

# PRODUCT DATASHEET

## Confidex Viking™ Quuppa



Confidex Viking™ Quuppa is supporting positioning system from Quuppa which is based on the latest Bluetooth technology and the angle-of-arrival (AoA) methodology. It is designed to work seamlessly with Quuppa developed locators and applications. Confidex Viking™ Quuppa have passed Quuppa's own validation process and is certified as Quuppa Approved product.

### ELECTRICAL SPECIFICATION

#### Device type

Bluetooth® Low Energy beacon, Battery powered

#### Wireless interface protocol

Quuppa proprietary protocol

#### 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: 2401 - 2482 MHz

Includes Quuppa Proprietary Channels (2401/2482 MHz)

#### SOC

Nordic Semiconductor NRF52832

#### Memory configuration

512 kB FLASH, 64 kB RAM

#### Configuration interface

Quuppa locator and Quuppa Site Planner software

#### 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 materials

IP68, high quality PC/ASA

#### Weight

45 g

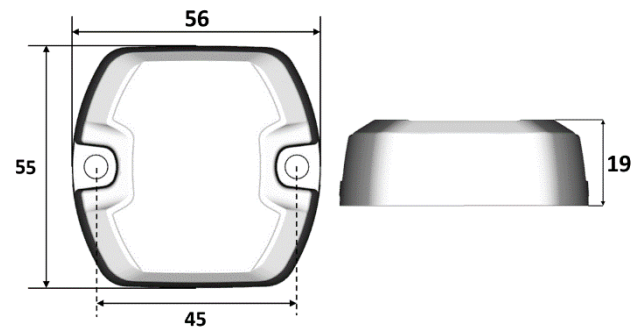
#### Delivery format

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

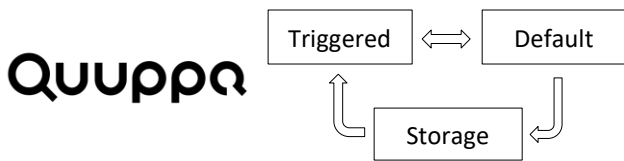
#### Expected lifetime\*\*\*\*

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



Confidex Viking™ Quoppa tag utilizes Quoppa proprietary frame formats and the functional logic consist of 3 different states of which it can operate and shift between: **Triggered**, **Default** and **Storage**.

Confidex Viking™ Quoppa tag is activated by shaking it, which changes the tags operational state from **storage** to **triggered**. After a defined timeout, if tag has not been active, it moves to a **Default** state, where it stays wake-up and moves back to the **Triggered** state, if activated again. After a longer timeout in **Default** state, the tag goes to power saving mode in the **Storage** state, where it can be triggered again by shaking it.

Confidex Viking™ Quoppa comes with standard settings by default. It can be factory configured with customer specific parameters and personalized with a custom label to ease the deployment and tag identification in the field.

Below described typical parameters, which can be set for each operational state.

**Transmit rate and power** parameters define the Tx interval and Tx power for the device.

**State time out** parameter defines the on-delay time, before the Quoppa tag changes the state to from Triggered to Default state or from Default to Storage state.

**Accelerometer setting** parameter defines the data refresh rate and sensitivity for the accelerometer sensor.

## 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

### 3003108 Confidex Viking™ Quoppa

- Can be pre-configured in production

### Included in sample kits:

#### 3003221 Confidex Viking™ Quoppa Sample Kit

- 5 pcs 3003108, can be pre-configured in production

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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