Soft Ferrites

Ferroxtag RFID transponders

MFP235

For more information on Product Status Definitions, see page 3.

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FERROXTAG

Smart on metal, Smart on liquid, Smart at speed

Ferroxtag is a new family of RFID (Radio Frequency IDentification) tags suitable for operation attached to metallic items, such as totes, barrels, gas cylinders and industrial equipment. Operation frequency is 13.56 MHz. Ferroxtag's key feature is the direction of the field activating the device : it is not perpendicular to the identified item but parallel to it ; this means that the performance is almost independent of the material of the item identified. There's no need to worry about electromagnetic reflection on metals.
The Ferroxtag core is an outstanding high magnetic permeability ferrite material that enhances the performance of the winding, thus reducing the dimensions of the coil. There are 3 versions of the tag :
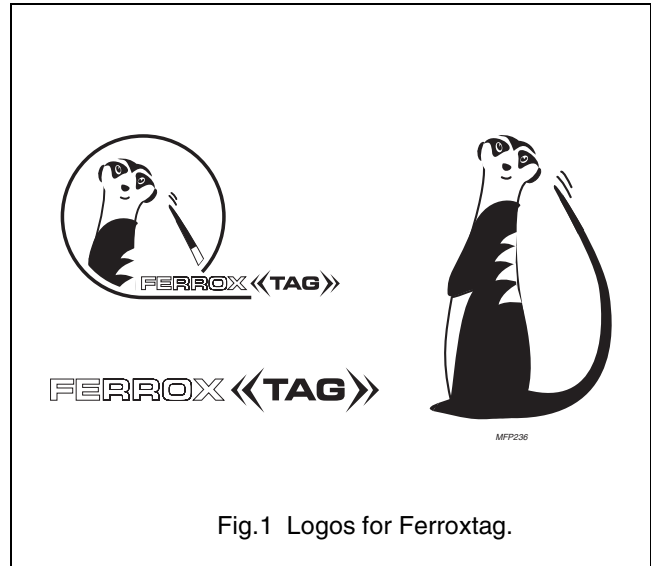screw box, circuit mount and L-shape.

Applications

- Asset tracking
- Food traceability
- Process control
- Personal identification
- Counterfeiting prevention
- Luggage tracking
- Animal identification

More information on RFID and Ferroxtag, including news :
www.ferroxtag.com

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Fig.1 Logos for Ferroxtag.

PRODUCT DESCRIPTION

General

SCREW BOX	CIRCUIT MOUNT	L-SHAPE
a High Frequency (13.56 MHz) RFID tag optimized for identification of metallic items. Supports ISO15693 and ISO18000-3 air interface.		
It can be screwed to the item and/or stuck on it with the bottom side adhesive tape. The reading range is 30 cm on metal. Overall dimensions are 25 x 12.5 x 5 mm, including the holes for screws.	It can be soldered on a PCB like any SMD component. The reading range is 30 cm on metal. Overall dimensions are 15 x 8 x 2.5 mm.	An ID number bar code is printed on the encapsulation. This allows fast automatic reading through RFID technology and reading with a standard bar code reader. The reading range is 35 cm. The encapsulation protects the device while it eases the mounting on the corner of the item by means of the adhesive sticker supplied in the back.

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PRODUCT DESCRIPTION (Continued)

Mechanical properties

SCREW BOX	CIRCUIT MOUNT	L-SHAPE
Operating temperature –25...130 °C **Dimensions** 25 x 12.5 x 5 mm **Weight** 2.5 grams **Case material** Polyamide 66 UL94-V0 compliant sealed with epoxy resin **Degree of protection** IP68 **Colors** Black, blue, brown, beige **Connection to items** Screws, glue, double sided adhesive tape	**Operating temperature** –25...130 °C **Dimensions** 15 x 8 x 2.5 mm **Weight** 2.5 grams **Connection to PCB** Soldering as SMD component	**Operating temperature** –25...60 °C **Dimensions** 42 x 20 x 12 mm **Weight** 3.5 grams **Case material** ABS **Degree of protection** IP68 **Colors** Black, others upon request **Connection to items** Glued or stuck
Ferroxtag mechanical properties make this product ideal for metal container and metallic items identification. The encapsulation protects the device against impacts and harsh environments, making it suitable for industrial applications.	Ferroxtag mechanical properties make this product ideal for electronics identification. The tag can be soldered anywhere on a PCB.	Ferroxtag mechanical properties make this product ideal for identification in the vicinity of metallic items. The encapsulation protects and eases the installation in a wide range of boxes and assets.

Functional properties

SCREW BOX	CIRCUIT MOUNT	L-SHAPE
Operating frequency 13.56 MHz (ISM, licence free) **Air interface** ISO 15693, ISO 18000-3 Readable and writable with most common HF readers **Unique identifier** 8 bytes **EEPROM memory** 1024 bits, 32 blocks of 4 bytes **Anticollision support** Yes **Data transfer** Up to 53 kbits/sec		
Reading range On metal 30 cm (typical for 4 watts reader)		**Reading range** 35 cm (typical for 4 watts reader) **Bar code printing** Thermally printed on 12 x 24 mm sticker **Bar code ID** Last 4 bytes of the tag ID (8 hex characters)
The outstanding reading range in such a small package combined with the ability to work around metals makes Ferroxtag an ideal alternative for both low and high frequency tags.		Thanks to the double identification (RFID and bar code) it possible to identify the item in the field with a hand held bar code reader.

Product types

SHAPE	SEALING	COLOUR	PRETUNING	BAR CODE	PACKING
Screw box	silicone	black	none	none	bulk
		brown	metal plate		
	epoxy	blue	none		
		white	metal plate		
L-shape	ABS	black	none	none	
				sticker	
Circuit mount	none	not applicable	none	none	blister tape
			metal plate		