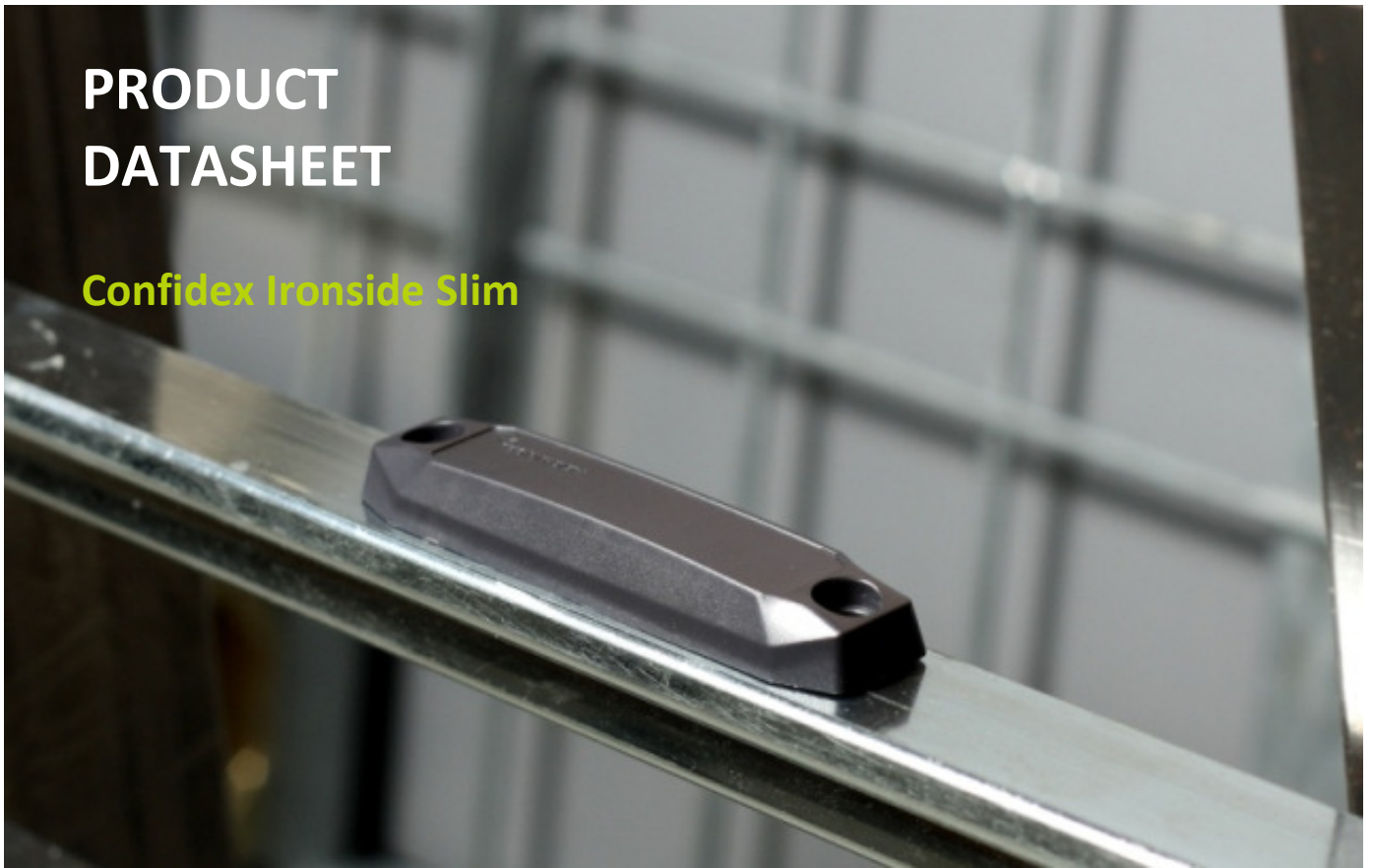


# PRODUCT DATASHEET

## Confidex Ironside Slim



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## 1. PRODUCT DESCRIPTION

Confidex Ironside Slim is a UHF RFID C1G2 tag solution for tracking various assets from returnable transit items to industrial assets. The tag is tuned to have specifically good on-metal functionality together with the slim structure. Besides having the high level RF performance enclosed in the durable outdoor resistant encapsulation, one of the key design targets for the product was to enable relatively wider radiation pattern for the tag. This gives higher level of flexibility and reliability in various reader setups both with fixed readers and handhelds allowing improving warehouse and logistics processes.

### 1.1 SPECIFICATION DATA

<b>Device type</b>	Class 1 Generation 2 passive UHF RFID transponder
<b>Air interface protocol</b>	EPCGlobal Class1 Gen2 ISO 18000-6C
<b>Operational frequency</b>	860-960MHz (Global)
<b>IC options</b>	Impinj Monza4QT™
<b>EPC memory</b>	128 bit
<b>EPC memory content</b>	Unique number encoded as a default
<b>Extended memory</b>	512 bit
<b>TID</b>	64-bit
<b>Read range</b>	up to 8 m / 26 ft, reader power 2W ERP (dependent on application)
<b>Applicable surface materials</b>	Metal surfaces, functional also on other surfaces
<b>Encapsulation material</b>	Impact resistant plastics
<b>Delivery format</b>	Single
<b>Amount in box</b>	600pcs
<b>Product is RoHS compliant</b>	

### 1.2 DIMENSIONS

**General dimensions (Width x Height x Thickness)** 84 mm x 21 mm x 10 mm (thickness) / 3,3 in x 0,83 in x 0,4 in (thickness)



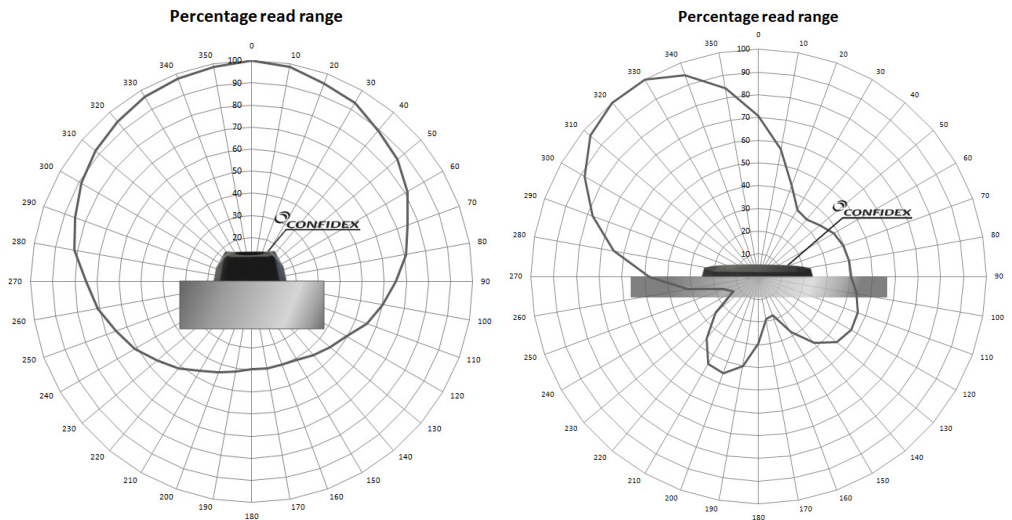
### 1.3 ELECTRICAL PERFORMANCE

	865-869MHz EU	902-928MHz US	952-956MHz JPN
Read range on metal (2W ERP)	8 m / 26 ft	7 m / 23 ft	8 m / 26 ft
Read range off metal (2W ERP)	4 m / 13 ft	3,5 m / 11,5 ft	4 m / 13 ft

\*Read ranges may vary depending on the used frequency and reader power. 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).

### 1.4 RADIATION PATTERNS

Estimated radiation pattern when tag orientation towards reader antenna is optimized and when the tag is on an example metal plate having the size of: 45mm/1.8in (width) x 230mm/9in (length) x 25mm/1in (thickness).  
Note, radiation pattern may vary depending on the metal asset's structure and tag's location on it.



### 1.5 RESISTANCE AGAINST ENVIRONMENTAL CONDITIONS\*

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

<b>Operating temperature</b>	-35°C to +85°C / -35°F to +185°F
<b>Ambient temperature</b>	-35°C to +85°C / -35°F to +185°F
<b>IP classification</b>	IP68: - Complete protection against dust - Protection against continuous immersion in water (tested for 5 hours in 1 m [3.3 ft] depth)
<b>Weather ability</b>	Good
<b>Impact resistance</b>	Good
<b>Chemical resistance</b>	Ironside Slim is designed to be used in environments with approx. 1 day exposure in salt water (10%), sodium hydroxide (10%), sulfuric acid (10%) or acetone. Tag tolerates prolonged exposure in motor oil. For achieving increased tolerance in continuous exposure of above substances, the tag is designed to be attached on the surface with industrial adhesives such as polyurethane adhesives or epoxies.
<b>Expected lifetime</b>	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

<b>Purpose</b>	High performance adhesive for attaching Ironside Slim on metal surfaces. Suitable for applications without shear forces pointing towards the tag and when tag application is done indoors.
<b>Advantages</b>	Quick and simple attachment method without additional tools
<b>Size</b>	Die-cut according to the tag shape
<b>Type</b>	3M 300LSE High performance acrylic adhesive
<b>Delivery format</b>	Attached to the tag

## 1.7 SUPPORTED SERVICES

There are several personalization options available for Confidex Ironside Slim in order to “fine tune” the tag to match with the application requirements:

- Pre-encoding
- Data label
- Laser engraving

For exact specifications, please refer the personalization datasheet.

## 1.8 POSSIBLE APPLICATIONS

<b>Metal surfaces</b>	Metal returnable transit items, metal containers, intermediate bulk containers, metal pallets, roll cages, etc.
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# 2. INSTALLATION INSTRUCTIONS

## 2.1 TAG PLACEMENT

Ironside Slim tag polarization is in the orientation of the longest direction of the tag (see the picture). In order to achieve the optimum performance Ironside Slim 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.
- For optimum performance, there should be metal area equal to tag area all around the tag.

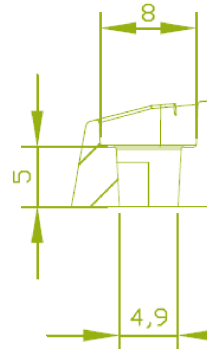


## 2.2 TAG FIXING METHODS

### Mechanical fixing

Mechanical fixing ensures the best and most reliable grip in various use conditions. It's recommended to be used in every application that includes risk for high mechanical stress or low temperature during tag fixing. Ironside Slim can be attached mechanically with:

- Screws; please refer the picture on the right of the mounting hole structure for selecting the best size for each case (dimensions in mm).



**During fixing, make sure that there's no air gap left in between the tag and metal surface.**

### Adhesive fixing

- Polyurethane adhesives
- Epoxies
- Silicone sealants
- 3M 300LSE acrylic adhesive

Silicone sealant adhesives like Dow Corning AS 7096 provide very high bond strength and resistance against mechanical stress. Usually, fixing must be done indoors in room temperature and in 50% humidity. Total curing time can be several days

**Procedure:** When fixing the tag with sealant adhesive, insert a layer of sealant under the tag and press the tag on the surface. Increase the bond by adding extra sealant from the tag holes. **Insert max. 2mm layer of sealant under the tag and to the tag holes.**

Please refer silicone sealant supplier for exact product specifications.

3M adhesive: When mounting the tag with its adhesive background, clean and dry the surface for obtaining the maximum bond strength. Remove the liner and place the tag on the correct location. 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. Due to adhesive properties, the tag should be placed on even surface.

**Please contact Confidex for more information on used adhesives.**

### 3. ORDER INFORMATION

Product number	Product name
3000360	Ironside Slim Global Monza4QT™

For additional information and technical support contact Confidex Ltd.

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