

# PRODUCT DATASHEET

## Confidex Heatwave Ultra™



RFID tag with extreme temperature resistance combined with robust enclosure

### ELECTRICAL SPECIFICATION

#### Device type

UHF RFID / EPCglobal Gen2v2

#### Operational frequency

ETSI: 865-869 MHz

FCC: 902-928 MHz

#### IC type

NXP UCODE 7xm+™

#### Memory configuration

EPC 448-bit; User memory 2048-bit; TID 96-bit

#### EPC memory content

Unique number encoded

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

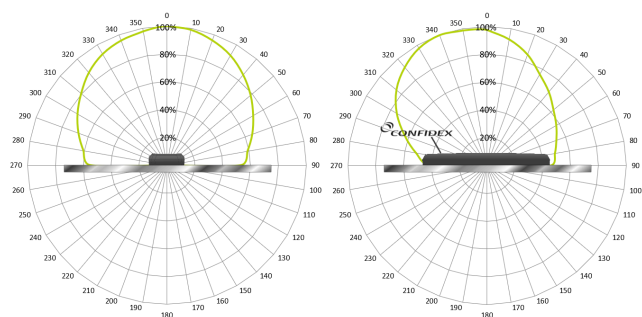
Up to 10 m / 33 ft

#### Applicable surface materials\*

Optimized for metallic 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). Different surface materials may have an effect on performance.

### RADIATION PATTERNS



### MECHANICAL SPECIFICATION

#### Tag materials

Special high-performance thermoplastic designed for extreme temperatures.

#### Weight

29g

#### Delivery format

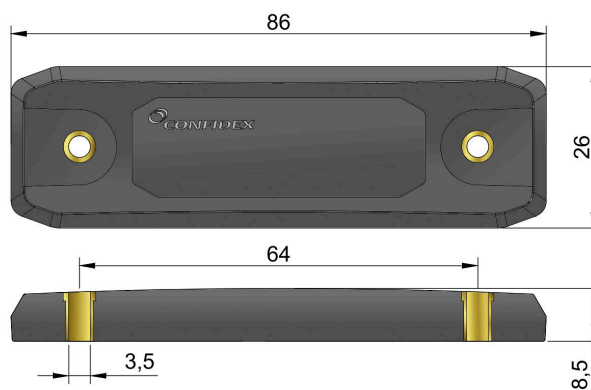
Single

#### Amount in box

50pcs

#### Dimensions

86 x 26 x 8,5 mm / 3.4 x 1 x 0.33 in



### ENVIRONMENTAL RESISTANCE

#### Operating temperature

-35°C to +85°C / -31°F to +185°F

#### Peak temperature

235°C / 455°F, tested 50 x 5h cycles

220°C / 428°F, tested 150 x 2h cycles

#### Autoclave sterilization

Tested in 125°C / 0,141MPa / 30min

#### IP classification

IP68

#### Chemical resistance

No physical or performance changes in:

- 168h Salt water (salinity 10%) exposure
- 168h Motor oil exposure
- 168h NaOH (10%, pH 13)
- 168h Sulfuric Acid (10%, pH 2)
- 168h Acetone

#### Expected lifetime

Product is designed to be used multiple times in high temperature cycles. The cycle time and quantity will affect the total lifetime of the product.

*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.*

## PERSONALIZATION OPTIONS

### Pre-encoding

- Customer-specific encoding of EPC with or without locking

### Visual marking

- Laser engraving is possible depending on the needed layout. Reach out to Confidex for more information.

## INSTALLATION INSTRUCTIONS

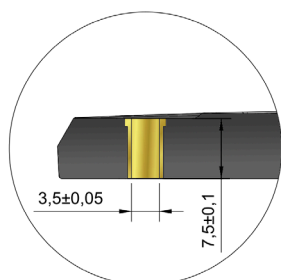
**Confidex Heatwave Ultra™ can be attached with structural adhesives or mechanically.**

1. Adhesive fixings
  - Polyurethane adhesives
  - Epoxies
  - Silicone sealants

There are several high temperature resistant structural adhesives available. We recommend contacting adhesive suppliers for recommendations and exact fixing instructions. Adhesive type and thickness may influence tag performance. In general, more than 1mm layer of adhesive under the tag should be avoided.

2. Mechanical fixing

Mechanical fixing is recommended to be used in applications that include risk for high mechanical stress or low temperature during tag fixing. During fixing make sure there is no air gap left in between the metal surface and tag. DIN 7985 M3 screws can be used as a reference.



To achieve the optimal performance locate the tag on metal in a way that there is metal on both ends of the tag. Ideally the tag is placed on large even metal surface with direct metal contact underneath the whole tag. Tag polarization is along the longest dimension. This should be taken into account when using linear polarized reader antennas.



## ORDER INFORMATION

**Product number:** 3003703

**Product name:** Confidex Heatwave Ultra™ 7xm+ ETSI

**Product number:** 3003702

**Product name:** Confidex Heatwave Ultra™ 7xm+ FCC

For additional information and technical support, please contact Confidex Ltd.

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