

The EIBPORT has an integrated KNXnet/IP server. This server enables KNXnet/IP communication for system coupling using KNXnet/IP routing and provides an interface for the ETS commissioning software.

## KNXNET/IP TUNNELING

KNXnet/IP tunneling is used to establish a connection between ETS and EIBPORT, to program KNX devices or to monitor KNX data traffic (bus monitor). KNXnet/IP tunneling is a point-to-point connection and is based on "unicast" (communication types / routing schemes). To establish a "tunneling" connection from the ETS to the EIBPORT, please proceed as described in chapter [Using EIBPORT as ETS commissioning](#) interface.

PORT (UDP)	3671
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## KNXNET/IP ROUTING

KNXnet/IP routing is used by so-called KNX IP routers to couple different system parts via the network. For this, a multipoint connection based on multicast is used (communication types / routing schemes).

**Please note that, in more complex network structures, multicast is not automatically forwarded via switches and routers! Ensure that the involved devices are able to communicate via multicast prior to enabling them.**

MULTICAST ADDRESS (standard)	224.0.23.12
PORT	3671

Figure 1: KNXnet/IP routing – communication parameters

### Preparations in EIBPORT / physical addressing

To enable the protocol, the EIBPORT's physical address has to be at least defined as area coupler. For information on setting the physical address, see chapter [Physical address](#).

- You can then enable "Routing" using the option "System" > "KNXnet/IP" > "Enable: KNXnet/IP to EIB" and "Enable: "EIB to KNXnet/IP" for both directions.

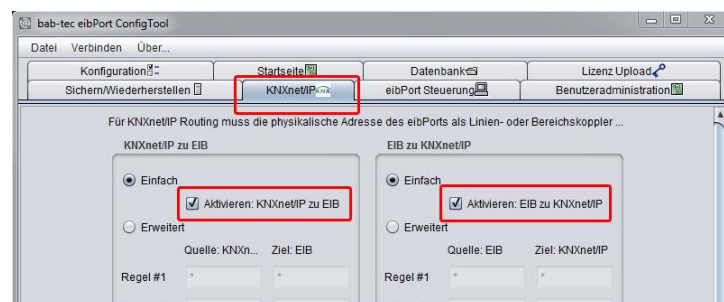


Figure 2: Enabling KNXnet/IP routing

## 1.1 USING EIBPORT AS ETS COMMISSIONING INTERFACE

Please employ the "KNXnet/IP tunneling" protocol to use the EIBPORT as commissioning interface for the ETS. The connection can be established both locally and via the internet/intranet. The latter requires the communication to be enabled in the firewall first.

### EIBPORT settings

In the EIBPORT, under "System" > "Configuration" > "Extended EIB (yabus) settings", enable the option "KNXnet/IP tunneling". The KNXnet/IP tunneling connection of the ETS requires two free physical addresses in the KNX network for communication. The addresses are used only temporarily for the "tunneling" connection. Thus, they are configured separately in the EIBPORT in addition to the actual physical address. See chapter [Physical address](#).

- Use the check box at the bottom of the menu "Extended EIB (yabus) settings" to enable the protocol. Also see chapter [KNXnet/IP tunneling](#)

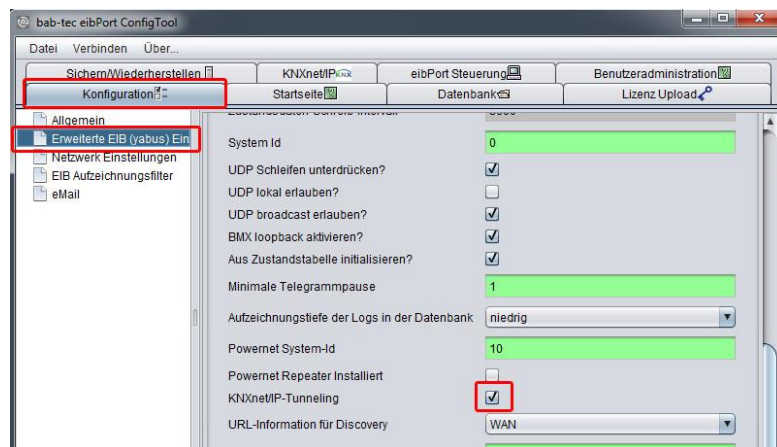


Figure 3: Enabling KNXnet/IP tunneling

### ETS settings

- In the ETS 5 go to the menu "Bus" > "Interfaces".
- Find the EIBPORT by the EIBPORT name and the IP address
- Highlight the desired device and perform the "test".
- After the test has been completed successfully, attribute the interface permanently to the ETS by clicking on "Select".

The ETS will then automatically use this interface for all connections relevant to KNXnet/IP tunneling.

### Programming via the Internet

For a connection over the Internet requires a valid EIBPORT the "default gateway" in its network settings. In addition, the router must be in place before the firewall or NAT rules accordingly. The communication between EIBPORT and ETS applies to the UDP port 3671 instead! Manually enter in the ET, the IP address in the box provided, since an automatic search for the devices for the drop-down list does not work via the Internet. Moreover, there must be activated with a remote connection to the mandatory "NAT mode".

### Settings in the ETS 3 & 4

- Open the menu "Extras" > "Options" > "Communication" in the ETS and press "Configure interface".
- Select "KNXnet/IP" as protocol type.
- Manually enter the address of the EIBPORT.

## 1.2 CREATE A VALID ETS RECORD FOR THE EIBPORT

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There is no ETS-Application for the EIBPORT because it is completely parameterized over its web interface. In order to reserve the physical address in the ETS Project and to create filter rules correctly, please insert a dummy application into your project.

## 1.3 EXPORT THE GROUP ADDRESSE FROM THE ETS (ESF FILE)

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If you want to transfer the group addresses from your ETS project onto your EIBPORT, you have to export it via the OPC Export of the ETS Software. By this all group addresses which are related to the project are exported.

### Export from the ETS5

To export the group addresses from the ETS5, proceed as follows:

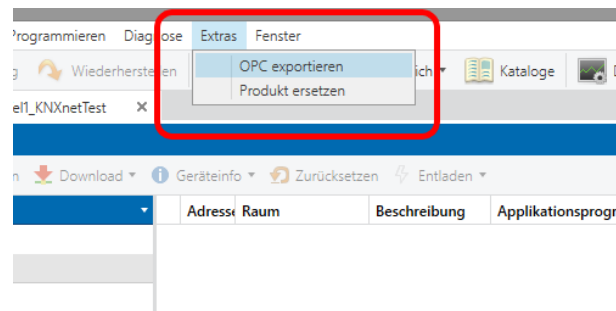


Figure 4: ETS 5 - ESF export

- Open the relevant project
- Open the menu "Extras" > "Export OPC" and select the desired storage location

### Export from the ETS 4

To initiate the \*.esf export from the ETS 4, the desired project has to be opened first. The menu "Extras" > "Export OPC" in the project overview can then be used to store a \*.esf file at any location.

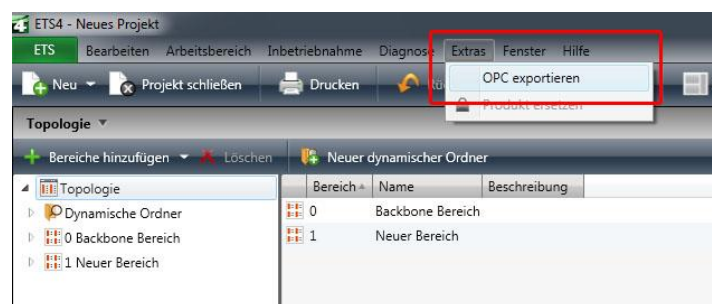


Figure 5: ETS 4 - ESF export

The ESF file can be uploaded to the EIBPORT in the editor via "Upload ESF & data management". The entry can still be modified there, if required.

### Export from the ETS 3

To export the group addresses from the ETS3, proceed as follows:

Select *File -> Data exchange (e. g. OPC)* in the menu. The dialog "Export foreign format" appears. Select the second option *Export ...* under "Export to OPC server" and specify a storage location. The result of the export is an \*.esf file.

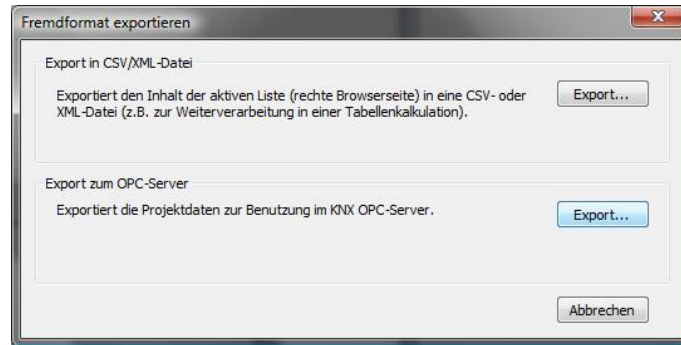


Figure 6: ETS - exporting ESF file

## ADDRESS STRUCTURE SINCE ETS 4

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**Important: Limited compatibility since ETS4! From ETS4, please use only the two-level or three-level group address structure commonly used in the ETS2/3. Use with the extended group address range or the free group address structure is not possible.**

## PHYSICAL ADDRESS

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The configuration of the physical address affects both communication on the KNX/TP interface and KNXnet/IP communication (for KNXnet/IP configuration see chapter [KNXnet/IP | ETS](#))

### Physical address of the BCU

The EIBPORT uses this address to communication on its KNX/TP line. In addition, this address is used for KNXnet/IP routing. This address must correspond to the EIBPORT's place of installation and may not be used twice in the KNX system. To ensure correct documentation, we recommend placing a so-called dummy application in the ETS which documents the physical address used in the EIBPORT. KNXnet/IP routing can only be enabled in the EIBPORT if the physical address is a line coupler or an area coupler address (ends with 0).

### Individ. addr. for KNXnet/IP tunneling

These addresses are used by the tunneling connections established with the EIBPORT. One connection can be established for each address that has been specified. The addresses used here must not be similar to the "Physical address of the BCU", they have to be party addresses (they must not end with 0) and they must not be used by other devices in the KNX system. The first two digits of the addresses must correspond to the place of installation (or the used physical address). Since ETS 5 the ETS needs two parallel tunneling connections to successfully establish a connection. Therefore, at least two addresses have to be specified here. The addresses have to be separated by a semicolon.

**Note: If you restore backups from older EIBPORT versions, the address settings might be overwritten with only one configurable tunneling address. In this case it is no longer possible to establish a connection from the ETS 5.**

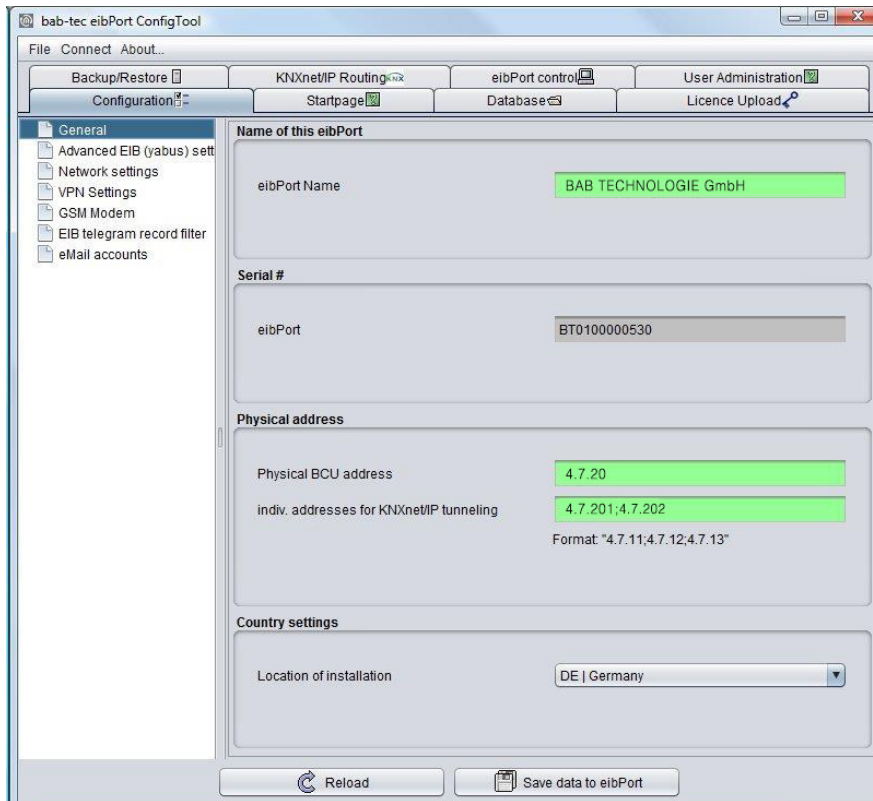


Figure 7: ConfigTool - configuration - general