

PRODUCT DATASHEET

Confidex Viking™ Wirepas



Confidex Viking™ Wirepas BLE tags utilize the unique Wirepas Mesh (WM) protocol and software stack which provides many benefits for enabling implementation of asset tracking and IoT applications in large scale. WM is easily scalable and can have large coverage as all Confidex Viking™ Wirepas tags are able to route data between the devices and back-end system.

ELECTRICAL SPECIFICATION

Device type

Bluetooth® Low Energy beacon, Battery powered

Wireless interface protocol

Wirepas Mesh protocol

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

NFC interface for fast deployments and configuration

Sensors*

Built-in temperature sensor, accelerometer as option, other sensors by request

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

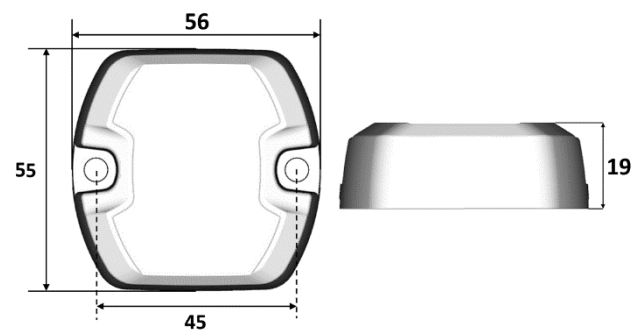
Delivery format

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

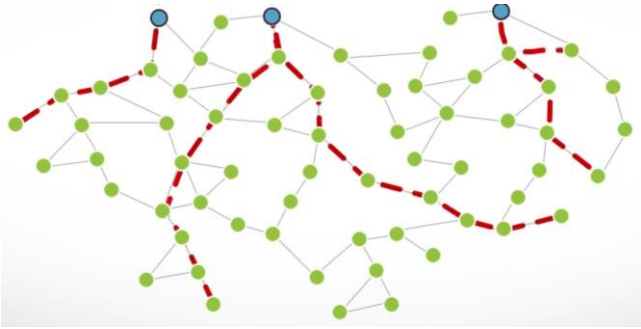
Expected lifetime****

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



With Wirepas Mesh, all devices can function as routers for other devices. Confidex Viking™ Wirepas tags are suitable to be used both, as tags and anchors. Below described the main configuration parameters for Confidex Viking™ Wirepas devices.

Confidex Viking™ Wirepas comes with standard Wirepas parameters 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.

Device Status parameter defines if device is switched on (1) or off (0). The setting is off as default.

Device Mode parameter defines which operating mode is used for the device (Mode 1: Non-routing device, Mode 2: Tag, Mode 3: Anchor, Mode 4: Opportunistic Anchor).

Wirepas Network ID parameter defines a customer specific network ID for Wirepas mesh deployment or installation.

Wirepas Network Channel parameter defines a customer specific network channel within the deployment or installation.

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

Product numbers with default operating parameters:

3003404 Confidex Viking™ Wirepas
3003244 Confidex Viking™ Wirepas (with acc)

Product numbers with customer specific parameters:

3003606 Confidex Viking™ Wirepas personalized
3003607 Confidex Viking™ Wirepas personalized (with acc)

Availability: Please contact Confidex Smart Industries Sales at www.confidex.com/contact-us

For additional information and technical support, please contact us in contact.BLE@confidex.com

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