KNX USB INTERFACE

IC-USB-S.1

User Manual

Application Program: ver. 1.0
User Manual: ver. 1.0

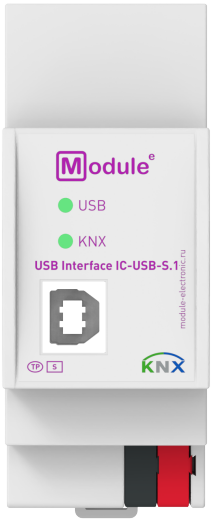
module-electronic.ru

CONTENT

1 BASIC INFORMATION

The KNX USB interface provides data transfer between the PC and the KNX bus via USB. Used to configure, monitor, visualize and manage devices on the KNX network.

- Protocol cEMI (Common EMI)
- Supports «RAW Frame» operation mode
- Interface USB 2.0 type B
- LED status indication
- Long telegrams with up to 220 bytes APDU length are supported
- USB and KNX TP galvanic isolation
- Power supply via USB
- Low power consumption
- DIN rail 35mm mounting

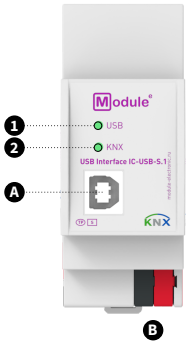


IC-USB-S.1

1.1 SPECIFICATION

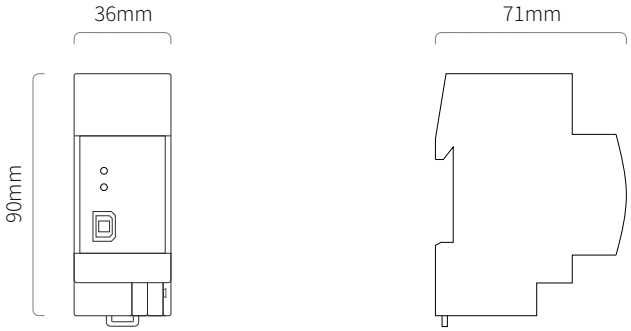
Device model	**IC-USB-S.1**	
Inputs		
USB connector	USB 2.0 type B, female	
KNX interface		
Specification	TP-256	
Available application software	ETS 4 and later	
KNX connector	4-wire EIB connector (PUSH WIRE spring clips) for standard cable TP1 0,8мм Ø	
Supported protocols	cEMI (Common EMI)	
KNX physical address by default	0.2.255	
Power supply	via USB: 5V DC	
Consumption on the KNX bus (29V DC)	< 5mA	< 150mW
Consumption on the USB (5V DC)	< 20mA	< 100mW
Operation temperature	-5°C ... + 45°C	
Operation humidity	5 ... 95% (no condensation)	
Degree of protection	IP 20, clean environment	
Mounting type	DIN rail 35mm	
Dimensions	36 x 90 x 71mm (2TE)	
Weight	62g	

1.2 APPEARANCE



A. USB connector B. KNX TP connector
1. LED state USB 2. LED bus state KNX TP

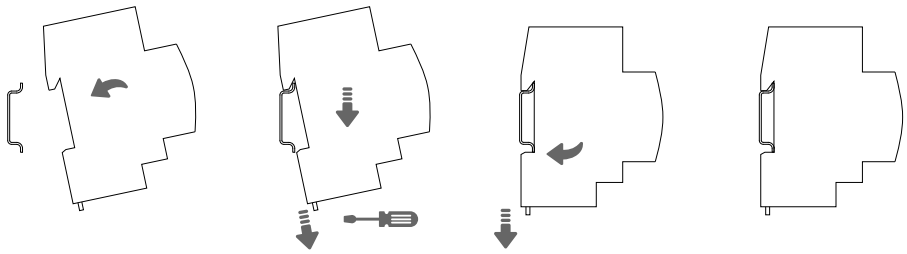
1. State USB	Green: USB connection OK / No telegram traffic Green (blinking): Telegram traffic Red: USB Suspend Mode OFF: No USB connection
2. Bus state KNX TP	Green: KNX TP connection OK / No telegram traffic Green (blinking): Telegram traffic OFF: KNX TP line not connected (or no USB connection)



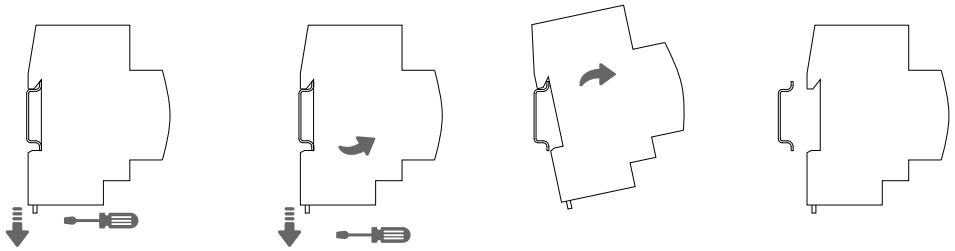
1.3 INSTALLATION AND CONNECTION

INSTALLATION

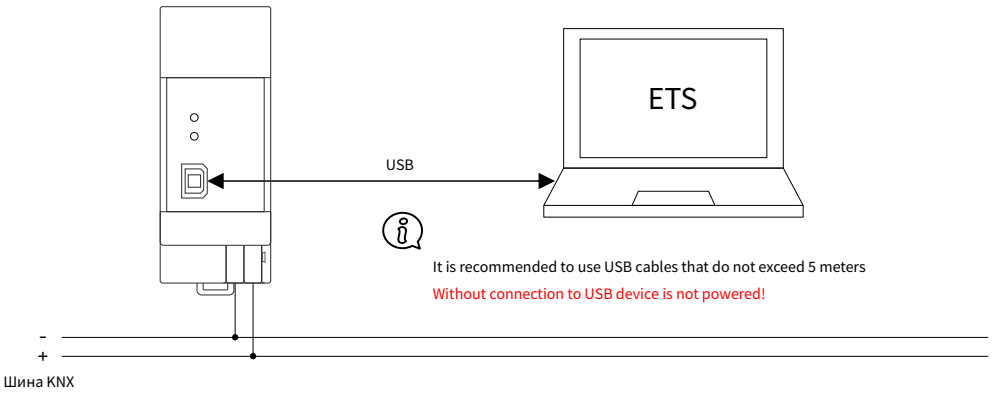
Attaching to DIN rail



Removing from DIN rail



WIRING DIAGRAMS



ATTENTION! Installation and connection of the device to the mains must only be carried out by qualified personnel! Be sure to turn off the power before installing or removing the device! Even when the device is turned off, the output terminals can be live! Do not connect to the outputs a load that exceeds the recommended values! The design of the device meets the requirements of electrical safety according to GOST 12.2.007.0-75.

2 OPERATIONAL DESCRIPTION

In KNX network installations the IC-USB-S.1 can be used as KNX USB interface. After establishing the USB connection, IC-USB-S.1 operates with its default settings. Setting the correct Individual Address is necessary to include IC-USB-S.1 in the KNX bus system.

Both LEDs lighting green show proper working of KNX bus connection and USB connection. Lightning green means the connection is established. Blinking green indicates the telegram traffic extent. In Microsoft Windows the IC-USB-S.1 is recognized as HID (Human Interface Device). So, no extra drivers have to be installed or downloaded.

The IC-USB-S.1's ETS (dummy) database entry, e.g. for connecting a visualization device, is available for ETS4 and upward. The database without parameters and without communication objects can be added to an ETS project as usual.

It is recommended to use USB cables that do not exceed 5 m.

All screen shots are related to the IC-USB-S.1 database file R1-4 in ETS5.

2.1 KNX PROGRAMMING INTERFACE

To use IC-USB-S.1 for ETS programming it has to be chosen as the Current Interface in the ETS Bus Connections window or alternatively during editing a project, at the bottom line («Name and state of current connection») of the ETS window.

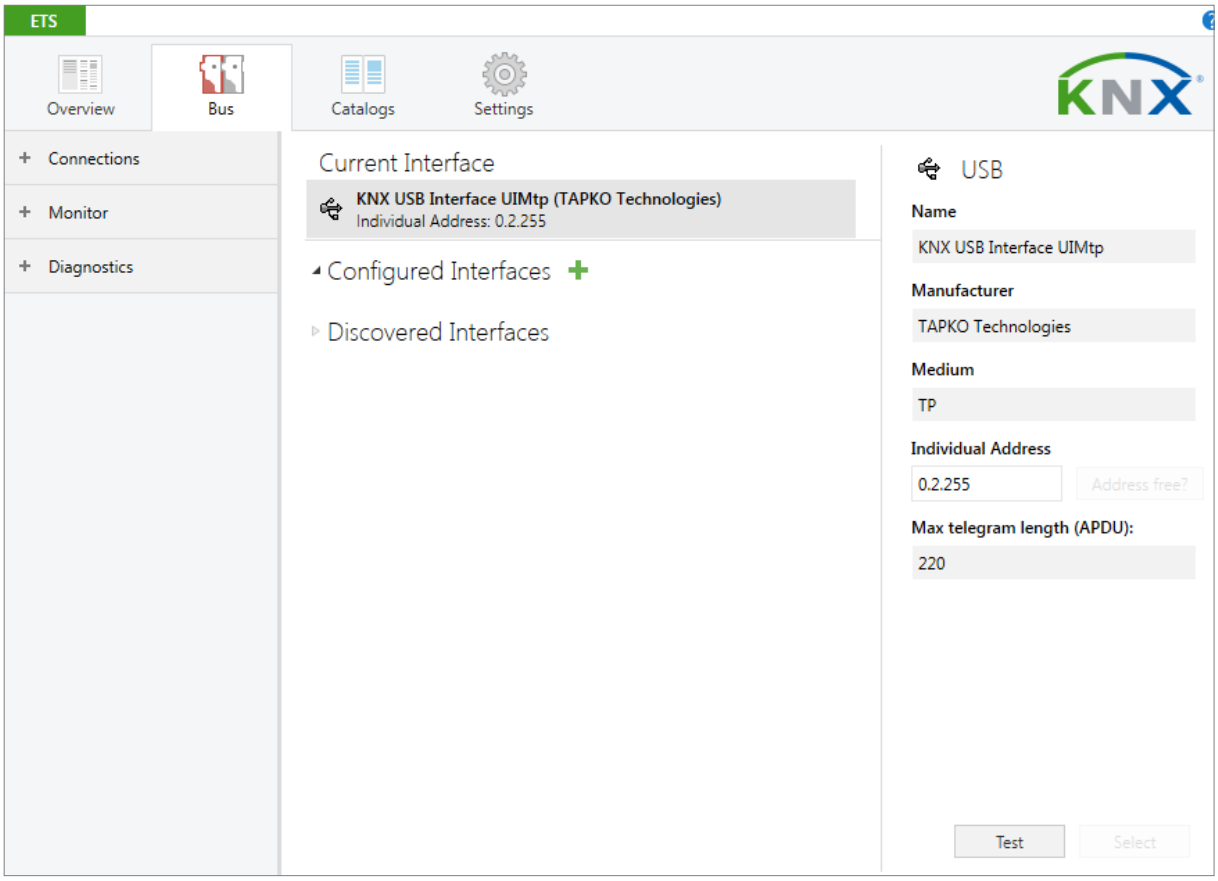


Figure 1. ETS bus connection interface windows

2.2 INDIVIDUAL ADDRESS ASSIGNMENT

The device is supplied with the Individual Address 0.2.255. With the ETS the Individual Address can be assigned to the device by setting the desired address in the Individual Address field of the Bus Connections window of the ETS. To download the desired Individual Address the IC-USB-S.1 has to be chosen as the Current Interface. Then type in the Individual Address and press the Test button.

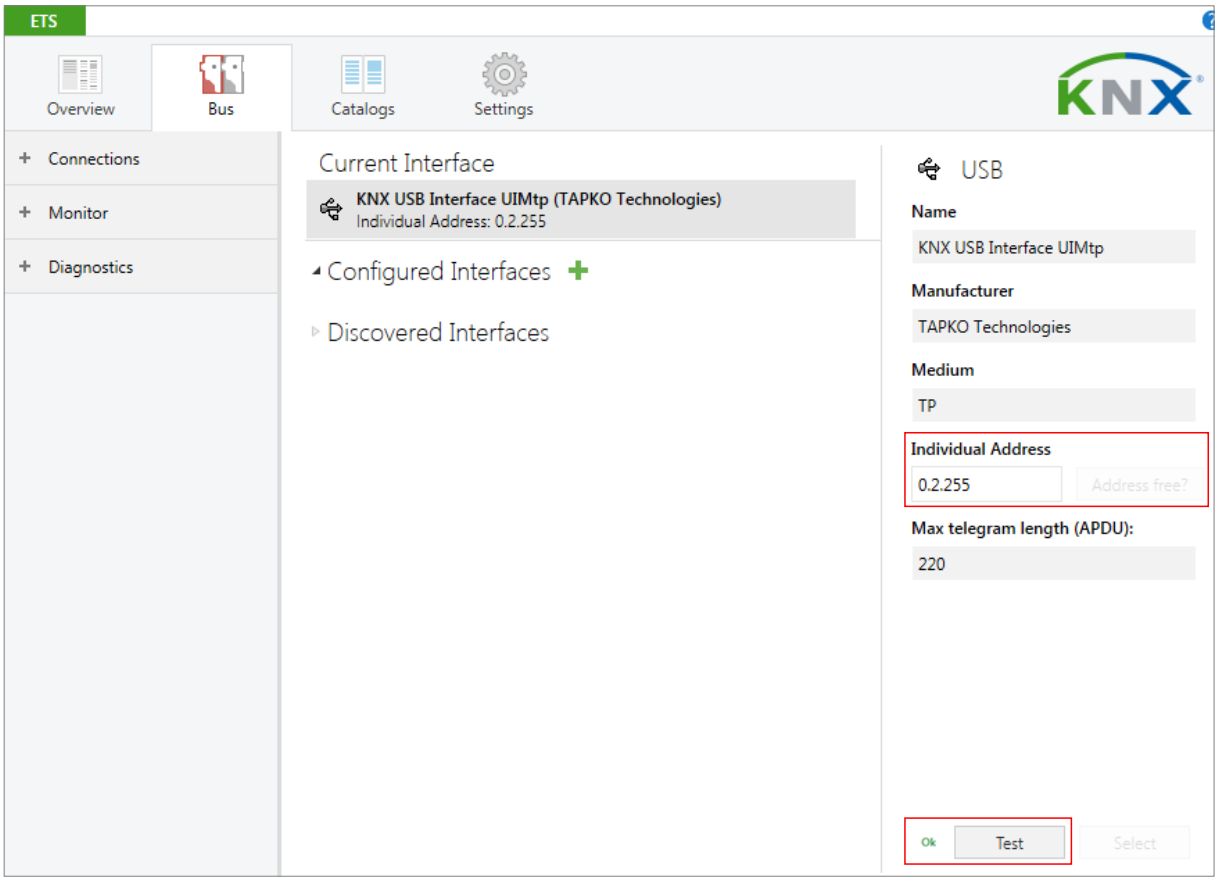


Figure 2. Individual addres assignment

2.3 PROJECT INDIVIDUAL ADDRESS

For i.e. connecting a visualization device to KNX, the IC-USB-S.1 must be contained in the ETS project. The necessary product database entry can be downloaded from the website and from the KNX Online Catalog.

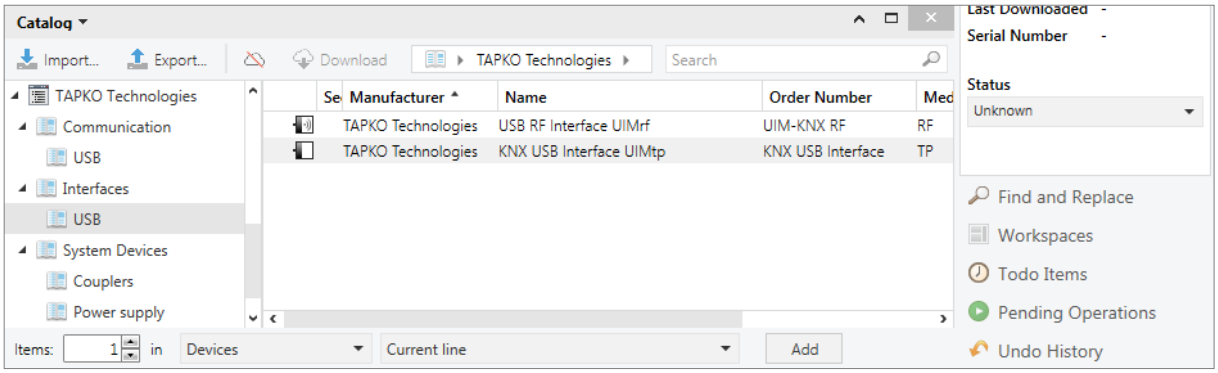


Figure 3. USB interface in the ETS catalog

With the ETS, the project Individual Address can be assigned by setting the desired address in the properties window of the ETS.

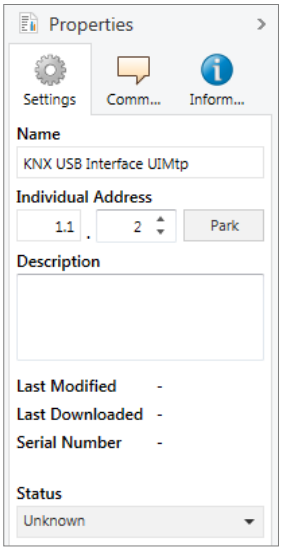


Figure 4. ETS properties window

2.4 GROUP ASSOCIATIONS

To establish a connection between a device of interest and its visualization application the IC-USB-S.1 can be used as the connecting interface. To enable group communication the group objects have to be entered to the Group Associations of IC-USB-S.1 per drag & drop (see following figure).

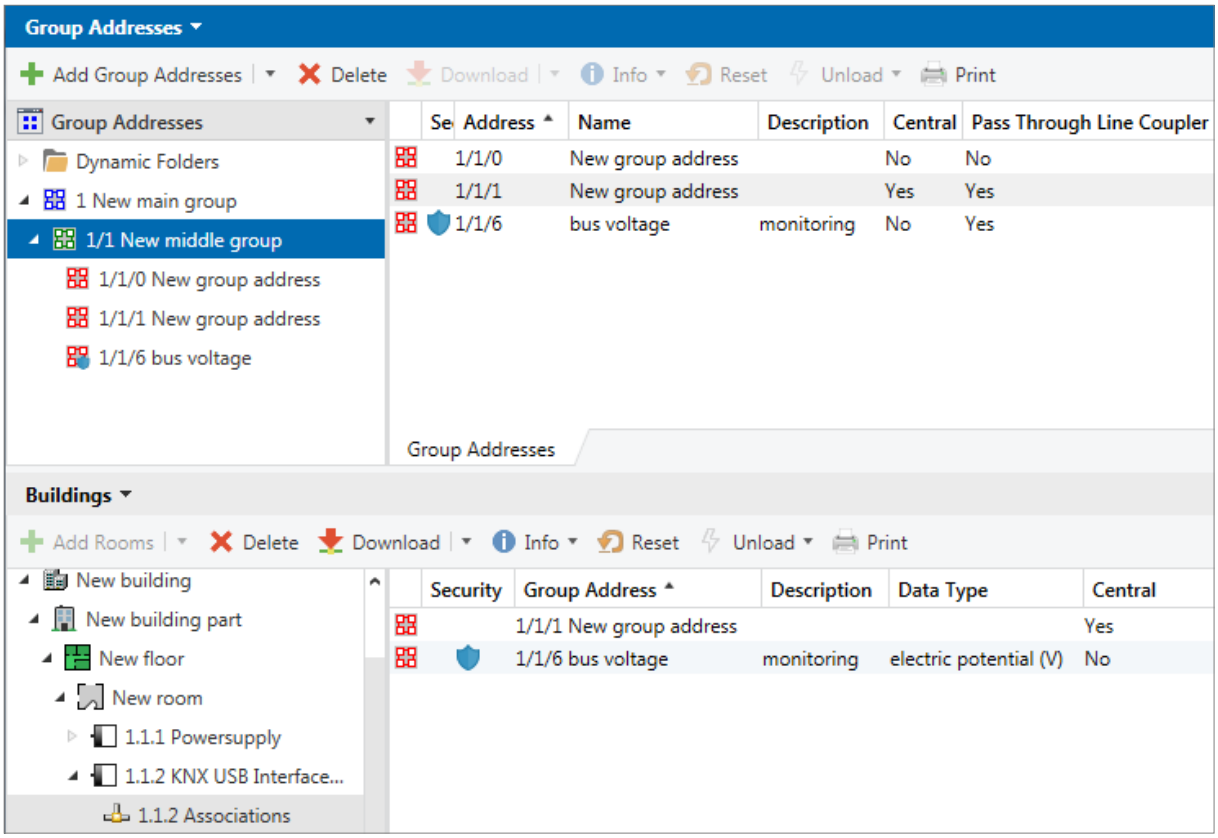


Figure 5. USB interface group address associations

Interfaces used in KNX Secure installations must know the type of access to the corresponding Group Associations. To allow communication for the regarded interface, the combination of PA/IA + GA is stored as position information in relevant devices. GAs are added to coupler filter tables by ETS automatically.

Visualization of KNX Secure devices can only be done with using secured Group Associations.