

PRODUCT DATASHEET

Confidex SteelBIT



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1. PRODUCT DESCRIPTION

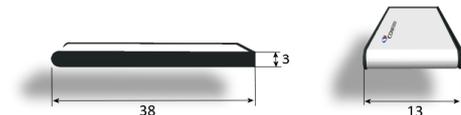
Confidex SteelBIT is a miniature UHF on-metal tag with unparalleled performance for its size. SteelBIT's design is based on the RFID tagging requirements of IT assets in the financial industry. Confidex offers SteelBIT as pre-encoded according to the FSTC (Financial Services Technical Consortium) encoding scheme and supplies the tag with the specific layout, which consists of the printed 2D data matrix and number series showing the tag IC data. Additionally, the SteelBIT tag meets FSTC's RFID tag range performance requirements (3ft. reading range for handheld readers and 6ft reading range for fixed readers).

1.1 SPECIFICATION DATA

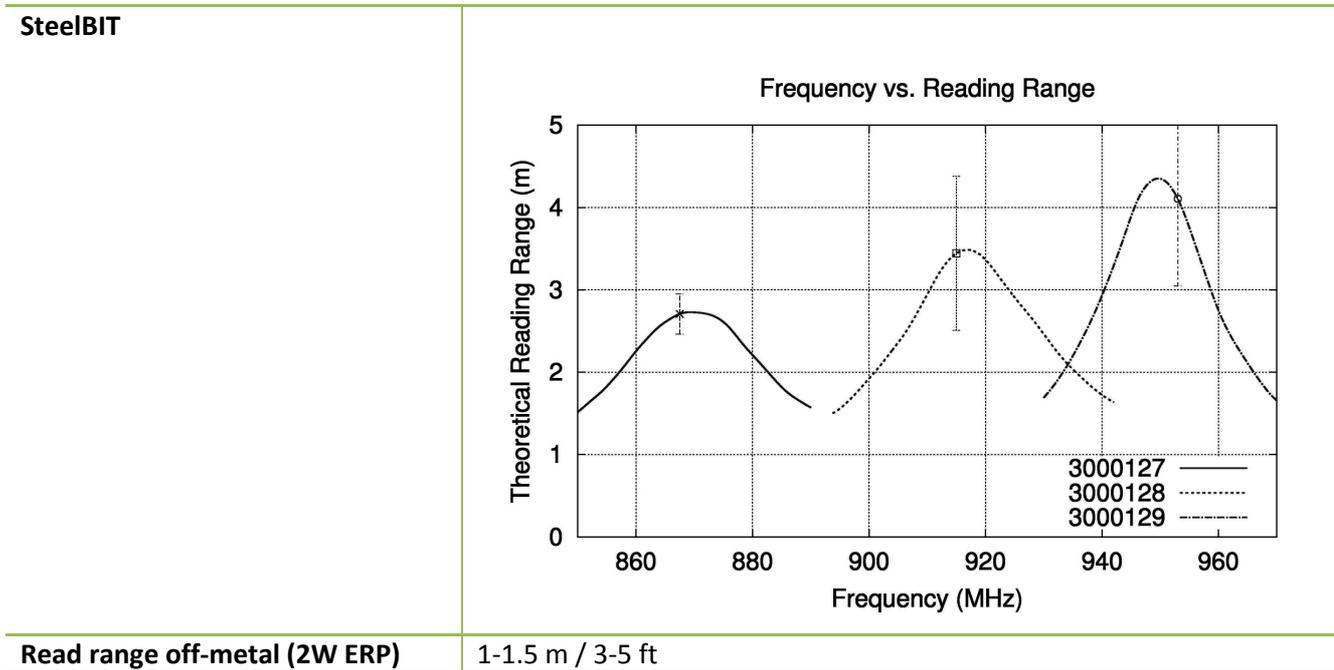
Device type	Class 1 Generation 2 passive UHF RFID transponder
Air interface protocol	EPCGlobal Class1 Gen2 ISO 18000-6C
Operational frequency	865-869 MHz (EU), 902-928MHz (US), 952-955MHz (JPN)
IC options	Impinj Monza
EPC memory	96 bit
EPC memory content	Customer specific hexadecimal code
Extended memory	-
Read range	3m / 9.8 ft, reader power 2W ERP (dependent on application) 1.5m / 5ft off-metal
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	1000pcs
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



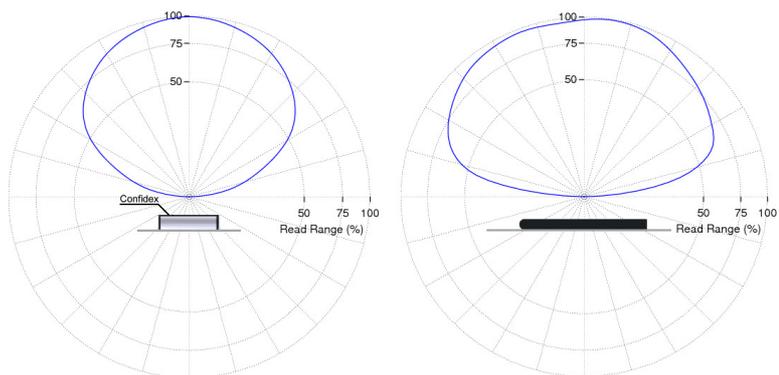
1.3 ELECTRICAL PERFORMANCE



* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Variation of 3σ from test batch marked in the picture. Note, tag performance in other frequency bands is not marked in the picture; tag will remain functional but the performance is low.

1.4 RADIATION PATTERNS

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



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
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* 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 SteelBIT 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 SteelBIT background

1.7 SUPPORTED SERVICES

Confidex SteelBIT 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: <ul style="list-style-type: none"> • 2D data matrix representing the 24 hexadecimal character in the tag's EPC code <ul style="list-style-type: none"> • 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.

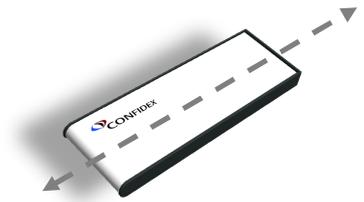
2 INSTALLATION INSTRUCTIONS

2.1 TAG PLACEMENT

SteelBIT 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 SteelBIT must be placed on metal surface** without covering its front side. When selecting the location on metal surface, ensure the following:

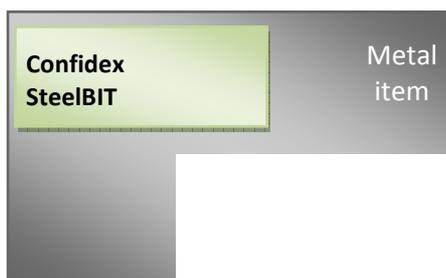
- Select an even surface so that there is direct metal contact underneath the whole tag.
- The metal background should be preferably as large as possible and tag should be placed in the middle of the surface.
- If surface is small, install the tag in such way that **most free metal area is left on the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



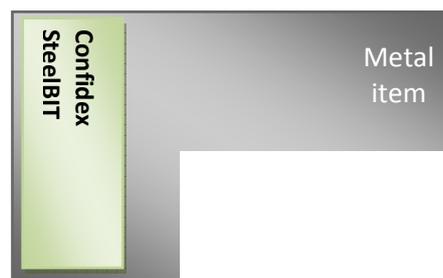
Example:

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 SteelBIT; 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
3000164	SteelBIT FCC Monza3
3000167	SteelBIT ETSI Monza3
3000168	SteelBIT JPN Monza3

For additional information and technical support contact Confidex Ltd.

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