Compact USB interface between PC and KNX RF

KNX RF USB Interface Stick 340

Operation and installation manual

(Art. # 5110)

WEINZIERL ENGINEERING GmbH
Achatz 3-4
84508 Burgkirchen an der Alz
GERMANY

Tel.: +49 8677 / 916 36 – 0
E-Mail: info@weinzierl.de
Web: www.weinzierl.de

Content

1 Application ... 3

2 Installation and connection ... 3

2.1 KNX programming mode ... 4

2.2 Status display ... 4

2.3 USB suspend ... 4

3 Factory default settings ... 4

4 Wiring scheme ... 5

5 Interface settings in the ETS ... 5

6 ETS database ... 6

6.1 Description ... 6

7 Bus monitor mode ... 7

8 KNX Long Frames ... 7

9 Notes for developers ... 8

1 Application

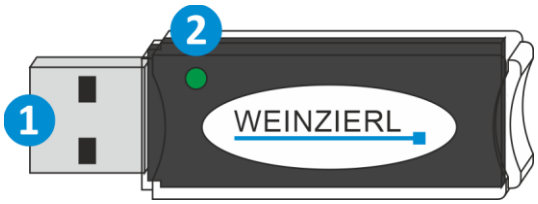
This interface allows establishing a bidirectional connection between a PC or a laptop and the KNX RF wireless network. The device complies with the specification of KNX RF and supports the protocol cEMI.

The interface is compatible with ETS 5 (or higher). For software integration (Windows or Linux) of this interface the free SDK kDrive express is available.

The power is supplied via the USB port.

2 Installation and connection

The KNX RF USB Interface Stick 340 is designed as a USB stick and can be used on a USB port type A. It features the following operating elements and displays:



1 LED KNX (multicolor)
2 USB connector (type A)

If the USB connection is missing, the device is without function.

2.1 KNX programming mode

The individual address of the interface is set locally via the ETS. For this reason, there is no programming button or programming LED on the device.

2.2 Status display

Summery of the states of LED KNX 1:

LED Status	Meaning
LED lights green	The device works in normal operating mode.
LED flickers green	The device indicates a KNX communication, e.g. when sending/receiving telegrams.
LED off	The device is in sleep mode.

2.3 USB suspend

When the PC or laptop enters sleep mode, connected USB devices are also put into sleep mode to save power. Computers with MS Windows® 8.1 or higher can also put unused peripheral devices into standby mode during normal operation. In sleep mode, the LED KNX 1 of the KNX RF USB Interface Stick 340 is switched off.

3 Factory default settings

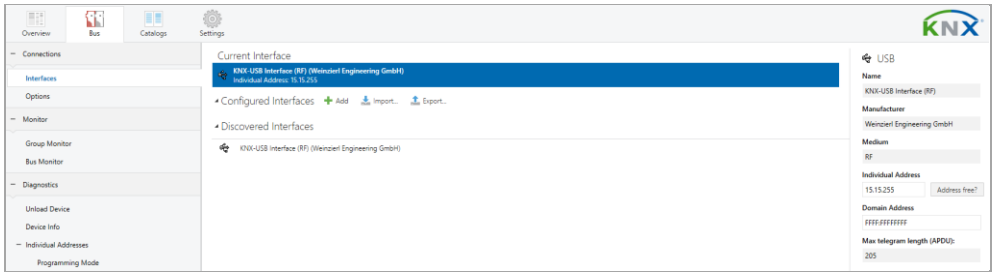
In the factory default settings, the device has the following configuration.

Individual address: *15.15.255*
Domain address: *FFFF:FFFFFFFF*

4 Wiring scheme

5 Interface settings in the ETS

In the ETS, interfaces can be selected and configured via the ETS menu "Bus – Interfaces". All available connections are listed under "Discovered Interfaces". After clicking on the desired interface, connection specific information and options appear on the right side of the ETS window. Via the "Select" button, the selected interface can be set as "Current Interface".



In the "Individual Address" section, the currently used individual KNX address can be changed. To check if the desired individual address is not already available in your KNX installation, the button "Address free?" can be pressed.

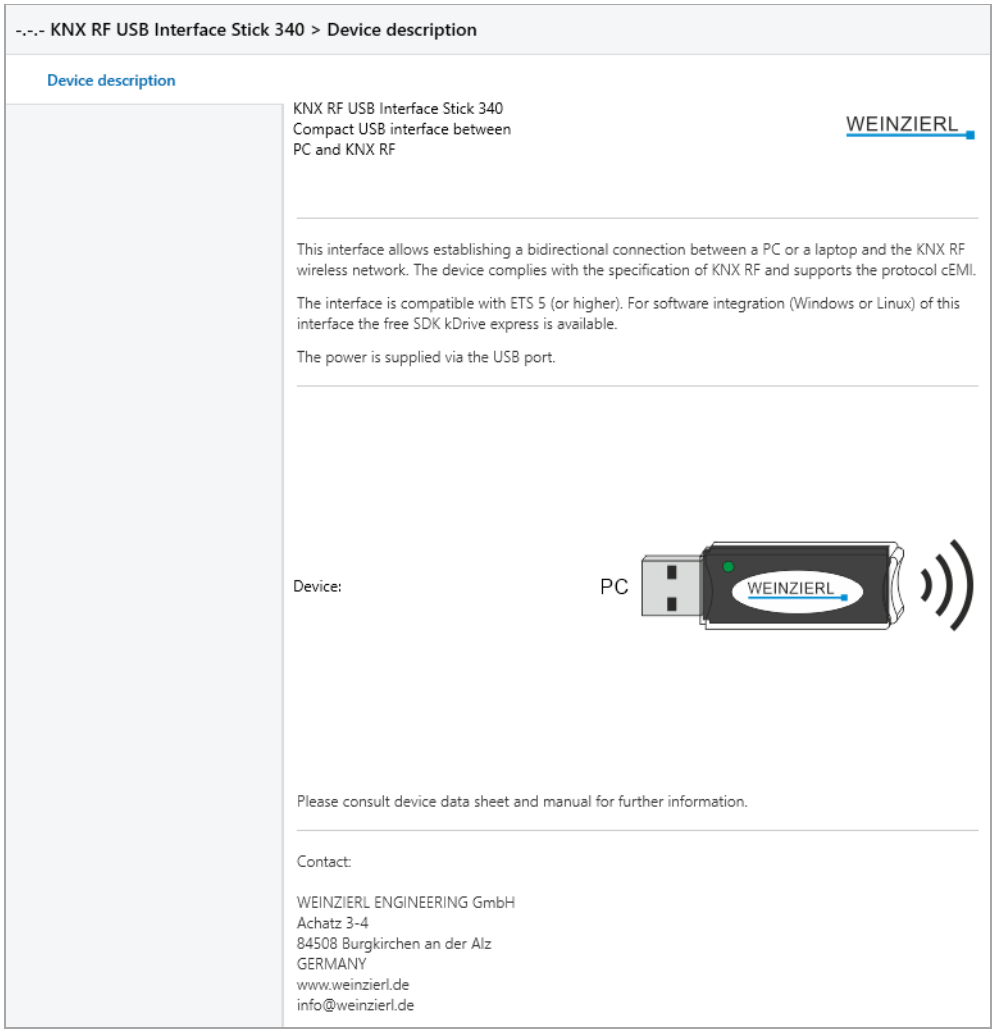
Furthermore, the "Domain Address" can be changed in the next section.

6 ETS database

The ETS5 database (for ETS 5.7 or newer) can be downloaded from the product website of the KNX RF USB Interface Stick 340 (www.weinzierl.de) or from the ETS online catalogue.

The ETS entry is not required to use the KNX RF USB interface as programming interface. It is only a placeholder to show all installed devices in the topology.

6.1 Description



This page shows the device description and the associated wiring scheme.

7 Bus monitor mode

The KNX RF USB Interface Stick 340 supports the bus monitor mode which can also be used with the ETS. In bus monitor mode all traffic on KNX RF is shown including ACK, NACK and BUSY characters.

Interfaces in bus monitor mode are completely passive on the bus and therefore cannot be used simultaneously for other operations such as downloads. To monitor an ETS download within the same ETS, the group monitor can be used. The group monitor uses the KNX RF USB Interface Stick 340 in normal operation (Data Link Layer) and can be used in parallel to other bus operations. Sending telegrams is also possible in the group monitor.

In group monitor mode, individual addressed telegrams that do not address the KNX USB interface are not received.

8 KNX Long Frames

Standard KNX telegrams are limited to an APDU length of 15. The APDU length is the number of bytes in the payload. A group telegram holding a 14 byte string (KNX data point type 16) results in an APDU length of 15.

To increase the efficiency of KNX communication, especially for download, an extended format has been defined. It can be used to send longer telegrams on KNX. To use this feature, it must be supported by the following components:

- Software (ETS)
- KNX interface (USB)
- all couplers in between
- the addressed device

The ETS version 5 and higher can automatically detect if KNX Long Frames can be used and optimizes the download accordingly.

The maximum APDU length of the KNX RF USB Interface Stick 340 used by the ETS is 196.

9 Notes for developers

The KNX USB communication is based on HID and cEMI telegram coding according to the KNX specification. To integrate the KNX USB interface in applications running on Windows or Linux the cross-platform SDK kDrive is available from Weinzierl.

In addition to the telegram interface via cEMI, the KNX RF USB Interface Stick 340 includes a complete KNX Stack with communication objects and BAOS protocol V2. Thus, the device offers the possibility to extend devices with USB connection (e.g. boards with embedded Linux) to full KNX devices, which can even be programmed with the ETS.

For more information about this solution and available SDKs please contact WEINZIERL.

WARNING

- The device must be mounted and commissioned by an authorized electrician.
- The prevailing safety rules must be heeded.
- The device must not be opened.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.

Product database for ETS 5/6
www.weinzierl.de/en/products/340/ets6

Data sheet
www.weinzierl.de/en/products/340/datasheet

CE Declaration
www.weinzierl.de/en/products/340/ce-declaration

WEINZIERL ENGINEERING GmbH
Achatz 3-4
84508 Burgkirchen an der Alz
GERMANY

Tel.: +49 8677 / 916 36 – 0
E-Mail: info@weinzierl.de
Web: www.weinzierl.de

2024-11-07