

# User Manual

## K-BUS<sup>®</sup> KNX USB Interface\_V1.0

BNTP-USB/00.1



**KNX/EIB Home and Building Control System**

# Attentions

1. Please keep devices away from strong magnetic field, high temperature, wet environment;



2. Do not fall the device to the ground or make them get hard impact;



3. Do not use wet cloth or volatile reagent to wipe the device;



4. Do not disassemble the devices.

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## Chapter 1 Summary

The KNX TP-USB Interface is designed for an intelligent building control system, which is used for facilitating communication between the PC and the KNX system. The device can connect the USB communication interface to the computer through a standard type A USB2.0 interface extension line, and the other end of the device can be connected to the KNX bus via a bus connection terminal. If the KNX bus on the device side is long enough, it can also be directly connected to the computer without USB extension line.

After the USB communication interface and the KNX bus are connected normally, the device can work and do not need an additional power supply.

Through the ETS software (version ETS5 and above) in the computer of this device, the individual address, configuration parameters, debugging and bus monitoring of the KNX device can be assigned.

The KNX TP-USB Interface has not an application program, and its individual address is able to be allocated in the individual address field of the bus connection window of the ETS. The factory default individual addresses are 10.15.255 and default serial number 0085:00000001.

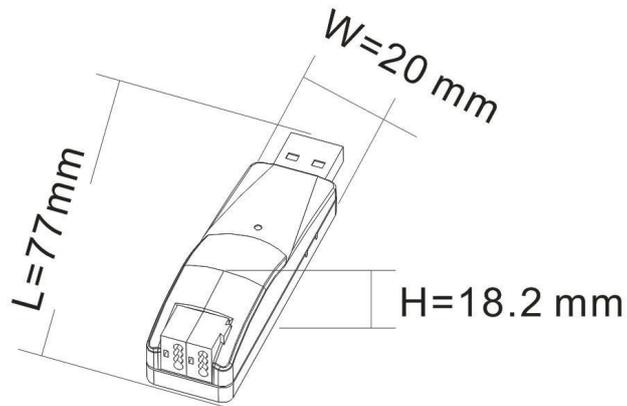
The KNX TP-USB Interface supports extended frames and long telegrams with up to 55 bytes APDU length. Due to HID profile support, no specific USB driver is required. The protocol used for communication between interface and host is the flexible “cEMI” protocol.

## Chapter 2 Technical data

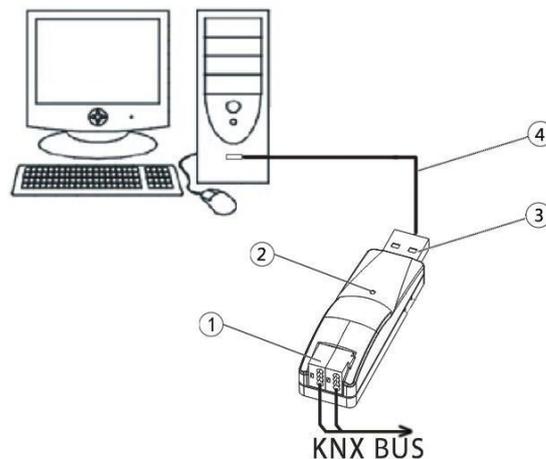
|                     |                                      |  |
|---------------------|--------------------------------------|--|
| <b>Power supply</b> | Operating voltage                    | 21-30V DC, via the KNX bus                 |
|                     | Current consumption, bus             | <3.5mA/24V, <3mA/30V                       |
|                     | Power consumption, bus               | <90mW                                      |
|                     | USB voltage                          | 5V DC                                      |
|                     | Current consumption, USB             | <100mA                                     |
|                     | Power consumption, USB               | <500mW                                     |
|                     | Total power consumption, KNX and USB | <600 mW                                    |
| <b>Interface</b>    | USB Standard 2.0                     |  |
| <b>Connections</b>  | KNX                                  | Bus connecting terminal (red/black)        |
|                     | PC-connection                        | Via USB socket type A                      |
|                     |                                      | Max. cable length 5m (standardized)        |
| <b>Indication</b>   | Green LED ON                         | A PC is linked to the device               |
|                     | Green LED flashing                   | Data transfer between USB interface and PC |
|                     | Red LED ON                           | The device is linked to the KNX bus        |
|                     | Red LED flashing                     | Telegram traffic on the bus                |
| <b>Temperature</b>  | Operation                            | -5 °C ... + 45 °C                          |
|                     | Storage                              | -25 °C ... + 55 °C                         |
|                     | Transport                            | - 25 °C ... + 70 °C                        |
| <b>Ambient</b>      | Humidity                             | <93%, except dewing                        |
| <b>Mounting</b>     | As required                          |  |
| <b>Dimensions</b>   | 18mm×20mm×77mm                       |  |
| <b>Weight</b>       | 0.1kg                                |  |

## Chapter 3 Dimension and Connection Diagram

### 3.1. Dimension diagram



### 3.2. Connection diagram



① KNX bus connection terminal

② The green LED lights on as soon as the USB interface and PC are connected and ready for operation.

Flashing means that there is telegram communication between the USB interface and PC. The red LED lights on as soon as the USB interface and KNX bus are connected and ready for operation. Flashing means that there is telegram traffic on the bus.

③ USB serial ports connection terminal

④ USB extension cable

## Chapter 4 Operational description

After the USB interface and KNX bus connection of this device are normal, we will see its default configuration in the bus connection window of the ETS, as follows:

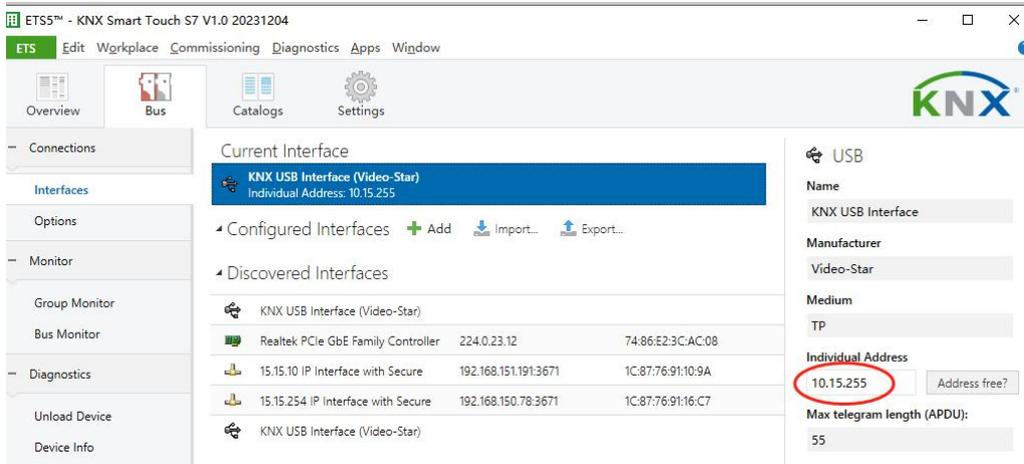


Fig.4.1 Bus connection window for ETS5--Individual address assignment (1)

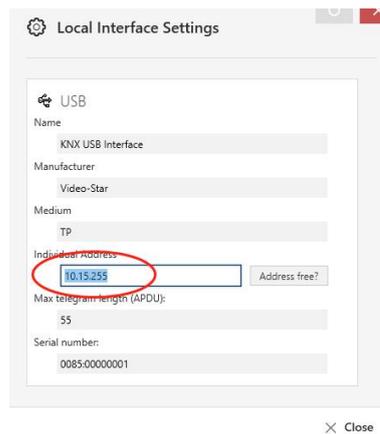
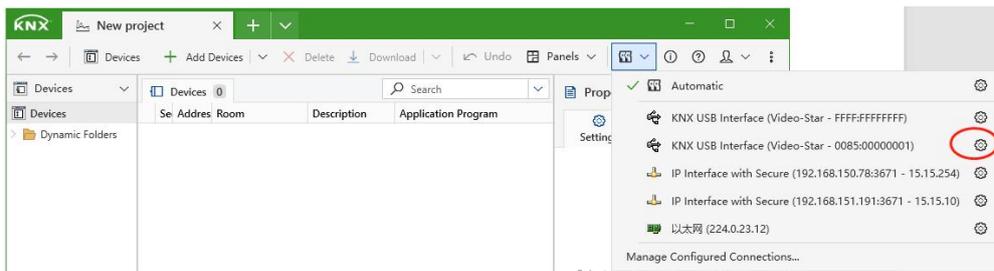


Fig.4.1 Bus connection window for ETS6--Individual address assignment (2)

In general, in the KNX topology system, it is necessary to set the correct individual address for the device according to the topology location of the device in the ETS bus connection window in Figure 4.1.

The device has an ETS database and can be used with ETS 5 or above version. But the device has not an application program, so there won't be parameters and objects in the database. The database is

mainly convenient for us to add the device to a project and set itself individual address( as shown in Figure 4.2 below), to clarify the topological location or line where the device is located.

**Note: The database cannot be used to program the individual address, and the individual address can only be modified via the bus connection window of the ETS.**

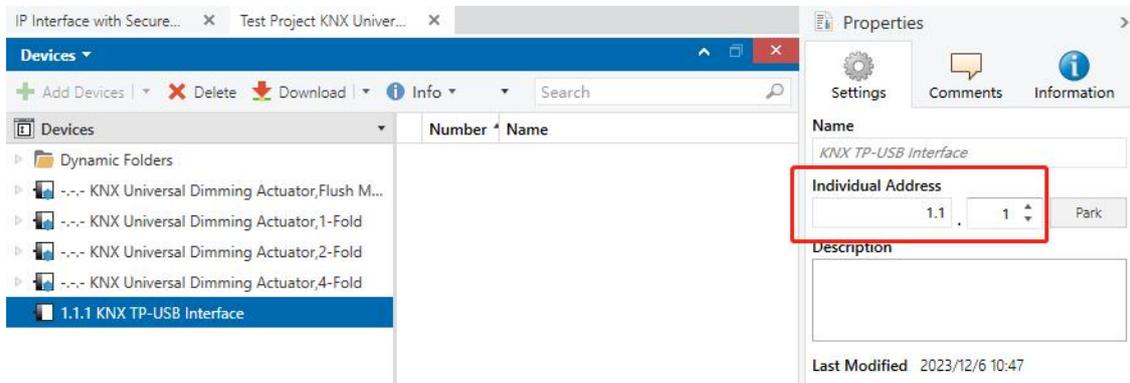


Fig.4.2 ETS project properties window--setting the desired individual address