

# PRODUCT DATASHEET

## Confidex Viking™ Classic



Reliable industrial grade Bluetooth® Low Energy beacon for industrial identify, sense and locate applications.

### ELECTRICAL SPECIFICATION

#### Device type

Bluetooth® Low Energy beacon, Battery powered

#### Wireless interface protocol

Bluetooth® 4.2

NFC: ISO/IEC 14443A

#### Compliance (Declaration of Conformity)

Europe (CE), USA (FCC), Canada (IC), Japan (MIC), Australia/New Zealand (ACMA), South-Korea (KC), Russia (EAC), Ukraine (UkrSEPRO), Brazil (ANATEL)

#### Operational frequency

ISM: 2402 - 2480 MHz

NFC: 13,56 MHz

#### SOC

Nordic Semiconductor NRF52832

#### Memory configuration

512 kB FLASH, 64 kB RAM

#### Configuration interface

Over NFC interface with Confidex Runestone™ mobile app (available for android mobile phones in Google Play store)

#### Sensors\*

Built-in temperature sensor, accelerometer, and Hall effect sensor

#### Sensitivity

-96 dBm sensitivity (Bluetooth® Low Energy)

#### Read range\*\*

Up to 200 m / 650 ft. Measured on and off metal.

#### Battery type (total capacity)

2 x CR2477 (2000 mAh) coin battery for maximal lifetime

#### Applicable surface materials

Can be attached to any surface

\* Temperature sensor is located inside the plastic housing, which limits real time measurement of the ambient temperature. Sensor calibration is available as additional service.

\*\* Read ranges are measured in laboratory environment and there can be some variation in real application.

### MECHANICAL SPECIFICATION

#### Encapsulation

IP68, high quality PC/ASA

#### Weight

45 g

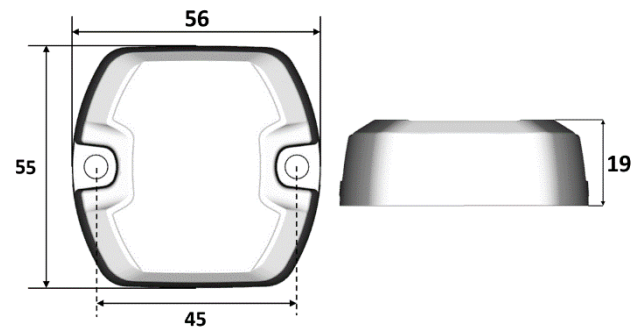
#### Delivery format

Single, 30 units per box

(delivered radio OFF due to IATA regulations)

#### Tag dimensions

56 x 55 x 19 mm / 2.20 x 2.13 x 0.75 in (M5 size hole)



### ENVIRONMENTAL RESISTANCE

#### Operating temperature

-20°C to +60°C / -4°F to +140°F

#### Water resistance

Good, tested 5 hours in 1m deep water (IP68)

#### Vibration resistance

JESD22-B103B, service condition 2;

3-axis vibration with 10G acceleration

#### ESD immunity

±8 kV according to EN 61000-4-2 (air discharge)

±4 kV according to EN 61000-4-2 (contact discharge)

#### Chemical resistance \*\*\*

No physical or performance changes in:

- 168h Motor oil exposure
- 48h Salt water (salinity 10%) exposure
- 48h Sulfuric acid (10%, pH 2) exposure
- 48h NaOH (10%, pH 13) exposure

Generally good resistance with moderate concentrations of acids, alcohols, alkalis, detergents, and cleaners.

Acetone should be avoided.

#### Expected lifetime\*\*\*\*

8 years with typical operating parameters

\*\*\*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.

\*\*\*\* Beacon lifetime is optimized for long term use, and is highly affected by operating mode parameters, accelerometer usage and ambient temperature. Configured TX power level and advertisement interval have influence on lifetime.

## OPERATING MODES



**Eddystone**



**iBeacon**



Confidex Viking™ beacon utilizes Eddystone™ open standard frame format and/or iBeacon protocol ensuring straightforward implementation on a wide range of Bluetooth® Low Energy devices.

Confidex Viking™ Classic comes with standard parameters by default. It can be factory configured with customer specific parameters to support any 3<sup>rd</sup> party system. Confidex™ Viking can also be personalized with a custom label to ease the tag identification in the field.

Following Eddystone™ frame types are supported:

- **Eddystone™-UID** frame broadcasts 16-byte Beacon ID composed of a 10-byte namespace and a 6-byte instance.
- **Eddystone™-URL** frame broadcasts a URL using a compressed encoding format.
- **Eddystone™-TLM** frame broadcasts telemetry information, like battery voltage and temperature.
- **Eddystone™-EID** frame broadcasts an encrypted ephemeral identifier that changes periodically.

Eddystone™-EID frame operating mode requires service for resolving the ephemeral ID. Please contact Confidex for more information.

- **iBeacon** advertise 16 bytes UUID, 2 bytes Major, and 2 bytes Minor.
- **Accelerometer** frames (optional) are proprietary advertising packets which broadcasts Confidex Viking™ acceleration statistics and activity.

## INSTALLATION INSTRUCTIONS

Confidex Viking™ can be attached with several fixing methods:

### 1. Mechanical fixing – Screw

Mechanical fixing is recommended to be used in every application that includes risk for high mechanical stress or low temperature during tag fixing. Screw size M5 is to be used for fixing.



### 2. Mechanical fixing – Cable tie



Plastic or metallic cable ties can also be used for fixing Confidex Viking™. Maximum width of cable tie is 4 mm.

### 3. High performance acrylic adhesive

When mounting the tag with adhesive, 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), bond strength can be improved with firm application pressure and moderate heating from +38°C to +54°C (+100°F to +130°F). Installation at temperatures below +10°C (+50°F) is not recommended.

## ORDER INFORMATION

### 3003597 Confidex Viking™ Classic

- With default configuration and parameters

### 3003600 Confidex Viking™ Classic, pre-configured

- With customer specific configuration and parameters (see the personalization form for more details)

### 3002932 Confidex Viking™ Classic Sample Kit

- Contains 5 pcs of 3003597

Availability: Please contact Confidex Smart Industries Sales at [www.confidex.com/contact-us](http://www.confidex.com/contact-us)

For additional information and technical support, please contact us in [contact.BLE@confidex.com](mailto:contact.BLE@confidex.com)

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