REDZ
SMART COMMUNICATION

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# BKV Series USB to 868 MHz Wireless MBus Converters

**Listens to WMBus devices over the air, on your PC**

- WMBus messages from local WMBus devices straight to a PC
- S, T and C modes, and C and T together
- AES-128 decryption in security modes 5, 7 and 128




The BKV WMBus converters bring the messages of local Wireless MBus devices directly to a PC over USB, on 868 MHz.

## Main Functions

1. **868 MHz Wireless MBus:** radio frequency communication with local WMBus devices.
2. **Link modes:** S, T and C modes, and C and T together.
3. **AES decryption:** AES-128 in security modes 5, 7 and 128.
4. **Status LEDs:** PC Tx and Rx, Status, RF Tx and Rx.
5. **USB cable, 3 m:** Type A or Type C cable, chosen by model.

### Key Figures

**Up to 3 km**
radio range, line of sight (typically about 100 m indoor and urban)

**868 MHz**
Wireless MBus radio frequency communication

**S, T, C**
link modes; C and T together

**AES-128**
decryption, security modes 5, 7 and 128

**3 m**
USB cable, Type A or Type C

**-20 to +80 C**
operating temperature

### What it does

- Listens to WMBus messages from local devices on 868 MHz, or sends WMBus messages from the PC.
- Decrypts received frames with AES-128 (security modes 5, 7 and 128).

### What it shows

- PC Tx and PC Rx follow the data on the USB side, RF Tx and RF Rx the data on the WMBus side; Status blinks during normal operation.

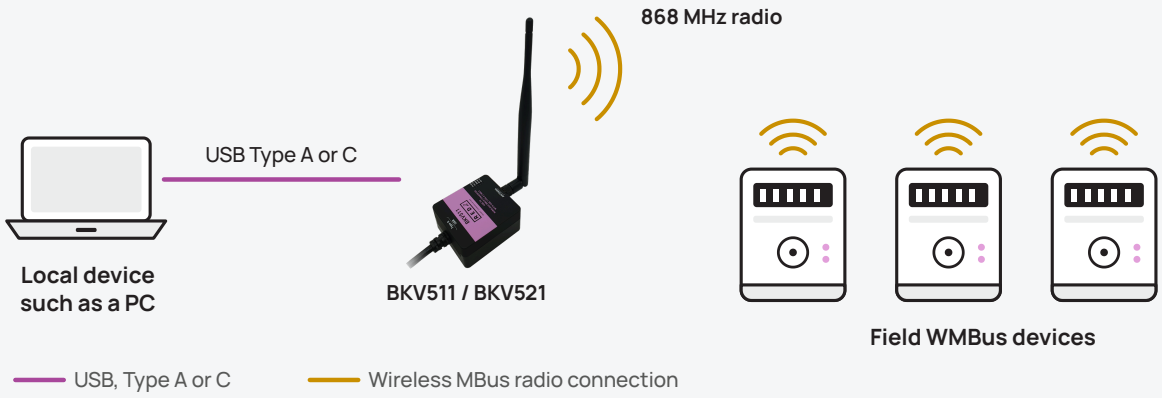
### What it is for

- Listening to the 868 MHz WMBus devices in the field from a PC.
- Configuring and monitoring the converter with Z Terminal software.

# Technical Data

| | BKV511<br>USB Type A cable | BKV521<br>USB Type C cable |
|---|---|---|
| **USB cable** | USB Type A, 3 m cable | USB Type C, 3 m cable |
| **Radio module** | iM881A-XL Wireless M-Bus module | |
| **Frequency band** | 863 to 870 MHz | |
| **Link modes** | S, T and C modes, and C and T together | |
| **Output power** | 13.0 dBm typical | |
| **Output power setting** | Adjustable from -1 dBm to 13 dBm | |
| **Range, line of sight** | Link budget up to 130 dB; communication distance up to 3 km in line of sight, typically about 100 m indoor and urban. | |
| **AES decryption** | AES-128 decryption in security modes 5, 7 and 128 | |
| **AES key list** | Up to 128 devices in the AES key list | |
| **Antenna connector** | SMA female connector; the module RF interface is matched to 50 ohm | |
| **LEDs** | PC Tx, PC Rx, Status, RF Tx, RF Rx | |
| **Operating temperature** | -20 to +80 C | |
| **Dimensions** | Approx. 43 x 48 x 23 mm (without cable, antenna and terminal plug) | |
| **Enclosure** | ABS, black | |

# Typical Application




Typical application: the converter listens to local WMBus devices on 868 MHz and passes their messages to a PC over USB.

## Connect and Use

1. Connect the USB cable to the PC and complete the installation of the driver.
2. Connect the antenna to the SMA female antenna connector.
3. Use Z Terminal software on the PC to configure and monitor the converter and to listen to the WMBus devices.
4. Check the LEDs: PC Tx and PC Rx show data on the USB side, RF Tx and RF Rx data on the WMBus side, Status blinks in normal operation.

# Ordering Information

**BKV511:** USB to 868 MHz WMBus (Wireless MBus) Converter With USB Type A Cable

**BKV521:** USB to 868 MHz WMBus (Wireless MBus) Converter With USB Type C Cable

## Conformity

- Declaration of Conformity for BKV511 and BKV521: Directive 2014/30/EU (electromagnetic compatibility) and Directive 2014/53/EU (radio equipment).
- Standards named in it: EN 55032:2015/A11:2020 (emission), EN 55035:2017 (immunity), EN IEC 62368-1:2020 (safety).