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1. PRODUCT DESCRIPTION

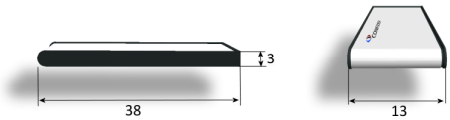
Confidex SteelBYTE is designed for high memory IT asset tracking applications by equipping it with Alien Higgs3 IC. In addition to 96 bit EPC, the SteelBYTE has 512 bits user memory and a unique tag identifier number. Like Confidex SteelBIT, SteelBYTE design is based on FSTC (Financial Services Technical Consortium) RFID tagging requirements. SteelBYTE accompanies pre-encoded EPC code in its memory and a data label showing the EPC code in both numbers and in 2D data matrix. SteelBYTE has been designed especially for the RFID IT asset management market in the USA, so it is available in FCC (902-928MHz) version.

1.1 SPECIFICATION DATA

Device type	Class 1 Generation 2 passive UHF RFID transponder
Air interface protocol	EPCGlobal Class1 Gen2 ISO 18000-6C
Operational frequency	902-928MHz (US)
IC options	Alien Higgs 3
EPC memory	96 bit
EPC memory content	Customer specific hexadecimal code
Extended memory	512 bit
Read range	4 m / 13 ft, reader power 2W ERP (dependent on application)
Applicable surface materials	Metal and plastic
Encapsulation material	White synthetic material
Background adhesive	High performance acrylic adhesive
Weight	2 g
Delivery format	Single
Amount in box	1500pcs
Product is RoHS compliant	

1.2 DIMENSIONS

General dimensions (Width x Height x Thickness)	38 x 13 x 3 mm / 1.5 x 0.5 x 0.12 in

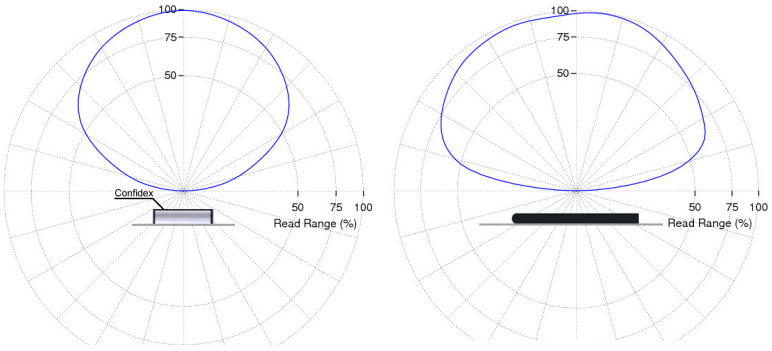


1.3 ELECTRICAL PERFORMANCE

Read range on metal (2W ERP)	4 m / 13ft

1.4 RADIATION PATTERNS

Estimated radiation pattern when tag orientation towards reader antenna is optimized.



Vertical Horizontal

1.5 RESISTANCE AGAINST ENVIRONMENTAL CONDITIONS*

Typically values are valid for all tag versions. If not, applicable IC versions are marked

Operating temperature	-20°C to +85°C / -4°F to +185°F
Ambient temperature	-20°C to +85°C /-4°F to +185°F
IP classification	IP67: - Complete protection against dust - Protection against temporary immersion in water
Chemical resistance	No physical or performance changes in: - 2 hour Salt water exposure (salinity 10%) - 2 hour Motor oil exposure Additionally, short time exposure resistant against sulfuric acid. Acetone and sodium hydroxide should be avoided.
Expected lifetime	Years in normal operating conditions

** Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Confidex for more specific information.*

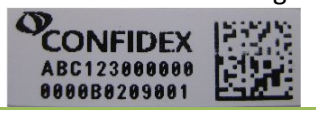
1.6 SUPPORTING COMPONENTS

3M background adhesive

Purpose	High performance adhesive for attaching SteelBYTE on metal surfaces.
Advantages	Quick and simple attachment method without additional tools
Size	Die-cut according to the tag shape
Type	3M High performance acrylic adhesive
Delivery format	Attached to the tag
	Delivered by default on the SteelBYTE background

1.7 SUPPORTED SERVICES

Confidex SteelBYTE is delivered with the following customer specific personalization by default:

Pre-encoding	24 hexadecimal customer specific EPC code is programmed to IC EPC memory bank. Customer provides the hexadecimal list in .csv or in excel format during ordering.
Data label	White adhesive 35mm x 11mm data label with black printing is added on top of the tag. Label layout contains: • 2D data matrix representing the 24 hexadecimal character in the tag's EPC code • EPC code in human readable format • Confidex logo 

1.8 POSSIBLE APPLICATIONS

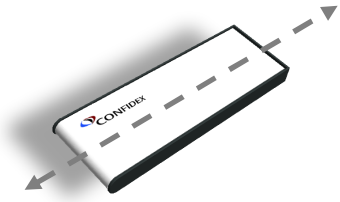
IT assets	Blade and rack servers, RAM cards, laptops and desktops and other IT assets.

2 INSTALLATION INSTRUCTIONS

2.1 TAG PLACEMENT

SteelBYTE polarization is aligned with the longest dimension of the tag.

Tag design is optimized for on-metal use: **In order to achieve the optimum performance SteelBYTE must be placed on metal surface** without covering its front side. When selecting the location on metal surface, ensure the following:

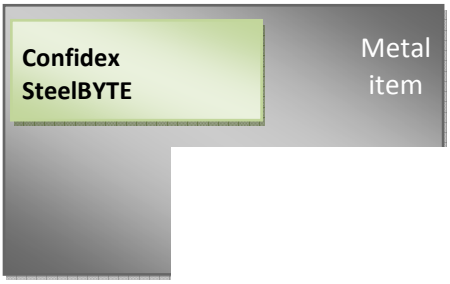


- Select an even surface so that there is direct metal contact underneath the whole tag.
- The metal background should be preferably as large as possible and tag should be placed in the middle of the surface.
- If surface is small, install the tag in such way that **most free metal area is left on the tag's right side.**

Example:

In the two pictures below an unsymmetrical metal item is shown which has basically two options for placing the tag. **Left picture shows better and recommended placement for SteelBYTE; free metal area is left on the right side of the tag** which will enhance tag's RF performance. Other shown placement is not recommended if maximum tag performance should be reached.

Recommended:



Not recommended:

2.2 TAG FIXING METHODS

Adhesive fixing

- 3M acrylic adhesive

Procedure: When mounting the tag with its adhesive background, clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F), bond strength can be improved with firm application pressure and moderate heating from +38°C to +54°C (+100°F to +130°F). Application at temperatures below 10°C (50°F) is not recommended.

3 ORDER INFORMATION

Product number	Product name
3000181	SteelBYTE FCC Higgs3

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