

# PRODUCT DATASHEET

## Confidex Steelwave Classic™



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

### ELECTRICAL SPECIFICATION

#### Device type

RAIN RFID / EPCglobal Gen2v2

#### Operational frequency

ETSI 865 - 869 MHz

FCC 902 - 928 MHz

#### IC options and memory configurations

Impinj M780™

- EPC 496 bit; User 128 bit; TID 96 bit

Impinj Monza 4QT™

- EPC 128 bit; User 512 bit; TID 96 bit

Impinj Monza 4E™

- EPC 496 bit; User 128 bit; TID 96 bit

#### EPC memory content

Unique number encoded as a default

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

M780

- On metal up to 20 m / 65 ft
- Off metal up to 14 m / 46 ft

M4E / M4QT

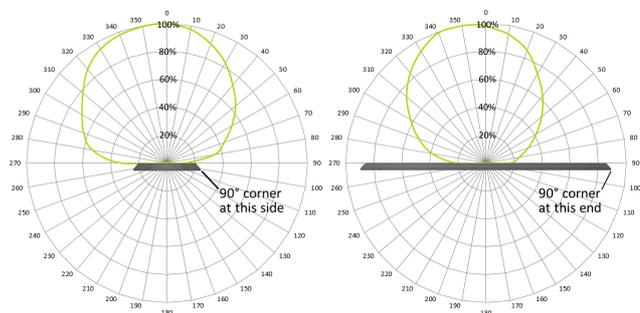
- On metal up to 12 m / 40 ft
- Off metal up to 11 m / 36 ft

#### Applicable surface materials\*

All surfaces.

\* Read ranges are theoretical values that are calculated for non-reflective environment. Different surface materials may influence 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

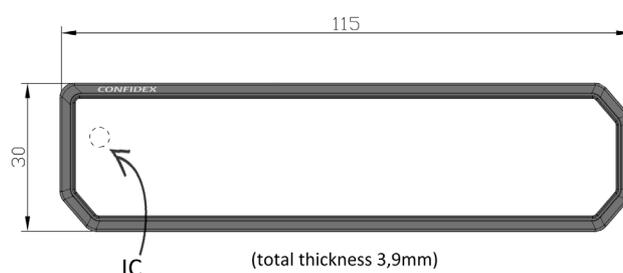
Single

#### 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.

### Personalization Kit

- Confidex Steelwave Classic also available as a Personalization Kit where RFID label is delivered on a 1000pcs reel separately to the hard plastic part. RFID label can be printed and encoded with standard RFID printers and is easy to apply on plastic part before taken into use. Reel width 112mm. Label is shaped to allow attachment only in one direction. Follow the same installation instructions when attaching the RFID label to plastic part as described in the next chapter.

## INSTALLATION INSTRUCTIONS

Confidex Steelwave Classic™ 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:** 3004193

**Product name:** Confidex Steelwave Classic™ M780 ETSI

**Product number:** 3004194

**Product name:** Confidex Steelwave Classic™ M780 FCC

**Product number:** 3001032

**Product name:** Confidex Steelwave Classic™ M4QT ETSI

**Product number:** 3001033

**Product name:** Confidex Steelwave Classic™ M4QT FCC

Following products are available upon special request:

**Product number:** 3001038

**Product name:** Confidex Steelwave Classic™ M4E ETSI

**Product number:** 3001039

**Product name:** Confidex Steelwave Classic™ M4E FCC

For additional information and technical support contact Confidex Ltd.

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