

KNX IP BAOS 771

Operating and installation manual

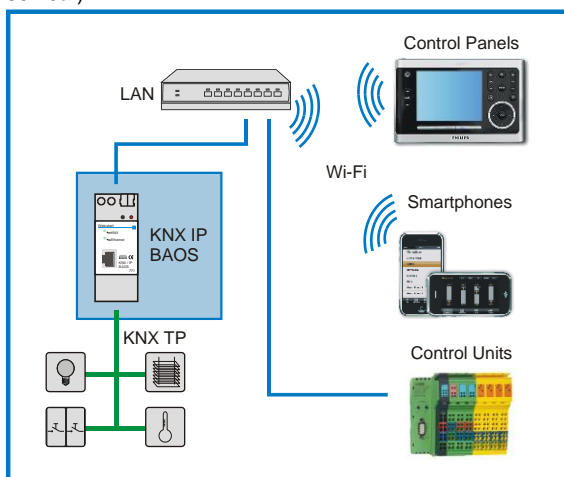


Purpose

The KNX IP BAOS 771 is used as Interface for connecting to KNX both on telegram level (KNXnet/IP Tunneling) and on data point level (KNX Application Layer). Clients can directly access Group Objects via either a Binary Protocol (over TCP/IP or UDP/IP) or via JSON (Java Script Object Notation) Web Services. The device is configured with ETS and supports up to 250 Group Objects. 10 simultaneous client connections are supported.

BAOS is an acronym for “*Bus Access and Object Server*”. It is possible to connect to KNX -Bus everywhere over LAN. Bus connection over the internet with KNX IP BAOS 771 is also possible. The device supports 5 simultaneous KNXnet/IP tunneling connections.

There are two ways to assign an IP-address to the KNX IP BAOS 771: 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).



Object Server

Access to the Object Server is possible via a Binary Protocol or via Web Services. Protocol descriptions can be downloaded at the KNX IP BAOS 771 product site at www.weinzierl.de. A C++ SDK (released under the BOOST software license) is available which provides an implementation of the Binary Protocol for TCP/IP.

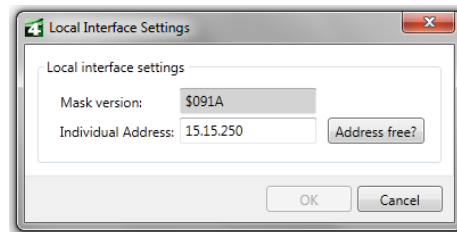
ETS Connection Manager

The KNX IP BAOS 771 can only act as an interface to KNX when the IP-configuration is valid.

The following configuration steps are required:

Select the button ‘Settings’ on the tab ‘Communication’ in the main window of ETS4. All available connections are listed under ‘Discovered connections’. Select the desired connection.

The KNX IP BAOS 771 supports up to 5 simultaneous tunneling connections. Each connection uses its own physical address. The address of the first tunneling connection can be changed within the ‘Local Interface Settings’.



Physical addresses of the additional tunneling connections can be assigned directly on the device.

This is done by pressing the learn key on the device (3) longer than one second. After that, the Learn-LED will start blinking, which indicates that the assignment of the additional addresses was successful.

The additional addresses are assigned as follows:

Tunneling connection 2 receives the next higher address than tunneling connection 1, tunneling connection 3 the next higher address than tunneling connection 2 etc..

For example:

- Device address: 1.1.255 (address within ETS topology)
- Connection 1: 1.1.250 (address within local settings)
- Connection 2: 1.1.251 (assigned by learn key)
- Connection 3: 1.1.252 (assigned by learn key)
- Connection 4: 1.1.253 (assigned by learn key)
- Connection 5: 1.1.254 (assigned by learn key)

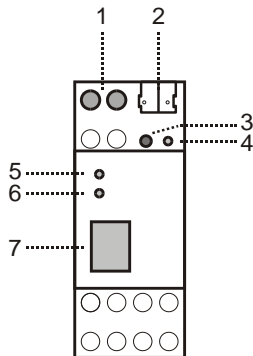
All addresses have to be unique and valid within the sub line of the KNX IP BAOS 771. Note: be careful not to assign the same address as the device address for a connection. The

device address can be changed within the topology view of the ETS software.

For new devices (i.e. in the factory settings state), only the additional individual address of the first connection is active with the address 15.15.250. To support multiple concurrent connections additional address assignment is required.

Installation and Connection

The KNX IP BAOS 771 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 with a bus terminal
- 3: Learn key
- 4: Learn LED (red)
- 5: LED (green):
- Lights up to indicate bus voltage on KNX
- 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.

Attention:

If ETS Bus Monitor is used via a KNXnet/IP tunneling connection, the Object Server will be inactive! Access via the Object Server will be no longer possible. This issue is just related to the ETS Bus Monitor mode, there is no such limitation for the ETS Group Monitor.

Factory reset

Factory default configuration:

Physical device address: **15.15.255**

Number of configured tunneling connections: **1**

Physical address of tunneling connection 1: **15.15.250**

IP address allocation: **DHCP**

It is possible to reset the device to its factory settings.

Resetting to the factory state:

- Disconnect the power supply to the device (external power supply, PoE)
- Press and hold down the learn key (3).
- Reconnect the power to the device.
- Hold down the learn key (3) for at least 6 seconds.
- A blinking of all LED's (4, 5, 6) indicates the successful restore of the factory configuration.



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