

# PRODUCT DATASHEET

## Confidex Carrier Tough II™



Thin all-surface-tag solution for returnable transit item tracking with extreme performance.

### ELECTRICAL SPECIFICATION

#### Device type

Class 1 Generation 2 passive UHF RFID transponder

#### Air interface protocol

EPC Class1 Gen2 ISO 18000-6C

#### Operational frequency

EU 865 - 869MHz

US 902 - 928 MHz

#### IC type

Impinj Monza 4QT™

Impinj Monza 4E™ (upon special request)

#### Memory configuration

With Monza 4QT: EPC 128 bit; User 512 bit; TID 96 bit

With Monza 4E: EPC 496 bit; User 128 bit; TID 96 bit

#### EPC memory content

Unique number encoded as a default

#### Read range (2W ERP)\*

On metal up to 12m / 40ft

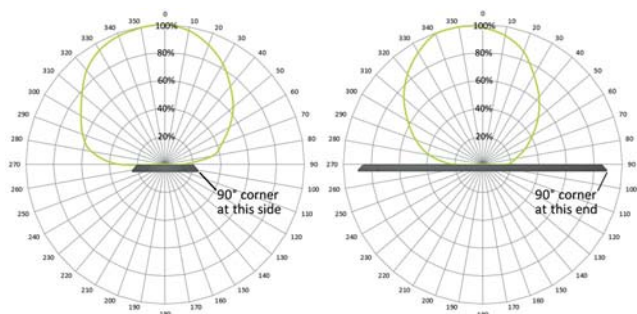
Other materials up to 11m / 36ft

#### Applicable surface materials\*

All surfaces.

\* 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). EU = 865 - 868 MHz. Different surface materials may have an effect on performance.

### RADIATION PATTERNS



### MECHANICAL SPECIFICATION

#### Tag materials

High quality engineering plastic. By default delivered without printing. Personalized printing protected with cover film.

#### Background adhesive

High performance acrylic adhesive specifically for metal and painted metal surfaces

#### Weight

12 g

#### Delivery format

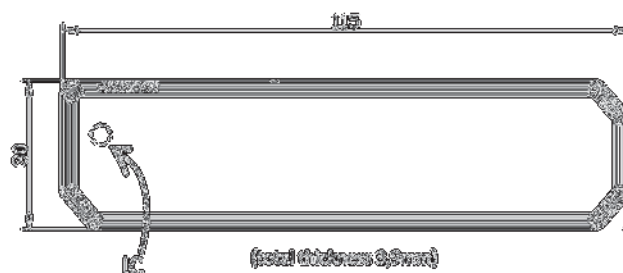
Single

#### Amount in box

50 tags

#### Tag dimensions

115 x 30 x 3,9 mm / 4.53 x 1.18 x 0.15 in



### ENVIRONMENTAL RESISTANCE

#### Operating temperature

-35°C to +85°C / -31°F to +185°F

#### Ambient temperature

-35°C to +85°C / -31°F to +185°F

#### Water resistance

IP68

#### Washing resistance

Tolerates industrial washing with standard solvents. Washing process should be tested in final application.

#### Chemical resistance

No physical or performance changes in:  
 - 168h Sulfuric acid (10%, pH 2) exposure  
 - 168h Motor oil exposure  
 - 168h Salt water (salinity 10%) exposure  
 - 1h NaOH (10%, pH 13) exposure  
 Acetone should be avoided

#### Storage condition

1 year in +20°C / 50% RH (shelf life for adhesive)

#### Expected lifetime

Years in normal operating conditions

*Values 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.*

## PERSONALIZATION OPTIONS

### Pre-encoding

- Customer specific encoding of EPC or user memory. Locking permanently or with password.

### Customized printing

- Customer specific layout including logo, text, numbers, barcodes etc.
- Printing is protected with additional cover film.

## INSTALLATION INSTRUCTIONS

Confidex Carrier Tough II™ polarization is along the longest dimension of the tag like shown below.



When attaching the tag ensure the following

- Select a smooth surface without uneven areas below tag
- Avoid touching the background adhesive and IC location

When mounting the tag with its adhesive background, clean and dry the surface for obtaining the maximum bond strength. Typical cleaning solvents are heptane or isopropyl alcohol. Do not use household cleaning solvents that contain oils. Carefully read and follow the manufacturer's precautions and directions for use when working with solvents.

Remove the liner and place the tag on the correct location. Ideal application temperature is from +16°C to +38°C (+60°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. If application is done at temperatures below 10°C (50°F) surface must be extremely clean, dry and it has to be warmed before attaching the tag to achieve best possible adhesion. Keep the tags in warm before attaching.

## ORDER INFORMATION

**Product number:** 3001032

**Product name:** Confidex Carrier Tough II™ M4QT ETSI

**Product number:** 3001033

**Product name:** Confidex Carrier Tough II™ M4QT FCC

Following products are available upon special request:

**Product number:** 3001038

**Product name:** Confidex Carrier Tough II™ M4E ETSI

**Product number:** 3001039

**Product name:** Confidex Carrier Tough II™ M4E FCC

For additional information and technical support contact Confidex Ltd.

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