# KNX IP BAOS 770(REG)      EN

Operating and installation manual



## Purpose

The KNX IP BAOS 770 is used as Interface for connecting to KNX/EIB both on telegram level (KNXnet/IP Tunneling) and on data point level (KNX Application Layer). BAOS stands for "Bus Access and Object Server".

It is possible to connect to KNX/EIB-Bus everywhere over LAN. Bus connection over the Internet with KNX IP BAOS 770 is also possible.

There are two ways to assign an IP-address to the KNX IP BAOS 770: get the IP-address from a DHCP-server or configure it with the ETS (as ETS parameter). It requires an external 12 V to 24 V power supply (AC or DC) or can alternatively be powered via Power-over-Ethernet (IEEE 802.3af).

## ETS Database

With the ETS, following parameters can be set:

General:
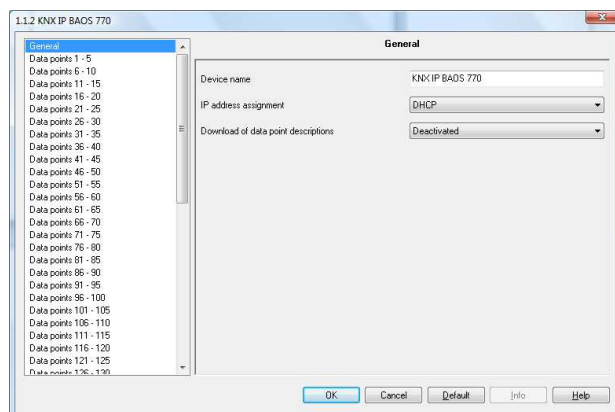


Device name:
It's possible to assign any name for the KNX IP BAOS 770. The device name should be significant (e.g. Data points 1$^{st}$ floor), because the name is used when searching for devices.

IP-Address assignment:
*DHCP:* The device can get its IP-address from a DHCP-server automatically. There must be a

DHCP-server in the LAN in order to use this functionality (e.g. this can be a DSL-router with a DHCP-server integrated).
*Manually:* In this case, the IP-address, the subnetwork and the IP-address of the gateway have to be entered.
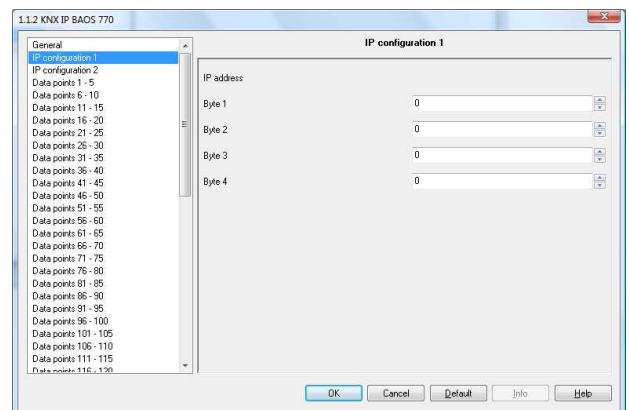
Download of the data point-descriptions:
If this parameter is activated, then descriptions will be written into the device during download.
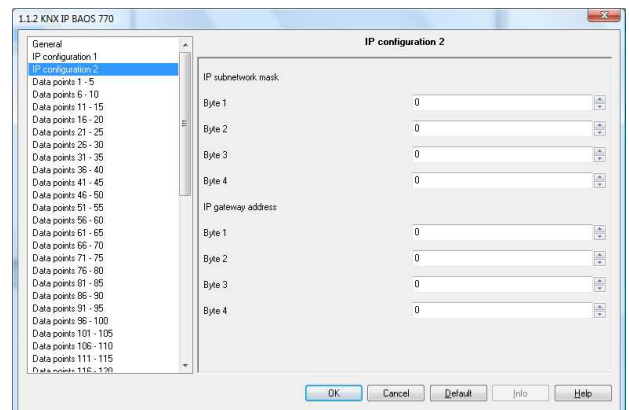
**Attention:**
When changing this parameter, all datapoint-descriptions will be exchanged in the ETS.

IP-Configuration:



IP-Address:
Enter the IP-Address of the KNX IP BAOS 770 here.



IP-Subnetwork:
Enter the subnetwork mask here. The mask helps the device to discover, whether the communication partner is the local network. If the partner is not in the local network, then the device sends the IP telegrams not directly to the partner but to the gateway, which forwards the telegrams to the device.

IP-Gateway-Address:
Enter the IP-Address of the gateway here.
Hint: Leave 0.0.0.0 there, if the KNX IP BAOS 770 ought to be used only in the local LAN.

**Example for IP-Address assignment:**

Over a PC the KNX IP BAOS 770 shall be accessed.

IP-Adress of the PC:     `192.168.1.30`
Subnetwork of the PC:     `255.255.255.0`

The KNX IP BAOS 770 is located in the same local LAN therefore it use the same subnetwork mask. Because of the used subnetwork the IP-address assignment is limited, only addresses with format 192.168.1.xx can be assigned the device, xx stands for the range 1-255 (without 30, because already assigned to PC).  Be careful not to use one IP-address more then once.

IP-adress KNX IP BAOS 770:     `192.168.1.31`
Subnetwork KNX IP BAOS 770:     `255.255.255.0`

**Data points:**

Up to 250 data points can be parameterized. Each data point gets a group address, in order to send to the bus. More then one group address can be set for one object for receiving.
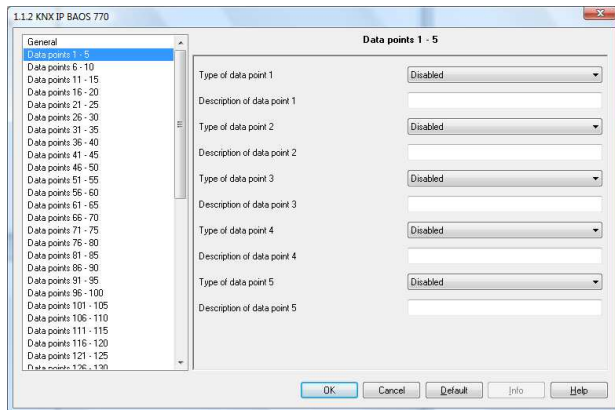
Type of the data point:
For each data point the type can be set. Following data points are available:

1 Bit
2 Bit
3 Bit
4 Bit
5 Bit
6 Bit
7 Bit
1 Byte
2 Byte
3 Byte
4 Byte
6 Byte
8 Byte
10 Byte
14 Byte

Description of data point:
For each data point a short description (max. 30 characters) can be entered, in order to check the usage of the data point later, when device is running.

Attention:
Only if the parameter „Download of data point description" is activated, the description will be written into the device.
If you change the parameter „Download of data point description", all data point descriptions will be exchanged in the ETS.

**Parameter:**

KNX IP BAOS 770 has 16 bytes of free parameters, which can be readout over Ethernet. The client has to evaluate the bytes.
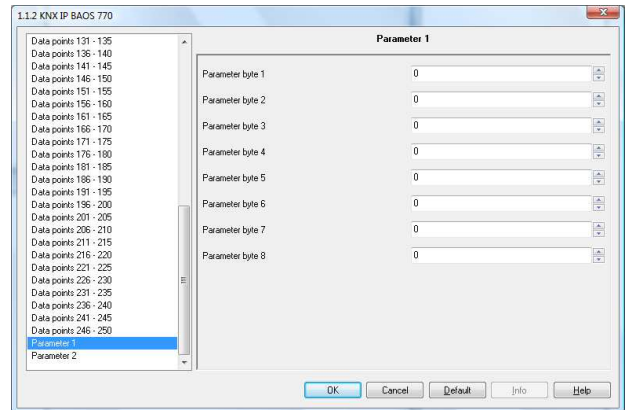
Parameter Byte:
For each of the 16 bytes a value between 0 and 255 can be entered.

## ETS Connection Manager

If the IP-configuration of the KNX IP BAOS 770 is valid, then this device can act as an interface to KNX/EIB. In order to use this function, go to the ETS (version 3.0c or higher), take Extras/Options then the tab communication:

Click on Configure Interfaces… to open the ETS connection manager.
Create a new connection of type EIBnet/IP. The ETS automatically starts searching for KNXnet/IP devices. All detected devices should be shown. The preferred device has to be selected.
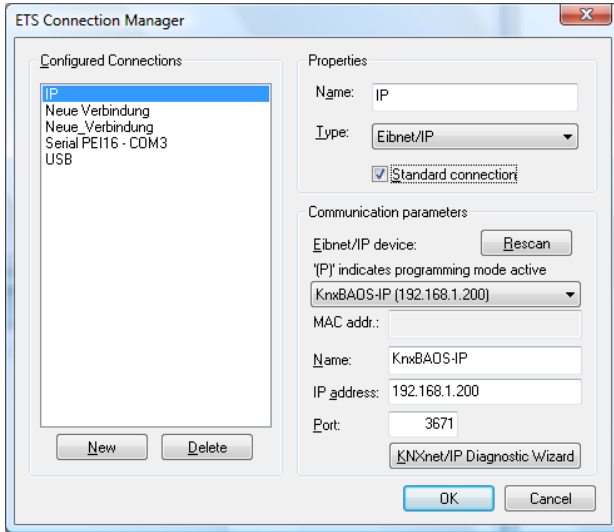
In order to access the KNX/EIB, the KNX IP BAOS 770 needs a second physical address. The second physical address is only used for bus access and can be adjusted separately:

In ETS menu go to Extras/Options and choose Communication. Then choose the already created connection. After a click on Settings… the following dialog is opened:



Enter here an unused physical address. The address shall be valid in the line where the interface is installed. A dummy device may be created in the ETS-project to reserve this address.

## Installation and Connection

The KNX IP BAOS 770 is designed for installation on DIN rail with a width of 2 units (36 mm). It has the following display and control elements:
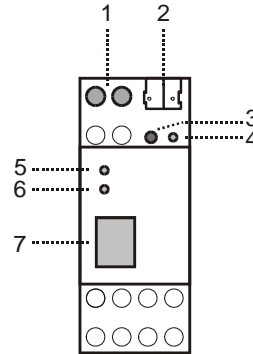


1: Connector for external power supply (12 V to 24 V AC or 12 V to 30V DC)
2: Connector for KNX/EIB with a bus terminal
3: Learn key
4: Learn LED (red)
5: LED (green):
   - Lights up to indicate bus voltage on KNX/EIB
   - Flashes to indicate telegram traffic
6: LED (green):
   - Lights up to indicate Ethernet connection
   - Flashes to indicate telegram traffic
7: RJ 45 socket for connecting an Ethernet patch cable

An external power supply only needs to be connected if the switch in use does not support Power-over-Ethernet.