PRODUCT DATASHEET

Confidex Heatwave Tough™

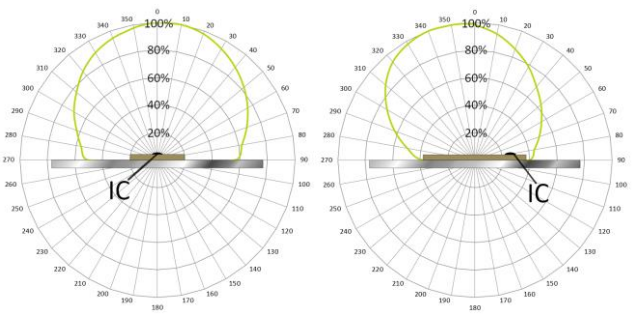
RFID tag with high temperature resistance and good performance for metallic surfaces

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 2048 bit, TID 96 bit
EPC memory content
Unique number encoded
Read range (2W ERP)*
On metal up to 7 m / 23 ft
On plastic up to 2 m / 7 ft
Applicable surface materials*
Optimized for metallic surfaces

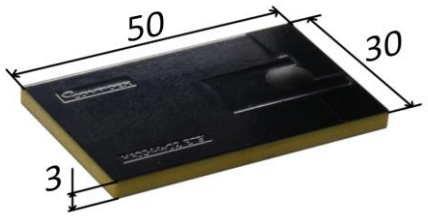
* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Different surface materials may have an effect on performance.

RADIATION PATTERN



MECHANICAL SPECIFICATION

Tag materials
Special epoxy-based engineering composite designed for extreme temperatures.
Weight
9,5
Delivery format
Single
Amount in box
100pcs
Dimensions
50 (±0,3) x 30 (±0,3) x 3 (±0,2) mm / 1.97 x 1.18 x 0.12 in
IC bump maximum height 1,6mm / 0.06 in



ENVIRONMENTAL RESISTANCE

Operating temperature
-40°C to +85°C / -40°F to +185°F
Peak temperature
Peak temperature 50min at 250°C / 482°F
IP classification
IP68
Chemical resistance
No physical or performance changes in:
- 168h Salt water (salinity 10%)
- 168h Motor oil
- 168h Acetone
- 24h NaOH (10%, pH 13)
- 1h Sulfuric Acid (10%, pH 2)

Expected lifetime
Lifetime is years in normal operating conditions. Not designed to be used in specified peak temperatures several times but can withstand for example drying cycles of vehicle chassis during the paint shop process.

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.

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PERSONALIZATION OPTIONS

Pre-encoding

- Customer-specific encoding of EPC with or without locking

Visual marking

- Laser engraving of customer-specific content

Backside adhesive

- Optional backside adhesive for high temperatures

INSTALLATION INSTRUCTIONS

Confidex Heatwave Tough™ can be attached with below fixing methods:

1. High performance acrylic foam adhesive (not included by default)

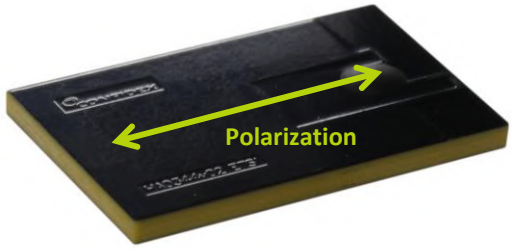
When background foam adhesive is ordered the tag is delivered with adhesive attached. When mounting the tag with its adhesive background, clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F). Installation at temperatures below 10°C (50°F) is not recommended. Backside adhesive is not the optimal attachment method in most extreme temperatures.

2. Other 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. When tag is attached with structural adhesive, insert a layer of adhesive under the tag and press the tag on the surface. Adhesive type and thickness may influence tag performance. In general, more than 1mm layer of adhesive under the tag should be avoided.

When attaching the tag on the metallic asset please ensure there is always metal left on top and below the tag for optimal performance.

Polarization of Confidex Heatwave Tough is as shown below. This should be considered when using linear reader antennas.



ORDER INFORMATION

Product number: 3004164
Product name: Confidex Heatwave Tough™ 7xm ETSI

Product number: 3004163
Product name: Confidex Heatwave Tough™ 7xm FCC

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

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