC Types	Standard: Alien Higgs 3™ (128 Bytes) Optional: 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

MECHANICAL SPECIFICATIONS

	MAGNETIC TAG	MICRO TAG
Dimensions	Height: 7 mm Diameter: ø 12 mm	Height: 5 mm Diameter: ø 12 mm
Weight	0.5 g	3 g
Housing Material	Resin (2.500 psi minimum)	
Housing Colour	Black	
Applicable Surfaces	Metal pipes, valves, hoist, chains, slings, metal returnable containers, metal canisters, metal pallets, high value metal items, aerospace applications, military applications, road surfaces of all types, wood, fiberglass, composites, compression, injection and cast molds, and their associated processes material (cloth, canvas, synthetics, etc.)	
Mounting Options	• Embedding • Magnetic Base	Embedding

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	- 50 °C to + 150 °C
Temperature Cycling Test	+ 150 °C continuous for 30 days
Protection Class	IP 68K
Weather Resistance	Excellent, including UV-resistance and sea water immersion
Pressure Resistance	30,000 psi for 30 days
Chemical Resistance	No physical or performance changes in: - Salt water - NaOH - Sulfuric acid - Motor oil Generally good against: - Most solvents - Most acids and bases

APPLICABLE STANDARDS

ISO 18000-6C	E.g.: Alien Higgs 2/3/4, Fujitsu Impinj Monza, NXP UCODE, EM4325 etc.
ISO 17665	Sterilization of Health Care Products • Moist Steam
ISO 11135	Sterilization of Health Care Products • Ethylene Oxide
RoHS 2	2011/65/EU
ATEX Compliant	

PERSONALIZATION OPTIONS

- Tag Pre-Encoding

APPLICATION EXAMPLES

CHEMICAL AREAS

The Magnetic Tag of iDTRONIC is especially suitable for harsh environments at chemical areas.

The robust housing of the Magnetic Tag is very resistant to chemicals like salt water, NaOH, sulfuric acid or motor oil.

The plastic-molded, magnetic-based tag is designed to be mounted to any metallic surface by either using the magnet base to hold it to the surface, or drilling a hole into the material and placing it into the hole.

MILITARY AREAS

The Micro Tag can be used for military purposes within harsh environments.

The RFID Tag is particularly resistant to the most common chemicals. The identification of containers with metallic surfaces can be secured with this RFID UHF tag by embedding into a pre-drilled hole.

This ensures the correct allocation and use of chemicals or of military equipment.

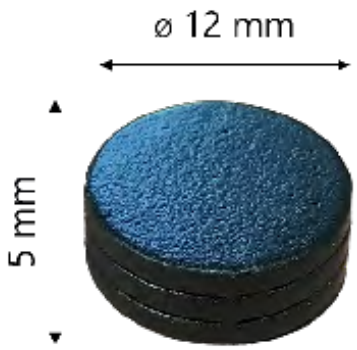
INSTALLATION INSTRUCTIONS

MAGNETIC TAG	MICRO TAG
Using the magnetic base: Place the tag onto any metallic surface. (NOTE: Be aware that the tag can be "brushed off" the surface with a strong enough force). Embedding: Drill an appropriately sized hole, place the tag into the hole using either the magnetic base to hold it, a "swedge-fit", or an appropriate epoxy to retain the tag in the hole.	Using epoxy: Prepare the surface and mount the tag. Embedding: Drill an appropriately sized hole, place the tag into the hole using a "swedge-fit", or an appropriate epoxy to retain the tag in the hole.

MECHANICAL VIEWS

MAGNETIC TAG

MICRO TAG



ORDER CODES

	ORDER CODE	
VERSION	**MAGNETIC TAG**	**MICRO TAG**
Alien Higgs 3™ (128 Bytes)	ST-UHF-TR-FX-1-ALIEN	ST-UHF-TR-FX-2-ALIEN
EM (Up to 240 Bytes)	ST-UHF-TR-FX-1-EM	ST-UHF-TR-FX-2-EM
Fujitsu (Up to 240 Bytes)	ST-UHF-TR-FX-1-FU	ST-UHF-TR-FX-2-FU
Impinj (Up to 240 Bytes)	ST-UHF-TR-FX-1-IM	ST-UHF-TR-FX-2-IM
NXP (Up to 240 Bytes)	ST-UHF-TR-FX-1-NXP	ST-UHF-TR-FX-2-NXP
Extended Memory: 512 Bytes	ST-UHF-TR-FX-1-EXM	ST-UHF-TR-FX-2-EXM

iDTRONIC GmbH
Donnersbergweg 1
67059 Ludwigshafen
GERMANY

Phone +49 (0) 621 66 90 09 4-0
Fax +49 (0) 621 66 90 09 4-9
E-Mail: info@idtronic-rfid.com
Web: idtronic-rfid.com

For further information & prices, please contact info@idtronic-rfid.com