

PRODUCT DATASHEET

Confidex Carrier Pro



CONTENTS

| | | |
|-----|--|---|
| 1. | PRODUCT DESCRIPTION | 2 |
| 1.1 | SPECIFICATION DATA..... | 2 |
| 1.2 | DIMENSIONS | 2 |
| 1.3 | ELECTRICAL PERFORMANCE..... | 3 |
| 1.4 | RADIATION PATTERNS..... | 3 |
| 1.5 | RESISTANCE AGAINST ENVIRONMENTAL CONDITIONS* | 4 |
| 1.6 | SUPPORTED SERVICES | 4 |
| 1.7 | INFORMATION OF USED MATERIALS..... | 4 |
| 1.8 | POSSIBLE APPLICATIONS..... | 4 |
| 2. | INSTALLATION INSTRUCTIONS..... | 5 |
| 2.1 | LABEL ORIENTATION..... | 5 |
| 2.2 | PROTECTION OF TAG DURING USAGE | 5 |
| 3. | ORDER INFORMATION | 6 |

1. PRODUCT DESCRIPTION

Confidex Carrier Pro is special label for various plastic containers from crates to plastic dollies. The structure of the tag is designed to resist washing processes which RPC (returnable plastic containers) during their lifecycle. Additionally, Carrier Pro has white thermal transfer printable face for visualizing the tag's EPC code or other data. Carrier Pro is delivered in reel format and it can be encoded and printed with typical RFID printers that are capable of printing labels with small separation.

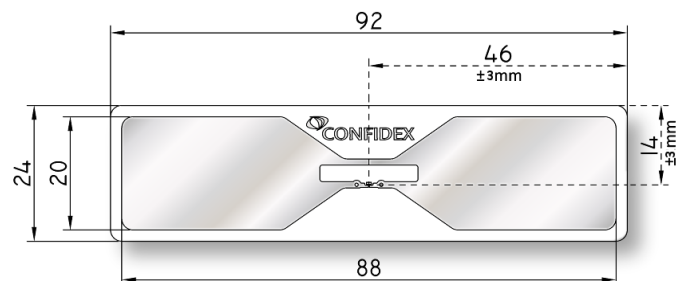
1.1 SPECIFICATION DATA

| | |
|----------------------------------|---|
| Device type | Class 1 Generation 2 passive UHF RFID transponder |
| Air interface protocol | EPCGlobal Class1 Gen2 ISO 18000-6C |
| Operational frequency | 860-960 MHz |
| IC | NXP UCODE G2XM |
| EPC memory | up to 240 bit |
| Extended memory | 512 bit |
| Read range | up to 4-6m / 13-19ft, reader power 2W ERP (dependent on application) |
| Face material | PET |
| Background adhesive | Acrylic adhesive |
| Weight | 1 g |
| Delivery format | On reel |
| Pitch on reel | 28,575mm |
| Amount on reel | 2000pcs (default) |
| Reel core inner diameter | 76mm / 3" |
| Product is RoHS compliant | |

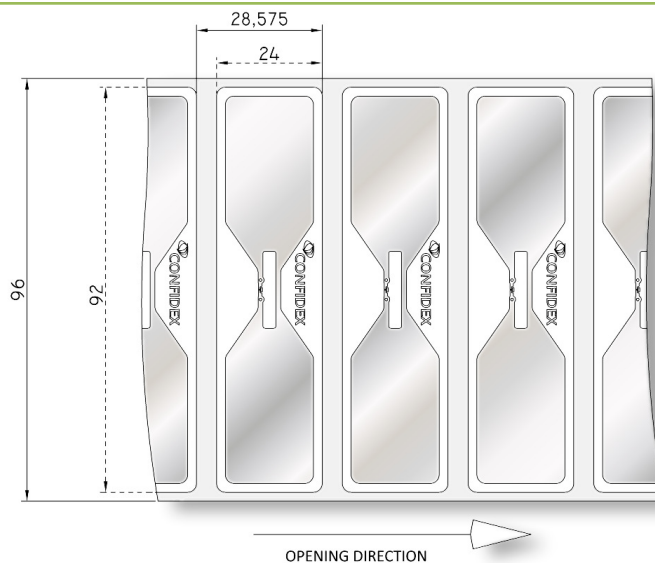
1.2 DIMENSIONS

**General dimensions
(Width x Height x
Thickness)**

92mm x 24mm x 0,2mm / 3.62" x 0.94" x 0.01"



Delivery in reel format



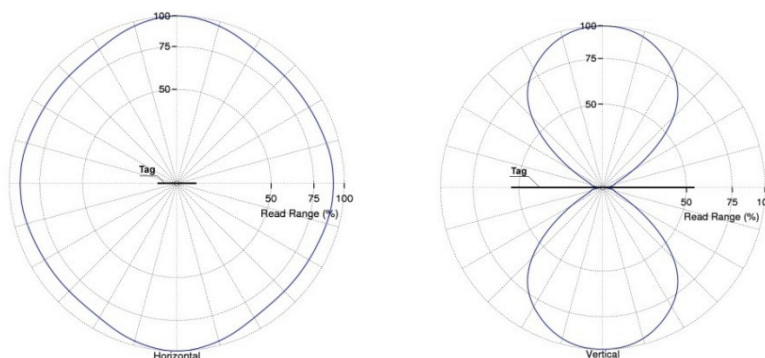
1.3 ELECTRICAL PERFORMANCE

| | | |
|-------------------------|---|------------------------|
| Carrier Pro G2XM | Read range on plastic | 4-6 meters / 13-20 ft |
| | Read range on plastic close to liquid content | 2-4 meters / 6.5-13 ft |
| | Read range free air | 4-6 meters / 13-20 ft |

* Read ranges may vary depending on the used frequency and reader power. Presented reading ranges are calculated values in non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power: EU 865-868 MHz (2W ERP), US 902-928 MHz (4W EIRP), and JPN 952-954MHz (4W EIRP).

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 | -35°C to +85°C (-31°F to +185°F) |
| Ambient temperature | -35°C to +90°C (-31°F to +194°F) |
| Storage condition | 2 years in +20°C / 50% RH (shelf life for adhesive) |
| Water resistance | Good, tested for 5 hours in 1 meter deep water |
| Chemical resistance | Good |
| 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 SUPPORTED SERVICES

There is several personalization options available for Confidex Carrier Pro in order to "fine tune" the tag to match with the application requirements:

- Pre-encoding
- Customer specific printing (during Q2/2010)

1.7 INFORMATION OF USED MATERIALS

| | |
|---------------------------|--|
| Back side adhesive | Adhesive designed to have excellent adhesion on plastic surfaces, good adhesion on other surfaces. |
| PET face material | Inkjet and thermal transfer printable. For thermal transfer printing, resin ribbon is recommended. |

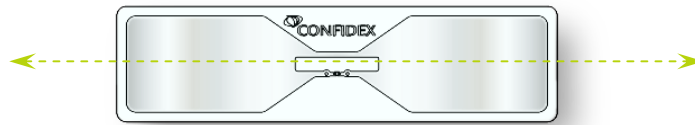
1.8 POSSIBLE APPLICATIONS

| | |
|----------------|---|
| Plastic | Plastic crates and other returnable containers which require both correct electrical properties as well as sufficient adhesion to withstand washing |
|----------------|---|

2. INSTALLATION INSTRUCTIONS

2.1 LABEL ORIENTATION

Carrier Pro polarization is along the tag's longest dimension:



While planning the installation, most recommended location for the Confidex Carrier Pro –label is in a position, where the structure of the identified asset provides protection against mechanical stresses such as impacts or jet streams.

The installation should be done ideally in +20°C/50%RH conditions. For exceptional conditions, please contact Confidex. The adhesive of the label has been selected to provide best adhesion in 24 hours after the installation.

Label antenna parts should not be in contact with metal to enable best possible performance of the label.

2.2 PROTECTION OF TAG DURING USAGE

Minimum bending diameter of the Confidex Carrier Pro is defined to be 50mm. Do not bend the label above the limit. Never touch on the location of the IC. IC chip is sensitive electrical component and can be damaged if unexpected pressure is applied on the chip. Try to avoid mechanical impacts to the Confidex Carrier Pro. IC and antenna may be damaged due to mechanical shocks.