



BAB TECHNOLOGIE GmbH

EIBPORT

Documentation

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1 INTRODUCTION

Product:	EIBPORT
Application:	Gateway
Type:	REG (DIN Rail mounted)
Order No.:	10104, 11104, 10504, 11504, 10304, 13304, 11304, 13104

EIBPORT is a device for DIN rail mounting with a electric power consumption of less than 5W. The integrated software is based on Java; this serves for a platform independent operation. Actually EIBPORT serves as a gateway between Ethernet LAN and both „KNX“, „EnOcean“ and Powernet.

The EIBPORT comes with all necessary software pre-installed. It can either be accessed via your web browser (Visualisation), web browser & Java machine (Editor & System) or completely via BAB STARTER. Also, an app for integrated CUBEVISION visualisation is available in the iOS Appstore and Google Playstore.

The EIBPORT not only provides a visualisation, but also offers a great number of automation services (jobs) which can be used to program scenarios and algorithms. In addition, these services offer different approaches for integrating external systems into building control systems.

1.1 TECHNICAL DATA

- Voltage supply: 12-30 V DC
- Power consumption: ≤ 5 VA
- Operating system: Embedded Linux
- X86 600 MHz CPU, 256 MB RAM, 4 GB Flash
- Resistant to climate: EN 50090-2-2
- Ambient temperature: 0 to + 40 °C
- Rel. humidity (non-condensing): 5 % to 80 %

Specific features:

- Integrated CUBEVISION
- SO / 1-Wire as standard
- New web-based Job Editor (available from the end of 2016 via free update)

Mechanical data:

- Assembly: modular device (REG) housing, 8 HP
- Dimensions (W x H x D) in mm: 144 x 90 x 64.5
- Housing: plastic
- Weight: approx. 0.4 kg
- Degree of protection: IP20 (according to EN 60529)

Interfaces (depending on the model):

- KNX® via bus terminal (Twisted Pair)
- Ethernet via RJ-45 female connector
- 1-Wire via USB
- 4 SO interfaces
- EnOcean® via external SMA antenna
- GSM® via external SMA antenna



1.2 OVERVIEW OF MAIN FUNCTIONS

- Web visualisation for all terminal devices
- Free CONTROL L visualisation
- Innovative CUBEVISION visualisation
- Visualisation app for iOS® & Android®
- No licence costs & platform-independent
- Easy-to-use Visualisation Editor (based on image editing programs)
- Web-based, graphic Job Editor (available from the end of 2016)
- HTTPS access possible
- Encrypted user authentication
- Integration of IP network cameras
- Time synchronisation with NTP server
- RSS feed display element
- Integrated VPN server
- Integrated BAB **SECURELINK**
- Address transfer from ETS
- Bus monitor and data recording (500,000 telegrams)
- Address status table for initialisation
- No data point limitation

Integrated services:

- Week timer, year timer, special day timer, astro timer
- Staircase function, delayer
- Logics, lighting scenarios
- Comparator, threshold switch, hysteresis, multiplexer
- Time & date sender
- E-mail (thus also SMS via e-mail)
- Sending and receiving SMS directly (GSM module)
- Fault message processing
- Infrared & RS-232 connection via UDP
- UDP receiver & sender
- Cyclic transmitter
- Integration of ekey®-home & multi
- Screen for ABB-DALI®-Gateway
- SONOS® control
- **AUDIOMODULE** control
- SQL data logging
- ETS remote programming
- KNXnet/IP routing
- Room temperature control
- HTTP request with response evaluation using regular expressions
- Mathematics module, integrator
- Counter, impulse counter
- Wake on LAN
- System coupling
- 1-Wire USB connection
- Impulse counter for SO interface

Optional additional software:

- BAB STARTER
- CUBEVISION APP (Android® & iOS®)
- CONTROL R occupancy schedule management
- CONTROL W Desktop Widget
- DATAWAREHOUSE 2 for data and consumption analysis



1.3 GENERAL INFORMATION ON THE OPERATING INSTRUCTIONS

Please note that all statements and illustrations are non-binding. In the interests of our customers, the software described in these operating instructions is being constantly developed further. Therefore, the information provided may not always correspond to the current state of the software. For up-to-date information regarding EIBPORT firmware, please refer to www.bab-tec.de or call our product service +49.231.476 425 – 30.

1.4 SCOPE OF DELIVERY / INTERFACES

EIBPORT is delivered with the following:

- 1x EIBPORT
- 1x KNX bus clamp
- 1x CD
- 1x Short Manual

A power supply is not part of the bundle!

Beneath the 10-30V power connector the EIBPORT provides the following interfaces:

- 1x RJ 45: Ethernet 100Mbit/s Full Duplex
- 1x USB for 1-Wire (without function)
- 4x S0-interfaces (without function)

Optional:

- 1x KNX: Twisted Pair
- Powernet KNX: Busch-Jaeger net coupler (allover width is 10TE! then)
- EnOcean: TCM300 Transceiver + magnetic base antenna with 2,50m cable
- GSM: Quad Band GSM Modem (850/900/1800/1900 MHz)



1.5 UPDATES / VERSION HISTORY

Generally, all EIBPORT firmware can be updated. To determine the correct update process, it is important to know the version number of your EIBPORT hardware. There are 4 different hardware versions.

- Hardware version 1.0 > up to firmware version 0.3.17
- Hardware version 2.0 > up to firmware version 0.7.8
- Hardware version 2.1 > since firmware version 0.8.0
- Hardware version 3.0 > since firmware version 1.0.1

A Software Update can only be made within one hardware version. To update the hardware (“upgrade”) please ask for an individual offer for your device.

The software update for hardware versions 1.0 und 2.0 can only be done by us. The device has to be sent in or the access via internet has to be enabled. Detailed information you’ll get at BAB TECHNOLOGIE Support (info@bab-tec.de).

The software updates for the 2.1 and the 3.0 version hardware are made on site by the customer using the update tool V2.1 or V3. The needed download files are available on the website (<http://www.bab-tec.de>) or can be requested from info@bab-tec.de.



2 INITIAL OPERATION AND INSTALLATION

For initial operation of the device actually valid security information has to be paid attention to. Moreover for initial operation beneath power supply and KNX connector a PC with network adapter and a patch or cross-over cable is necessary. Please have a look at the updated information in this manual.

2.1 SAFETY INSTRUCTIONS

Working on low-voltage systems and on the KNX is only allowed to trained and qualified personnel. Installation and connection of the bus mains, the 10-30V mains as well as the integrated units, have to be performed in accordance with current DIN VDE guidelines as well as the EIB-manual.

This component is intended to be installed for application in distribution boards resp. control panels and can be used for installation in

- Indoor applications,
- Dry rooms,
- Low-voltage distributors,
- Mini-boxes

Doing so, you have to respect the environment-requirements, compliant with the protection class and permitted operating temperature of the EIB-unit.

The line with integrated choke cannot be used as the operating voltage of 10-30 V DC.

Safety and regulatory compliance standards:

- DIN EN 55024 Einrichtungen der Informationstechnik (equipments of information technology)
- DIN EN 60950 Sicherheit von Einrichtungen der Informationstechnik. (safety of information technology)
- DIN EN 50090-2-2 Elektrische Systemtechnik für Heim und Gebäude (electrical systems for home and buildings)

CE- qualification according to:

- EMV- Richtlinie (Wohn- und Zweckbau) (EMV-guideline, residential- and functional building)
- EN 50081-1
- EN 50082-2
- EN 50090-2-2

! Note - Functional security!

In case of special requirements regarding risks to life or property (functional safety), appropriate additional measures have to be taken. These measures must have the necessary independence from the operation of the EIBPORT and always have to be available.

Measures to reduce risk you can take from the Tables "Functional safety" of the "Building Control Handbook, Fundamentals" from ZVEH / ZVEI.



2.2 DEVICE OVERVIEW

EIBPORT V3 provides space for two modules of communication. Available are KNX(TP), Powernet KNX (End of Life), EnOcean and a GSM-module. By this the device can be adapted exactly to the customer's needs. Thereby the following possible combinations arose in connection with the new GSM-module:

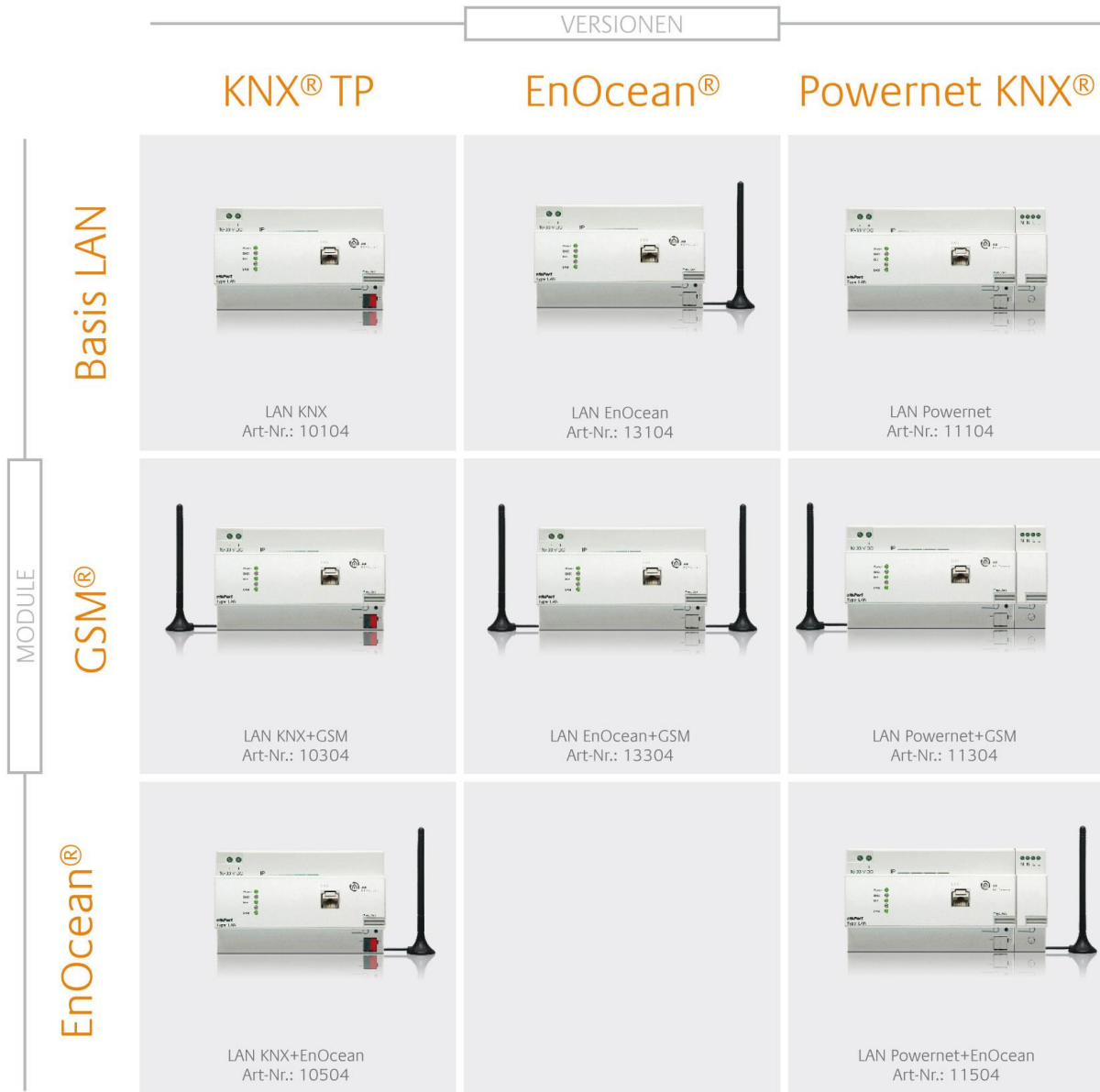


Figure 1: Device Overview

Here the EIBPORT 11504 Powernet KNX (EOL) with EnOcean is displayed. As these interfaces are optional, in the basic version the SMA-port, the antenna and the Powernet coupler are absent. Equipped with Powernet coupler, EIBPORT is 2TE wider and will spread to 10 TE overall.

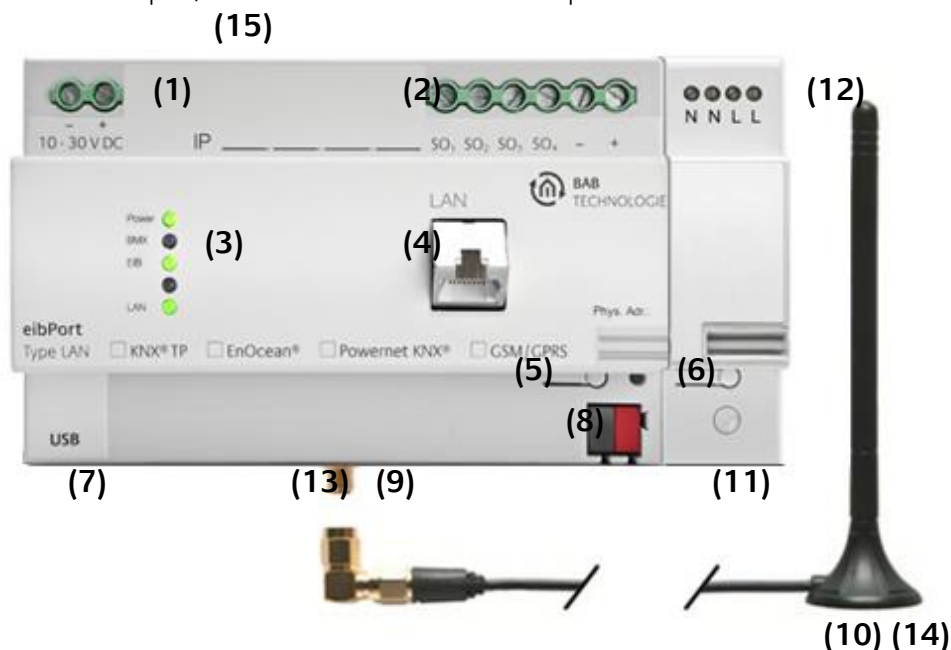


Figure 2: Device Overview

- (1) Power supply 10-30 V DC
- (2) SO-Terminal
- (3) Signal LEDs
- (4) RJ45-socket for Ethernet LAN
- (5) Programming button
- (6) Programming-LED
- (7) USB-2.0 Terminal for 1-Wire Devices

Varianten Abhängig Bauteile

KNX (bei Typ 10104/10504)

- (8) Bus clamp KNX/EIB

EnOcean (bei Typ 10504/13104/11504)

- (9) SMA Socket for EnOcean Antenna
- (10) Magnetic base antenna incl 2,50m cable and SMA plug

Powernet KNX (bei Typ 11104/11504)

- (11) Gateway for Powernet
- (12) Clamp for Powernet

GSM-Antenne (bei Typ 10304 / 13304 / 11304)

- (13) SMA Socket for GSM-Antenna
- (14) Magnetic base antenna incl 2,50m cable and SMA plug
- (15) SIM Card Slot, Insert card the chip is showing to the backside, and the kinked corner to lower right. See also the SIM icon on the case.

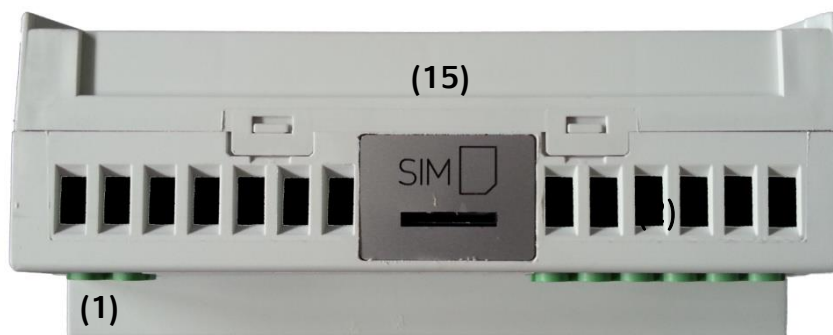


Figure 3: Top View



2.3 INSTALLATION

When mounting the device and during the initial operation please take care and note the following information to prevent any risk.

Attention!

Device may be destroyed in case of wrong use. Operations under voltage may cause residual voltage. Before connecting the device please disconnect the installation environment from voltage.

Please pay attention, that EIBPORT is protected against polarity reversal, but not against surge voltage. In case excessive voltage will be connected, EIBPORT can be destroyed.

GENERAL

Environment

Voltage:	12- 30V
Power consumption:	<= 5 W
Climate persistent:	acc to EN 50090-2-2
Ambient temperature:	0 - 45°C
Rel. humidity (not condensing):	5% - 80%

Plugging the device

Snap the device onto the top-hat rail acc to 60715

Power supply

When establishing the power supply, please make sure that sufficient power is available. The EIBPORT requires 300 mA at 12 V during the boot process. Connect the power supply unit according to the marking on the screw-type terminals **(figure 2 (1))**.

Ethernet

For programming the EIBPORT it is necessary to access via LAN. This can be done both using an existing LAN network or via direct connection. Plug in the network cable (LAN) into the RJ 45- connector **(Figure 2(4))**.

Prerequisites of the Client PC

In order to use EIBPORT a PC with network adapter is necessary. An uptodate browse ras well as an actual Java environment should be part of the operating system.

Note: If the browser blocks the execution of Java, please use the BAB STARTER.

ETS

The EIBPORT does not require an ETS application. The BCU does not need to be programmed. Please also refer to chapter "[Physical address](#)".

The device warms up during operation. Take care about the maximum ambient temperature and for sufficient thermal discharge.

ADDITIONAL FOR KNX

To establish optimum operating conditions and performance the EIBPORT should be connected to the KNX bus system. It is of prior importance that the device is supplied with bus voltage; real devices on the bus system are not needed.

Plugging the device

- Connect the bus wire with the bus clamp **(figure 2, (8))**
- Switch on the bus voltage

ADDITIONAL FOR POWERNET

Plugging the device

- Connect the Powernet KNX net coupler with the electric power wire (**figure 2, (11)**)
- Setting the System ID in the ConfigTool

ADDITIONAL FOR ENOCEAN

Plugging the device

- Screw the SMA plug on the SMA connector to tighten it (**figure 2, (9,10)**).

ADDITIONAL INFORMATION FOR 1-WIRE

Connecting the device

In most cases 1-Wire devices are powered via USB (1-Wire bus master). If the 1-Wire sensors are to be operated as slaves, i.e. without their own power supply, 15-20 slaves can be coupled using a 1-Wire adapter/bus coupler, with a line length of approx. 20-30 metres.

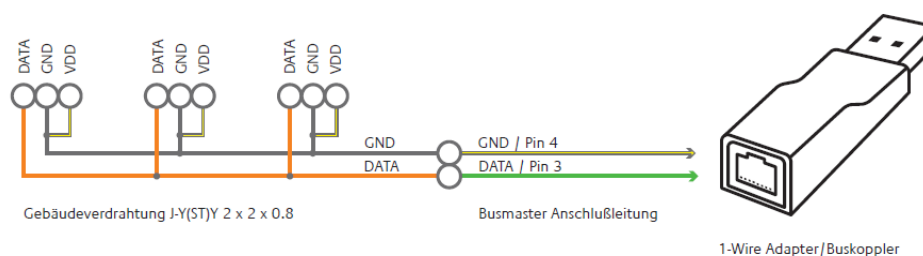


Figure 4: Installation version including 1-Wire sensors with parasitic power

- Connect the 1-Wire adapter to the EIBPORT's USB port. The 1-Wire network is connected to the EIBPORT via the 1-Wire USB adapter.

ADDITIONAL FOR GSM

The SIM card is not assembled by default, and can be selected and changed freely by the customer.

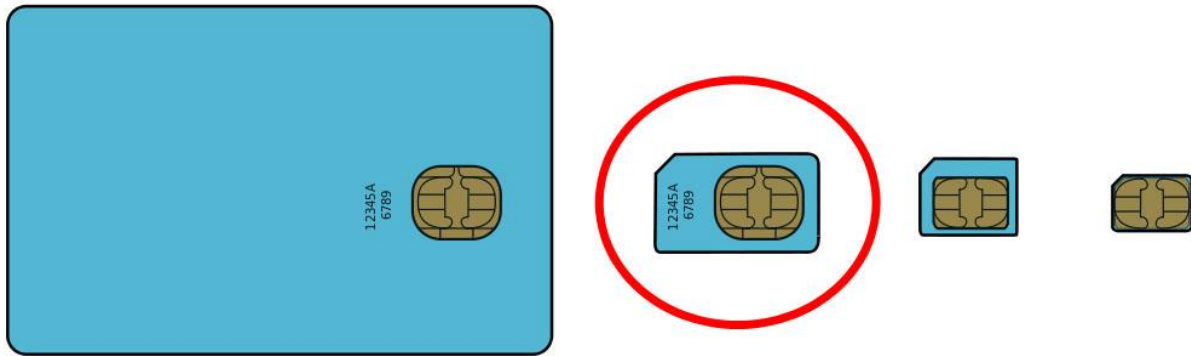
Initial commissioning, as well as the change of SIM card will be described in the additional instruction "EIBPORT GSM initial operation".

Technical data GSM Module:

- Quad Band GSM Modem (850/ 900/ 1800/ 1900 MHz)
- SMS sending and receiving

Requirements of the SIM-card:

1. **Provider:** Provider must ensure a good signal at the mounting location.
2. **Tariff:** Because EIBPORT will send and receive SMS, the tariff should offer cost advantages according to that. In order to do a first test with the SIM-card after mounting, "Roaming" should be enabled (in case the provider is located outside of Germany).
3. **Size of SIM-card:** For EIBPORT the SIM-card size „Mini“ is needed (see figure below, red circled). Here is an overview of all SIM-cards sizes:



Source: http://de.wikipedia.org/w/index.php?title=GSM_SIM_card_evolution.svg

Figure 5: GSM Sim Cards

ADDITIONAL FOR S0

- Connect 24 V DC to the terminal for the S0 pulse input power supply (**Figure 6, 5**). No 230V!
- Connect S0 pulse input devices to the S0 pulse input terminals as follows (**Figure 6, 4**).

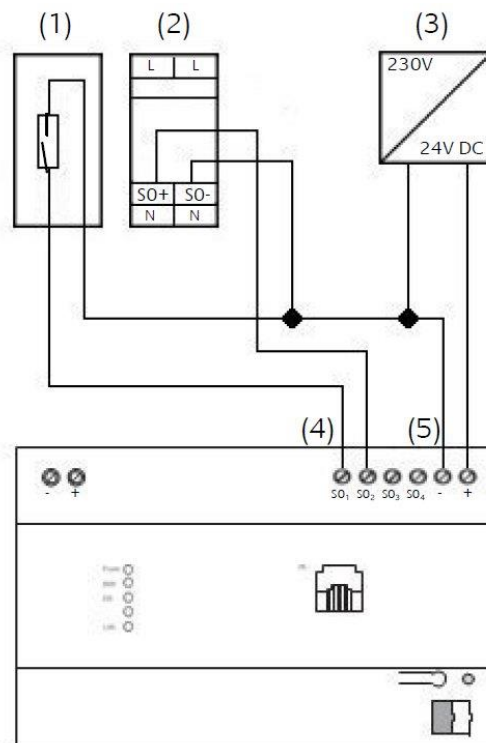


Figure 6: S0 pulse input connection plan

- (1) Reed-contact to be placed on the counter.
- (2) e.g. Eltako Single-phase Energy Meter WSZ12D-32A
- (3) Power Supply 24V DC
- (4) S0 pulse input terminal for analyzing measured value
- (5) Terminal for S0 pulse input Power Supply 24V DC

OPERATING STATE

When all connections are made correctly the device may be supplied with power. Please wait until the device has booted completely before checking the correct installation. The boot phase takes about 2 minutes. Have a look at signal LEDs (**figure 1 (3)**).

If everything is done correctly 3 LEDs are flashing

- | | | |
|-------------|---|-----------------------------|
| ▪ Power LED | = | green |
| ▪ BMX LED | = | green |
| ▪ EIB LED | = | green (eventually blinking) |
| ▪ LAN LED | = | green (eventually blinking) |

- ⇒ If the EIB LED of the device is not lighting green, the KNX-driver of the EIBPORT is not been started. Please reboot the EIBPORT.
- ⇒ Is the LAN LED not lighting, there is no LAN connection available. Please check the LAN cable resp. the connection.
- ⇒ If the Power LED is orange, the device is not started correctly
- ⇒ Does the BMX LED not appear to be green, the Application Server is not started. If this doesn't change even after several reboot tryouts, the device is defective.

2.4 COMMISSIONING AND ACCESS

If the LED indicates that the device has been started correctly, it can be commissioned. The device is commissioned only via network and web browser. Programming using ETS is not necessary (except for hardware version 1).

Note: If the browser blocks the execution of the Java machine, please use the BAB STARTER program.

2.4.1 COMMISSIONING USING BAB STARTER

Once the BAB STARTER has been installed, it is started via the following icon.

Note: Please refer to the separate BAB STARTER documentation. It is available in the download section at <http://www.bab-tec.de> or on the CD that was supplied with the EIBPORT. The BAB STARTER has an integrated Java machine. Therefore, no local Java installation is required. You can access all EIBPORT levels directly from the BAB STARTER menu.



Figure 7: BAB STARTER icon

When you open the BAB STARTER for the first time, a start screen is displayed with the following options:



Figure 8: BAB STARTER menu

2.4.2 COMMISSIONING VIA THE BROWSER / JAVA SETTINGS / PREPARATIONS ON CLIENT PC

If you want to use the browser instead of BAB STARTER to configure the EIBPORT, and provided that your browser does not block the execution of the Java plug-in, please note the following:

1. Required on the computer

A current Java virtual machine (Java VM) and browser with active Java VM plug-in.

2. Requirements in the EIBPORT

For EIBPORT hardware V3, firmware version 3.2.3 or higher has to be installed (you can update the hardware yourself). In hardware V2, firmware 0.7.8 with certificate has to be installed (only possible at the factory), in hardware V2.1, firmware 0.11.7-os, which is available on our website (download section at www.bab-tec.de), has to be installed.

Note: If no firmware version with officially signed Java applets is installed, a current Java machine will block execution of the applet by displaying an error message. You can use a site list in the security settings of the Java machine to add URLs which enable the execution of applets even when the official signature is missing.

1. Delete and disable temporary internet files

If the latest Java Version is installed please close all browser windows (also Download popups etc) and access to the Java Control Panel via „Start“ > „Control Panel“ > „Java“. In the first Tab „General“ you will find „Settings“ for „Temporary Internet files“. Disable the check box from „Save temporary internet files on computer“ and delete these files using the „Delete“ button below.

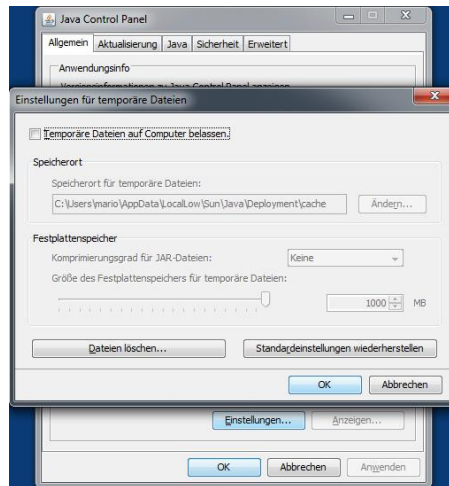


Figure 9: Disable temporary internet files

2. Memory extension for Java / deinstall old Java versions

From tab „General“ switch to tab „Java“. Open the settings for Java runtime environment by „Show“. The window shows all installed versions. If more than one version is installed; deinstall the older ones first. Then double click on the array „Java Runtime Parameter“ and enter „-Xmx256M“ (consider the minus character). Finish with the „Enter“ button and leave the window by „OK“. Note: in „Java Control Panel“ it is important to click on „Apply“ before closing the window by „OK“.

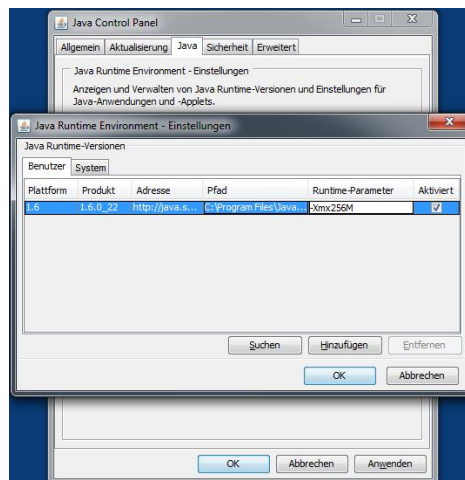


Figure 10: Increase Java heap space

After that, please also delete the cache data of your browser. You will find corresponding instructions in the internet or in the help files of your browser. In case all necessary steps are done, the browser must be restarted.



2.4.3 DEFAULT IP ADDRESS/ DISCOVERY TOOL

To call up the EIBPORT, simply enter the IP address into the address line of the browser. If the EIBPORT's factory settings are still in place, it can be accessed via the default IP address. This depends on the firmware version:

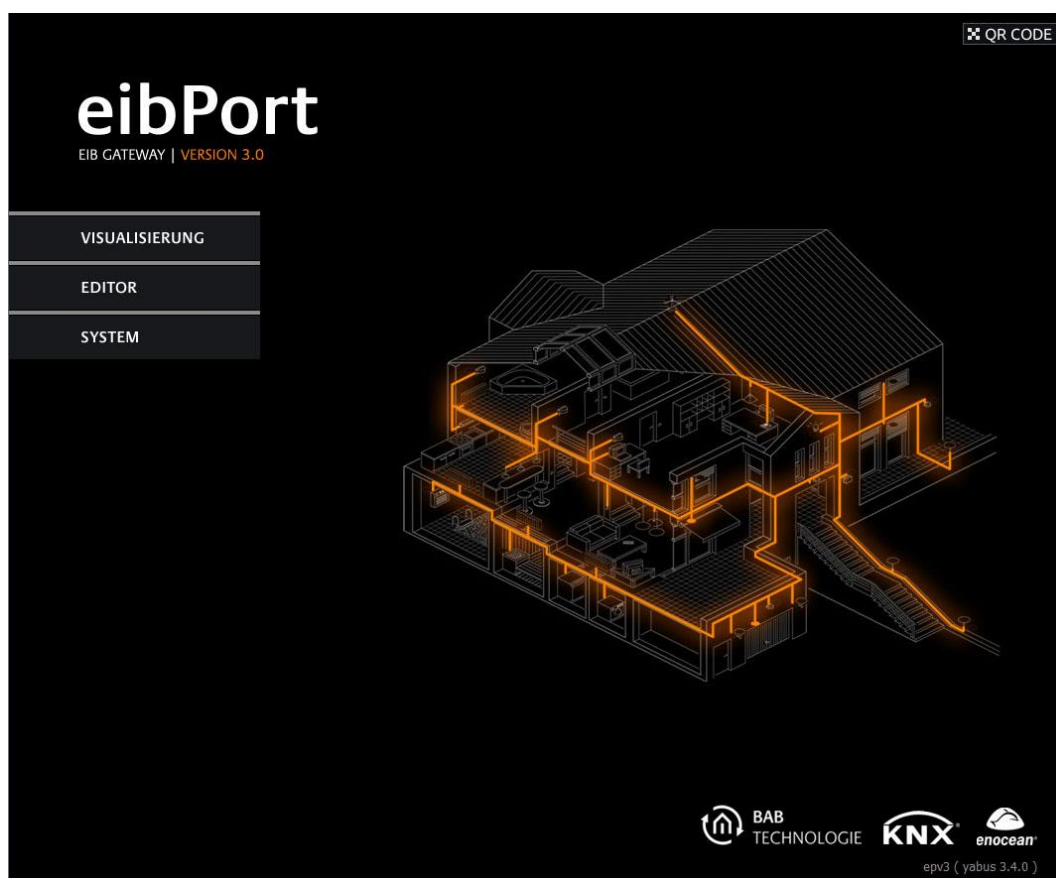
- Up to firmware Version 0.10.2 => **192.168.1.1**
- From firmware Version 0.11.1 => **192.168.1.222**

If the EIBPORT can not be reached from both it will have been in use before already and the IP Address was changed. To set the device in operation nevertheless the „Discovery tool“ will help you to find the device in the network. This tool will be delivered with the installation CD or alternatively can be downloaded from BAB TECHNOLOGIE GmbH (http://www.bab-tec.de/index.php/eibport_v3_de.html).

The discovery tool serves for reading out address information even if the device is outside the network range. If the device is located within the same IP address range it is displayed in green otherwise in yellow. If the EIBPORT is outside the PC's IP range the IP Address has to be changed. So the PC and EIBPORT just differ within the last three digits.

2.4.4 EIBPORT START PAGE

After you have entered the IP address, the EIBPORT start page appears. This page contains the menus "Visualisation", "Editor" and "System". To access the items "Editor" and "System", you need a password and, additionally, for menu item "System" you need the EIBPORT character string (sticker on the back of the device and the quick start guide supplied with the device).



Note: The EIBPORT start page can be accessed from the URL "<http://<EIBPORT IP>/bmxJava2/default.php>".

2.4.5 PASSWORDS

Access to "System" and "Editor" is protected by username and password. The access data can be edit over "System". In delivery status the following access data is valid:

Area:	Username	Password:
Editor:	admin	eibPort
System:	admin	eibPort

To change a password, the new password has to be entered twice.

2.4.6 BASIC SETTINGS

The following settings in "System" are important for the initial commissioning.



Figure 11: ConfigTool - configuration

Network settings (IP address / default gateway / DNS server / NTP time server)

You can access the network settings via "System" > "Configuration" > "Network settings".

KNX addressing (physical address for KNX / indiv. address f. KNXnet/IP tunneling)

The physical address is not programmed using the ETS but using the menu items "System" > "Configuration" > "General". The "individual address for KNXnet/IP tunneling" serves for using KNXnet/IP tunneling connections. Also refer to chapters "System" or "ETS".

Installation Location

The installation Location setting under "System" > "Configuration" > "General" is important for the time zone.

2.4.7 ACCESS VIA HTTPS

The EIBPORT web server supports HTTPS. To use this feature, "https" must be entered in front of the address. Example for the EIBPORT start page:

<https://192.168.1.222/bmxJava2/default.php>



Please note: When you access the EIBPORT via HTTPS, the browser displays a message that the certificate could not be verified. To avoid this message, the system operator has to issue a certificate specifically for this EIBPORT and system. Please ask us. Otherwise, confirm in the browser that you are aware of the risk.

2.5 EXTERNAL ACCESS TO THE EIBPORT (ACCESS VIA THE INTERNET)

There are different options enabling external access to the EIBPORT.

- Access via VPN solutions
- Access via port forwarding

2.5.1 DYNAMIC DNS AND CHANGING IP ADDRESSES

If your internet provider has not assigned you a fixed IP address, you should set up a so-called dynamic DNS service for access. Your constantly changing IP address thus gets a fixed domain name enabling you to always access your router from outside without knowing the actual IP address. The choice of the "DynDNS" provider depends on the router manufacturer. Many routers support one or several providers and report a new IP address to the responsible DynDNS provider.

2.5.2 ACCESS VIA PORT FORWARDING

To access the EIBPORT from outside via port forwarding, the following port numbers must be used:

For CONTROL L / CUBEVISION only:

http / https (TCP)	80/443
--------------------	--------

For configuration (Editor / System) and Java Visualisation:

http / https (TCP)	80/443
bmx (TCP / UDP)	1735
ssh (TCP)	36

For ETS (KNXnet/IP tunneling):

KNXnet/IP (UDP)	3671
-----------------	------

Please note that the port numbers can be re-set in EIBPORT. Verify the settings under "System" > "Configuration" > "Extended EIB (yabus) settings". Also see chapter ["advanced EIB \(yabus\) / settings"](#).

Specifically, this means that, on the configured port, all requests to your router will be forwarded directly to the same port of the EIBPORT (they will be forwarded and not redirected). The specific port forwarding settings depend on the router used.

Note: Please make sure that the standard gateway address entered in the network settings is correct.



2.5.3 ACCESS VIA VPN (VIRTUAL PRIVATE NETWORK)

VPN stands for "Virtual Private Network" and means a specially secured connection between server and client. A virtual, individual (private) network is established between the communication partners which cannot be accessed by third parties. Server and client use this network to communicate in such a way as if they were in the same network. From a security point of view, a VPN should always be preferred over simple port forwarding. There are different possibilities and providers for setting up a VPN.

VPN SOLUTIONS IN THE EIBPORT

EIBPORT offers two different VPN solutions: "VPN PPTP" and "VPN SSL".

VPN PPTP (see chapter [VPN PPTP](#))

- Automatic configuration on client side
- Solution for iOS devices
- Server functionality only
- No longer meets current security standards

VPN SSL (see chapter [VPN SSL](#))

- Based on OpenVPN
- Server and client functionality (BAB SECURELINK)
- Very secure
- Not possible with iOS

To be able to establish the VPN connection, port forwarding in the local firewall is required as well.

VPN PPTP (TCP)	1723
VPN SSL (TCP)	1724

The relevant chapters ([VPN PPTP](#) [VPN SSL](#)) describe how to establish the connection.

VPN USING THE ROUTER

Many modern routers offer the possibility to set up a VPN access. In this way, you have external access to your entire local network including the EIBPORT.



3 VISUALISATION

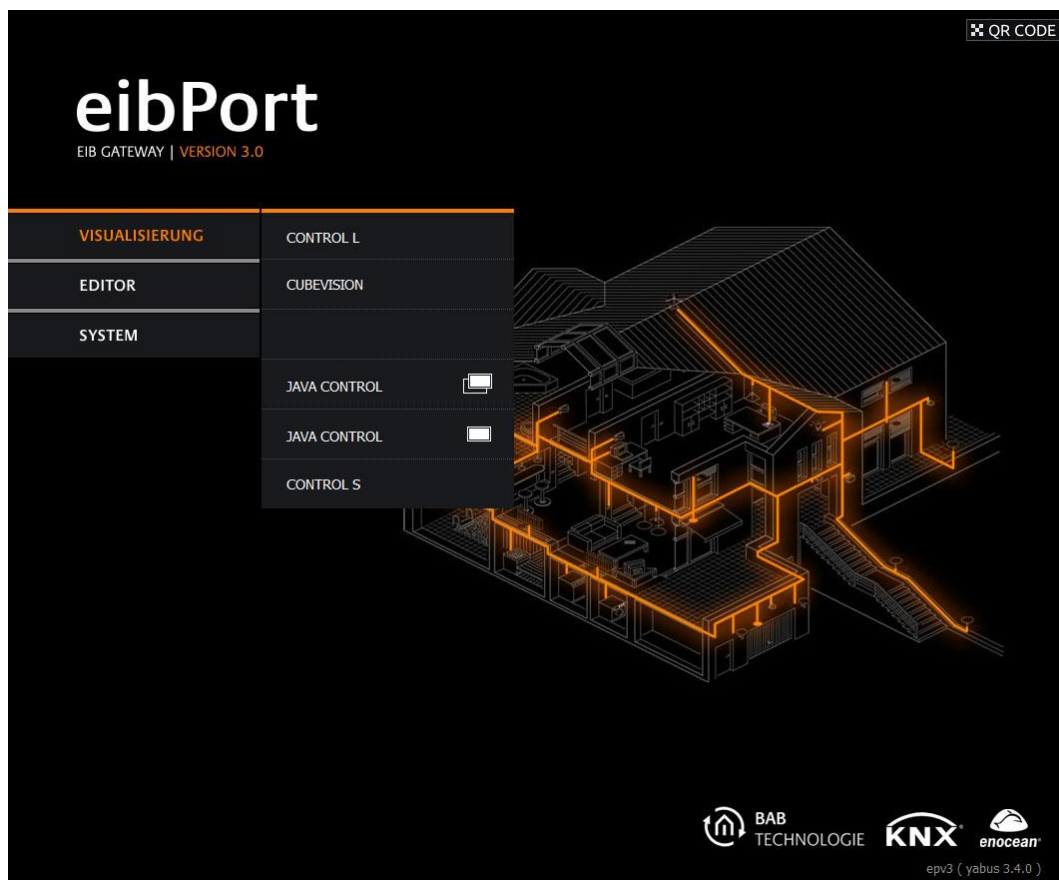


Figure 12: EIBPORT- start page - visualisation

The "Visualisation" menu can be used to select one of the different visualisation interfaces.

- CONTROL L = web-based, customizable visualisation. Created on the basis of the configuration in the editor.
- CUBEVISION = web-based, self-generating visualisation which automatically scales to large and small displays. Created on the basis of the configuration in the CUBEVISION Editor.
- JAVA CONTROL (external and embedded window) = Java-based visualisation. Created on the basis of the configuration in the editor.
- CONTROL S = Simple, self-generating, web-based table visualisation. Created on the basis of the configuration data in the CONTROL S Editor.

Access to the visualisations can be secured via the user account management "Security settings" in the editor.

Note: In the delivery status, the security settings are disabled.

3.1 CONTROL L VISUALISATION

CONTROL L is a web-based, customizable visualisation which is generated on the basis of the configuration in the editor.



Figure 13: Apple iPad with CONTROL L

3.1.1 REQUIREMENTS

Since CONTROL L uses the latest web technologies such as HTML 5 and CSS, an up-to-date browser suited to your operating system must be used:

- | | |
|----------------------|--------------------------------|
| ▪ Microsoft Windows: | Google Chrome, Mozilla Firefox |
| ▪ MAC OSX: | Apple Safari |
| ▪ Linux: | Google Chrome |
| ▪ Android: | Google Chrome |
| ▪ iOS: | Apple Safari |

CONTROL L uses the same user login as the Java visualisation.

3.1.2 IMPORTANT INFORMATION

WHAT ELEMENTS ARE SUPPORTED IN CONTROL L?

With respect to the visualisation elements, there are differences as to what functions are shown in the JAVA CONTROL (Java-based) and CONTROL L (web-based) visualisation. Please refer to the corresponding display in the editor to see which elements can be used for CONTROL L.

ESTABLISHING A CONNECTION / SIMULTANEOUS CONNECTIONS

The simultaneous connections of the CONTROL L visualisation are determined by the following general conditions:

- Number of visualisation elements on one page
- Number of telegrams per second
- Number of jobs to be executed
- Number of network-based services to be executed

The higher the number of the conditions listed above, the less resources the EIBPORT is able to allocate to the connection requests of the different CONTROL L visualisation clients. During average use, the EIBPORT is able to serve 10 to 20 CONTROL L clients simultaneously.



ACTIVATING WEBSOCKET / CSS 3

When starting CONTROL L, you can use a small cogwheel icon in the right lower corner to make additional settings to optimise the visualisation presentation.



- WebSocket: Enabled by default, optimises connection establishment for status updates.
- Enable CSS 3: Optimises the animations in the visualisation presentation.
- Log out: The current user is logged out of the visualisation.

Note: The cogwheel icon which can be used to call up the settings is only shown for a few seconds after you have successfully logged in.

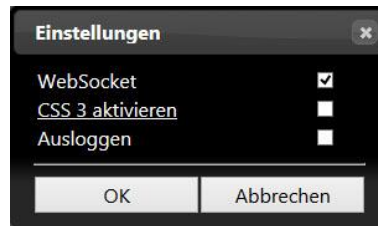


Figure 14: CONTROL L settings

IOS DEVICES: "ADD TO HOME SCREEN" FUNCTION

On iOS devices, the CONTROL L visualisation can be easily used in a similar way to an app. For this purpose, a direct link is provided on the home screen of the device and the visualisation is started without browser address line.



Figure 15: CONTROL L – started using the iOS home screen link

To generate the link on the home screen, follow these steps:

- Call up the desired EIBPORT visualisation in the Safari browser.
- Log into the visualisation so that the start page of the visualisation is shown.
- Then, click on the link icon to the right of the browser's address line

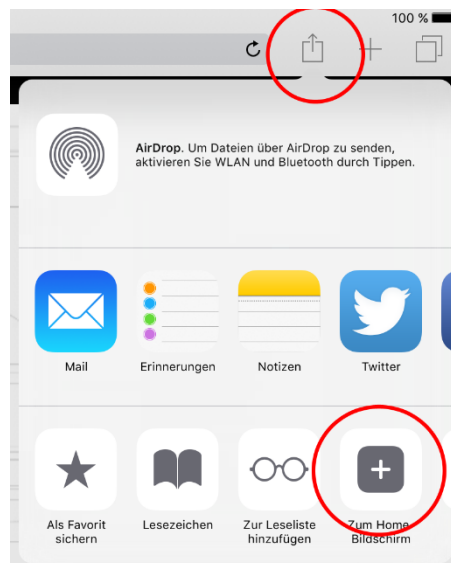


Figure 16: iOS – adding home screen

Subsequently, a link is generated on the home screen. Before adding the link, you can give it an individual name.

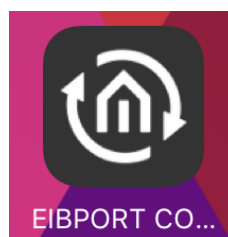


Figure 17: iOS – home screen icon

3.2 CUBEVISION

CUBEVISION is a web-based visualisation which is automatically generated. It can either be embedded as a visualisation element into an individually generated visualisation within the editor, used as standalone feature or called up via the CUBEVISION app. (See chapter on the "[CUBEVISION](#)" visualisation element).



Figure 18: CUBEVISION



Note: CUBEVISION is described in a separate documentation. This documentation is available in the download section at bab-tec.de or on the supplied CD.

CUBEVISION

CUBEVISION is called up directly via "EIBPORT start page" – "CUBEVISION". First, the available project selection is shown.

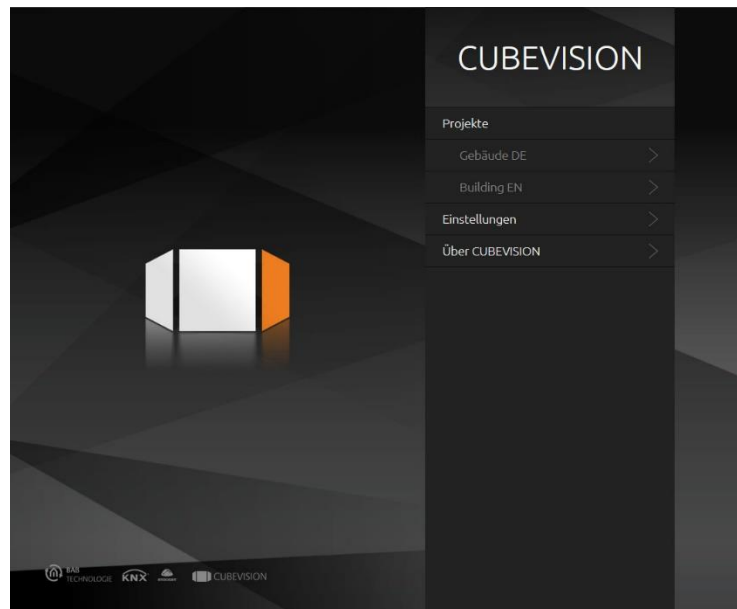


Figure 19: CUBEVISION project selection

The following options are parametrised under "Settings":



Figure 20: CUBEVISION Project selection – Settings

Presentations – Automatic / Tablet / Phone

CUBEVISION offers two types of presentation. "Tablet" means the 3D cube presentation for devices with larger displays, "Phone" means the presentation for smaller displays, such as in smartphones. If you select the setting "Automatic", CUBEVISION automatically selects the corresponding presentation depending on the resolution. The visualisation automatically scales the screen size

- Minimum size (less the corresponding status bars) for tablet presentation if "Automatic" is selected = 950x700 (according to DPR)

Show photo

Background pictures are also shown in the phone view

Show favourites

Favourites are also shown in the phone view

Show tutorial

During the first start-up the user is guided through the program.

Always show demo

Only relevant for the CUBEVISION APP. Shows a demo project even if no project has been created

Quick-start

Only relevant for the CUBEVISION APP. Directly calls up the most recently opened project.

CUBEVISION EMBEDDED IN CONTROL L

The "CUBEVISION" visualisation element is used to embed CUBEVISION into an individual CONTROL L visualisation. In this way, functions of the CONTROL L visualisation and CUBEVISION can be combined.

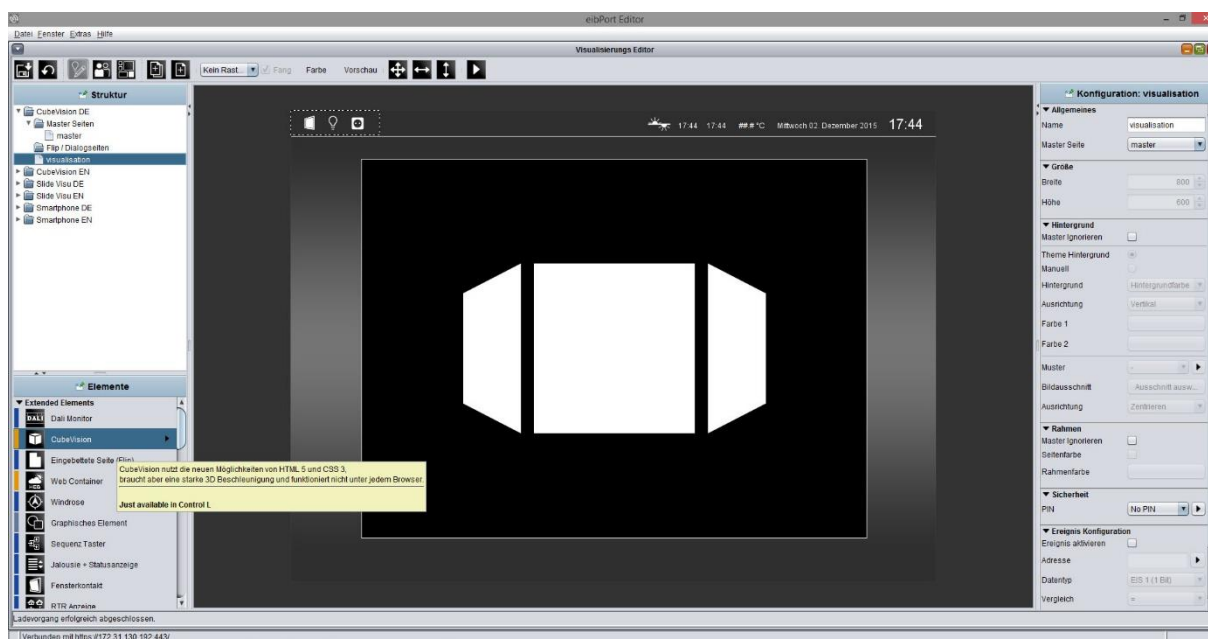


Figure 21: CUBEVISION visualisation element embedded in CONTROL L



CUBEVISION APP

The "CUBEVISION app" for displaying CUBEVISION on Android and iOS devices is available in the Google PlayStore and Apple Appstore.



Figure 22: CUBEVISION APP icon

3.3 JAVA CONTROL

JAVA CONTROL can be called up in two different modes:

- *External window:* Visualisation will be opened up in a separate window.
- *Embedded:* Visualisation will be opened up in a just been used browser window.

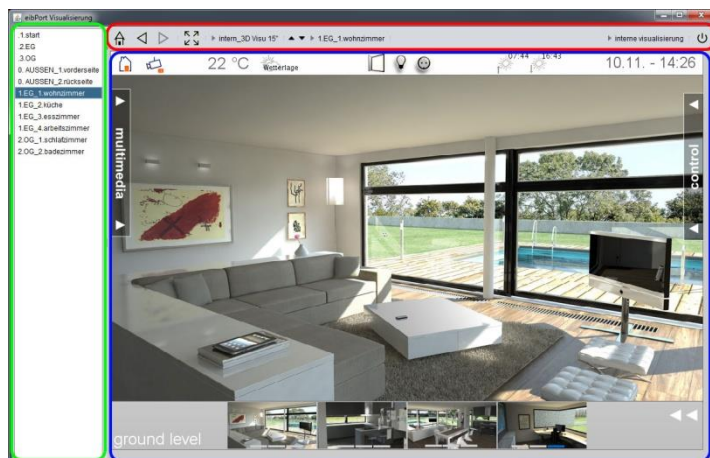


Figure 23: Visu - in a external window

Depending on adjustments, VisuToolBar and the page index will be opened in addition to visualisation.

Legend:

Red frame	Visu ToolBar
Green frame	Page index
Blue frame	Visualisation area

In the left window area, the project pages will be displayed. On the border of page index and visualisation, little arrows are located, which will allow you, to fade in or to fade out respective views. In case the page index is not activated in your project settings, it will not appear in visualisation.

3.3.1 VISU TOOLBAR

Above the visualisation surface, the VisuToolBar simplifies navigation in visualisation. The ToolBar and its functions are configured in visualisation editor.

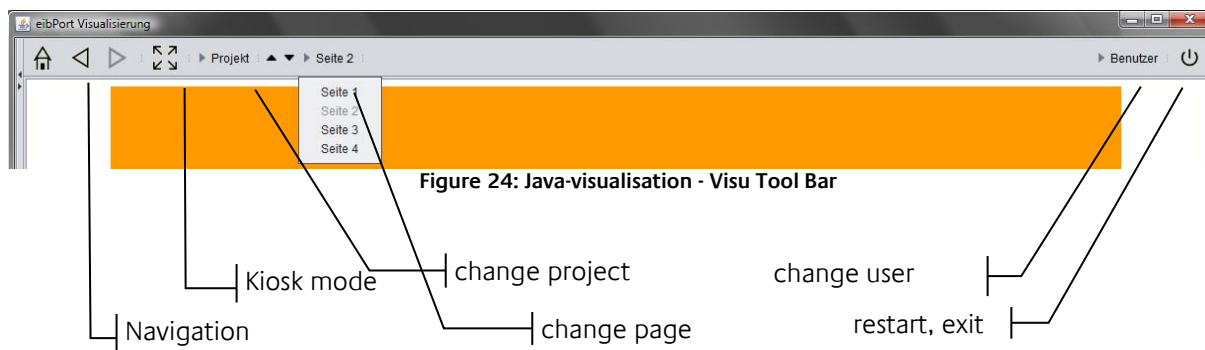


Figure 24: Java-visualisation - Visu Tool Bar

Note: The VisuToolBar will not be shown in the CONTROL L visualisation. It is only for the java visualization.

**Navigation**

Navigation enables to browse project pages and, with help of the house-symbol, jumping back to the frontpage of your project.

Kiosk

Pressing this button, kiosk mode can be activated while using visualisation, but settings for ToolBar and page index will be preserved.

Change of project

If several projects are created, you can switch between them.

Paging

All pages of the project are shown on the screen. Change happens while using the arrows or using the overview of pages. Overview appears by key-click on the page-name.

Change of user

If user administration has been activated, you can change between several user, without restarting visualisation. User names are displayed, if you click on the actual user.

Restart; exit

Pressing this button, visualisation will be closed or the application restarts. Restarting the visualisation surface requires a new authentication by user.

3.3.2 IMPORTANT INFORMATION

Authentication

The "security settings" which can be accessed in the Visualisation Editor can be used to protect the visualisation from access by unauthorised users.

Java Cache

Java Cache means the activation of the "temporary internet files" within the Java machine. In this way temporary files are accessed which might not be current any more. Please read the information included in the chapter on the Java settings ([*COMMISSIONING via the browser / Java settings / preparations on client PC*](#))

Simultaneous connections

The number of simultaneous connections with JAVA CONTROL is limited to 15 connections per minute.

3.4 CONTROL S

CONTROL S (formally HIC) is also a visualisation, which doesn't need Java supporting. Structure of this visualisation is built up consciously simple and clearly, to consider the needs of mobile units with small displays. Since the firmware version 0.11.5 (hardware version 2.1), it is also not necessary to unlock the CONTROL S by a license, the CONTROL S is activated from the outset.

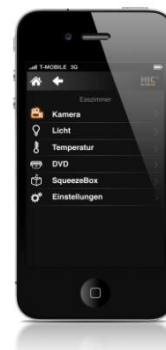


Figure 25: Control S with iPhone

3.4.1 SUPPORTED DEVICES

The CONTROL S supports all common devices types for JavaScript-compatible browsers. In previous versions of the firmware EIBPORT device types were divided into three different types of licenses. This is no longer necessary since the firmware 1.0.1, there are now supporting all popular mobile browser. This includes devices like the iPhone with iOS or Samsung Android operating system but also Nokia devices with Symbian OS, BlackBerry or HTC. Would you like to test whether the CONTROL S works with your phone model, there is the opportunity to review samples <http://dmz.bab-tec.de:8081/hic> use ("EIBPORT test").

3.4.2 IMPORTANT INFORMATION

Authentication

The user authentication for CONTROL S is managed in the "*security settings*" of the Visualisation Editor. Access to CONTROL S can be enabled individually for each user in the user details.

Simultaneous connections

The simultaneous connections of CONTROL S are determined by the following general conditions:

- Number of visualisation elements on one page
- Number of telegrams per second
- Number of jobs to be executed
- Number of network-based services to be executed

The higher the number of the conditions listed above, the less resources the EIBPORT is able to allocate to the connection requests of the different CONTROL S visualisation clients.



3.5 AUTOLOGIN / LOG REMEMBER

In order to enter the user does not always have his access, there is the possibility of so-called "auto login" or "Remember Login" to use functions. Here, the application data when the visualization is transmitted to or stored on the client computer.

3.5.1 AUTOLOGIN FOR JAVA VISUALIZATION

The user data parameters can be passed in the URL. For example, a bookmark is saved with the URL, which can itself be directly connected to the visualization. The following syntax must be adhered to:

http://<eibPort_IP>/bmjava2/<Startpage_Type>?<Username>&<Password>&<Autologin>

For "eibPort_IP"

Either enter the IP address or host name.

For "Startpage type", the following parameters are entered:

visu.php visualization open in a separate window
visuPlain.php visualization open in the browser window
(See also chapter "System"> "Home")

For "User Name":

The parameter must be added with user name = user name here. The user name must be entered exactly as it is laid down in the user management.

For "Password":

The password is passed using password = password. The password is in plain text (!) Registered as such it has been defined in the user management.

For "Auto Login":

Can be either 'true' or 'false' value thus obtained. The parameter is passed with autologin = true / false. In the "auto login" is an optional parameter. Autologin = true means that no additional demand will be logged. Autologin = false means that the fields of the login dialog with the specified username / password is indeed completed, but must be confirmed to the login still. So at this point there is still a possibility with a different account to register. Here is the default value of "true".

The parameters are separated by "&" (ampersand "and") from each other, and with a "?" (Question mark) of the URL.

Example:

EIBPORT address: 192.168.2.1

Type of Home: "Visualization in the open browser window"

Username: xxx

Password: yyy

AutoLogin: true

In the example, the URL is:

<http://192.168.2.1/bmjava2/visuPlain.php?username=xxx&password=yyy&autologin=true>

3.5.2 "REMEMBER LOGIN" FOR CONTROL L AND CONTROL S

The login dialog of CONTROL L offers a "Remember login" function. The user data is saved in the browser using a cookie and it is valid for 4 weeks.



Logout for CONTROL L

If this setting is no longer desired or if the current user is to be logged out of CONTROL L, a context menu is available for up to 10 seconds after the visualisation is started which can be used to perform the logout.

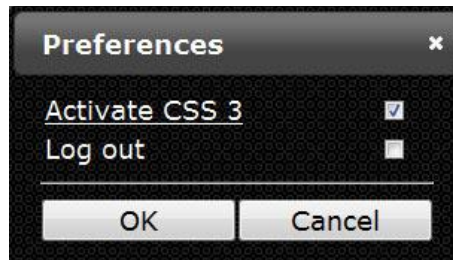


Figure 26: Logging out current user

Logout for CONTROL S

CONTROL S enables a manual logout via the "CONTROL S" logo.



4

THE EIBPORT EDITOR

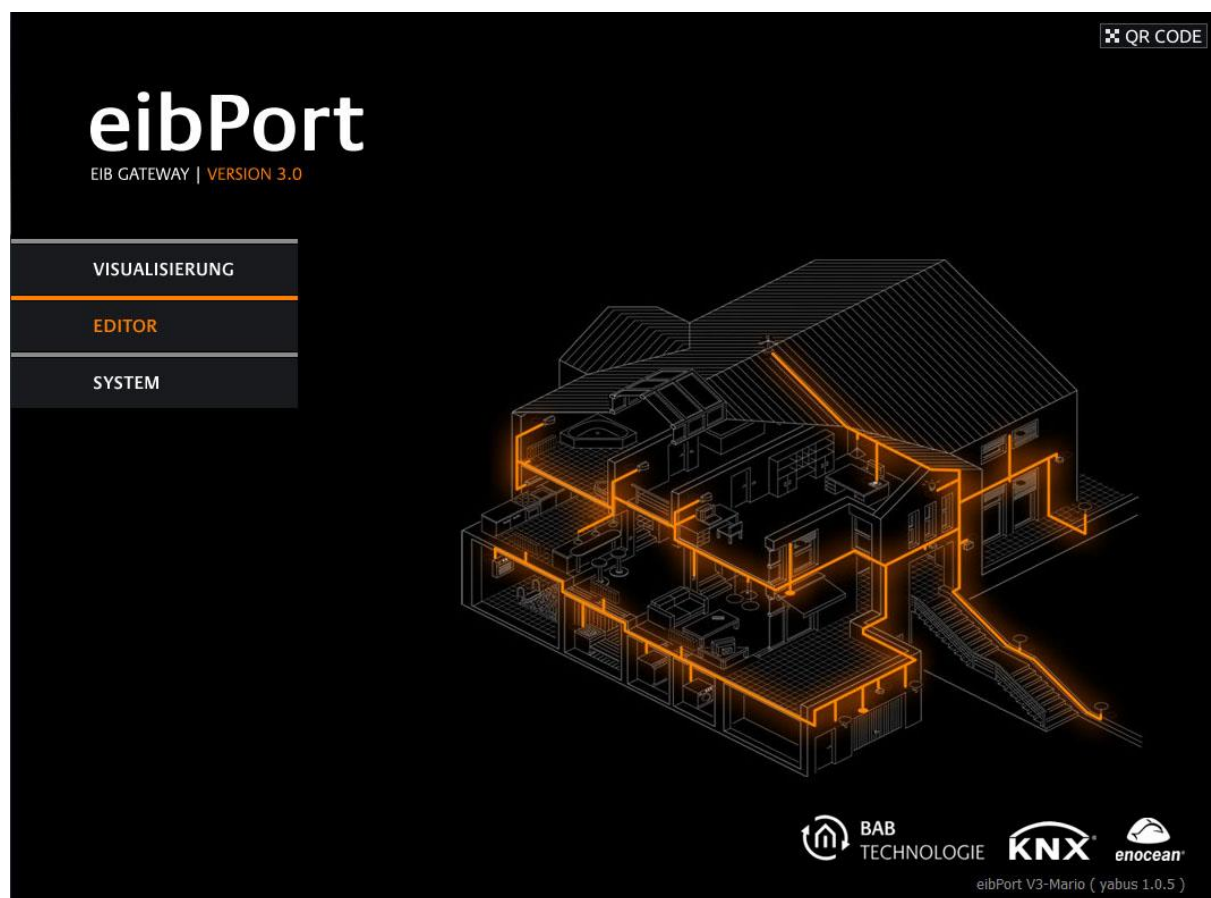


Figure 27: EIBPORT - start page - editor

The EIBPORT Editor is used to manage and create visualisations, jobs, services, security and data.

4.1 WHAT YOU NEED TO KNOW BEFORE GETTING STARTED

AUTHENTICATION

The authentication regarding the areas "*Editor*" and "*System*" is administrated via the so-called "*User administration*" in the "*ConfigTool*" which can be accessed by clicking on "*System*". To protect the EIBPORT from access by unauthorised persons right from the start, you will be asked to create a new password immediately after having logged in using the standard user data (user name = "*admin*" and password = "*eibPort*"). Users must always log in. For security reasons, this feature cannot be disabled. User login for the visualisations is enabled and administrated in the Visualisation Editor under "*Security settings*" (See chapter "*Security settings for the visualisation*").

VIRTUAL AND REAL GROUP ADDRESS RANGE IN EIBPORT

In EIBPORT, the entire available group address range (0/0/0 – 31/7/255) is divided into so-called real and virtual group addresses. The virtual address range is intended for the internal interconnection of the EIBPORT functions. Telegrams to virtual group addresses are not used for KNX/TP and KNXnet/IP so that they do not increase telegram traffic where not required.

INDIVIDUAL ADDRESS RANGE SINCE ETS 4

Important: Limited compatibility with ETS4! In the 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.

COMMUNICATION OBJECTS

The EIBPORT emulates the structure of the KNX's communication objects. That means, that you can assign up to 5 group addresses to every object. Thus, allocation of the group addresses of, for example, an actuator channel, can be directly emulated. In this way, EIBPORT is always kept informed of the actuator's (not group address) actual state and the complex use of acknowledgements is not required. This method simplifies the creation of logical connections since each input object of the gates can be allocated up to 5 group addresses. In this case, the ESF dialog contains all five group address fields. In this way, they are automatically entered into the selected object field using the correct syntax. However, only one address can be entered for inputs.

Syntax of the communication objects

All addresses following the first group address must be put in brackets and separated by commas.

- Example: 2/12(2/13,2/14,2/15,2/16)



4.2 EDITOR WINDOW

The EIBPORT editor consists of several editors:

- Visualisation Editor
- Job Editor
- CONTROL S Editor
- CUBEVISION Editor

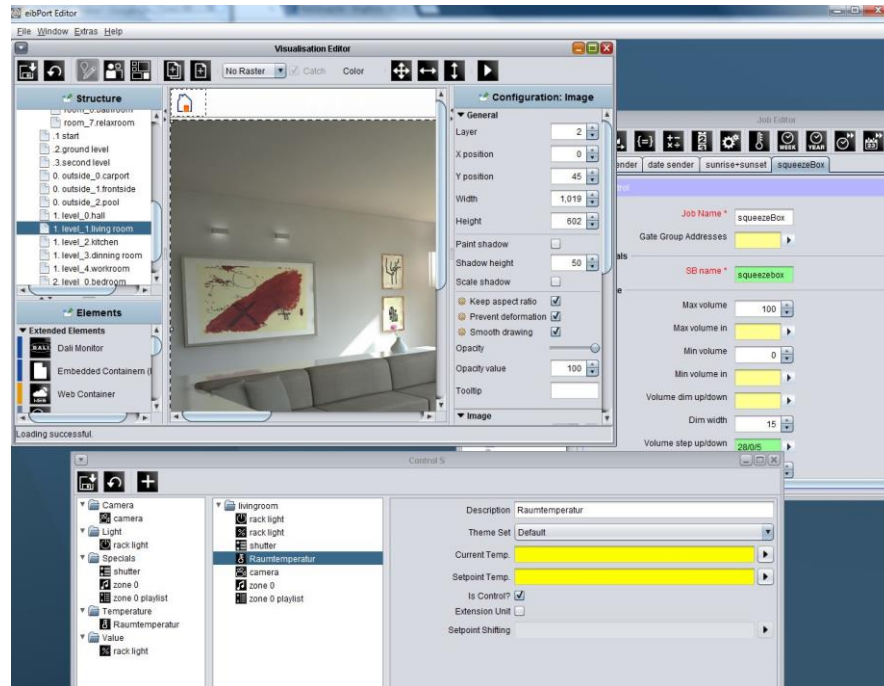


Figure 28: Editor window - all editors

4.2.1 MENU BAR OF EDITOR

The editor window offers a menu bar, in which you can do basic settings. You can change between the editors there or loading data to EIBPORT. The editor windows can be opened simultaneously. When minimizing one of the windows, it will be displayed at the left edge below. There it is also written by which address you are connected to EIBPORT. Further functions are described as follows:

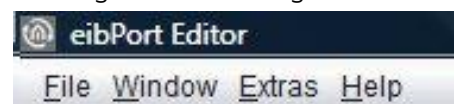


Figure 29: Editor - window menu item

4.2.1.1 FILE

In menu item „File“, you can choose general settings, open the safety-dialogue or close the editor himself. (For security dialogue "[Close the Editor](#)" chapter).

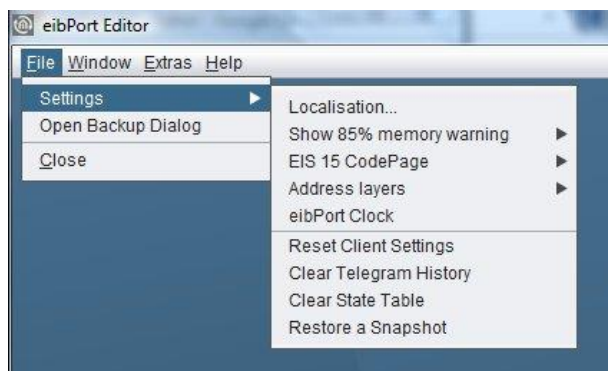


Figure 30: Editor - menu item

LOCALISATION

Localisation means adaptation of software to its linguistic environment. To customize the language of EIBPORT, you can choose between the English and German speech. One of these speech files, you can download on your PC, to change it with the help of any text editor. The same procedure allows you to upload the modified speech file to EIBPORT again. Upload dialogue connects the speech file with desired contry code. In order that JAVA will use the right speech file, you have to modify the setting of the speech in your JAVA control panel ([Change the language](#)). The dialogue of localisation has to be unlocked byusing the EIBPORT string

Please note: When editing a localization file it is strongly recommended that you save the file with UTF-8 encoding.

Please note: Activation with the aid of the EIBPORT string works for one editor session and is effective also for all other dialogs which must be activated with this string.

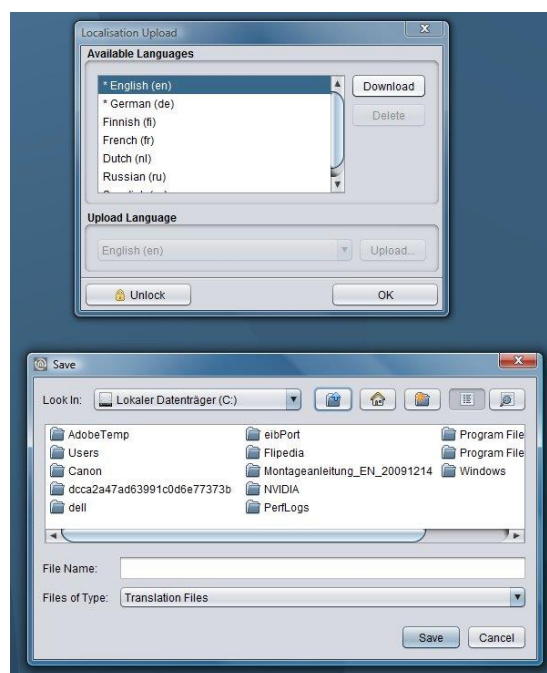


Figure 31: Editor - dialogue of localization

85% MEMORY WARNING

EIBPORT Java Control, Editor and System (Java-based applications) register if more than 85% of the Java working memory are used during execution. In this case a warning in this respect appears. This warning can be disabled here.

EIS 15 CODE PAGE

Select here which CodePage EIBPORT is to use for EIS 15 texts.

ADDRESS-LAYERS

Group addresses are displayed from the editor in double or in three figures. Visualisation editor converts existing group addresses if necessary, opposite to the job editor, which doesn't convert addresses.

Please note: Changes of notation works only after restarting the editor.



EIBPORT CLOCK

This menu item allows you to adjust time and date setting. The first line shows you the current date and time of your EIBPORT. Below this line, you can set a new date and a new time. This can happen directly with your keyboard or you will press the button „Set new eibPort time“, which tranfers actual time from your PC to your EIBPORT.



Figure 32: Editor - setting clock time

RESET CLIENT SETTINGS

This function resets all user settings of starting values, which includes:

- Position of editor window and its size.
- Start setting of all windows, if editor will be started.
- If safety dialogue will be displayed, when you will close editor.
- Setting of directory, in which backup files are stored.

On other settings, this function has no effect

CLEAR TELEGRAM HISTORY

The EIBPORT stores 500,000 messages. These lie in a SQLite database and can be used by the graph in the visualization. The last 20,000 telegrams simultaneously in the operating system itself EIBPORT deposit to you as with external programs to read. With this function, this record is deleted immediately, which are preserved 500 000 telegrams in the SQLite database.

CLEAR STATE-TABLE

This table stores the state of all given group addresses. These entries will control working of visualisation and jobs, which are arranged in your EIBPORT. The last condition is determined with the aid of the telegram`s time signature. The state table can be erased without rebooting the EIBPORT.

RESTORE A SNAPSHOT

Each night, EIBPORT makes an automatic security copy of the visualisation data. The backup data of the last two days is kept. To restore the backup data, proceed as follows:

Note: The Snapshot backup only contains the visualisation data. All other data must be secured by making regular backups.

- Click on "Restore a Snapshot". You will be transferred to a web site with login window.
- Log in using the editor user data.

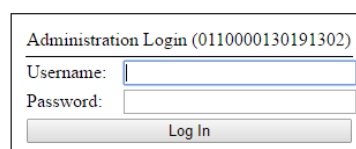


Figure 33: Restore a Snapshot – login

- After you have successfully logged in, you will be transferred to a web site showing the two most recently created snapshots.

- A Snapshot **contains** the visualisation project, uploaded images and free components, room allocation plan data and the visualisation user administration.
- A Snapshot **does not contain** the jobs configuration, administrative users, system configuration and the telegram history.
- Snapshots are created automatically each night if the visualisation has been changed.
- A project backup **does not contain** the snapshot data.
- Restoring a snapshot **overwrites all changes** that have been made since the time of the snapshot.
- Please be sure to **close all Java Applets** (Editor / Visualisation / ConfigTool) before restoring a snapshot!

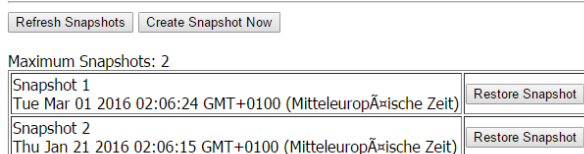


Figure 34: Restore a Snapshot – menu

- Click on "Restore a Snapshot" next to the desired entry. After the snapshot has been successfully restored, the following message will be displayed: "Successfully restored Snapshot".
- Now, restart the editor. The restored data is now available.

4.2.1.2 WINDOW

With the help of menu item „window“, you can change between offered editors. Furthermore you can find a link to the configuration surface of EIBPORT, the ConfigTool.

Visualisation editor

The editor window for creating visualisation surface opens.

Job editor

In this window, jobs (services) of EIBPORT will be configured and parameterised.

CONTROL S

Visualisation on mobile phones will be realized best with CONTROL S. The surface is created with the aid of this editor. See chapter "[CONTROL S](#)".

Sonos UPnP

Opens in the browser the configurator for the Sonos sound system. See chapter "[Sonos UPnP](#)".

ConfigTool

ConfigTool is normally browsed by the item "System" the start page of EIBPORT, in which configuration settings will be made. To reach directly out of editor to this configuration menu, this link is offered. To enter the ConfigTool, you have to fill in the EIBPORT character string.



Figure 35: Editor - menu item 'Window'

4.2.1.3 EXTRAS

This menu saves or erases important files (ESF, pictures, free components) to or from EIBPORT. In addition to this, you have a view to the state table and the recording of telegrams.



Figure 36: Editor - menu - item 'Extras'



ESF UPLOAD & MANAGEMENT

All group addresses and your EIS typecast with their identifiers are stored in ESF-file. This file will be generated in ETS 3.0 over File > data exchange > export to OPC-server. Data of ESF-file match the kind of project, which is created in ETS. Loaded up to EIBPORT, this file offers the convenience, that the placing and the clearness of group addresses will be simplified.

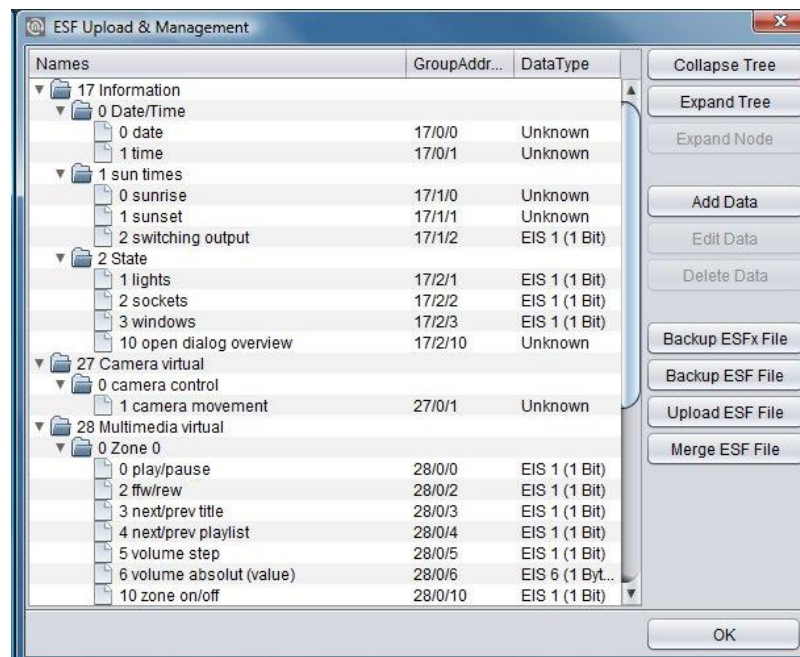


Figure 37: Editor - ESF Upload & Management

For the virtual group addresses or for changings on the existing address data the dialog offers the possibility to maintain the address file. You are able to enter addresses and identifiers.

Please note: If you have made alterations in ESF data of EIBPORT already and if you are uploading this new data from ETS, your modifications will be overwritten by new data.

Exporting an ESF file from the ETS

Chapter [Export the Group Adresse from the ETS \(ESF File\)](#) describes how to export an ESF file from the ETS.

Collapse tree / Expand tree:

A tree outlines the complete address space of the ESF-file. In case the tree is collapsed, only main groups are displayed, otherwise (expand tree) all groups and their addresses are shown on the screen. Opening and closing of data entries inside the tree works by key click on considered arrow symbols.

Expand node:

The address space of one maingroup is called node. Opening one node, you can have a look at a certain part of the tree.

Add data:

This function allows filling in new, not yet existing addresses. You can enter address as well as the identifier.

Edit data:

In a marked address, you can edit the name, but you can't edit the address.

Erase data:

Selected group address will be deleted from the ESF-file

Backup ESFx file:

This item runs a backup from EIBPORT as an ESFx file (xml type), to a free chosen directory.

ESF file backup

The file will be as original ESF file saved as well as the ETS generated.

Caution: As with the original ETS export any data type links to go out EIS1 lost!

Upload ESF-file:

This button opens the file explorer to select the desired ESF-file. Click on item "Upload" will start uploading at once, without further confirmation.

Merge ESF File

Opens an additional menu that allows a new or second ESF file can be merged into the present. An existing ESF file can thus be easily expanded with a more recent case have subsequently result in changes to the ETS project.

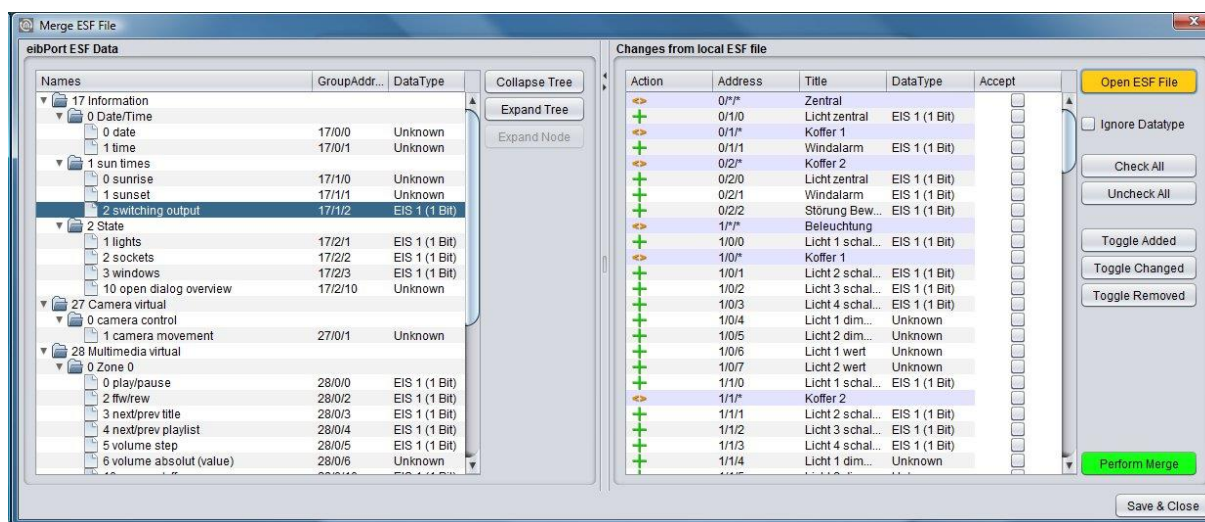


Figure 38: Merge ESF File

The "Merge ESF File" is divided into two halves. In the left half of the existing ESF file is displayed. In the right half of the change (not file a second ESF) which would result in merging the two files are displayed. To identify which operation is performed with which group address, the data in the column "Action" will be marked with a symbol. A "+" symbol indicates that the corresponding address of the existing ESF file is added. A "-" means the address of the existing file will NOT be added, and the "<>" marks the addresses by the new data will be overwritten. After all necessary steps have been made, the window must be on the button "Save & Close" closed. In addition, the following switches:

- *Open ESF File:* This button opens a file browser with the ESF, the desired file is selected with the extensions
- *Ignore Data Type:* If this box is checked the data types are ignored during the merge.
- *Check All:* There are all those actions' in the local file with the hook marked "Accept".
- *Uncheck all:* The current selection is removed, all the hooks are removed in "acceptance".
- *Toggle Added:* There are selecting only the addresses (or actions) is added to the new addresses.
- *Toggle Changed:* There will be selected all the addresses (or actions) in the existing addresses replaced by new ones.
- *Toggle Removed:* There are all selected addresses

ENOCAN CONFIGURATION

This menu item will only appear if the device disposes of an EnOcean interface. EnOcean is a wireless bus system which is particularly energy-efficient and can be easily upgraded. For more information regarding the EnOcean wireless module in EIBPORT, refer to the documentation "EIBPORT EnOcean Documentation". The documentation is available on the supplied CD or at www.bab-tec.de.



IMAGE TRANSFER

This dialogue stores and manages images for visualisation in EIBPORT. The images could be sorted to various categories or be deleted from EIBPORT.

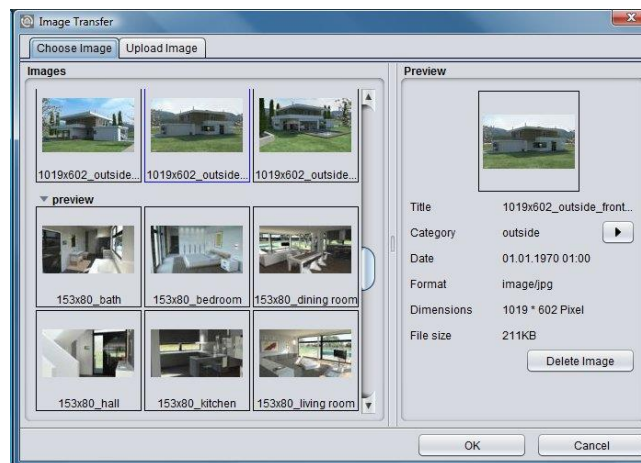


Figure 39: Editor - Image transfer

- *Choose Image:* In this tab, all uploaded images are managed. If you mark a picture, a „Preview“ is shown in the right window. With the help of item „category“, you can refer the image to an existing or a new category. Categories and referred pictures appear in the left-hand window. Button „Delete Image“ erases the marked picture out of category.

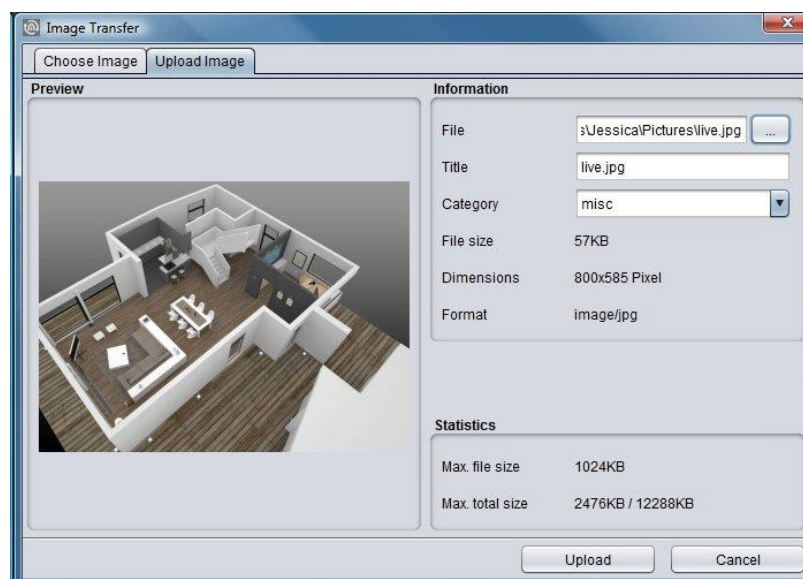


Figure 40: Editor - Image transfer

- *Upload Image:* This tab makes possible to upload new images. Along with it, you choose a picture, which you can see right in window and then you enter a title to this image. With the help of „category“, you refer a category. Image information appears directly after selection on the screen. In the area „statistics“, maximal permitted data size and actual used data space of your image are shown. Key click on „Upload“ starts storing images directly. Images could also be uploaded by using „drag & drop“. Pull the desired image e.g. from desktop to visualisation surface and the dialogue „Upload“ opens automatically then.

FREE-COMPONENTS - TRANSFER

Using this dialogue, you can upload switches to EIBPORT, which were created by the Component Builder. Component Builder allows to create own switches by connecting pictures with desired functions. It is available in the download area www.bab-tec.de for free.

Note: These switches only work in the Java-based visualisation JAVA CONTROL. They cannot be used in any of the other visualisations.

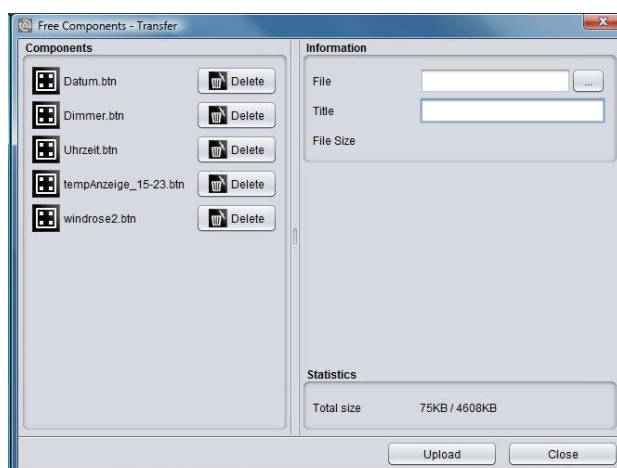


Figure 41: Editor - Component Upload

- *Informations:* To upload a switch, click on item „file“ and mark desired data or pull per drag & drop this file to visualisation surface. This file should get a distinct name for clear identification. If your chosen file have more than 100kb disk space, a warning will be displayed, that extended time for loading in visualisation will be expected.
- *Free Components:* This window shows you all files, which are uploaded at this time. You can see the name of switch and also a button to erase this switch out of your component list.
- *Statistics:* In the area „statistics“, you can see informations about usage of disk space, left hand side the actual amount of used disk space, right the maximal capability of storage.

THEMES

Seit der Firmware Version 0.10.1 ist es möglich alle Elemente und Icons der EIBPORT Software mittels sogenannter Themes auszutauschen. Dabei können eigene Themes entwickelt werden oder andere bestehende Themes genutzt werden. Um Themes zu bearbeiten und aus dem EIBPORT zu laden wird ein Tool namens „Theme Editor“ zur Verfügung gestellt. Die Theme Dateien können dann über „Themes“ in den EIBPORT geladen werden. Ist eine Theme Datei erfolgreich hochgeladen worden, muss der Editor neugestartet werden damit die Änderung wirksam werden.

- *Theme Laden:* Über einen Dateibrowser wird die gewünschte Theme Datei auf der Festplatte ausgewählt (Endung *.thm).
- *Theme Löschen:* Ist das geladene Theme nicht mehr gewünscht, kann es über den Löschen Button wieder entfernt werden. Es wird dann wieder das Standard Theme verwendet.

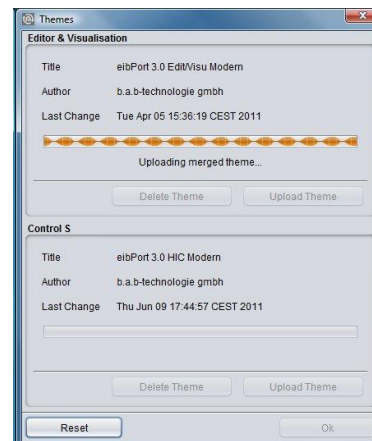


Figure 42: Load Theme

Der Theme Editor ist einem extra Dokument beschrieben, welches Sie auf der EIBPORT CD mit enthalten. Außerdem wird auf die verschiedenen Grafiksets die sich durch die Themes ergeben in der Elemente Beschreibung noch einmal genauer eingegangen.

GROUP ADDRESS EXPORT

All in the visualization editor used group addresses are exported in a "*.CSV" file. The file contains information about the project visualization, visualization side, Element, function, and group addresses. Thus, the values are clearly displayed in a table, for example, the file be opened with the Office Excel program or similar or imported. The values are then easily organized in a table.



Figure 43: Export of group addresses



Import into Microsoft Excel

In order for the file in Excel will show up correctly, you must be imported as a text file. This is the file type "separateness" and as a source file 'Unicode (UTF-8) "option. The delimiters are tabs and the address column should be defined as "text".

HISTORY & STATE-TABLE

EIBPORT beneath the SQLite database (500,000 frames) stores a record of the last 20,000 messages (storage ring) and provides a state table that always displays the current status of all group addresses. A state does not exists, when the address never was used. The actual state is defined by the moment of telegram is being recieved. Using a backup, state table and the history table are saved as well.

Date	Group Addr...	Value	Datatype	Data	DataWidth	Maingroup	Middlegroup	Subgroup	Function
09.06.09 13:37:19	0/1	1	EIS 1 (1 Bit)	01	1 bit	Beleuchtung		Dimmer sc...	extern Ext...
09.06.09 13:37:19	0/2			01	1 bit	Beleuchtung		Dimmer di...	extern Ext...
09.06.09 13:35:19	0/3			01	1 bit	Beleuchtung		Dimmer Wert	extern Ext...
09.06.09 13:37:20	0/4	1	EIS 1 (1 Bit)	01	1 bit	Beleuchtung		Licht schalt...	extern Ext...
09.06.09 13:36:24	0/101			06 ea	2 byte				extern Ext...
09.06.09 13:26:08	0/102			5e 25	2 byte				extern Ext...
09.06.09 13:37:41	0/103			00 f0	2 byte				extern Ext...
09.06.09 13:33:27	0/104			09 06 09	3 byte				extern Ext...
09.06.09 13:38:26	0/105			4d 26 10	3 byte				extern Ext...
09.06.09 13:38:08	0/151			00	1 bit				extern Ext...
09.06.09 13:38:08	0/152			00	1 bit				extern Ext...
09.06.09 13:38:08	0/153			01	1 bit				extern Ext...
09.06.09 13:15:01	0/154			01	1 bit				extern Ext...
09.06.09 13:30:55	0/155			00	1 bit				extern Ext...
06.03.09 04:33:34	0/241			01	1 bit				extern Ext...
09.06.09 12:53:10	0/257			02	1 byte				extern Ext...

Figure 44: Editor - state table

- *Refresh:* You can choose between state table and history table. The „Refresh“ Button loads up actual table onto the screen. This may take a while.
- *Presentation:* Data will be sorted by date. On the right side you can choose by the help of little checkmarks, which data fields should be shown. At the dividing line of the two parts you are able to hide the one or the other information by clicking the little arrows.

4.2.1.4 HELP

The menu „Help“ offers only one item, at this time.

Info

This dialogue gives you important information about your EIBPORT. If problems in use of your EIBPORT occurs, you can have a fasten overview to essential data and settings.

You can see:

- **EIBPORT name:** Is set in the “ConfigTool”.
- **Firmware:** Version of firmware (also seen in JAVA console)
- **Seriennr.:** Serial number, also displayed in ConfigTool
- **IP-address:** Is set in the “ConfigTool” in “Configuration” > “network settings”.
- **Ports:** Are set in the ConfigTool at “Configuration” > “extended EIB (yabus) settings”
- **Client Java Version:** JAVA version of Client PC.



Figure 45: Editor - help > info

4.3 CLOSE THE EDITOR

The editor is closed via the "File"> "Close" or the "X" of the window. Before the window closes the security dialog box opens to remind you always to create a current backup of the project. In addition, at an active Internet connection can produce a statistic EIBPORT his leave.

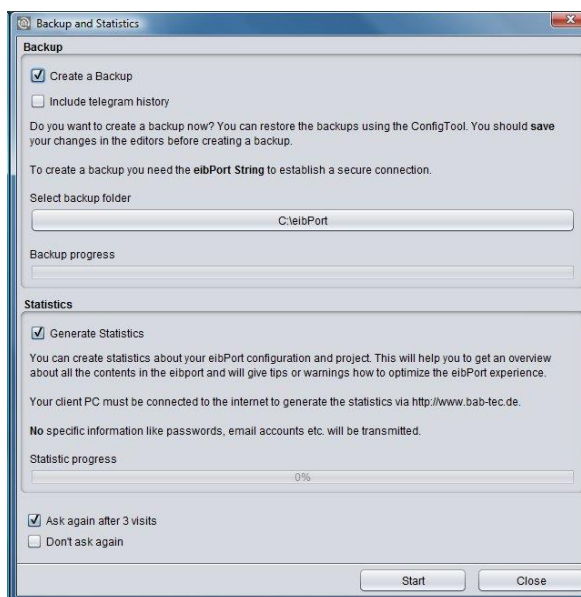


Figure 46: Editor - security dialogue

Behavior of the window

The window always opens when the editor is closed. To prevent this behavior, there are two check boxes in the window. "Ask again after three editor-offs" at the window, only every fourth time, you see, "Do not ask again" when the window is closing does not appear. Is it still required in this case to enter the security dialogue. This will be found in the file menu ("Open Backup dialog"). If you want to exit the editor without a backup or to create statistics click on the button "Close". If you want to return to the editor interface, you simply close the window with the "X".



4.3.1 CREATING BACKUP

The EIBPORT backup file consists of all relevant data. All data of visualization, job und configuration will be stored in a file, additionally backup can be enclosed in telegram recording (SQLite data base containing 500.000 telegrams) and as the case may be, in data of terminal diagrams. By preparing of a back-up, personal comments, date/time, version of EIBPORT und name of EIBPORT t are saved additionally, after version 3.0.3. A backup file has the extension "*. Epb" and the security dialog automatically creates a folder in the home directory of the client PC, the file is stored. A detailed backup for example only the visualization of data can be created under the "System" in the so-called ConfigTool.

Backup Process

To create a backup check box must be enabled. The editor automatically searches the user folder of the operating system and lay there as the name of a folder on the serial number of the EIBPORT receives (BTxxxxxxxxx). Given to specify a different location, it is enough just to click on the field in which the path is. There is a file browser opens in which a new location can be specified. The folder is created in each case. The name of the backup file that created the dialogue following structure:

```
backup_ [date] _ [time]. Epb
```

Starting the Backup

To start the backup the "Launch" button has to be used. Here is the query string EIBPORT ("EIBPORT security application"). You will find these in the short manual attached in your EIBPORT package or on the backside of the EIBPORT itself.. If the backup is carried out successfully, a message appears displaying "successful backup" on the screen. If you have selected "create statistics" at the same time the statistics are created after the backup too.

4.3.2 CREATE STATISTICS

The statistics of EIB**PORT** provide useful information about the project and the EIB**PORT** itself. Following information is included:

- Information about the client computer ("Operating System", "Java")
- EIB**PORT** system information ("System")
- Montageorteinstellung ("Location")
- average processor utilization ("CPU load")
- Memory usage ("Memory")
- network settings ("Network")
- Port settings ("port")
- Enabled Services ("Services")
- Number of editor-users ("system administration")
- configuration data ("Configuration")
- Number of entries in the address state table ("address state table")
- Internal communications statistics ("Statistics")
- The type and number of jobs ("Jobs")
- Statistics of the visualization project ("Visualization")
- Resolution of visualization pages ("Page resolution")
- Number and type of visualization objects ("objects")
- information on CONTROL S project
- Information about the availability calendar module ("Room Allocation Plan")
- Information on the ESF data ("Data ESF")
- number and memory usage of the images ("Images")
- number and memory consumption of the Free Component ("Components")



Figure 47: EIBPORT Statistics

In order to compile statistics for the client PC from which the EIBPORT is operated an Internet connection is necessary. The data are collected from the web server on www.bab-tec.de and displayed graphically. Personal data such as passwords or e-mail account settings are a matter of course not read or transmitted. The backup is created on the button "Start". You will be automatically forwarded to a corresponding Web page that contains all of the above information.



5 VISUALISATION EDITOR

Sight and functions of visualisation will be configured by this editor. A visualisation will be created thereby with employing projects and pages. Several projects are possible. Function for visualisation could be simulated within the editor, by using the “visu-live-mode”

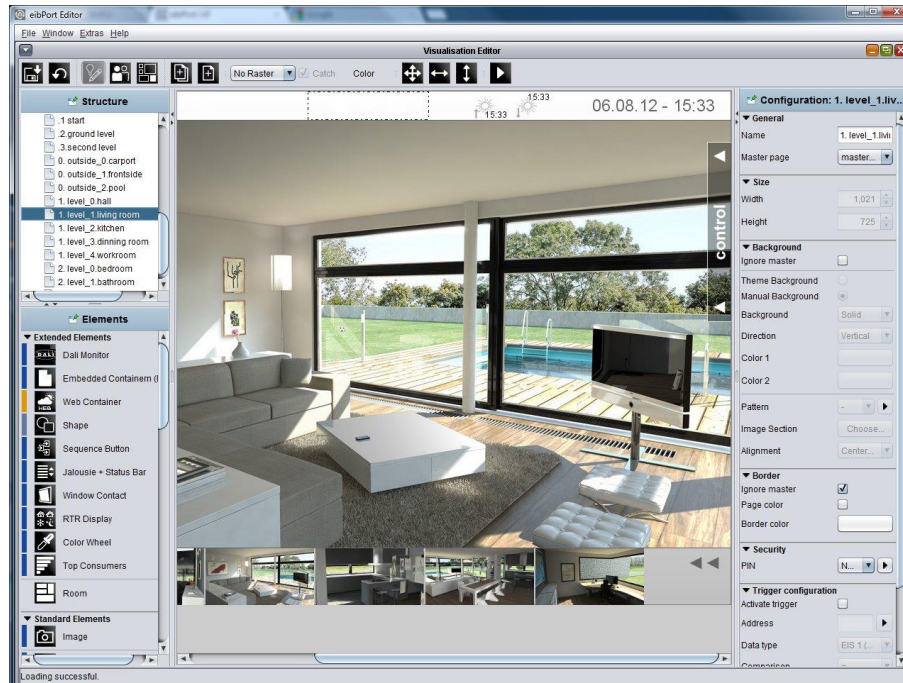


Figure 48: Editor - editor for visualisation

Please note: Every button in visualisation is provided with so called Tool Tipps. If the mouse cursor contacts desired array, help text will appear immediatly

5.1 MENU BAR OF VISUALIZATION EDITOR

On the menu bar of the editor, the central visualization controls to create the visualization are placed.



Figure 49: Editor - VisuEditor menu bar

SAVE/ RELOAD

After every modification, visualisation should be saved. One click on the „disk“-symbol will be enough. To reload the actual state of storage, you can use the blue arrow „reload“. All the changes are saved into the EIBPORT, the client PC is only the displaying unit.

Caution: If several user modifies simultanuously, always the user who saved his data at last, will determine the state. In case that one user saved his data at last, although he has modified nothing, he could overwrite all modifications another one has done before.

VISUALISATION / SECURITY SETTINGS / ROOM ALLOCATION PLAN(CONTROL R)

With the help of these three buttons, you can switch your sight. As a standard feature VisuEditor starts with the sight “visualisation”. “Security settings” allows you to determine users and their user rights. To configure the room allocation plan its editor is reached by clicking on the according button.



NEW PROJECT / NEW PAGE

A new project or a new page will be created. A visualization consists of at least one project and one side.

RASTER / CATCH / COLOR

The working surface of visualisation can be overlayed by a raster. This makes it easier to position your elements. In the proper visualization, raster is not be displayed on screen. The size of raster is described in pixel-size, in addition to that, you can set colour to raster. The button „catch“ automatically aligns objects of visualisation along the raster.

ARRANGE ITEMS / ALIGN HORIZONTALLY / ALIGN VERTICALLY

With this function, marked objects are arranged with uniform distance from another, according to their destinations. Every button contains a menu, which allows you to place the marked group of objects to various positions.

VISUALISATION LIVE MODE

If you activate Live-Mode, editor simulates visualisation. In this moment jobs, which are connected to elements of visualisation, will also be executed and displayed the states of visualization correctly.

Please note: While Visu Live Mode is running, all telegrams will be sent onto the KNX-Bus. Acting in the visu could cause circuitry then. But change of page based on a malfunction message or the event camara doesn't work



5.2 WINDOW LAYOUT

Visualisation editor is the most complicated window in the complete editor. These window is divided in four parts: structure, elements, work surface and parameter window.

5.2.1 STRUCTURE

In structure window, you will find the view of your visualisation`s outline. A visualisation contains of one project and one page, at least. Furthermore one project could also consists of master pages and flip/dialogue sites. Structure window is located in the left upper area of the surface.

Operation

To create new projects, masterpages, flip sites and pages, the context menu will be available, which you can reach by the right mouse button. Additionally you can create projects and pages with both buttons on menu bar. If they are created once, you can handle the view as a browser`s directory tree. By means of arrows, which are located in front of the folders, they could be “collapsed” or “expanded”

Parameter

If you have created a structure, then you can adjust parameters of project/page in parameter window on the right side. Parameters will differ according to the chosen settings in your structure.

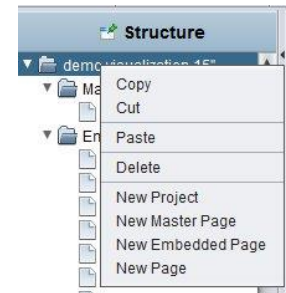


Figure 50: Visualisation editor - structure context menu

Copy, cut, insert, delete

Every element of structure can be copied, cropped, inserted or deleted by means of context menu. By using the menu item copy, configuration of a visualisation project could be accelerated. Here you have to consider, that one duplicated element firstly gets the same title as the original one.

5.2.2 ELEMENTS

Element window is located below of the structure window. In these elements the standard elements as well the free components (if loaded up) are listed. To place one element into your work surface, you simply have to click on it. It will automatically be placed in your work surface`s center and the specific parameter window will open on the right side.

Mouse-over-help

To get further information about elements, the possibility exists to display a tooltip. By running over the corresponding element with you mouse pointer and pausing there for a while, it will be shown.

CONTROL L supporting

Right beside the elements, one partial blue or light blue bar will be displayed. That bar should give optical recognition to the user, which element will be supported in CONTROL L and which element doesn`t, or only partly. A blue bar represents fully CONTROL L supporting, a light blue bar presents only a partly support and no bar means, that no CONTROL L support is available.



Figure 51: Visualisation editor - element window

5.2.3 PARAMETER WINDOW

In this window all settings will be adjusted, which will concern the actually chosen project, page or element.

Mouse-over-help

To get further informations of particular parameters, often it will be enough to use the mouse-over-help. By running over the title of respective parameter and pausing there for a while, a tooltip will appear, which provide shortly informations of parameter`s functions.

Global and specific parameter

We can distinguish between global, general or specific parameters. Global parameters are valid across projects and they can be actuated at one position. General parameters are repetitive in all elements and specific parameters are used for only one particular element. More details of individual parameters will be described exactly in later chapters.

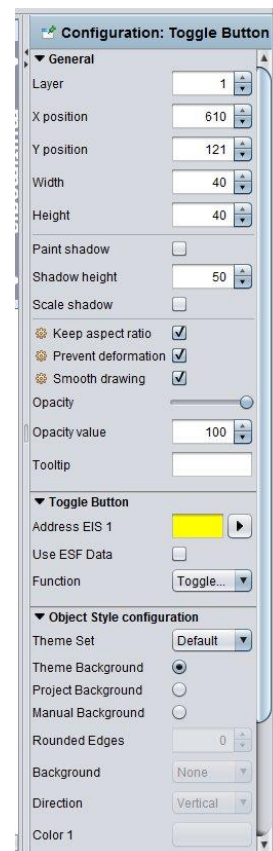


Figure 52: Visualisation - editor - parameter window



5.2.4 WORKING SURFACE

In the work surface, the original visualisation surface will be edited. As soon as one page was created, one data area will appear at your work surface, which could be modified by setting of parameter window.



Figure 53: Visualisation editor - work surface

Operating

You can utilize usual shortcuts by operating in your work surface. By this way, you can mark several elements with the help of STR-key and mouse and then copy them with SRG-C-key or insert them with STR-V-key. By pushing the right mouse button, a context menu will be available for you.

Visu-Live mode

In case Visu-Live-mode is activated, your work surface automatically serves as a visualisation surface and all elements can be operated now.

Caution: In doing so, real switching operations will be executed!

Frame:

The area outside of original visualisation surface is called frame. This frame will be displayed, if screen resolution of client will be higher than the screen resolution of visualisation project. The colour of frame can also be adapted to the background colour of the actual page. Additionally it will be possible to set parameters of visualisation surface's horizontal and vertical orientation (project parameters).

5.3 INFORMATION FOR OPERATING

Visualisation always consists of a project and at least of one page. Several projects can be created, e.g. for various buildings. Starting or using visualisation, you can change between your created projects. If user administration is activated, users only could work with projects, to which they got permissions.

RELEASE WINDOWS

On the left and on the right side of visualisation surface, you see windows of elements and of parametrization. These windows can disturb your work with visualisation, according as which size and which resolution you have adjusted and maybe they will cover your visualisation surface. Therefore it is possible to “exempt” these windows out of the visualisation editor.

You can exempt a window by doing a key click on the blue headline. After that, it becomes a window on the taskbar of your operation system and it can freely be positioned. To incorporate the window again, you have to click to the headline once more..

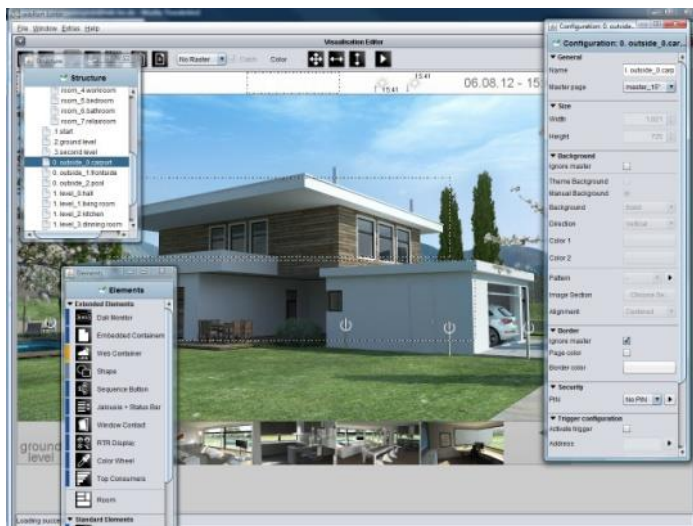


Figure 54: Editor - Release of windows

TO SCALE ELEMENTS

All elements of visualisation are free to scale. To scale one object, it will be reduced or extended with the aid of applicable marking points on it. Another way is, to mark this object and to change the size in the parametrization window on the right. In case in Parameterize window check mark „keep aspect ratio“ is set, it is not possible to scale element partially. With the flag “Prevent deformation” content of element will be scaled without distortion or not. Option “Smooth drawing” will cause, that element will be burred by scaling, to avoid pixelated appearance. Elements, which contain text additional to symbols, you will find function „auto scale“, which provide for adapting of font size to size of element

COPY, PASTE, DELETE

You be able to copy elements of visualisation by containing their parameters. Use the right mouse button and click on one element (in visualisation) and choose “copy”, “paste” or “delete” Alternatively you can use the key sequences „SRTG-C” (for copy) and “STRG-V” (for paste) and for deleting the key „DEL” .

DRAG & DROP

To place rapidly pictures of free components (switches from your component builder) on your visualization surface, you can also pull them per drag & drop from another window to the editor window. “Releasing” this file will automatically start a corresponding dialogue for uploading this file. All required informations are already filled in, you only have to push the „upload“ button. After uploading, your file will be placed in the selected visualisation window.



5.4 PROJECTS AND PAGES

The structure of one visualisation project will be assembled roughly by so called „projects“ and „pages“. At this place particular parameters will be described, which will be determined by projects and pages. Many of parameters carries global characters, which specify generally performance and appearance.

5.4.1 PROJECTS

In parameter window of a project, general project settings are determined. This window will appear, when you choose your requested project out of the project structure.

General

- *Name:* Name of your project.
- *Start page:* Starting the visualisation project, the selected page will be displayed.
- *Show page index:* An index of pages will be displayed on the margin of visualisation, in case of activated entry. With the help of this index, you can call up directly your visualisation pages.
- *Kiosk-mode:* In this entry activated, visualisation starts in full-screen mode. This mode will be used especially in case visualisation is not allowed to be closed. (official hours)
- *Show disconnects :* The activated entry here displays connection problems between client and EIBPORT (red bar at the bottom of the visualisation window)
- *Color filter:* Using this filter, you can change colour of element diagrams. The background of the elements will not be influenced in this way. Preview shows the appearance of the icons (in actuated and not actuated status). You can select between three defaults colour filters.
- *Page fade time (ms):* You can configure a “page change change-over” mode. This parameter specifies duration of change using the measure of milliseconds.
- *Smart fade effect:* The change-over effect will be performed more gently. Possibly effects of flicker will be avoided hereby. Furthermore change-over appears softly, if you are using slow acting computers.
- *To start page:* After the specified number of minutes without any user interaction to visualize changes from any page in the project back to the defined home page.

Please note: During the fade process, no switching is possible.

- *Optimize memory usage:* Using this option, only elements of the actual visualisation sheet are called up. This implicates a minor consumption of memory, but time for loading will be extended a little.
- *Background presentation:* This option changes the rendering characteristics in Java CONTROL and CONTROL L:
 - Compatibility: In this setting, the presentation might differ between Java CONTROL and CONTROL L but it is compatible to older browsers.
 - Precise: This setting shows pixel precise backgrounds. It can, however, cause problems in older browsers. All modern browsers should function correctly with this presentation.
- *Adjust text position:* If this option is enabled, the text position in CONTROL L is adjusted to match the presentation in the Editor. Otherwise, the different rendering mechanisms may cause the presentation to differ.

Object style configuration

These settings define the style of the elements used within the project; the settings obtain fort he whole project. Each element an individual style can be assigned to via Element Attributes:

- *Theme background:* The Theme background is set within the Theme Editor and can optionally be set to global. So the style will be uniform for the whole project.
- *Manually:* Select this option in case of manual definition of the object "background".
- *Rounded edges:* here the radius of the edges can be set (unit = px)
- *Background:* Three different options are available for the elements: „Gradient“, „Background Colour“ and „No Background“.
- *Alignment:* If „Gradient“ is selected as background it can be defined here if the direction is vertically or horizontally. If another kind of background is selected this array is greyed out
- *Colour 1 and Colour 2:* Here the two colours for the gradient can be defined. If another kind of background is selected this array is greyed out
- *Frame Style:* Each element background has a frame; here can be defined if the frame is set "automatically", as a "line" or "invisible".
- *Frame Colour + Width:* If frame style „Line“ is selected the colour and width (unit = px) can be set here. These settings can be changed individually for every element (Parameters for elements).

Please note: These settings can be changed individually for every element (Parameters for elements).

Visualisation alignment

With the help of this setting, the visualisation surface will be adjusted in your Visu-window.

Visualisation ToolBar

By the use of a hook in certain control box, you can define, which of the Visu ToolBar menus will be popped up in visualisation, respectively the generally appearance of ToolBar.

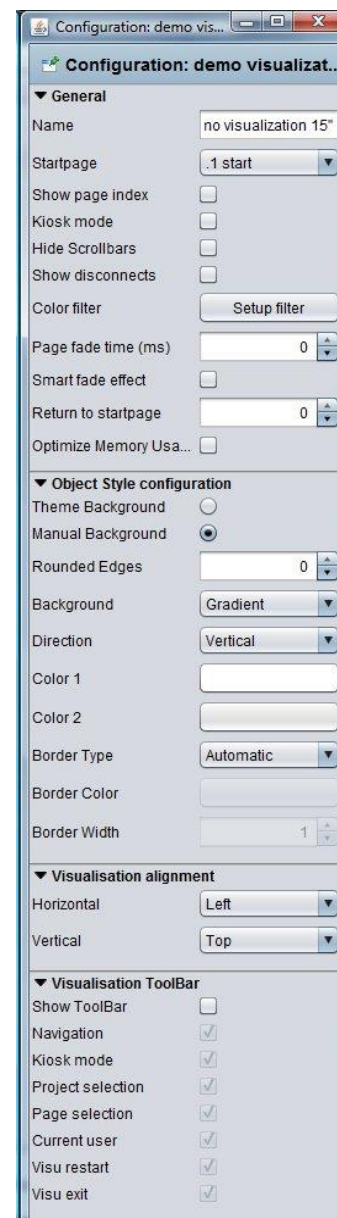


Figure 55: Visualisation Editor - Project parameters



5.4.2 MASTER PAGES

For most projects, the basic properties of a page, repeat again and again. This need not be readjusted at each project site, these parameters it is possible to use this so-called Master Pages. It is also possible that pre-set properties in the options parameter to ignore the pages individually.

The master page afford following settings:

Size

The master page specifies the size of normal pages. This setting, you can't ignore by the configuration of pages and this setting will be always effective by using master pages.

Background

To determine the appearance of backgrounds, you can choose between following possibilities:

- *Theme Background:* If this option is set the background will be displayed as set in „Theme“. This serves for a central matching of icons and pages.
- *Manually:* Using this menu item the style and colour of the background may be set individually by the user.
- *Background:* Select the background style here. There are two alternatives available: „Gradient“ and „Background Colour“
- *Alignment:* If background style „Gradient“ is selected the direction can be set here.
- *Colour 1 + Colour 2:* If „Gradient“ is selected both arrays are activated else just one
- *Pattern:* You can also define a general picture for placing to the background. With the help of the arrow symbol near the menu for selection, a dialogue for transferring images will open.
- *Orientation:* Here you can determine the orientation of your background picture. These settings you can ignore in parameters of normal pages.

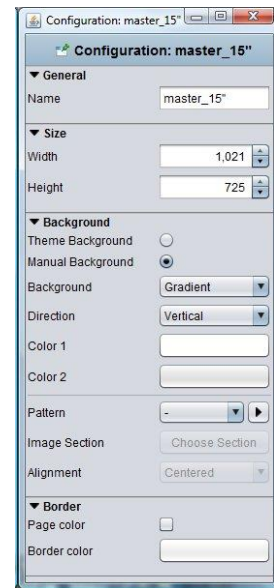


Figure 56: Visualisation editor - parameter of master page

Frame

The frame of a defined visualisation surface can be illustrated in terms of color for a coherent appearance in all screen resolutions. The frame assumes the color of the site or it will apply colors, you have chosen before. The frame can be defined from the master page

5.4.3 FLIP / DIALOGUE PAGES

The flip / dialog page is an extra page element that makes it possible to define smaller pages that can then be pulled to an existing visualization page (requires at least 2 segments). In addition, these sites can also appear as dialog elements in the foreground. In this manner, the operation of a visualization can be greatly simplified.

Following settings can be adjusted for the page:

Generally

- *Name:* Please define one unique name, so that the page can be identified definitely in further course.

Size

Here you can define height and width in unit “pixel”. In case, the page should be used for flipping, it will be better to utilize a lower resolution. The higher the resolution the more computing power for visualisation service has to make available by the client.

Background

It could be adjusted several background configurations.

- *Theme Background:* If this option is set the background will be displayed as set in „Theme“. This serves for a central matching of icons and pages.
- *Manually:* Using this menu item the style and colour of the background may be set individually by the user.
- *Background:* Select the background style here. There are two alternatives available:
„Gradient“ and „Background Colour“
- *Alignment:* If background style „Gradient“ is selected the direction can be set here.
- *Colour 1 + Colour 2:* If „Gradient“ is selected both arrays are activated else just one
- *Pattern:* Instead of a colour, you can select a background picture out of the image files. Image files are displayed with their labels in a drop-down menu. If the picture is smaller than visualisation surface itself, you can determine by the help of orientation, whether the picture should be stretched or in which place it has to be positioned. Furthermore transparency of background picture can be adjusted by one slide control or by a number field

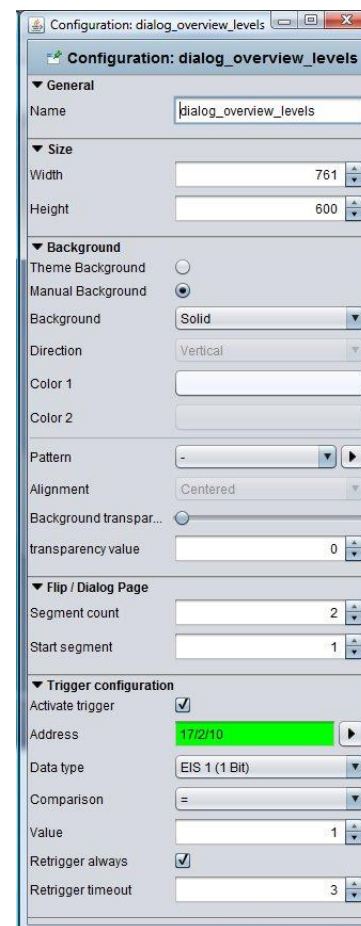


Figure 57: Visualisation editor - Flip / dialogue page parameter

Embedded page / dialogue

Please determine from here, on how many elements page should be consisted or which element should represent your start page. Start page is especially essential for configuration as a „flip page“. We number continuously from left to right. Maximum 10 Embedded Page Segments are possible.

Event configuration

This page can be displayed due to a event in EIB. In this case this page is used as a dialogue page and it causes one warning on your screen, for example. Apart from all kind of data types, the element supports diverse comparison operations. Furthermore, you can determine, if the element will react at all times or only after one value modification and how many times has to pass by, so that element will react again of one input value.



Using of flip /dialogue pages

To use one page as a flip element, it has to consider of several elements, so that you can flip at all. If you want to use the element rather as a dialogue page, for fault messages for example, it will do, to define only one page.

- *Flip page:* Please specify in “number of pages” more than one page and choose accordingly one start page. On your working surface, pages will appear side by side, from left to right. One flip/dialogue page can consist of several individual pages (or individual elements, too) whereas height and width always determine only the size of the single page. On the flip page, you can place and configure all desired elements and backgrounds, like you do on every other page. To place one flip element in a visualisation page, the element “embedded page (flip)” will be used. For this purpose, please check corresponding element.
- *Dialogue page:* In case you activate the event configuration of flip/dialogue pages, you will get one project overlapping dialogue, which will superimpose every visualisation page, on the basis of the adjusted KNX/EIB event. Visualisation itself fade into the background and will be „greyed out“

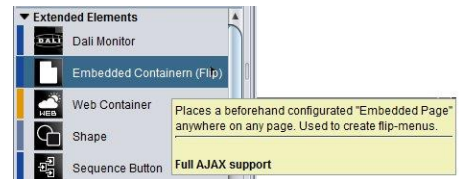


Figure 58: Element - Embedded Page

5.4.4 PAGES

Every project consists of one or multiple pages. If one page is marked in the project structure, all parameters of this page appear in the right window.

Generally

- *Name:* Every page should have been named clearly.
- *Master Page:* You can use previously created master pages as a template for your chosen page, with the help of this drop-down menu. In this case, the master page specifies size, background and the frame settings of your page. To enable different adjustments, you could ignore background and frame settings with a control box.

Size

- *Width:* Wideness in pixel
- *Height:* Altitude in pixel

Hint: Please consider when specificate width and height that later on a taskbar and the visualisation frame would be .added to the whole screen.

Background

Several background options can be used:

- *Ignore master:* The background setting of the master page will not be used for your page.
- *Theme Background:* If this option is set the background will be displayed as set in „Theme“. This serves for a central matching of icons and pages.
- *Manually:* Using this menu item the style and colour of the background may be set individually by the user.
- *Background:* Select the background style here. There are two alternatives available: “Gradient” and “Background Colour”
- *Alignment:* If background style “Gradient” is selected the direction can be set here.
- *Colour 1 + Colour 2:* If „Gradient“ is selected both arrays are activated else just one
- *Pattern:* As a background pattern, one picture out of the uploded picture pool will be displayed. With the aid of the arrow button, dialogue “Uploading images” opens up. In addition to that, you can specify the alignment.

Frame

A frame makes sure, that the VISU-surface will be displayed all over your screen, no matter how, which resolution is adjusted. In case, that among the visualisation-clients one screen offers a higher resolution as the visualisation surface, the frame will be shown additionally. The colour of your frame can be set individually beside the colour of the page. The frame can also be determined by the master page.

Security

Each page can be locked with a PIN-code. The menu, which allows you to create and organize the PIN-code, is been opened up with the help from the symbol right beside of PIN selection array. You can create a new PIN with the “+” – symbol. Your PIN-code should get a unique name. As a PIN, numerals from 0 to 9 in a random length can be chosen. The setting of decline for a PIN-code decides how long the user can work without a recent password request. In case the user remains working on the page and the PIN-code loses validity, a new code entry will be required, not until user opens the page again. By using the “-” symbol, a PIN-code will be erased. Options for PIN-code features, your can also change in the menu item “user settings”.

Trigger Configuration

- *Activate trigger:* The regarding page will be displayed on screen by releasing a telegram. Reversal of a page can only take place within one project.
- *Address:* Here the group address for event releasing has to be filled in. Possible variations of EIS-types are: EIS 1, EIS 5, EIS 6, EIS 9, EIS 10, EIS 11, EIS 14.
- *Comparison:* Incoming group addresses can be proofed by comparison. Only a correct proof result will cause a change of page. Possible operation of comparison are: similar, less than, greater than, less or equal, greater or equal and dissimilar. If the setting is “*” a comparison will not take place, the page will be initiate after any value of receipt.
- *Retrigger always:* If this function has been activated, every accurate result of comparison starts a change of page, in case of non activated function the change of page happens only after alteration of comparison results.
- *Retrigger timeout:* The setting of time in seconds during a new release will not cause a reaction.

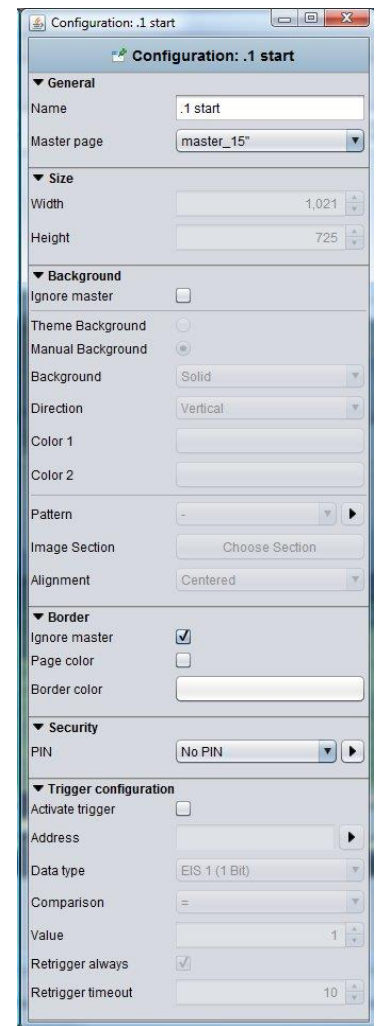


Figure 59: Visualisation editor - page parameter

5.4.5 CONTROL L SUPPORT

In what form visualisation elements and global parameters also are effective for CONTROL L, we can find out quickly and simply by means of tooltips. Visualisation elements will get one optical marking (a blue bar). CONTROL L support of the elements will be constantly developed and alters from firmware to firmware.

Color coding:

- Blue bar = Full CONTROL L support
- Light blue bars = Partial support
- Orange bars = No Java support
- No bars = Only supports Java

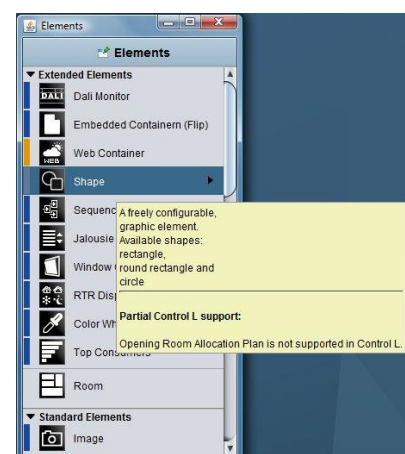


Figure 60: Visualisation editor - tooltip CONTROL L support



5.5 ELEMENTS

All elements of standard library belong to visualisation elements and all the switches that were created by the component builder. These are, however, optional. For placing the elements on visualisation, it will be sufficient to click on these elements. Then they will be placed in the centre of visualisation page, focussed by a frame and on the left hand side a corresponding element parameter will be displayed.

5.5.1 THEMES / EXCHANGEABLE ELEMENTS

Visualisation-, operation-, job-, and CONTROL S -elements can be exchanged since firmware 0.10.1. Therefore, so called themes will be used, which contain a complete set of elements. You can edit these themes or particular elements with additional software, the “theme editor”, which is described in a separate manual, stored on website www.bab-tec.de.

5.5.2 GENERAL ELEMENT PARAMETER

Every element has specific parameters, according to its function. You can see them, if you mark an object on the visualisation surface. Beside the specific parameters there are attributes, which are similar for all elements.

General

- *Layer*: Indicates on which layer elements will be located. Each element has its own layer. Using the input field, you can modify the layer of element. In this way elements could managed more simply, for example by placing them one above the other.
- *Position*: The position of one element in the space of the visualisation surface will be determined by entry of pixels, input per keyboard or arrow keys
- *Width/ Height*: Values of width and height can be changed by keyboard or arrow keys. The option “Keep aspect ratio” will not be regarded in this case.
- *Paint shadow*: You can dedicate a shadow to each element. In doing so, element will be reflected to the bottom in a defined value.
- *Shadow height*: The height of the shadow can be determined from 0 to 150 %.
- *Scale shadow*: In case this option is activated, the complete element is drawn in shadows, independent from the shadow value. By deactivating this option, the element will displayed as well as the value of shadow was specified.

Global settings of the scaling behaviour

- *Keep aspect ratio*: In case this option is activated, aspect ratio will not be changed, when you are extending or reducing element with your mouse.

Tipp: By pressing the “Strg-key”, you can fix the aspect ratio, if you will extend your element and by pressing the “Shift-key”, you can fix the center of your element.

- *Prevent deformation*: Graphics of elements will not be distort by freely scaling, only the background of elements will be changed.
- *Smooth drawing*: Edges of elements will be displayed „softer“.

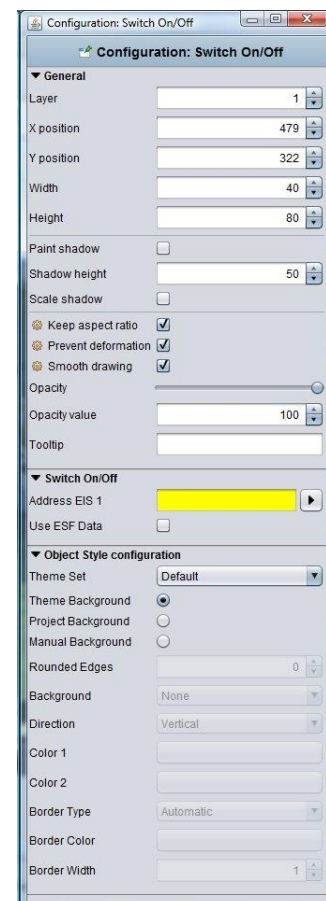


Figure 61: Visualisation editor - general parameter of elements

Using the rack-wheel symbol in front of the according lettering the three settings can be set to „global“. There are three ways for carrying out:

Set value for:

- *Objects of the same type.* For all alike elements the parameter is set.
- *All objects:* The parameter is valid for all elements.
- *All objects and as standard value:* The parameter is valid for all existing elements and is set as standard for each new/ additional object

Set value for objects:

- *On actual page:* The settings are valid for all objects just on the actual page but not in the whole project
- *In the project:* The settings are valid for all objects within the project

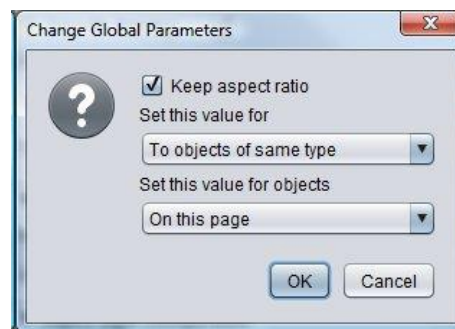


Figure 62: setting global element behaviour

Opacity

- *Opacity:* Using this function, element will be made stepless visible or invisible. Thereby you can enter some value as a number or you can adjust it with a regulator.
- *Tooltip:* You can enter a tooltip for better identification. This tooltip appears in visualisation, when your mouse will meet corresponding object.
- *Address allocation:* In the event no address was entered, the data array will displayed yellow, in case of a valid address; data field will be marked green. If your address has an incorrect syntax, data field will appear in red.

Tip: by entering addresses, spacebar can be used for „/“-key (Slash). That will simplify entering.

- *Address allocation with ESF-file:* With the help from the arrow keys beside the address entry field, the dialogue for administration of ESF-files will come up. In the area below 5 data arrays for addresses are located; in witch elements can be equipped. It will suffice to make a double click on a address in overview, to fill in these data fields.
- *Using ESF-files:* By this option, the label of group address from ESF-file will be used for an element tooltip in visualisation.

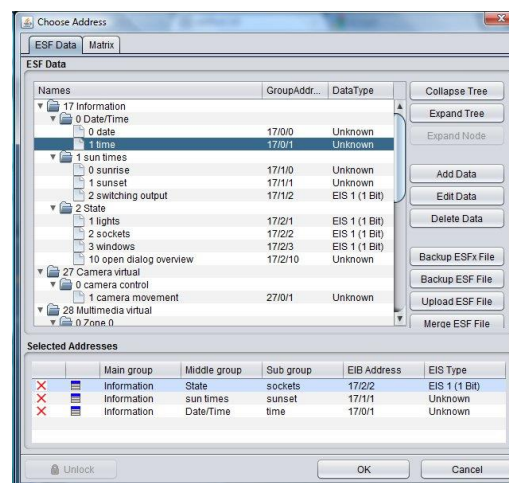


Figure 63: Address allocation with ESF File

Object style configuration

The background appearance of an element is changed. The global style configuration for the selected element will be overwritten within the project parameters

- *Theme Set:* When changing the elements in the theme editor, the graphic element different rates, so-called 'sets' are associated. The kits allow for example the Instead, a lamp is an electrical outlet. For a separate description of the Theme Editor, please refer to the supplied CD or the download section of our web site (www.bab-tec.de).
- *Theme Background:* At creation of a theme within the Theme editor a background colour can be defined in order to align the icons globally. The Theme editor works as an additional tool and is described in a separate document.
- *Manually:* If this option is activated the background of the object can be set manually in the arrays below.
- *Rounded edges:* here the radius of the edges can be set (unit = px)



- *Background:* Defines the type of background. There are "background color", "No background" and "gradient" is available.
- *Alignment:* If selected as a background style of the gradient here is its orientation can be determined.
- *color 1 + color 2:* "gradient" or "background color", the colors can be determined.
- *Frame Type:* It is determined the appearance of the background frame. There are "no frames", "Automatic" or "line" is available.
- *Frame Colour + Width:* If frame style "Line" is selected the colour and width (unit = px) can be set here.

Modify font style

- *Change Font Style:* Some elements include fonts. In this case, you can alter additionally font styles in a configtool. It is possible to apply various patterns of style, which you can use again and again.
 - Create a style: By using the "+" key, you can lay out a new typeface.
 - Style features: Here you can do necessary font style settings
 - Style preview: Here you can see a preview of chosen font style.
 - Delete a style: A font style could be erased by the key "-", ..
- *Ignore font style:* If desired the font style for this element can be ignored. Then the standard font style is used,
- *Font color:* If the font style is ignored, it is possible to enter a color for the default font here.
- *Auto Scaling:* Is this flag activated the font size is automatically adjusted in relation to the element size.

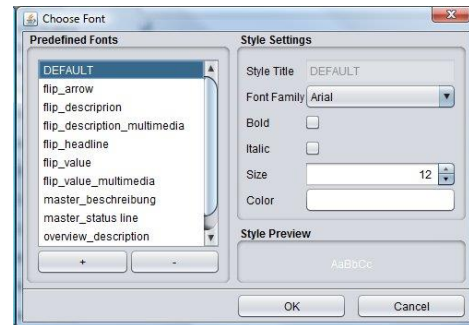


Figure 64: Modify font style

Please note: If you change font style of an element, all elements with this style will assume those modifications, the font style „DEFAULT“, too.

5.6 VISUALISATION ELEMENTS

All elements that are available for use in the visualization are displayed in the “Elements” window. There are two different kinds of elements. On one hand you'll find the standard elements which can be modified and adjusted with the theme editor; on the other hand there are elements which can be generated with the “*Component Builder*” tool. Using this tool not just the look of the elements can be set freely but also their function. Both tools are described in additional documentations. Just ask for them under info@bab-tec.de.



5.6.1 DALI MONITOR

Visualization object Dali Monitor represents the display element of the Dali monitor job, which can be configured in job editor

CONTROL L support

The element can also be used for CONTROL L

Dali Monitor Job

By the help of this drop down menu, different Dali monitor jobs can be chosen, which were defined in job editor before.

Settings

Beside of object, the element has four different setting options.

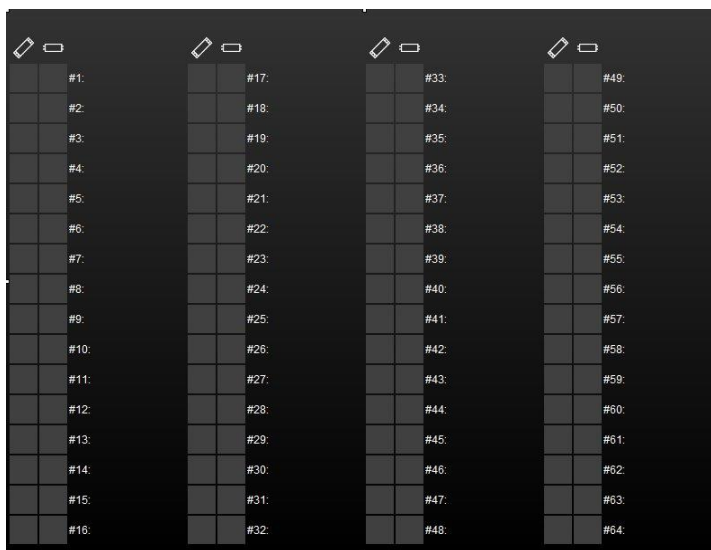


Figure 65: visualization Editor – Dali Monitor Element

- *Tooltip*: This text field defines which lettering are displayed, when the mouse pointer roll over the element
- *Color*: Please define a color for each of the states OK, defective, unknown and non-active.
- *Manual inspection*: By this check box, a Dali gateway can be separately required on demand.
- *Columns*: You can choose between a double-columned or a quadrifid presentation

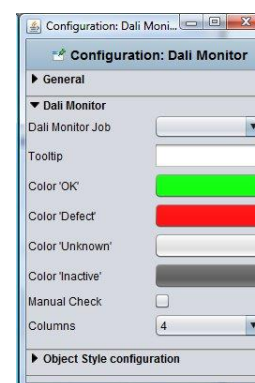


Figure 66: Visu-Editor – Dali Monitor Element Configuration

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.2 CUBEVISION

This element is used to integrate CUBEVISION into the free CONTROL L visualisation. (Also see chapter "[CUBEVISION](#)"). For a detailed description of the configuration, please refer to the CUBEVISION documentation which is available on the supplied CD or at www.bab-tec.de.

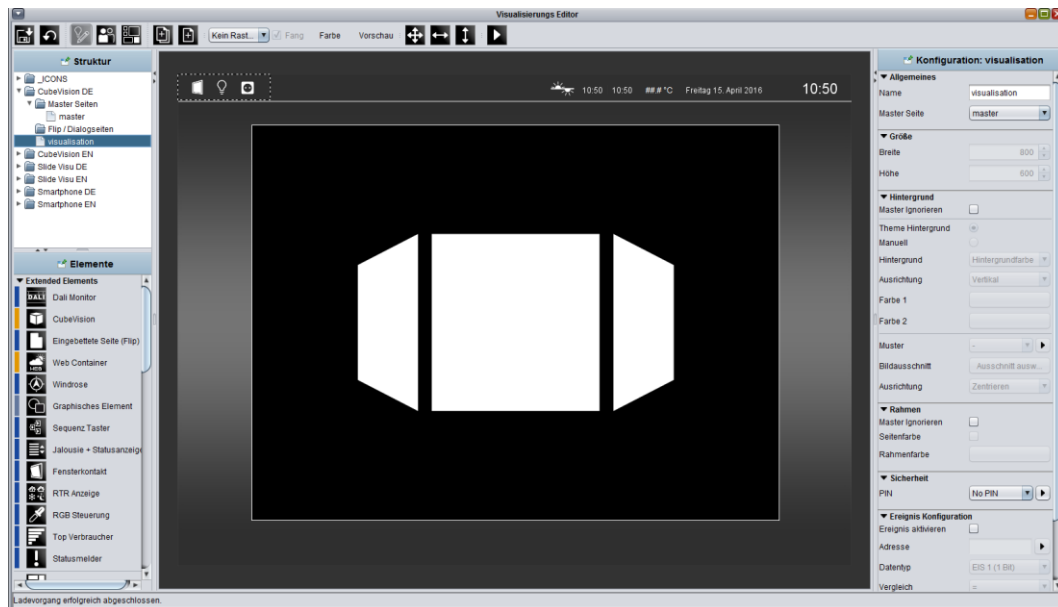


Figure 67: Visualisation Editor – CUBEVISION element

CONTROL L support

This element only works in the CONTROL L visualisation but NOT in the Java Visualisation.

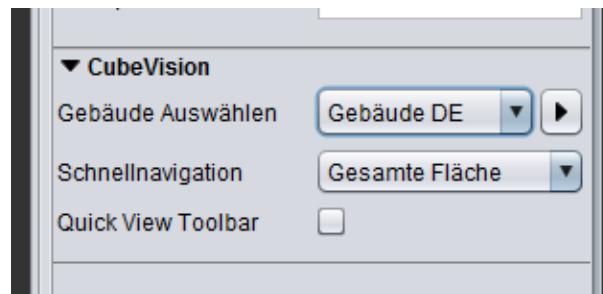


Figure 68: Visualisation Editor – parameters of the CUBEVISION element

Select building

To select the previously created CUBEVISION projects. Use the arrow button to the right of the selection to call up the CUBEVISION Editor. For a description of the Editor, please refer to the separate CUBEVISION documentation (available on the supplied CD or at www.bab-tec.de).

Quick Navigation

The quick navigation feature provides a project overview and enables you to quickly navigate to the desired room. The following items can be selected:

- No Quick Navigation
- Entire surface
- Right bottom corner

Quick view toolbar

If this feature is enabled, the icons of the elements configured for Central View are shown in the window of the embedded CUBEVISION (see CUBEVISION documentation).



5.6.3 EMBEDDED PAGE (FLIP)

By this element, flip pages, which were created in folder “flip/dialogue pages” before, can be placed to a visualisation page. There you can determine, how many individual pages the flip page will imply and which function they will have.

CONTROL L support

The element can also be used for CONTROL L

Specific parameter:

Beside general element parameters, specific parameters of elements exist. These determine the flip element`s appearance and performance on visualisation page.

- *Page select:* Please select here the desired flip/dialogue page, which should be placed on visualisation page
- *Visible page:* Every flip page consists of 2 segments (single pages) at least. By the number field, you can adjust, how many segments could be regarded simultaneously. If only 2 segments are defined, only one segment should be visible, so that it can bring effect to slide into the other segment.
- *Fade-out area in pixel:* In this place, at the left and right margin, you can enter a range in pixel, in which respective vanishing segment will be faded out slowly. Fade-out area will be added to the actual size of corresponding segment

Example

For example a flip page, like it is used in distribution project. It consists of 4 individual segments. And so the configured flip/dialogue page will look like.



Figure 69: Visualisation editor - Flip / Dialogue page out of distribution project.

On the right side, you can see the specific configuration. The page consists of 4 segments, whereas the first page works as a start page (numbered consecutively from left to right).

On the second figure you can see then, how this page was intergrated in visualisation by means of the embedded page (flip)-element.

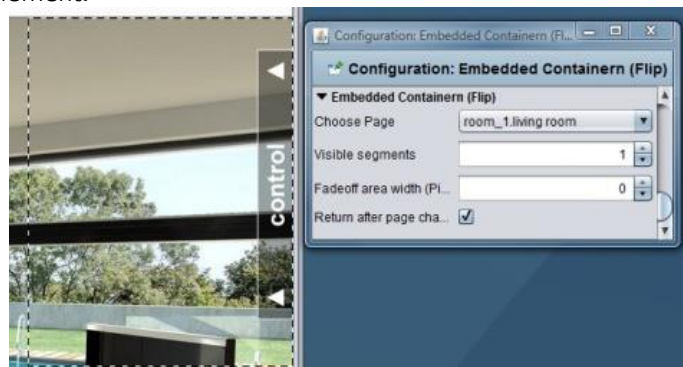


Figure 70: Visualisation editor - embedded page(flip) in distribution project

In case you don´t have any distribution project, please order it under info@bab-tec.de



5.6.4 WEB CONTAINER

This element can be Web pages or HTML content into the visualization can be embedded. For technical reasons, this element will only work in the CONTROL L.

Hint: Web pages can prevent embedding.

CONTROL L support

The only exception to this element only works in the CONTROL L visualisation and NOT in the Java visualisation.



Figure 71: Web Container - parameter

Specific parameters

The web container can relate its contents from two different sources. On the one hand from the specification of a URL, on the other from a field in which a full HTML code can be entered.

- URL: The URL can be loaded by means of foreign Web content in the container. It is simply the same URL needs to be registered also in the browser.
- HTML: In the big field "HTML code" can be loaded either own or other HTML code. Thus, for example Weather widgets are displayed.
- Updated (min): Determine the time in minutes when the content of the web container to be updated.

5.6.5 WIND ROSE

The wind rose visualisation element is used to visualise the wind direction, issued as 1 byte or 2 byte telegram.

CONTROL L support

The element can also be used in CONTROL L.

Direction address

Communication object. Enter the desired group addresses here. Data type EIS 14 (1 byte) or EIS 10 (2 byte).

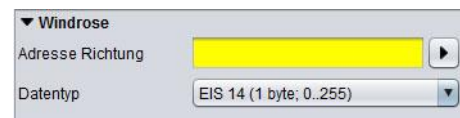


Figure 72: Visualisation element – wind rose

Data type

Select the correct data type:

- EIS 14 = 1 byte, range of values 0-255
- EIS 10 = 2 byte, range of values 0-360

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.6 SHAPE ELEMENT

The graphic element can be used for layout purposes as well as for different functionalities.

CONTROL L Support

Not all functions of the element are supported in the CONTROL L. The following tasks are not supported:

- Change Page PIN
- Set eibPort clock
- Open Room Allocation Plan
- Local programm

Element Type (style)

The Shape element has 3 different characteristics (styles). The wanted style can be selected from a dropdown menu.

- *Rectangle:* The element is displayed as rectangle.
- *Rounded rectangle:* The element is displayed as rectangle with rounded edges
- *Circle:* The element is displayed as circle.



Figure 73: Shape Element - Shape type

Radius of the edges

If style „Rounded edges“ is selected the radius of the edges can be set here (unit = px)

Functions

The Graphic element offers beneath it's layout functionality some other functions which can be linked with the element directly. Therefor several actions can be defined. These actions will be executed when the element is pressed or released. Each function (press / release) just one action can be assigned to. It is not possible to define one action for „press“ and „release“ at the same time.

- *Change Page PIN:* By clicking the corresponding graphical element the user is been requested to change the page PIN. Which PIN will be changed can be determined in the menu.
- *Page Link:* By “mouse-press” or “mouse-release” the page will be skipped. The target page is been defined in the pull down menu.
- *Page History:* It is possible to navigate a page forward or backwards. This function is similar to the navigation in a internet browser. The navigation in the “forward” direction” only works if “backwards” is used before. “Page backwards” is depending on the chronic a user creates.
- *Flip Page:* Using this function a specific segment of a flip page can be called. So it can be navigated without using the flip- element.
- *Open URL in Browser:* The desired URL will be requested if the element is been clicked.
- *HTTP-Request:* A predefined request is been sent. This can be used to control an IP-camera for example. Does not depend on the Job „HTTP-Request“. HTTP Basic authentication is possible by URL.
- *Open Room Allocation Plan:* The shape element is been used to open the visualisation element for the room allocation plan.
- *Set eibPort clock:* The dialogue for setting the EIBPORT clock is been displayed. It is able to enter time and date by hard or use the local machine's time to set it.
- *Local programm:* This function allows to start a locally installed programm on the client PC. For this the command and the file to be executed can be selected.

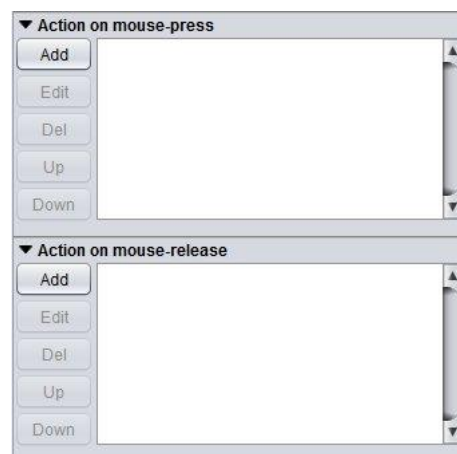


Figure 74: Shape Element - Add action

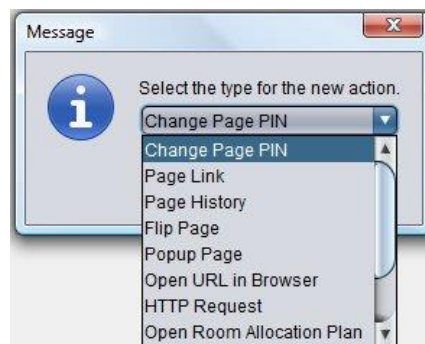


Figure 75: Shape Element - Actions



5.6.7 SEQUENCE PUSH BUTTON

This push button is able to execute different actions by repeated. So after a second release in a defined period, not the same action will be executed, but also another one. This push button will be used for example in handicapped accessible homes.

CONTROL L support

The element can also be used for CONTROL L.

Spezific parameter:

Beside general element parameter, some specific parameters of elements exist. These parameters determine the sequence push button's performance und

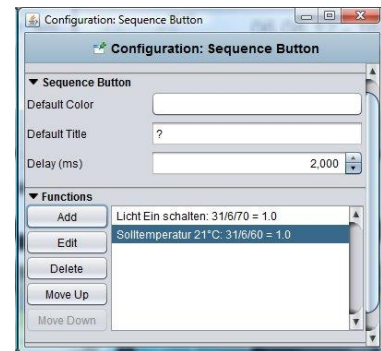


Figure 76: Sequence Button - specific parameters

- *Standard colour:* Defines the colour, which button will carry in standby mode.
- *Standard title:* The title is placed in centre and it is optional. Standard title will be displayed, when push button is in standby mode. Font style can be defined separately by a corresponding menu
- *Delay (ms):* Delay determines the period, which has to pass by, in order that sequence push button will return to standby mode. If it will be pushed a second time within this period, button will execute the next respective action
- *Function:* By menu item function, several actions could be defined, which the push button should perform. These actions will be executed from top to bottom. Configuration:
 - Colour: Please define here the colour, which sequence push button should accept by executing of this action
 - Title: title will be shown in sequence push button by executing this action. Font style is the same like you have defined in standard
 - Adresse: Group addresses can be enter neither by keyboard, nor they can be chosen out of a ESF file, loaded up before.. Therefore the arrow button, beside address input field, will serve. How you can load up one ESF file to your unit, you will learn in chapter "ETS".
 - Data type: To every address a data type has to be assigned. Following types are possible in here, EIS1, EIS5, EIS6 and EIS 14 (unsigned).
 - Value: Here you determine the value, which has to be sent. This value conforms to adjusted data type. .

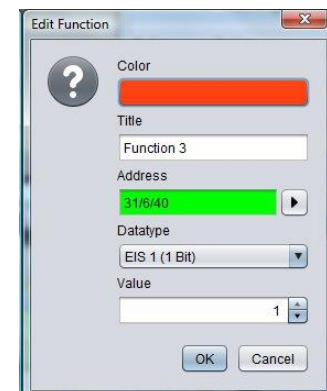


Figure 77: Sequence Button - edit functions

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.8 BLINDS AND STATUS INDICATOR

The blinds and status indicator serves as a control element for blinds. Specific positions can be driven and the tilt angle is displayed.

CONTROL L support

The element can also be used for CONTROL L.

Objects

The element provides different objects. Not all of them have to be used.

- *Up / Down*: EIS 1 Object as 'Move' command.
- *Position*: EIS 6 Object to drive and display a specific blind's position directly
The scaling within the element is controlled dynamically. If parameter „aspect ratio“ is deactivated the scaling will become more precise.
- *Ribs*: EIS 1 Object for blinds "Step" command.
- *Wind control*: EIS 1 object for wind control. If a telegram is sent on this object the operation elements turn to red and cannot be used any more.
- *Angle*: EIS 6 Object for controlling and displaying the angle of the ribs.

Settings

The element provides some more options:

- *Show Step*: "active " as default setting. Assigns if an operational element for the step command is displayed within the element or not.
- *Use ESF data*: if this flag is activated ESF data (out of the ETS) are used as tooltip resp. mouse-over-help.
- *Invert*: For use in some special controls it is necessary to invert EIS 1 objects

Object style configuration

All other options are described in chapter [General Element Parameter](#).



Figure 78: Jalousie and Status indicator - Parameters



5.6.9 WINDOW CONTACT

Element window contact displays the actual status of one or more windows. Therefore as well EIS 1 (1Bit) as EIS 14 (1 Byte) object can be used.

CONTROL L support

The element can also be used for CONTROL L.

Status EIS 14

The window contact is monitored by an EIS14 object. In this case a value for each status "Open", "Closed", "Tilted" is set. The object for "Broken" is the only one which is active in "Status EIS 1" even if in selection "Status EIS 14".

Status EIS 1

If this status is activated there are three objects each for "Open", "Tilted" and "breakage of glass". Using the "Invert" flag the objects can be inverted.

Settings

The parameters serve for more specific settings:

- *Use ESF data*: if this flag is activated ESF data (out of the ETS) are used as tooltip resp. mouse-over-help.

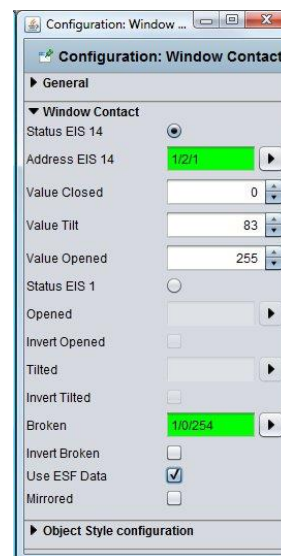


Figure 79: Window contact - parameters



- **Mirror Image:** If this flag is enabled, the representation of the item displayed mirrored.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.10 RTR DISPLAY

RTR display serves for room temperature control. In this process, switch offers the functions standby / comfort / night reduction and frost protection. This element can be operated with EIS 1 or EIS 14. .

CONTROL L support

The element can also be used for CONTROL L.

Specific parameter

Beside general element parameters, some specific parameters of elements exist. These parameter define, which data type and which address RTR-display will use

- *Typ EIS 14 / EIS 1:* Fundamental RTR-display can be operated with EIS 14 or EIS 1 values. Depending on which data type is chosen, one or the other display will be activated.
- *Status Adresse:* If EIS 14 as data type is chosen, address data has to be entered here. This could happen either by hand nor by the dialogue for address input, which offers the access to data of ETS (see also: upload ESF-file)
- *Value Standby/comfort/night reduction/frost protection:* for every status, you have to enter necessary EIS14 values in the corresponding input fields. .
- *Adr. Standby/comfort:* If EIS 1 is defined for data type, so it will be switched between standby and comfort by this communication object
- *Adr. Night reduction:* By the help of this address, it will be switched to night reduction.
- *Adr. Frost protection* By the help of this address, it will be switched to frost protection.

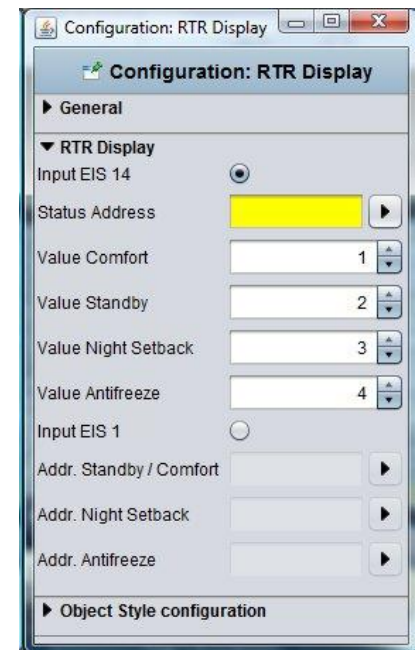


Figure 80: RTR-Display - specific parameters

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.11 RGB CONTROL

The colour selection circle is used to mix colours of the RGB, RGBW or HSB colour model. Thus, the visualisation can be used to control, for example, coloured LED light fixtures via so-called "DMX" dimmers. The required values can be sent by EIBPORT in different ways.

CONTROL L support

This element can also be used for CONTROL L.

Specific parameters

In addition to the general element parameters, there are several element-specific parameters. They determine the group addresses to which the required values are sent.

- Transmission of the colour values:
 - *RGB(W)*: (EIS 14 RED/GREEN/BLUE/WHITE) - Via three or four EIS 14 (1 byte) communication objects for each colour channel with RGB and RGBW.
 - *3 byte RGB*: (DPT 232.600) The RGB information is transmitted in a telegram.
 - *4 byte RGBW* (EIS 11 COMBINED): Via a communication object which combines the RGBW values in a telegram by way of EIS 11 byte).
 - *HSB*: (EIS10 HUE, EIS14 SATURATION/BRIGHTNESS) - HSB values are transmitted via an EIS 10 (2 byte) communication object for the hue and two EIS 14 (1 byte) communication objects for saturation and brightness.
- *EIS 1 TRANSMISSION COMPLETED* An EIS 1 confirmation telegram is sent on this communication object after colour input has been completed. In this way the corresponding distant end is able to clearly determine that all values have been transmitted.



Figure 81: Visualisation element – RGB control

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.12 TOP CONSUMER

Top consumer is an element of display, which compares 4 incoming values and which list them automatically according to their amount. Thereby values will be compared by means of a horizontal bar graph. So that display is suited excellently for making visible the top consumer in a building for one view. To measure this consumption, KNX-actuators with current value detection will be applied ideally. These will deliver momentary electricity (ampere), which will convert by the integrated job to energy consumption (for example watt-hours) umgerechnet wird.

CONTROL L support

The element can also be used for CONTROL L.

Specific parameter

Beside general element parameters, some specific parameters of elements exist. These parameters define which unit the top consumer will display and how many consumers will be reflected.

- *Bar colour:* Determines the colour of the bar, which displays the amount of consumption
- *Value format:* To influence the value`s format, you can place following inputs here: Integer and fractional digits are controlled by characters „0“ and „#“. „0“ stands for a forcing digit, that means, even if there is no value, character „0“ will be displayed. All characters, which are marked with „#“, will be optional, that means, that if there is a „0“ or no value, this character will not be displayed. For example:
 - Value should be 0,2. In case of value format 0.0, value 0.2 will be displayed. But if you enter #.#, only digit ,2 will be shown, because there is no value (=0) on the first digit.
- *Data source:* At present unique selectable option “Momentary (EIB)”. That implies that information about consumption will be extract out of current EIB telegrams.
- *Consumer:* By this menu, particular consumer will be allocated to the element. Therefore you will find the buttons „Append“, „Edit“ and „Delete“ on the side. With arrow keys, the sequence can be changed. With the help The button „Append“ opens another menu:
 - Title: The title will eb shown also in corresponding element. The name should be unique.
 - Address: Input address of consumption data.This address can´t be entered by keyboard, but it has to be chosen out of one ESF file.ESF-dialogue will open by pushing the arrow key near the address entry.
 - Data type: The element supports folowing EIS types: EIS 5, EIS 6, EIS 9, EIS 10 (s + u), EIS 11 (s + u), and EIS 14 (s + u).
 - Factor und Offset: Value will be multiplied with Factor and be added with Offset.

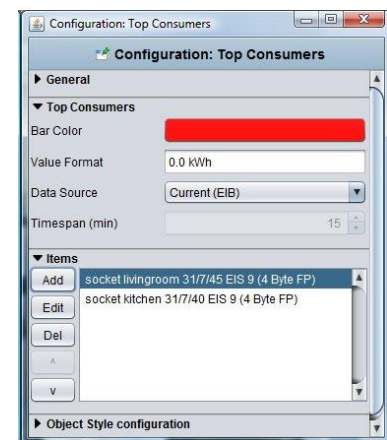


Figure 82: Top Consumer - specific parameters

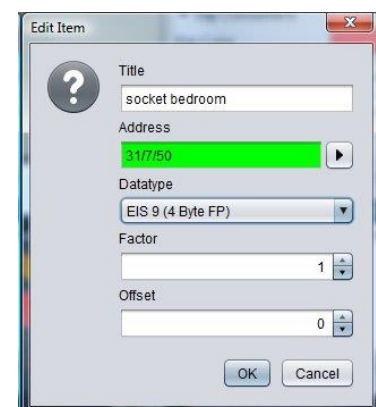


Figure 83: Top Consumer - editing consumers

Please note: For integrate job`s configuration please read more in chapter „JobEditor“

Object style configuration

All other options are described in chapter [General Element Parameter](#).

5.6.13 STATUS INDICATOR

The status indicator control element is used to display and, if required, manage the job of the same name.

CONTROL L support

This element can also be used for CONTROL L.

In addition to the objects and functions that are the same for all visualisation elements, the status indicator features the following parameters:

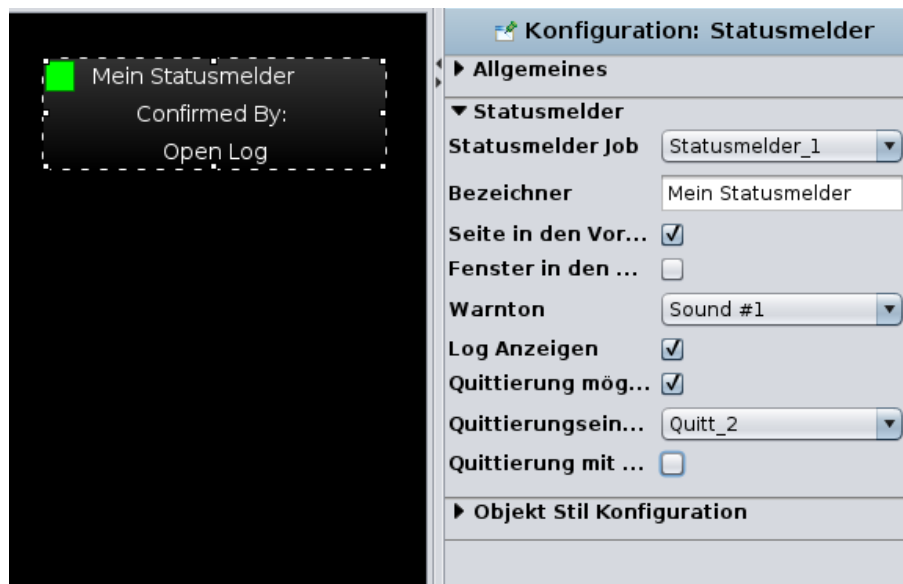


Figure 84: Visualisation element – status indicator

Objects

This element does not have its own objects but retrieves its object information from an associated job element.

Functions

- Select the job element that is to be visualised under "*Job status indicator*". All status indicators created in the device are listed in the selection box.
- The "*identifier*" is shown in the upper section of the element in the visualisation.
- "*Place page in the foreground*": If this option is enabled, the visualisation page with this element is automatically placed in the foreground (of the visualisation) when a fault is detected.
- "*Window in the foreground*": (This is only possible in the Java-based visualisation). If this option is enabled, the browser will automatically cause the browser window containing the visualisation to be shown in the foreground (on top of other active programs) when a fault is detected.
- Different audible signals for fault detection are available in the "*Warning tone*" selection box. In addition, this item can be used to switch off the output of audible signals.
- If the option field "Display log" is disabled, the item "Open log" will not be shown in the visualisation element and cannot be displayed (using this element). Otherwise the text will be displayed and the user can view the most recent status changes by clicking on the text. For this purpose, a new page or a new tab will be shown in the browser configured by the operating system if required.
- The option "Acknowledgement possible" can be used to define whether users are to be able to acknowledge faults by clicking on the coloured status indication in the left upper corner of the element.
- "*Acknowledgement input*": If acknowledgements are enabled within the visualisation as described above, the acknowledgement input which is set here will be used for acknowledging a fault. For this to be possible, at least one acknowledgement input has to be enabled in the job status indicator. (That means at least one group address and one text must be entered in one input.) This item offers all enabled inputs for selection.



- *"Acknowledgement with user names"*: If this option is enabled, not the text entered in the acknowledgement input, but the name of the logged on visualisation user is used as acknowledgement text.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.14 ROOM

This element serves for accessing the room allocation plan module. So f.i. a caretaker is enabled to operate the room allocation out of the visualization. Detailed explanations and documentation of the occupancy plan module is on the CD or provided on www.bab-tec.de to download.

CONTROL L Support

This element is not displayed in the CONTROL L. Currently it has no CONTROL L support.

Select room

Different rooms being generated in the occupancy plan module can be selected here out of a dropdown menu. Element „room“ is named with the title of the room and its assigned colour.

Checkbox

The checkboxes serve for configuration of the visualization element. According information can be found in the occupancy plan module.

- *Display active profile*: Displays the actually active profile of the room
- *Display active status*: Displays the actually active status of the room
- *Display exits*: All exits and their status are displayed
- *Change status*: An additional button “*Set State*” appears on the element. Using this button the user can change (via dropdown menu) the status of the room for a defined period.
- *Display calendar*: An additional button “*Open Calendar*” appears on the element. Using the button the user is enabled to access the configuration module („*Profile*“, “*calender*” and “*generated data*”). The access level is set in the occupancy plan module. (=> Please refer to the respective documentation).



Figure 85: Visualisation Element Room Allocation Plan (CONTROL R)



5.6.15 IMAGE

Element “Image” allows to place any graphic on the visualization surface. Not just graphics from the EIBPORT’s buffer but even from other sources (server etc) can be uploaded. Moreover the display mode (yes / no) can be linked with an event.

CONTROL L support

The element can also be used for CONTROL L.

Image from internal memory

Via dialogue “Image” all graphics being loaded into the EIBPORT can be selected. Dialogue „Graphic Transfer“ serves for uploading graphics into the device. The dialogue can be called via „Extras“ > „Image transfer“, or alternatively using the arrows beside the drop down menu “Image”. Graphic files also can be drawn by drag and drop directly onto the visualization surface and are also available in the dropdown list.

- Adopt size: If the Image’s size was changed this button resizes it to the original gauge

External image

This element provides graphics being located on the client PC or on any server. So it is possible to display an actual cover graphic while playing the music.

- *External URL*: The absolute path of the wanted file or web page has to be typed in.
If the file is located on the visualization PC the path has to begin with file://
In case of displaying a webpage the complete URL beginning with http:// has to be typed in.
- *refresh in (sec.)*: defines the time period for the automatic refresh of the webpage
Entering a „0“ means „no refresh“
- *background refresh*: if activated the URL will be refreshed in the background even if the visualization page is not active at the moment
- *Display last frame*: If an external URL cannot be reached temporarily the last successfully loaded picture is displayed
- *Check URL*: the reachability/ accessibility of the URL will be checked.

Event configuration

The visibility of each image can be controlled by an input object EIS1.

- *Visibility*: defines the condition for visibility; „permanent“, „on“ or „off“.
- *Address EIS 1*: If variant „on“ or „off“ are selected the address array will be released and can be configured
- *Use ESF data*: if this flag is activated ESF data (out of the ETS) are used as tooltip resp. mouse-over-help.

Realizing cover display in visualisation

By the external function call screen, there is the possibility that actual cover picture to the Squeezebox™ Server abgespieltem piece of music show. If the image exists, the server can be found at the following picture is available:

`http://<server>:<port>/music/current/cover.jpg?player=<playerid>`

This URL is extracted from http-API of SqueezeCenter™ resp. SqueezeboxServer™ software. For a player ID, the assigned name of Squeezebox™ will be used. Assume SqueezeCenter™ resp. SqueezeboxServer™

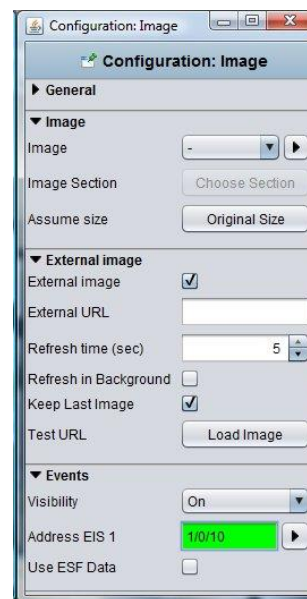


Figure 86: Image Element Parameter

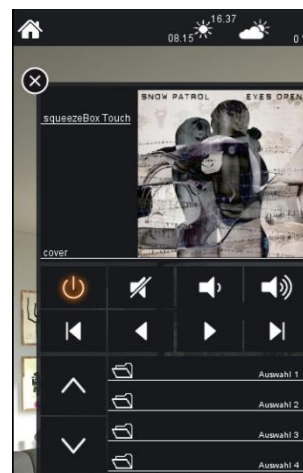


Figure 87: Example Cover Display



software works on a server with the ip-address 192.168.1.10 on port 9002 and it is about a cover image of a song, which is just played on Squeezebox™ Boom (named sqbboom), the URL will be:

`http://192.168.1.10:9002/music/current/cover.jpg?player=sqbboom`

By adjustment of the picture element it is to consider, that the picture could be refreshed indeed, but it will not have to reflect cover of the actual song, because displaying cover is not connected directly with music control. In the event of that a music album doesn't contain any information of cover, server software displays a wildcard



5.6.16 EIS 1 OBJECTS / SWITCH, BUTTON AND LUMINAIRE

The Standard library provides three standard elements for data type EIS 1. These elements only can display 1 Bit values. Using the theme Editor it is possible to insert additional style sets for button and luminaire.

CONTROL L support

The elements can also be used for CONTROL L.

On / off switch

The on / off switch can be used to control an EIS 1 object. The switch can be arranged vertically or horizontally. In addition, you can choose from one of the following Theme sets:

- Standard (1 / 0)
- Gate
- Barrier
- Awning
- Central Socket
- Heating
- Heating-Cooling
- Lock-Unlock
- Absent-Present
- Curtain
- Airing

Button

Button contains different functions within one element. Moreover it is possible to use different style sets via the "Theme editor".

- *Toggle (On/OFF)*: each trigger on the element sends out an ON or OFF signal.
- *Button (ON/OFF)*: each trigger on the element sends an ON signal and after this returns with an OFF signal into its original status.
- *Button (OFF/ON)*: each trigger on the element sends an OFF signal and after this returns with an ON signal into its original status.
- *ON*: each trigger on the element sends out an ON signal.
- *OFF*: each trigger on the element sends out an OFF signal.

Luminaire

The luminaire displays the status of EIS1 objects. This element cannot be operated, but it is possible to use different style sets via the "Theme editor".

Theme Set

Button and luminaire have different style sets which can be extended individually using the „theme Editor“. Basically both style sets provide:

- *Power Jack*: The element shows a power jack. In case of being used for the button it can be operated as switch, if used as luminaire it just displays
- *Corona*: The element pictures a corona. The element is suitable for being placed on "real" lamps (without background)



Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.17 BLINDS

The blinds element serves as a control element for blinds. Blinds are controlled by EIS 7 (1Bit).

CONTROL L support

The element can also be used for CONTROL L.

Objects

The element provides different objects. Not all of them have to be used.

- *Up / Down*: EIS 7 Object as ‚Move‘ command.
- *Ribs*: EIS 7 Object for blinds „Step“ command.
- *Wind control*: EIS 1 object for wind control.

If a telegram is sent on this object the operation elements turn to red and cannot be used any more.

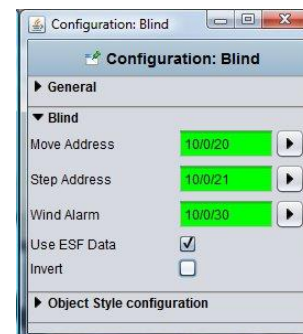


Figure 88: Jalousie - parameters

Functions

The element provides two more options:

- *Use ESF data*: if this flag is activated ESF data (out of the ETS) are used as tooltip resp. mouse-over-help.
- *Invert*: For use in some special controls it is necessary to invert EIS 1 objects

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.18 EIS 14 PUSHBUTTON

This button sends out 1 Byte values (EIS 14) Werte instead of 1 Bit. The wanted value (0-255) has to be set before.

CONTROL L support

The element can also be used for CONTROL L.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.19 BIT BAR

Bit bar is a bit-depending indicating device. Each of the 8 Bits may have the status 0 or 1. It reacts on previously set bits within a telegram value. It will be displayed coloured if this bit is set when receiving a telegram.

CONTROL L support

The element can also be used for CONTROL L.

Object

The element has an input object EIS14 (1 Byte).

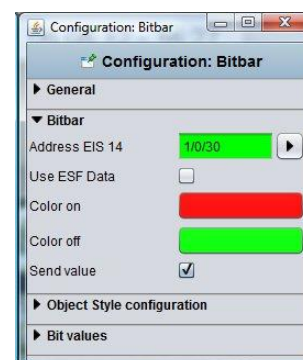


Figure 89: Bitbar - parameters



Settings

Beneath the input object there are 4 more settings possible:

- *Use ESF data:* if this flag is activated ESF data (out of the ETS) are used as tooltip resp. mouse-over-help.
- *Colour ON/ OFF:* Here a colour for each status can be set.
- *Send value:* the element changes from a displaying to a sending element when activating this checkbox

Object style configuration

All other options are described in chapter [General Element Parameter](#).

AZ

5.6.20 STATIC AND DYNAMIC TEXT

AZ

EIBPORT provides 2 types of text elements: a static and a dynamic one. Both serve for lettering whereat the dynamic text is able to show different texts depending on KNX events.

CONTROL L Support

Both elements can be used for CONTROL L.

Static text

Element „static text“ is „unlimited“ regarding the number of characters. Beginning with firmware version 0.11.4 the element can even display multiline text. Moreover the alignment (left, centered, right) can be set. The font style (size, type, colour) are set via menu item „Object Style configuration“.

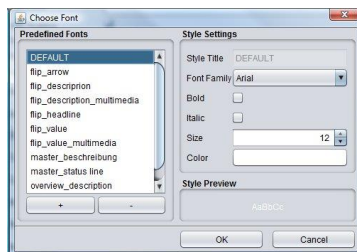


Figure 91: Enter font style

Object Style Configuration

Font style, size and colour are set here. Using the dialogue „style“ individual styles can be defined and used later on within the project. If the individual style is changed these changes are automatically executed on all elements using the same style.

- *Ignore style / colour:* If the selected text shall get another colour as defined in the style set this can be done by activating the checkbox „ignore style“. A new colour can be selected from the array below.

Dynamic Text

The basic settings are equal to the static text. Additionally it is possible to define a text for status ON and one for status OFF. For each status a different style can be defined. The input object determines the status.

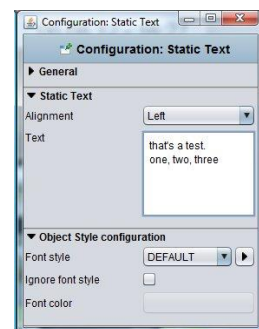


Figure 90: Static Text, Object style configuration

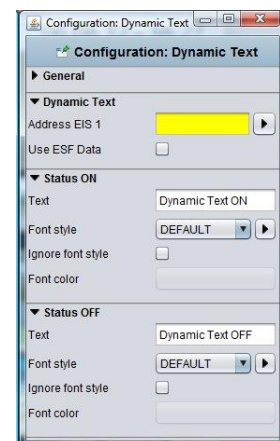


Figure 92: Dynamic Text - Parameters

AZ
EIS15

5.6.21 EIS 15 TEXT

Element „EIS 15 Text“ displays the text being received on a group address. Data type is EIS15, so the telegram uses 14 bytes and contains 14 characters as maximum. Character encoding is ASCII.

CONTROL L support

The element can also be used for CONTROL L.

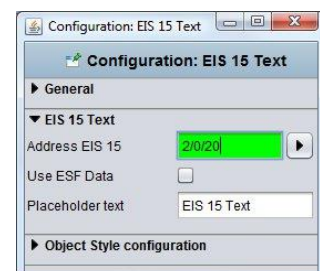


Figure 93: EIS 15 Text - Parameters

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Wild card

Here a default text can be typed in. This text will be displayed as long as no telegram is received.

Font style

The font style can be defined as already described for elements static and dynamic text.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.22 EIS 15 DISPLAY

Based on the 'EIS 15 Text' -element the EIS 15 display offers some more possibilities of use. So several messages can be buffered and messages can be sent. The element background can be customized.

CONTROL L support

The element can also be used for CONTROL L.

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Wild card

Here a default text can be typed in. This text will be displayed as long as no telegram is received.

Recording

If this option is selected the element records incoming telegrams. The number of recordings is set by the input line „recording length“. Default setting is „10“.

Input active

If the checkbox is activated the element is able to send EIS 15 text messages. Therefore the element has to be activated by mouseclick. An input box opens and the text can be typed in.

Object style configuration

All other options are described in chapter [General Element Parameter](#).

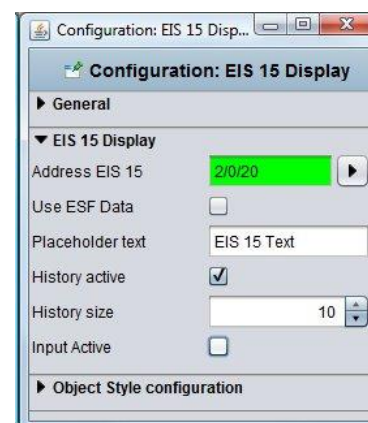


Figure 94: EIS 15 Display - Parameters



5.6.23 TEMPERATURE CONTROL

The temperature switch serves for changing temperature values. The user is enabled to increase or decrease the values in predefined steps. By defining a background or using a graphics set the switch can be designed individually.

CONTROL L support

The element can also be used for CONTROL L.

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

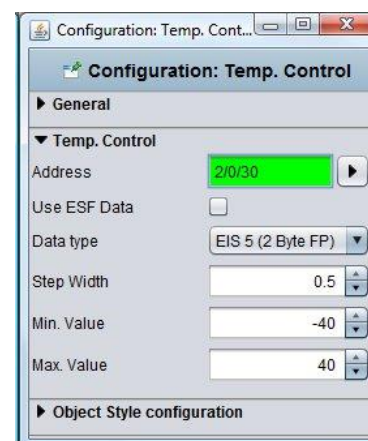


Figure 95: Temp. control- Parameters



Data type

Possible data types are EIS 5 (DPT9.0xx, 2Byte values) or EIS 14 (DPT 6.010 1 byte values). The wanted data type can be selected from a dropdown menu.

Step width

Here it is defined by which value the default / last value will be changed. Because the values are floating point values, also decimal places can be used. The default setting for the increment is 0.5

Min. / Max. value

These two values define the range between minimum and maximum temperature. Even negative values are possible.

Object style configuration

You can align the button horizontal as well as vertical. All other options are described in chapter [General Element Parameter](#).



5.6.24 TEMPERATURE DISPLAY

The temperature display shows the scheduled value and the actual temperature. For changing the scheduled value the element can be linked with the temperature switch. Background and font style can be set individually.

CONTROL L support

The element can also be used for CONTROL L

Use ESF Data

if this flag is activated ESF data (out of the ETS) are used as tooltip

Input Objects

Both input objects have data type EIS 5. According to the KNX object structure several addresses can be joined to one object (=> chapter Object structure).

Text

The text being displayed within the element can be edited in these two arrays. For instance instead of „actual temperature“ it can be edited to „temperature“.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.25 DATE / TIME DISPLAY

This element displays date and/or time within visualization. Time information is sent by the respective group address to the element. The display style can be changed in several ways.

CONTROL L support

The element can also be used for CONTROL L

Format

Is about the size setting determines what is displayed. There are four choices:

- *DATE – TIME*: First the date and then the time is been displayed
- *TIME – DATE*: Vice versa, first the time is displayed in front of the date

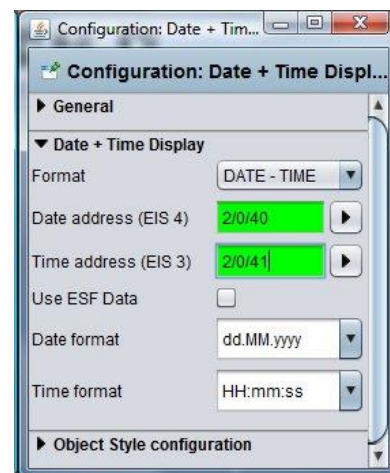


Figure 96: Date / Time display - Parameters

- *DATE*: Only date is been displayed
- *TIME*: Only the time appears.

Address arrays

Here the group addresses are typed in. For date information it will be EIS4 and for time information EIS3. If the EIBPORT jobs „send time“ and „send date“ are active, the EIBPORT provides the information to the element.

Note: Please note that it is not necessary to send the time and date too frequently. Please use virtual group addresses if the link is only between job and visualisation.

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Date format / time format

In addition, you can determine this format in which the two values to be displayed. For this, the order in which the days, months and years to minutes, hours and seconds will be displayed by itself an abbreviation set. See also the Internet, keyword "SimpleDateFormat".

Object Style Configuration

Font style, size and colour are set here. Using the dialogue „style“ individual styles can be defined and used later on within the project. If the individual style is changed these changes are automatically executed on all elements using the same style.

- *Ignore style / colour*: If the selected text shall get another colour as defined in the style set this can be done by activating the checkbox „ignore style“. A new colour can be selected from the array below.



5.6.26 ANALOGUE CLOCK

This element displays the time as an analogue clock within the visualization. No date information is available. The clock's design can be changed using the Theme Editor.

CONTROL L support

The element can also be used for CONTROL L.

Address arrays

The analog clock stops on an EIS 3 time frame. This EIBPORT from itself (job "time transmitter") or from the KNX bus system.

Note: Please note that it is not necessary to send the time and date too frequently. Please use virtual group addresses if the link is only between job and visualisation.

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Offset

Using the offset functionality different time zones can be displayed. The offset unit is „hour“.

Theme Set

The clock's style can be adjusted by using another graphic style set. Therefore the free additional tool "Theme Editor" is needed. With this it is possible to replace all of the graphics EIBPORT with your own.

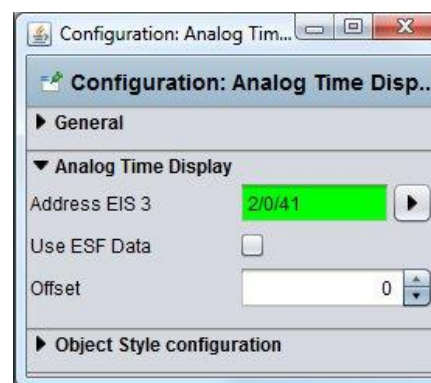


Figure 97: Analogue Clock - Parameters



5.6.27 SLIDER

The Slider element serves for adjusting several data types infinitely variable. Additionally the element's style can be changed in many ways. The graphics also can be replaced.

CONTROL L support

The element can also be used for CONTROL L.

Data type

The functionality mostly applied to the slider is absolute dimmer for lighting. So the data type used are EIS 5 and EIS 6.

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Min. / Max. value

These two parameters margin the adjustable values. Usually the dimmer function uses the range from 0- 100%; so these two values are set as default.

Style

The appearance of the element can be changed at various points. There seems to be whether you are a member by means of the visualization editor's features a different look, or if you load using the theme editor other graphics, or both.

The alignment can be horizontally or vertically. Moreover it can be selected between graphic style (picture) and drawing style (drawn). Changing the icons of an element the will only take place in case of UI style "Image" is chosen.

Sending rate when Sliden

The slider sends the setting of "0" is always only one value when the motion comes to be. The element should also send values, while it is in motion, here the number of frames per second is determined that the slider During the adjustment sent.

Display buttons

If this option is enabled, "+" and "-" buttons for incremental adjustment are shown in addition to the slider.

Increment size

This feature is active, if the option "Display buttons" (see above) is enabled. It can be used to define the increment size for button operation.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



Figure 98: Slider - Parameters



5.6.28 DIMMER

The Dimmer element serves a switch for ON/OFF and as a relative dimmer. The dimmer's design can be adjusted using the Theme Editor.

CONTROL L support

The element can also be used for CONTROL L.

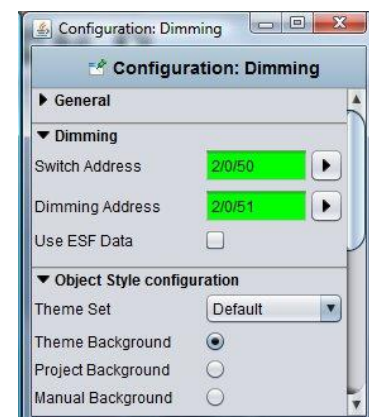


Figure 99: Dimmer - Parameters

Data type / outputs

The dimmer has two output objects. If it is pressed and held, relative dimming via EIS 2 data type is triggered. If it is pressed briefly, there are two options:

- *Pressing briefly for switching:* Switching via EIS 1 object to trigger, for example, direct switch-on or switch-off
- *Pressing briefly for dimming:* Absolute dimming via EIS 6 data type

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Object style configuration

All other options are described in chapter [General Element Parameter](#).

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5.6.29 VALUE DISPLAY

Element „value display“ as well serves as displaying element as also as operational element. It is possible to send out values. Nearly all EIS types are available.

The values can be formatted freely and the element can be designed individually.

CONTROL L support

The element can also be used for CONTROL L.

Addresse / Data type

Nearly all within the KNX Standard existing data types (acc.to EIS) are available. These are:

- EIS 5 (2 Byte FP), floating point digit
- EIS 6 (1 Byte), percent value
- EIS 9 (4 Byte FP), floating point digit acc to IEEE
- EIS 10s (2 Byte, signed)
- EIS 10u (2 Byte, unsigned)
- EIS 11s (4 Byte, signed)
- EIS 11u (4 Byte, unsigned)
- EIS 14s (1 Byte, signed)
- EIS 14u (1 Byte, unsigned)
- DPT 29 (8 Byte signed)
- DPT 6.010 (1 Byte signed)

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Format

Here the received value can be formatted as wanted. Additionally a unit can be added. Therefore the following parameters have to be used:

= optional
0 = obliging

So if a „0“ is set this digit is displayed whether if the input value is existing or not.
If a „#“ is set the digit is only displayed when an input value is existing.

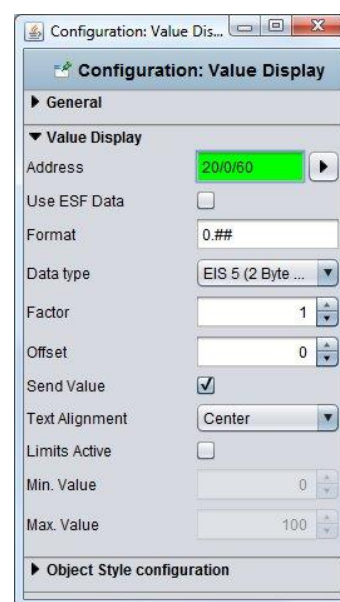


Figure 100: Value Display - Parameters



Example

The input value is 23,4 (degrees). The value display shall show 2 digits behind the comma and the unit symbol. The settings have to look like this:

##.00 °C

So the value display element shows 23,40 °C .

Factor / Offset

The value can be multiplied with a factor and an offset can be added. Incoming values can be converted in the desired format/ unit.

Send value

The element can be used as operational element. In this case the labelling „Edit“ occurs on the element. The user is enabled to interfere into operation.

Text alignment

Sets the position on which the value is displayed; the „edit“ labelling remains on the original position.

Activate limits

This limits the value range the user can send out. An example for use is shifting temperatures.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.30 TELEGRAM TIME

The element shows the last time stamp of the telegram(s) an address object has received. Each telegram received or leaving the EIBPORT the last time stamp is buffered in the internal address table. The time stamp element scans the address table and returns the result.

CONTROL L support

The element can also be used for CONTROL L.

Address / Address object

The address object listens according to the defined object structure within the EIBPORT to up to 5 group addresses independent from the data type format.

Use ESF Data

Check this box if you want to see in the visualization of the identifier used by the group address from the ETS as a tooltip.

Format

The displayed format for date and time can be set here. The definition follows the „Simpledateformat“ providing three different versions; additionally an individual format can be typed in.

Object Style Configuration

Font, size and colour are set in this menu. Using the dialogue „Font“ own font styles can be defined and used in the project. If the individual style is changed these changes are automatically executed on all elements using the same style (compare chapter „general element parameters“).

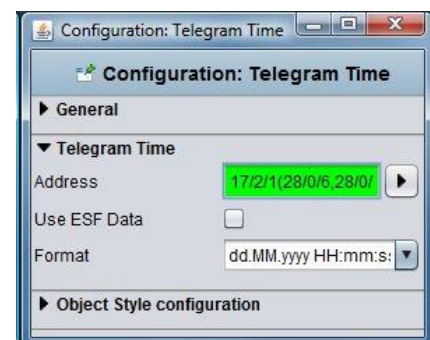


Figure 101: Telegram Time-Parameters

- *Ignore style / colour:* If the selected text shall get another colour as defined in the style set this can be done by activating the checkbox „ignore style“. A new colour can be selected from the array below.



5.6.31 BUS MONITOR

The Bus Monitor shows the actual telegram traffic within the KNX installation. The element can be embedded into the visualization or alternatively be opened in an external window. The content can be adjusted individually and by using operational elements the content can be changed and / or buffered while the visualization is running.

CONTROL L support

The element can not be used for CONTROL L because it cannot be displayed there.

External Window

If this option is activated the bus monitor will be opened in a window of its own. If it is deactivated the depiction within the editor changes and the element has to be positioned and scaled accordingly. The element, thereby changing their appearance.

Note: Deactivate the option „maintain aspect ratio“ in order to adjust the window to its environment.

Display operational elements

If this option is activated several operational elements are displayed on the visualization surface.

- *Column:* by using this button columns can be added or removed.
- *Export:* The actually displayed telegrams can be downloaded to the local PC (as csv- file).
- *Filter:* By using the filter specific group addresses can be selected and displayed.
- *Break:* Recording is suspended.
- *Void:* The recordings of the Bus Monitor are deleted and recording starts again.

Address Filter

A specific address filter can already be entered during parametrization, then the bus monitor just displays the input address.

Columns

Using the checkboxes the wanted columns can be activated. Columns „Bus Repeats“, „Bus Priority“, „Bus routing counter“ and „System ID“ are deactivated as default setting.

Object style configuration

All other options are described in chapter [General Element Parameter](#).

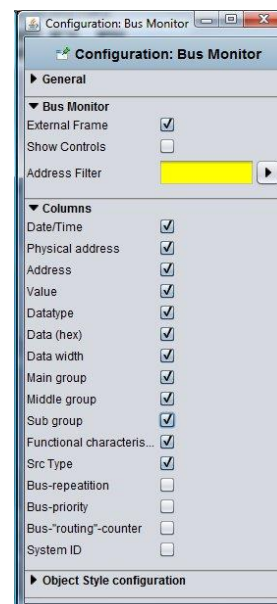


Figure 102: Bus Monitor - Parameters

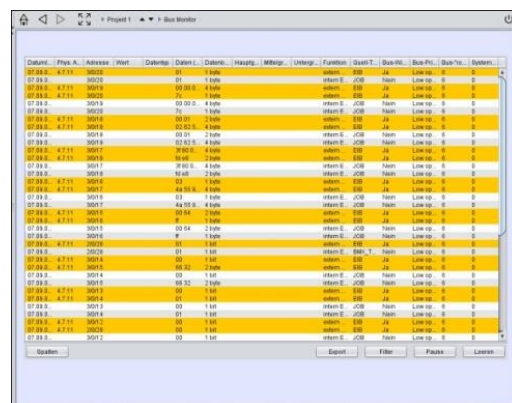


Figure 103: Bus Monitor - embedded in Visualisation



5.6.32 JOB EDITOR

This element enables the user to access and edit several jobs. So f.i. the user may configure the settings of autotimers or change the outputs of a light scene. In order to do this the user gets a limited access to the job mask.

CONTROL L support

The element can also be used for CONTROL L. You will find more information about the User Interfaces in the following.

Job

The dropdown menu provides all actually available jobs. The possible job types are:

- Annual timer
- Weekly timer
- Light scene



Figure 104: Job Editor element

The job name being selected in the Job Editor will be displayed as labelling within the visualization element.

Tooltip

This text array defines the labelling being displayed in case of mouseover.

Integrated Editor

If this checkbox is activated the limited job mask will not be opened in a new (external) window but will be embedded into the visualization page. Especially for client PCs with a visualization running in the foreground permanently this is an important feature.

Object style configuration

All other options are described in chapter [General Element Parameter](#).

YEAR TIMER CONFIGURATION IN CONTROL L

The year timer configuration in CONTROL L looks as follows:

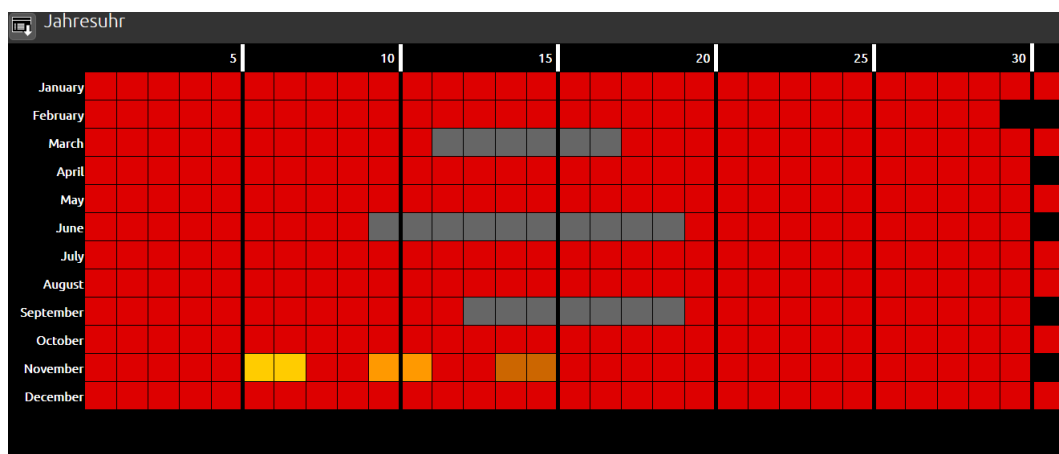


Figure 105: CONTROL L – year timer

The year timer shows the complete calendar of a year. The days are represented by boxes. If you click on one of these boxes, a pop-up menu opens which can be used to set the different states.

Figure 106: CONTROL L – year timer, setting state

Colour meanings:

- Grey = Inactive
- Red = Active
- Yellow = Special day 1
- Orange = Special day 2
- Ochre = Special day 3

A menu in the left upper corner can be used to "Save", "Save & close" and "Close".

Note: If the option "Initialise timer" is enabled in the job, the timer will immediately send its current state after each saving process. Depending on the extent of interconnection between the timer and other functions and the job, this can cause a temporary overload of the system! It is therefore recommended that you use this function sparingly.

WEEK TIMER CONFIGURATION IN CONTROL L

The week timer configuration in CONTROL L looks as follows:

Figure 107: CONTROL L – week timer

The week timer shows all days of a week and 3 additional special days in 10 columns that are arranged next to each other. You can use the arrow buttons on the left and right side of the screen, to move to the next or to previous columns. The "+" symbols next to each day can be used to create a new switching time. If you click on "+", a pop-up menu opens.

Figure 108: CONTROL L – week timer, setting a switching time

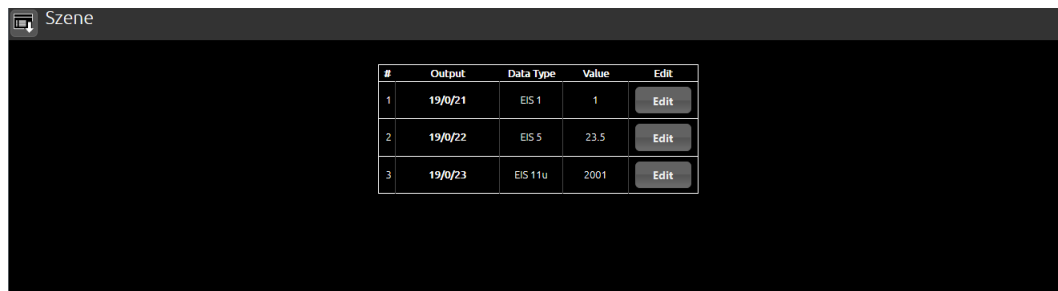


A menu in the left upper corner can be used to "Save", "Save & close" and "Close".

Note: If the option "Initialise timer" is enabled in the job, the timer will immediately send its current state after each saving process. Depending on the extent of interconnection between the timer and other functions and the job, this can cause a temporary overload of the system! It is therefore recommended that you use this function sparingly.

LIGHTING SCENARIO CONFIGURATION IN CONTROL L

The lighting scenario configuration in CONTROL L looks as follows:



#	Output	Data Type	Value	Edit
1	19/0/21	EIS 1	1	Edit
2	19/0/22	EIS 5	23.5	Edit
3	19/0/23	EIS 11u	2001	Edit

Figure 109: CONTROL L – lighting scenario

The lighting scenario configuration mask shows all outputs configured in the job. It shows the group addresses, the data type and the value. The user can only change the value by using the "Edit" function. Group address and data type cannot be modified in this mask. If you click on "Edit", a pop-up window appears in which the settings can be made.

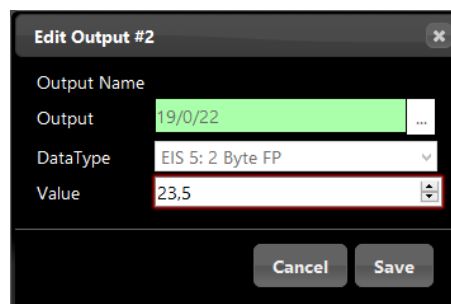


Figure 110: CONTROL L – lighting scenario, adjusting output values

A menu in the left upper corner can be used to "Save", "Save & close" and "Close".



5.6.33 LOGIC DISPLAY

This element displays the actual status of logics. The element shows just the status of the output or the status of all affected group addresses (input, release). Style and functionality can be set arbitrarily.

CONTROL L support

The element can also be used for CONTROL L.

Colour ON / OFF

These colour arrays define the status colour for status ON and OFF. The settings are valid for input and output.

Send value

Similar to the value display element the logics display element can be adapted to an operational element. The user is enabled to click onto the logics' colour arrays to trigger a telegram for the wanted group address.

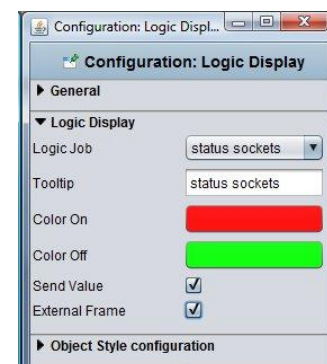


Figure 111: Logic display - Parameters

External Window

If this function is activated on the visualization surface just a one-line element is displayed. This element shows the status of the output by a colour array. When clicking on the element an external window opens and displays a complete overview (input, output, parameter....) for the logics element.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.34 FAILURE INDICATOR

This element displays alarm messages by receiving an EIS1 telegram. The alarm messages can be acknowledged, the status colour can be changed and modalities in case of malfunctions / alarms can be defined.

CONTROL L support

The element cannot be used for CONTROL L because it cannot be displayed there.

Address / Address object - Fault

The address object listens according to the defined object structure within the EIBPORT to up to 5 group addresses independent from the data type format.

Address / Address object - Acknowledge

Just if this object a group address is assigned to the alarm messages can be acknowledged out of the visualization.

Text

Defines the text being displayed.

Colour „OK“ / „Failure“ / „Acknowledge“ / „not Acknowledged“

For each status a colour can be assigned

Jump to page

If the checkbox is activated the affected page is put into the foreground by the visualization in case of an alarm

Focus on window

If the checkbox is activated the visualization program is put into the foreground. This functionality is depending on the operation system and browser used on the client PC.

Focus trigger

Defines the trigger for focussing the visualization window:

- ON: receiving any ON telegram
- Rising edge: just if the object's value changes from „0“ to „1“ the focus becomes active.

Show Text

If this option is deactivated the element will be displayed without any text information but just by colour indication.

Disturbance invert

If this option is enabled, the fault is not set at "1" instead of "0".

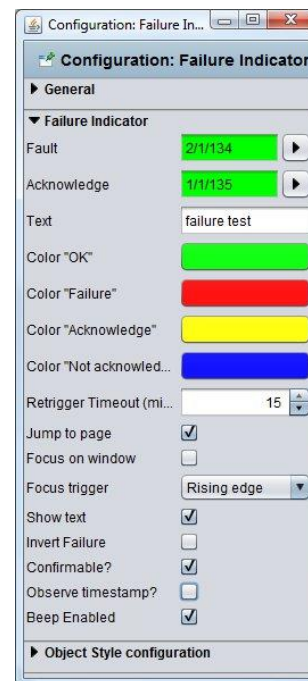


Figure 112: Failure Indicator - Parameters



Confirmable

If activated the element can be acknowledged by the user out of the visualization; else this can be done just by the object itself.

Observe time stamp

Compares the time stamps of acknowledge objects and alarm objects in order to check in case of visualization's restart if the alarm was already acknowledged. Especially if more than one visualization client is used this function very useful.

Beep Enabled

If activated the visualization sends out an alert signal via PC speakers.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.35 PAGE LINK

The element can be linked with any wanted page. On mouseclick a changeover to the linked page is triggered.

CONTROL L support

The element can also be used for CONTROL L.

Text

Here the text being displayed in the element can be typed in. Default setting is the name of the target page but any individual text can be entered too.

Target Page

Dropdown list of all pages contained in the project.

Object style configuration

All other options are described in chapter [General Element Parameter](#).

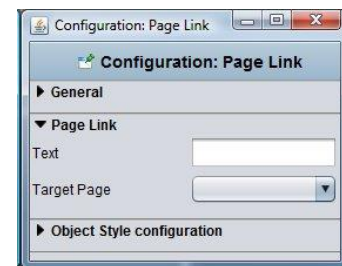


Figure 113: Page Link - Parameters



5.6.36 RSS FEED

The element displays the content of RSS Channels. Celerity of scrolling and refresh rate can be set. Moreover the element allows to search RSS Channels from a specific domain.

CONTROL L support

The element can also be used for CONTROL L.

Feed URL

here the path for the RSS Feed will be typed in

Search Feed

a separate dialogue window opens. Type in the wanted domain name / address of webpage. The automatic search starts. The selection will be taken over automatically by clicking „OK“

Scrolling Speed

Defines the speed the text scrolls. The scale ranges from 1 to 5, whereat 1 = slow and 5 = fast

Refresh Interval

Defines the interval the RSS Feed reloads. The interval ranges from 1 to 60 minutes.

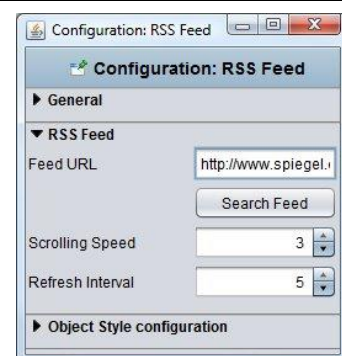


Figure 114: RSS Feed - Parameters

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.37 CAMERA

The Camera element allows to display pictures/ streams from an IP-camera. Both a freeze image and a MJPEG stream can be handled. The element can be used as icon or external window. Moreover an event configuration is possible. For authentication purposes „http basic access“ is available.

CONTROL L Support

Not all functions are supported by CONTROL L. These functions are not supported:

- Event mode.
- Motion JPEG Streams.

MJPEG Stream URL

In this array the direct path to the stream has to be typed in. Many IP cameras already provide so called MJPEG Stream. It works by streaming jpeg pictures. This kind of transmission and displaying usually works fluently and with high quality. The Java visualization has an motion JPEG Decoder of its own which is able to embed camera pictures..

URL: Static Picture

Each IP-camera has a direct path to its static picture. This static picture is the one being displayed in the moment the camera is being called. If this mode is used the camera is called several times per second – so an animated stream is build up.

Especially for Axax visualizations or in case of slow-rate internet connection this feature should be used.

Iconify

If this option is activated the camera picture will not be embedded but displayed as icon. By clicking the icon the camera picture is displayed in a new window.

Authentication

If the camera is secured by the „http – basic_Access“ method, the access data can be entered in here. The element, thereby changing their appearance. If the camera uses another method it has to be deactivated!

User Name / Password

Type in the requested information

Event mode

It is possible to display the camera picture/stream triggered by an KNX event (alarm, switching etc)

Play time

Defines the duration of rendering. After expiry the camera picture freezes.

Address / Data type

The address object listens according to the defined object structure within the EIBPORT to up to 5 group addresses with several data type formats:

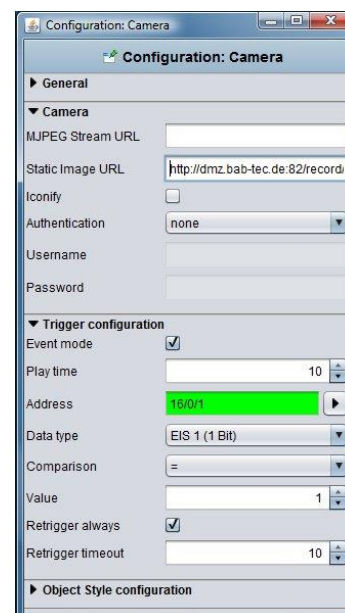


Figure 115: Camera - Parameters

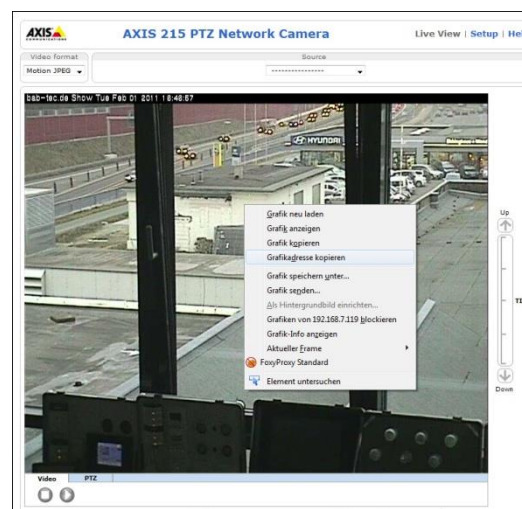


Figure 116: Camera view - Copy URL



- EIS 1 (1 Bit)
- EIS 5 (2 Byt FP)
- EIS 6 (1 Byte)
- EIS 9 (4 Byte FP)
- EIS 10s (2 Byte value)
- EIS 10u (2 Byte unsigned value)
- EIS 11s (4 Byte value)
- EIS 11u (4 Byte unsigned value)
- EIS 14s (1 Byte signed)
- EIS 14u (1 Byte unsigned)

Comparison / Value

The value of the object input is routed automatically to a comparator and is compared with a fixed value. The following comparative operators are available:

- At each alteration „*“
- Equal to „=“
- Less than „<“
- larger than „>“
- less than or equal „<=“
- larger than or equal „>=“
- Unequal to „<>“

Retrigger always

If activated the event is triggered by each result sent out by the comparator. If deactivated just in case of changes an event is triggered.

Retrigger Timeout

Defines the time range (unit = sec) after which the trigger is available again

How to find out the correct URLs

Due to the fact that there are existing different camera types and manufacturers there are also different syntaxes for the correct URL. Usually it works like this to find out the correct URL:

- Set the camera to the wanted modulation (MJPEG or static picture).
- Switch to the “Live View” view on the camera’s configuration page and right- click onto the picture.
- Select “copy file location” and insert the address in a new browser window.
- Now you should see just the camera stream without menue bar or another elements.

If this doesn’t work please refer to the camera’s manual or the manufacturer’s webpage.

Object style configuration

All other options are described in chapter [General Element Parameter](#).



5.6.38 GRAPH

Element **Graph** displays the progression of values in a certain time range (like a line recorder). Example of use are temperatures, counters, power consumption etc.

The telegrams are provided by the ringbuffer of the EIBPORT which stores the last 20000 telegrams.

Special settings are:

CONTROL L support

This item appears in the CONTROL L. The graph provides some additional functions there in the Java visualization can not be used. The relevant features are identified in the parameter window with a "*" (asterisk).

Refresh on Start

The Graph element is actualized when the visualization starts.

Grid colour / Axes Colour

Here the colours are defined.

Axis Format

This text array sets the displayed value format of the y- axis. The number of decimals is set. The following syntax is used:

- „0“ means enforced value; the digit is displayed even if now value is available.
- „#“ means optional value; the digit is displayed just if a value is available. The number of digits is limited by the settings.
- „.“ = Comma
- If units or other characters should be displayed they have to be put into tickmarks (').

Example:

A value of „21,2“ shall be displayed. If the format is set to „00.00“, „21,20“ will be displayed. If the format is set to „0.##“, „21,2“ will be displayed. F.i. a percent sign is added like this: „0.##%“.

Axis Limit

If activates the axis is limited within a specific range. Settings can be made in the arrays below.

Graph data by time / by count

Values displayed by the graph will be filtered by time or by count. The time period is set in hours.

Note: Please have in mind that the graph element is only able to display values if it finds any data in the recording table. If the data is a group address as appropriate by a broken clock EIBPORT with a time stamp well before the present, the data will not be shown in the graph (or graph must be scrolled back up to that date)!

Auto Refresh

If the visualization has started once the graph automatically updates the data displayed within this interval. This means that the elements gets new data from the EIBPORT recording table and recalculates the measuring points.

Time domain

Determines the time frame that the graph is based. Selections are:

- 1 hours
- 3 hours
- 6 hours
- 12 hours

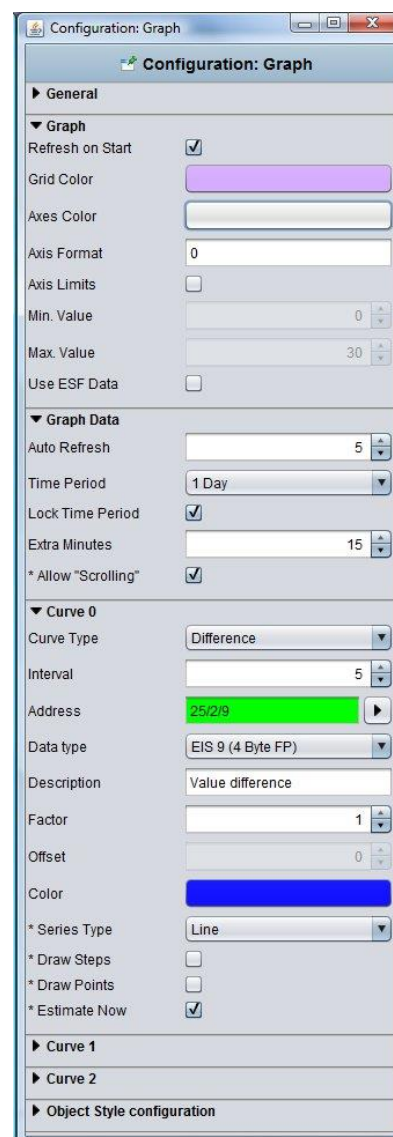


Figure 117: Graph - Parameters



- 1 days
- 2 days
- 1 weeks

Fixed time period

When activated, the time range will always be displayed from beginning to end. If the option is disabled, the time range we always back-calculated from the present time.

First / follow-up time

Be taken into account determines the number of minutes in the data and before and after the beginning or end of the time domain. If for example The time range is set on a particular day, considered in this way, values that were active just before or after 0:00 clock. Otherwise, the graph would assume at this point, no value ("0") and misrepresent.

The "leaves" (also available in Java)

With this option the user can visualize in each case by the set time range browse forward or back, is always set in case there are any data at this time.

Calculation

There are two different types possible:

- *Total*: the value is displayed as absolute value by time. In case of meter readings the graph would increase continuously
- *Difference*: The difference between two values is displayed by time. The frequency between the measurings can be set by „interval“ (Unit = min). The smaller the time gap the more exact the curve will be.

Data type

Several EIS formats are supported:

- EIS 1 (1 Bit)
- EIS 5 (2 Byte FP)
- EIS 6 (1 Byte)
- EIS 9 (4 Byte FP)
- EIS 10s (2 Byte Value)
- EIS 10u (2 Byte unsigned Value)
- EIS 11s (4 Byte Value)
- EIS 11u (4 Byte unsigned Value)
- EIS 14s (1 Byte Value)
- EIS 14u (1 Byte unsigned Value)
- DPT 29 (8 Byte signed Value)

The appendix provides an overview of types of EIS in conjunction with DTP data types.

Description

Enter a legend for the curve. The text is displayed below the graph in the selected color curve.

Factor / Offset

Using factor and offset, the input value to be formatted as desired. The value is multiplied by a factor and added to the offset.

Color

Defines the colour of the curve and the labelling.

Series type (only possible for CONTROL L)

When the curve type is determined which form of a diagram is displayed. The following is available:

- line: There is a line drawn diagram
- area: It creates a surface plot in the area below the line marked accordingly.

Draw Steps (only possible for CONTROL L)

When activated, there will be drawn no curves there were drawn Steps. This is for example Interest in the presentation of an EIS values.

Draw Points (only possible for CONTROL L)

On the line of the graph, when activated, the different measuring points are plotted.

Estimate Now (only possible for CONTROL L)

If the graphs detects no additional value on a groupaddress for a longer period, this could lead to the behavior that the graph shows a "0" (if the time span changes in the meantime), although the corresponding address still has a valid value. By the help of this option the value is proceeded in order to display the correct value in the chart!

Object style configuration

All other options are described in chapter [General Element Parameter](#).

FUNCTIONALITY WITHIN THE VISUALIZATION

Within the visualization the element provides some more functions. These functions can be called by right-button mouseclick.

- *update*: updates the value
- *Export as graphic...*: Opens the file browser for saving the graph as file (*.png).
- *Export as CSV...*: Opens the file browser for saving the graph as csv file

CONTROL L FUNCTIONALITY WITHIN THE VISUALIZATION

In contrast to the graph in the Java Visualisierung has the graph at CONTROL L a zoom function and curve information.

Zoom Function

The mouse is inside the graph element can be in and zoomed out again with the mouse wheel in the graph. Can also hold down the mouse button to select one area to be marked on the graph, which is then enlarged. With a double click anywhere in the field of graph unmagnified view is restored.

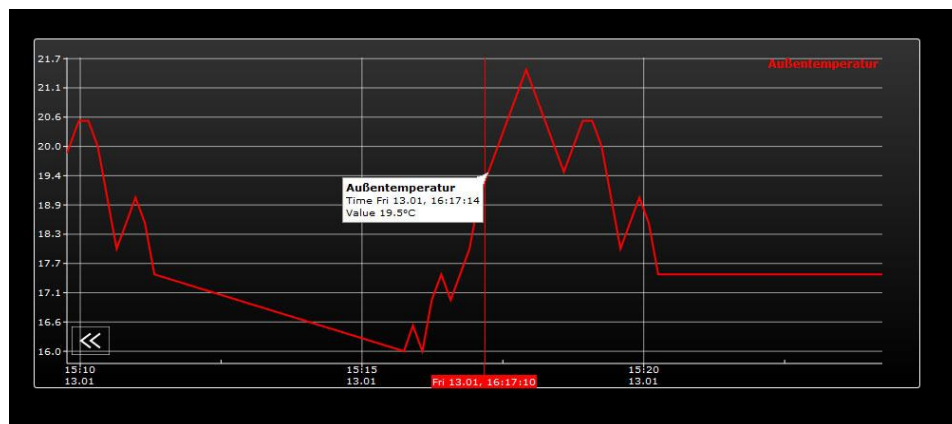


Figure 118: Zoomed graph with curve information

Curve information

If you use the mouse pointer moves along the curve recording, useful information related to the measurement point are shown: curve name, time / date and the measured value.



INFORMATION ABOUT THE RECORDING TABLE (RINGBUFFER)

The Graph element uses values from the past, so it has to access data from the ring buffer of the EIBPORT (EIB recording table). This buffer contains about 500.000 telegrams. The eldest telegram is replaced by the latest one. Within a KNX/EIB installation 500.000 telegrams possibly may be transmitted within some hours. So the Graph is provided just with data from this time range. In this case the recording filter serves as remedy.

If the Graph should be enabled to display f.i. consumption data for a longer time range the recording filter has to be used. This filter defines the group address(es) which should be stored in the buffer.

The filter can be called and rules can be defined under „System“ > „Configuration“ > „EIB Recording filter“. Either group addresses or group address ranges can be selected. In case of address ranges a wildcard (*) should be used:

Example: „1/*/*“ (without quotation mark) means that just data from the main line „1“ will be buffered. If the filter is set to 1/1/*“ the middle group is filtered. Alternatively the wanted address is typed in.

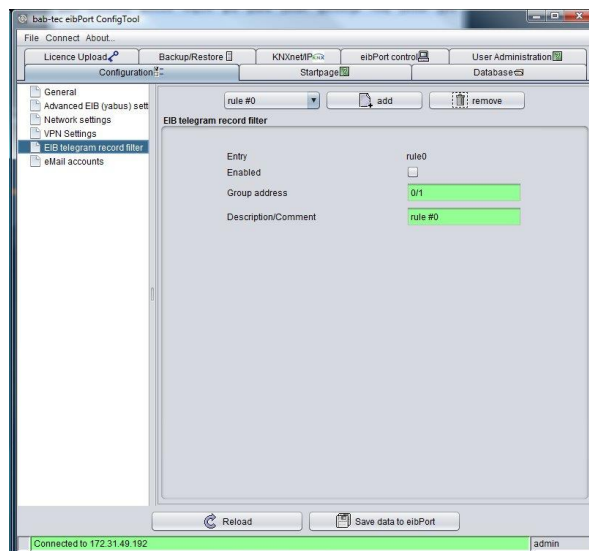


Figure 119: ConfigTool - EIB record filter

5.7 SECURITY SETTINGS - USER ADMINISTRATION FOR THE VISUALISATION

In the security settings of the access to all the visualization interfaces is administrated (JAVA CONTROL, CONTROL L, and CONTROL S). The access is controlled individually for each user. For Java and CONTROL L the visualization, entire projects or selected pages to be released.

Please note: User settings for editor and system will be defined with menu bar „use administration“ in configTool.

Switch to security settings

The security settings are accessed through the appropriate button in the menu bar of visualization editor. There, between "visualization", "Security Settings" and "Availability" will be changed. Button of chosen sight always will be marked.



Figure 120: Altering between user management and visu-editor

Settings

User administration can be activated or not. In case it is disabled, no kind of user registration will appear. In delivery condition user administration is not activated. Showing the user list during the registration can be prevented additionally. This will require that the username must be entered manually.

Create/Delete User Account

New user account will be create with the help of the corresponding symbol. As a first step an unique name have to be assigned, which will accept automatically in the arrays „name of user“ and „title of user“. To delete an user account it has to be marked in user overview. Deleting an user account will happen without any safety warning.



Figure 121: Editor - Create/Delete User Account

User

All applied user will display among each other.

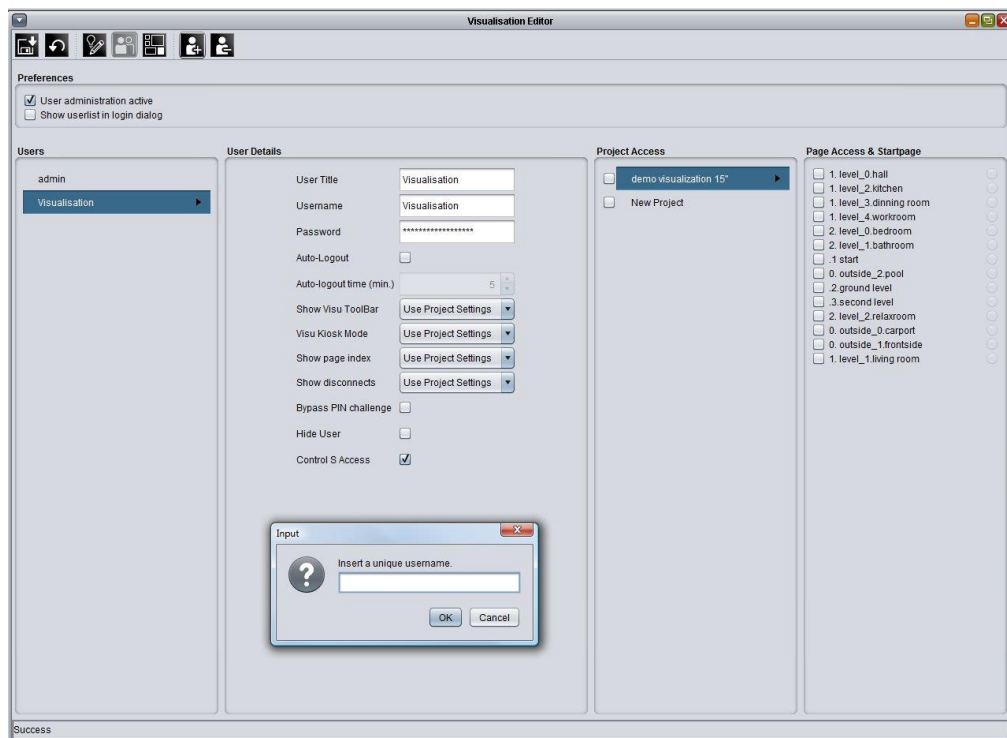


Figure 122: Editor – user management



Userdetails

Each user account will be allocated general settings:

- *User Title:* Title will be shown in selection menu. User will be identified with it by starting visualisation.
- *Username:* The name of user will be requested by log-in. In case list of user is activated during log in, name of user will be transferred to dialogue from register, after selecting title.
- *Password:* With the aid of this password, user has to identify himself.
- *Auto-Logout:* After finishing adjusted period of time, user will be asked for a new identification, if this function is activated.
- *Project Settings Parameters* Every user you can assign individual settings, according to project parameters „Visu-Toolbar“, Kiosk mode“, „Index of pages“ and “Connection problems”. Administration can assign individual settings (yes/no) to user, or those settings of the project (using project settings). Preferences „yes/no“ overwrite project settings.
- *Bypass PIN challenge:* If this box is activated, user will not be asked for his PIN.
- *Hide User:* This user will not be displayed in the list of user.
- **CONTROL S:** The user data is requested in the case, when logging on to CONTROL S. CONTROL S is achieved via the " CONTROL I S Editor" from the menu "Window" parameter.

Project Access

All defined projects are displayed. A complete project will be attached to a user, if you mark corresponding control box. In case several projects are connected with one user, a selection of the projects will be displayed after log in.

Page Access & Startpage

Attaching only individual project pages to a user, you can mark desired project in column. All pages of a project can be attached separately, by marking the corresponding control box. Behind the page name, homepage will be chosen, which the user should achieve. If pages of several projects will be involved, user will get a selection of projects as well after log in.

Saving settings

Created user settings will be stored by a click on button „Storing“ in menu bar (symbol of diskette)

5.8 ROOM ALLOCATION PLAN (CONTROL R)

The room allocation plan module is able to control functions (light, shadowing, heating) of several rooms of a plant, based on calendar and group settings. This modul is an extension of EIBPORT and has to be unlocked by a licence. If this licence is not uploaded, the necessary switching telegrams will not be created (“Generated Data”). Configuration and operating of the room allocation plan are discribed in a seperate document, which can be demanded at info@bab-tec.de.

6 JOBEDITOR

Job Editor will be open with browsing "Window" > "Job editor". The window doesn't appear in volubility and with the help of the edge right below you can minimize, maximize or close it.

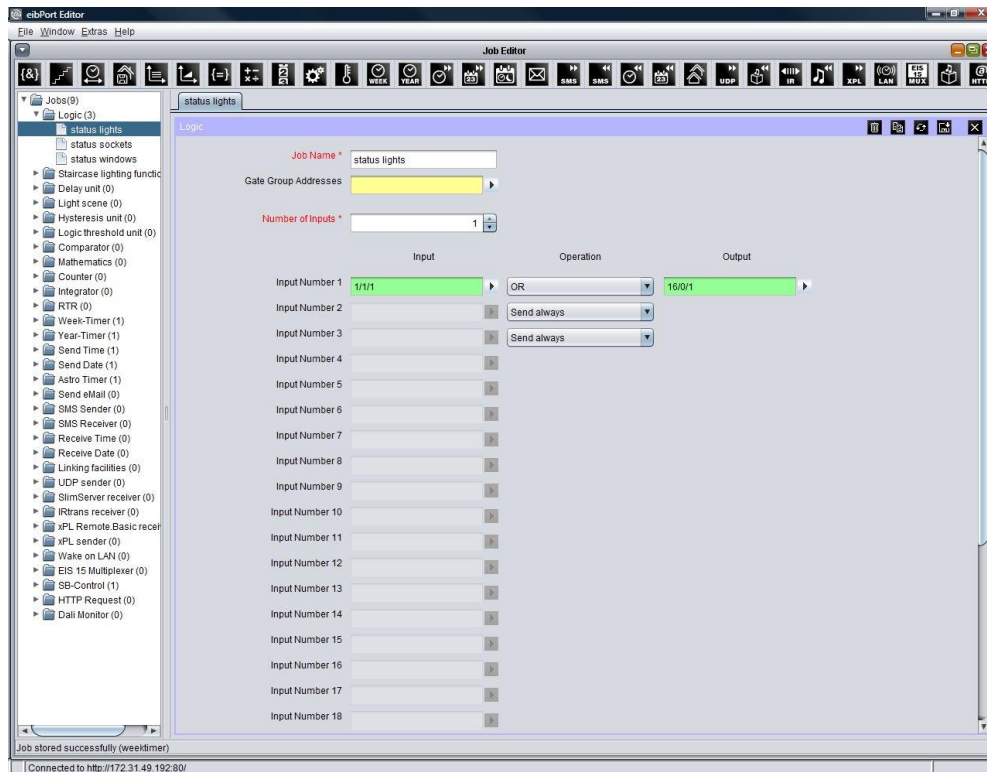


Figure 123: Job editor

In the Job Editor, the tasks (jobs) of EIBPORT will be configured. Offered types of job diversify in version of EIBPORT's firmware. To create the jobs, you will find a symbol bar and a tree structure. The user interface, in which you are configuring your job, will be displayed at center

Job symbol bar

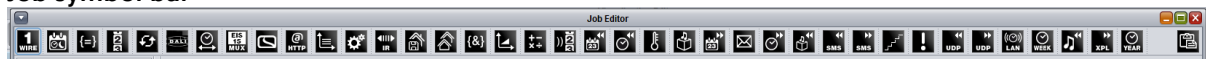


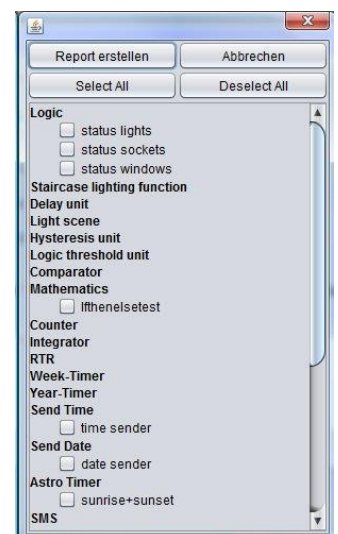
Figure 124: Job editor - job symbol bar

Symbols of the jobs appear above; every job has its own symbol. In case you click to a symbol, respective user interface appears at center of window

The symbol with the label "Docu" can be used to document the configurations of the jobs. This function can also be accessed by right-clicking on the higher-level "Jobs" folder. A new dialog opens in which the existing jobs can be selected for documentation. You can either select each job individually or use the "Select All" option for all jobs.

Tree structure

The alphabetically sorted tree structure encompassing all available job types and jobs is shown on the left side of the Job Editor window. Each job type is displayed as a folder which can be opened or closed via a small arrow if there are specific jobs for the corresponding job types. Whether there are any specific jobs for a job type and, if so, how many, is shown in brackets after the description of the job type. Each job is shown as one page. If several jobs have been defined, they are automatically sorted in alphabetical order. New jobs can be created by right-clicking on the job folder. The corresponding job mask appears in the centre of the window.





Saving, copying and deleting jobs

A Job will be managed by the job window. In the right edge above of every job input mask, you can find symbols for deleting, copying, saving or closing of jobs. Copying a job happens without duplicating the job name. By clicking on “Delete Job”, selected job will be deleted without any previous security query.



Figure 125: Job Editor - Job management

6.1 GENERAL HINTS ABOUT THE JOB EDITOR

Tabs

In case several job masks are loaded up in one window, they will be displayed above by tabs. A job, which is not stored, carries no description. You can call up any desired number of jobs.

Parameter

Every job interface has specific parameters. All red marked parameters have to fill out stringently. In case that doesn't happen, the specific job cannot be stored, because it will not work then. Every job contains one gate object, which will enable you to block one job or release it again. A gate object always been defined EIS1, one for release, zero for no release. In case one address was filled in, which wasn't assigned before, the job remains locked, as long as group address will get one value. In case, this group address had one value before, so state of gate object correlates with that value.

Allocating group addresses

Group addresses will be filled in directly by input field or by using a schedule of addresses. Doing input directly, you can use space bar for creating symbol “/”. Addressable is a matrix, in which you can choose your desired address. Open up dialogue gives you the opportunity, to load up one out of ETS exported ESF file and to use it for address selection. In this way, project data out of the ETS will made available and a mixed up of addresses will be avoided. How to export ESF files and how to load it up in EIBPORT, will be described in chapter “[KNXnet/IP / ETS](#)”.

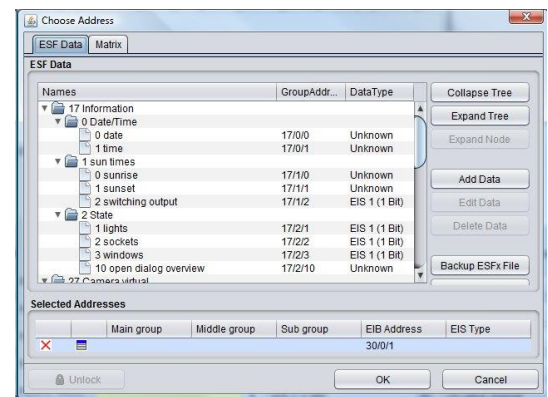


Figure 126: Job Editor - ESF Dialog

Virtual group addresses

EIBPORT not only controls address space of the main groups from 0 to 15, but also address space from 16 to 31, which are called virtual group addresses. This kind of addresses allows you for example to connect jobs at each other, without consuming addresses from real address space. Virtual addresses will not be sent to EIB/KNX.

Communication objects

EIBPORT emulates the structure of communication objects from EIB/KNX. That means that you can dedicate every object up to 5 group addresses. For example with that you can simulate directly placing of an actuator's group addresses. So EIBPORT will be informed at any moment about the actual status of the actuator (not group address) and extravagantly working with feed back can be remained undone. This procedure simplifies creating of logical links, because to every Inputobject of the gate will be assigned up to 5 group addresses. In dialogue of ESF, you can assign all five group addresses in this case and they will automatically entered in chosen object fields, using correct syntax. Outputs, however, only allows to enter one address.

Displaying the Datatype by using the mouse hover effect

Every address entry field of the EIBPORT jobs offer the opportunity to display the used datatype when you hover the mouse pointer over it.

General syntax

After the first group address, all of following addresses have to be enclosed in brackets and to be separated with commas.

For example: 2/12(2/13,2/14,2/15,2/16)

6.2 JOBS

Exact functions of several jobs will be described hereinafter. The jobs of the EIBPORT will constantly being further developed so that the documentation not always is at the actual technical status.



6.2.1 LOGIC

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

All logical gates connect values of EIS-1. In every job, you can define up to maximal 28 inputs. Conditions for the output of the gate can be determined as follows:

- You can set parameters for sending output telegrams at a defined time:
 - Only if output status of logic will alter or
 - At every new input telegram at the input object of the logic.
- Beyond that, you can adjust, which value output is allowed to send to bus, according to received condition.
 - All values (so ON- and OFF-telegrams) or
 - Only ON (1) or only OFF (0) telegrams
- It can be defined whether a re-calculation is to be performed or not upon enabling. If an ON (1) is sent via the enable object, the output value is re-calculated.

Please note: Take care, that you always only activate as many inputs as you will be require!



Type	Decription
AND conjunction	Gate holds up to 28 inputs, which will be linked logically „and“ to one output object.
OR operation	Gate holds up to 28 inputs, which will be linked logically „or“ to one output object.
XOR operation (EIS 1)	Gate holds up to 28 inputs, which will be linked logically „exclusive or“ to one output object. Connection delivers 0, when all input objects will be 1 or 0 (all be on par). If one output object is different, output will be 1.
Object	Output holds status of the value, which was sent to any input.
NAND, NOR, NXOR	Output of calculation will be sent in negated form.
NObject	Baseline value of type EIS 1: <ul style="list-style-type: none"> • 0 at input value unlike 0. • 1 at input value similar 0 In case of several input objects, input is defined on which a telegram was received at last.



6.2.2 STAIRCASE LIGHTING FUNCTION

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

In case input received a telegram, so output will be sent automatically with an OFF telegram, after parametrizable period of time. Thereby ouput can have a different group address.

- Time interval from 1 to 65,000 seconds, minutes our hours.
- *Stop:* In case this option has been chosen, „Out“telegram on output causes stop of automatism.
- *Invert:* Original output of service will be released in inverted form.
- *Trigger:* By receiving of „IN“ telegram on input again, delay time will start anew
- Release object



6.2.3 DELAY UNIT

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

A gate which has one input and one output object. Output will be sent delayed. Input object starts timer. Form: EIS 1:

- Delay interval from 1 to 65,000 seconds, minutes our hours.
- *Delay-Type:* Defines which telegrams will be sent retarded. On input all telegrams will be retarded standardly for x seconds. When requested service will reproduce only „ON“ or „OUT“ telegrams delayed in time.

Important: In this case output will be activated without any delay, if the input has the particular other value.



6.2.4 LIGHT SCENE

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

You can combine up to 28 KNX-members in a group. To each member can be assigned a individual value, which it has to send. Light scene will be activated by a starting object. For every start object, you have to define the starting value (0 or 1). That means, that for every group address two different light scenes will be available. By using gate object execution can be locked or activated (timer e.g).

- *Group address to Start:* Light scene will be started by EIS 1 telegram.
- *Lightscene-Start:* Determines which value of EIS 1 telegram activates light scene.
- *Group address for Saving:* This object stores actual states of light scene subscriber. In case value of a member will be altered and have been stored, light scene will work with the so changed value. Storing could happen by one „IN“ or „OUT“ telegram.
- *Stoppable:* Light scene can be stopped by a telegram to input. Telegram may not meet start conditions.
- *Delay (1/10s):* Delay time can be adjusted in 1/10 seconds. The value range lies between 0 – 32767. Entries below 10 should be considered carefully.
- *EIS-Type:* Output addresses can be type of EIS 1, EIS 5, EIS 6, EIS 9, EIS 10, EIS 11 and EIS 14.

Please note: Light scene only should have as many outputs as used.



6.2.5 HYSTERESIS UNIT

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Element Hysteresis is a comparator with two thresholds. The two thresholds were called as one upper threshold and one lower threshold. If input receives a value, this value will be compared with the thresholds and result will be send in form of a binary value (0 or 1) EIS 1. Depending on the last calculated state, the new state will be calculated according to following definition:

If last result of calculation is 0, the output object will alter to 1, in case the received input value will exceed upper threshold. If the last result of calculation is 1, the output object will alter to 0, in case received input value will fall below lower threshold. Input value could only be received by the input object. Upper and lower threshold can be described by a constant or by an object.

Calculation of hysteresis switch will start, if input object or object of threshold will receive one telegram. Parameterized type of EIB defines how hysteresis switch will calculate the value.

If entering in type of EIS „nothingness“, so the “constant“ will be used for the value.

If you parameterize EIS type 1, 2, 3, 4, 6, 8, 10 or 11, so value of object will be determined over factor and offset, that implies that received object value of EIB will be multiplied by the factor. Value of offset will be added. Result of this calculation is the object value, which will be used for calculation of hysteresis switch.

After computation by min/max value, calculated object value will be forced to a valid array of the threshold switch in this way. That means that min/max value formed a limitation of variable thresholds, which will be sent with the help of related object value.

In case object value falls below min value, so object value will be the min value. In case object value will rise above max value, so object value will be the max value. Plausibility check will not be performed by calculation of the gate.

With the help of so obtained values for input, lower and upper threshold, actual state of output will be calculated.

By calculation two cases were differentiated: Output state 0 or 1.

- If state 0 was output status, before activating telegram will be received, the input value has to be above the upper threshold, as to obtain 1 for the new output value.
- If state 1 was output status, the input value has to be under lower threshold, as to obtain 0 for the new output value.

In case the calculation forces, a change of state at the jobs' output a telegram will be send out. If there was no change of state at the a telegram will be sent out only when the parameter “send only changes“ is not set.

If parameter “send only changes“ has been activated, so a telegram will be send out from output, only when calculation will cause a change of state on output. In case this flag is not activated, so a telegram will be sending out after every recalculation.



6.2.6 LOGIC THRESHOLD UNIT

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

For threshold switch there are two important switching events (see diagram):

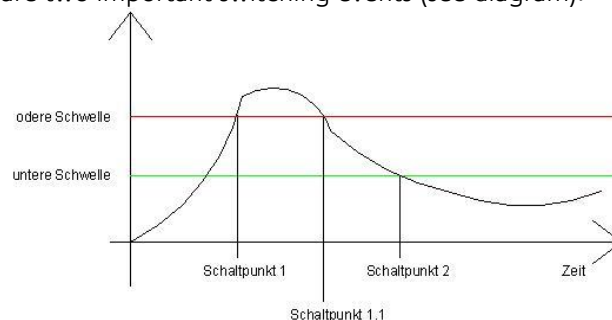


Figure 127: Diagram threshold switch

First switch event:

Switchpoint 1 (Schaltpunkt 1): Here upper threshold will be exceeded. By crossing upper threshold, timer „dead time“ starts. If this timer ends and the input condition „crossing upper threshold“ will be fulfilled furthermore the output value, which was parameterized in column „upper threshold“, will be sent on the buses. Connected EIB group address will be entered in output parameter window. Output value can be EIS 1, 5, 6 or 14. „Dead time“ prevents, that threshold switch sends constantly output value to KNX/EIB, in case input value varying by upper (lower) threshold.

After output value was sent to KNX/ EIB, timer “repeat time” will be started. After ending this timer the input conditions “crossing upper threshold” are furthermore fulfilled the output value will be sent to KNX/EIB once again. This program loop will be executed as long as input condition „crossing upper threshold“ will not be complied anymore. That is the case from switchpoint 1.1. (see diagram).

In case input value is located between upper or lower threshold, the job doesn't send anything to KNX/EIB.

Second switch event:

Fall below lower threshold. By deceeding of lower threshold, again the “dead time” timer starts. If this timer ends and the input conditions “falling below lower threshold” are still fulfilled the output value, which was parameterized in column “lower threshold”, will be sent to KNX/EIB. Output value can be EIS 1, 5 or 6.

After output value was sent to KNX/EIB the timer “repeat time” will be started. If this timer ends and the input conditions “crossing upper threshold” furthermore are fulfilled the output value will be sent to KNX/EIB once again. This program loop will be executed as long as input condition „crossing upper threshold“ will not be complied anymore.

Please note: In case for „dead time“ no value was entered, sending to bus will start at once. If for “time replay” no value was entered, switch sends result only once.



6.2.7 COMPARATOR

This job compares the value of an input object with the value of another or with the worth of a static value. Result will be evaluated by „true“ or „false“. Output can be parameterized independent from input.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Input 1 und 2

Both inputs will be compared with another according to adjusted comparison operations. Depending on result, output will be send either „true“ or „false“. Input objects get following parameters:

Group address

The group addresses of the input object.

EIS Format

Here you can choose the EIS type of input object. Following EIS types were supported by comperator:

- EIS 1 (switching, 1Bit)
- EIS 2 (dimming, 1,4,8 Bit)
- EIS 3 (time, 3 Byte)
- EIS 4 (date, 3 Byte)
- EIS 5 (floating point, 16Bit)
- EIS 6 (percent 0-100%, 1 Byte)
- EIS 8 (priority, 2 Bit)
- EIS 9 (floating point, 32 Bit)



- EIS 10 (counter, 16 Bit)
- EIS 11 (counter, 32 Bit)
- EIS 14 (counter, 8 Bit)
- EIS 15 (text, 14 Byte)

Static

If that input is activated instead of the group address value, the value of the bordering entry field will be used for comparison operations.

Factor and offset

You can format the value of group address with help of these both parameters. The value will be multiplied by factor, offset will be added.

Operation

Following comparison operation are available:

- „=“ similar
- „<>“ dissimilar
- „>“ greater than
- „<“ smaller than
- „>=“ greater or equal
- „<=“ smaller than or equal

Every receiving of a telegram to input object causes comparison operation once again.

Output (“FALSE” or “TRUE”)

According to which result of comparison operation, respective output will be send. Output could have following parameters:

Group address

To every output a group address will be dedicated. Both outputs can have the same address.

EIS value

If output is marked as static, following EIS types are available

- EIS 1 (switching, 1Bit)
- EIS 2 (dimming, 1,4,8 Bit)
- EIS 3 (time, 3 Byte)
- EIS 4 (date, 3 Byte)
- EIS 5 (floating point, 16Bit)
- EIS 6 (percentt 0-100%, 1 Byte)
- EIS 8 (priority, 2 Bit)
- EIS 9 (floating point, 32 Bit)
- EIS 10 (counter, 16 Bit)
- EIS 11 (counter, 32 Bit)
- EIS 14 (Zähler, 8 Bit)
- EIS 15 (text, 14 Byte)

Static

For the output value, the value of bordering entry field will be used. Value has to match adjusted EIS typing.

Non-Static output

Output carries no fixed value. For output one of the following values are used:

- Activating telegramm (Input 1 or 2)
- Last telegram from input 1
- Last telegram from input 2

In case on input is static, no on input object received telegram could be sent to output.

Volatile

Group address value cannot be overwritten by external telegrams (directly from KNX/EIB).

Changes

Output will be sent to bus, only if the output value changes. In case this entry is not activated, output value will be sent out after every new operation again and again. Changes only refers to the value of the respective output object. If output object remains static, no modifications of output value can happen. This setting is only practical by using a dynamic output.

6.2.8 CYCLIC SENDER

The cyclic sender sends out KNX telegrams in a fixed and dynamic interval, offers the possibility to retrieve the state of particular group addresses and will send on device start optional.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

General settings

Send on interval end

If this option is enabled, job will send (the first time) only then, if interval time is over. In case the option is not enabled, transmission takes place directly after storing the job, resp. after releasing or starting the device.

Send once on "start"

By the help of this option, job sends out a telegram uniquely either after restarting of the job (erasing or storing of a job) or after booting the device. A cyclic transmission doesn't take place. If option "Send on interval end" (see above) is enabled, job will send only after once the device is rebooted and the interval time is over.

Request value ("Value Read")

By using the option „Request Value ("Value Read")“, cyclic sender will transmit a so called „Read telegram“ or „value read“ – telegram. With the help of these telegrams, state information of certain group addresses can be requested. To make this possible, desired devices resp. group addresses have to be configured correspondingly in the ETS-software ("read-flag enabled")

Please note: Handle this function carefully! The response on these value read telegrams will be treated as normal switching telegrams.



Output Settings

Output address

Mandatory field. On this group address the value, which is determined by following parameters, is been transmitted. Without a valid address, saving the job is not possible.

Output EIS-Type

Please define the EIS type of the “output address”. Following data types are available:

- EIS 1 (1 Bit), value [0,1]
- EIS 5 (2 Byte FP), floating point value [-671088,64 ... 670760,06]
- EIS 6 (1Byte), value [0...100%]
- EIS 9 (4 Byte FP), floating point value [-2^{127} ... 2^{128}]
- EIS 10u (2Byte), value unsigned [0 ... 65535]
- EIS 11u (4 Byte), value unsigned [0 ... 4.294.967.295]
- EIS 14u (1 Byte), value unsigned [0 ... 255]

Output Value

Depending on the data type chosen in the upper mentioned option you will define the output value here.

EIS 1 Toggle

This option is only available if “EIS 1 (1 Bit)” is chosen as “Output EIS-Type” in the array above. In this case, the value of group address will change cyclically between “1” and “0”. It will starts with the value determined in “Output value”.

Intervall Settings

Default Interval (in seconds)

Please define the interval time here (time between two sent telegrams) in seconds. Minimal value is “1”, maximal value is “65535”. A new stored interval time will be valid not until the next interval start. Running interval will be finished with the time was adjusted before.

Set Interval (Input)

This input object is enabling setting an interval time by group address. Setting interval time by group address takes place under the same circumstances as manual regulation of interval time in the job mask (see above, minimal/maximal value, start of the new interval), independent of the data type. The datatype “Interval EIS Type” of this object is been set in the array below.

Interval EIS Type

This entry array will only be enabled if a valid group address was entered above in „Set Interval (Input)”. The following data types are available:

- EIS 10u (2 Byte), value unsigned [0 ... 65535]
- EIS 11u, (4 Byte), value unsigned [0 ... 4.294.967.295]
- EIS 14u (1 Byte), value unsigned [0 ... 255]

Because the interval time in seconds is limited to 65.535 at maximum, no higher interval value could be placed, also if data type EIS 11u (4 Byte) is used.

Please note: With following parameter, the interval time set by a desired group address, can be forced within limits.

Minimum interval

This input field will only be enabled, if in “Set Interval (Input)” a valid group address is entered. The numerical value used here describes the lower limit for setting the interval time by group address. If a value is sent lower this limit, job will use either the predefined interval time of the job mask, or, if the the option “Minimum Saturation” is set, the minimal limit of time adjusted here. The value can be adjusted in the range of 1 to 65535.

Specific feature: If „minimal interval“ is set to „0“, and this value will also be sent on the object “Set Interval (Input)”, job will use the predefined interval time of the job mask (“Default Interval (in seconds)”).

Minimum Saturation

This input field will only be enabled, if in “Set Interval (Input)” a valid group address is entered. By enabling this option the interval time set in “Minimum Interval” will be used as interval time in case the group address value of “Set Interval (Input)” is lower than the minimum interval set.

Maximum interval

This input field will only be enabled, if in “Set Interval (Input)” a valid group address is entered. The numerical value used here describes the upper limit for setting the interval time by group address. If a value is sent higher this limit, job will use either the predefined interval time of the job mask, or, if the the option “Maximum Saturation” is set, the maximal limit of time adjusted here. The value can be adjusted in the range of 1 to 65535.

Maximum Saturation

This input field will only be enabled, if in “Set Interval (Input)” a valid group address is entered. By enabling this option the interval time set in “Maximum Interval” will be used as interval time in case the group address value of “Set Interval (Input)” is higher than the maximum interval set.

APPLICATION EXAMPLE: REQUEST THE VALUE OF A CERTAIN GROUP ADDRESS AFTER “ENABLE”.

An application example for the cyclic sender is to request the value (*“value read”*) of a certain group address, due to a trigger event. Please proceed as follows:

1. Apply the new job “*Cyclic Sender*” and parameterize following settings:
 - “*Job name*” = Assign an unique name to the job.
 - “*Gate Group Addresses*” = Allocate the group address by which the process should be started here.
 - “*Send once on “enable”*” = Enable this option, so that the job will send once after enabling by gate group address.
 - “*Request Value (“Value Read”)*” = Enable this option, so that the job will send a value read telegram.
 - “*Output address*” = Please fill in the group address of the KNX-subscriber here, which state should be requested. Please consider that the “Read flag” has to be set.
 - Save the job.

If now value „1“ is been sent on the gate group address object (enable job), the job will send a value read telegram on the “*output address*” once. In case KNX-subscriber was configured correctly (Read flag set, see above), it will send out its actual value to the same group address as reply. To repeat this process, it will be enough to send value “1” to the gate group address object again.



6.2.9 MATHEMATICS

The mathematics job is not only offering all usual mathematical operations but beyond that also a lot of mathematical functions. At the end of this description you will find some examples for this.

EIS Formats

The math job supports the following datatypes at the input- and output-object.

- EIS 1 (1 Bit)
- EIS 5 (2 Byte FP)
- EIS 6 (1 Byte)
- EIS 9 (4 Byte FP)
- EIS 10s (2 Byte Value)
- EIS 11s (4 Byte Value)
- EIS 14u (1 Byte unsigned)
- EIS 15 (14Byte Text)

Beside that the jobs disposes a gate object as well as an EIS 14 output for an error code and an EIS 15 text output for an error text. They are given out when the flag "Runtime Errors" is activated.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Runtime error issue

If this flag is enabled, error codes and error messages via EIS 14 EIS issued by telegram 15. The addresses to be entered into the fields below. An overview of error codes is at the end of the job description.

Exit / access to the initial value

The value of the output object can use the variables "eo_out ()" is also used for the calculation. The operation can never be "eo_out ()" is triggered.

Inputs

Each mathematics job contains 12 input objects. This could correspond to the above mentioned datatypes. Also can be determined when a telegram abutting the selected input to calculate the formula. To enter a groupaddress either the keyboard or the ESF-Dialogue can be used. For the ESF Dialogue the arrow button next to the address entry array is been pressed. You will reach the overview of the data which will be uploaded into the EIBPORT before (also see chapter "[KNXnet/IP | ETS](#)").

Note: All values within the mathematics job are generally calculated unsigned, i.e. without signs. If you want values to be shown with signs, please make the appropriate settings in the visualisation element.

Calculation of the formula

The selection in the dropdown menu determines when the calculation of the formula is triggered in the mathematical expression:

- Always: The calculation will be triggered when any input is detected at the input object.
- Never: The calculation is that input never initiated. Of course, the value of the input object in the execution of the operation is considered.
- If the value is changed: Only if changing the input value against the previous value, initiated a calculation.

Figure 128: Job Editor - Job mask mathematics

Access onto the input in the mathematical expression

In order to use the input objects for the mathematical expression the following syntax applies:

- The inputs 1-12 own the index numbers 0-11.
- By entering “eo(number of index)” the respective value of the input objects is been fetched for the mathematical expression. For the input 1 so is entered “eo(0)”.
- If the other way round the index number of an object should be issued (and eventually continue to use) on which at last a telegram was incoming, it can be done by entering “eoi()”.

Mathematically Expression

In this array the required mathematical expression will be put together. Doing this the usual mathematical rules applies. In order to output the result it is to be considered that the value of the result is not exceeding the range of the datatype set in the output object. The following operations are available:

Note: Internally, the math module can work with floating point numbers or texts.

Mathematical operations

Symbol	Description
+	Addition (resp. stringing together)
-	Subtraction
*	Multiplication
/	Division (real numbers)
%	Modulo (Rest of an integer division)



&	„AND“- operation bit by bit
	„OR“ – operation bit by bit
^	Raise to higher power

Logical (boolean) operations

Symbol	Description
	Logical OR
&&	Logical AND
>	Comparison operation "Greater than"
>=	Comparison operation "Greater than or equal"
<	Comparison operation "Less-than"
<=	Comparison operation "Less or equal"
==	Comparison operation "Equal"

Other operations

Symbol	Description
=	Allocation
'(' und ')'	Paranthesis for changing the operator process
?:	If-Then-Else Operator (Variable = requirement ? Value is true : Value is false)

Built in Functions

Symbol	Description
sqrt(x)	Square root calculation
sin(x)	Sinus calculation
cos(x)	Cosinus calculation
tan(x)	Tangens calculation
max(x,...)	Maximum determination of a (finite) amount of values
min(x,...)	Minimum determination of a (finite) amount of values
rad(x)	Conversion from degrees into radian (arc calculation)
asin(x)	Calculation of arc sine
acos(x)	Calculation of arc cosine
atan(x)	Calculation of arc tangent
ceil(x)	Calculation of the smallest integer value which is not smaller than the argument ("round off").
floor(x)	Calculation of the largest integer value which is not larger than the argument ("rounded down").
abs(x)	Calculation of an absolute value of an argument
exp(x)	Calculation of the exponential function of the base „e“ (Berechnung der Exponentialfunktion zur Basis 'e' (Eulersche constant)
log10(x)	Logarithm to the base 10
pow(x,y)	Exponential function calculating x^y
time()	Is giving out the system time since the beginning of the epoch (00:00:00 UTC,

	January 1, 1970)
srand(x)	Is setting the (pseudo) random generator to definated start value.
rand()	Is giving out the next random number.
eo_sum(x,...)	Adding the EIB-objects with this numbers according to the arguments.
int(x)	Is cutting of the real number and is only given back the integer.
modf(x)	Is giving back the the decimal part of a real number (the digits after the decimal point.)
round(x)	Is giving out a correct rounded integer of an real arguments.
eoiga()	Returns the group address that triggered the calculation (not format!)
eo_ga(idx, idx_ga)	Returns the group address of an object unformatted. idx specifies the index number of the input idx_ga the index number of the group address in the Object. Both start at "0" to include (from left to right).
ga_str(ga, fmt)	Returns the wanted group address (ga = index number) as a string (EIS 15) to the output. Using "fmt", 2 - or 3-digit notation can be determined.
str_ga(str)	Outputs a desired group address as an integer. 2 - or 3-digit notation does not matter.
version()	Returns the version number of the math module back. We have the "18" = Version 1.2 (0x12) and "17" = Version 1.1 (0x11).

Datatypes and Strings:

Kind	Notation
Integer numbers	42
Hexadecimal numbers	0x12ab
Real numbers	1.23
Exponential numbers	1.23e3 für 1.23 * 10 ³ oder 1023.0
Text	"text"

Note: A "." (period) has to be used as decimal separator, otherwise the expression becomes invalid.

Predefined constants:

Symbol	Description
M_PI	The constant pi (3.14.....).
M_E	Euler's constant (base of the natural logarithm)
M_LOG2E	Logarithm to the base 2 from 'e'
M_LOG10E	Logarithm to the base 10 from 'e'
M_LN2	Natural Log. from 2
M_LN10	Natural Log. from 10
M_PI_2	Pi divided by 2 ("Pi-Half")
M_PI_4	Pi divided by 4 ("Pi-Quarter")
M_1_PI	Reciprocal value from Pi (1 divided by Pi)
M_2_PI	2 times 1 divided by Pi
M_2_SQRTPI	2 times 1 divided by squareroot of Pi
M_SQRT2	Squareroot of 2
M_SQRT1_2	Reciprocal value of squareroot 2 (resp. Squareroot of 1/2)

**Self defined variables and multiple expressions after another:**

"a=10" allocates the variable "a" the value 10. "a=1; b=2; a+b" allocates the values 1 resp. 2 to the variables "a" and "b" and is giving out the result "3".

Important: That way defined variables only have a limited validity within one calculation of one expression!

Reservierte Variablen

Variable	Description
override_addr	If the value of this variable is equal to "0", is the true starting address is discarded, and instead interpreted the value of this variable as a starting address (1-digit notation).
override_eis	If the value of this variable equal to "0", the actual data type is overridden by this configuration. We do not make adjustment of the value.
override_skip_send	If the value of this variable equal to "0", the transmission will be aborted. The current calculation leads to no result.
override_keep_data	If the value of this variable equal to "0" is not the calculated output value, but uses the input value of the calculation has been initiated.

Examples:

Here some examples so that the using of the several functions and operations becomes a little bit clearer:

- **„eo(1) + 100“** -> Is giving out the EIB-object with the number one (hereafter EO_1) added by 100. Of course every time important is paying attention to the possible range of the EIB output object!
- **„eo(3)*eo(4)“** -> Multiplies EO_3 and EO_4. If there are EIB-objects which are not provided with a groupaddress, a failure is being noticed.
- **„100 / eo(1)“** -> Divides 100 by EO_1. Attention: If a null is being sent on the input 1 the calculation is giving out a runtime error! ("Division by null").
- **„sqrt(eo(0)^2+eo(1)^2)“** -> Is calculating the length of the hypotenuse in a right angled triangle, if on EO_0 und EO_1 the length of the cathetus is beings sent („Pythagorean theorem“).
- **„eoi()“** -> Is giving out a 2 if something is received on the EIB-object with the number two.
- **„eo(eoi())“** -> Is giving back the receiving value.
- **„eo(eoi())^2“** -> Is calculating the square for every tranceived telegram value.
- **„rand()“** -> Is giving out the random value.
- **„rand() & 0xff“** -> Limits this value on a range from 0 to maximum 255. So the result must be presentable in EIS 14.
- **„srand(time())“** -> Ist giving out nothing (resp. null), but is initializing the random generator with a pseudo-random start value.
- **„eo(0)+eo(2)+eo(3)+eo(1)+eo(5)+eo(6)+eo(4)“** -> Is calculating the sum of multiple EIB-objects.
- **„eo_sum(0,1,2,3,4,5,6)“** -> Like above, but plenty more „runtime-friendlier“ and more insight.
- **„foo" + "bar"“** -> Is giving out the result „foobar“. This only works if the output is switched to EIS 15 datatype.

Error Codes and Error text

Number(Error Codes EIS 14)	Meaning resp. EIS 15 text output
0	No Error
42	Syntax error
43	General runtime error (e.g.: division by null or tan(PI/2))
1	Missing right bracket
2	Missing left bracket (with embedded function)

3	Missing right bracket (found expression instead)
4	Unknown variable
5	Unknown keyword
6	Error in String expression: String contains no mathematical operator.
7	Division by null
8	String cannot be exponentiated
9	Error in String expression: String cannot be arranged with operator.
10	Missing right bracket or comma at function call.
11	Missing comma
12	Missing argument
50	Error in EO-function: Wrong number of arguments
51	Error in EO-function: Wrong index
52	Error in EO-function: EO is empty



6.2.10 COUNTER

With the counter job eight input objects could be counted. Therefore seven different counting operations are available. Furthermore the job can be controlled by a gate object.

EIS formats

The counter job supports the following datatypes at the input and output objects:

- EIS 1 (1 Bit)
- EIS 5 (2 Byte FP)
- EIS 6 (1 Byte)
- EIS 9 (4 Byte FP)
- EIS 10s (2 Byte Value)
- EIS 11s (4 Byte Value) 1
- EIS 14u (1 Byte unsigned)
- EIS 15 (14Byte Text)

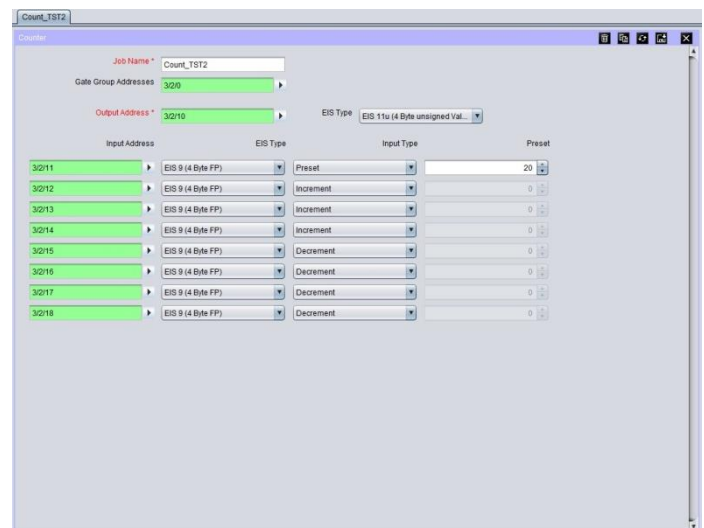


Figure 129: Counter – job

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.



Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Input Type

The counter job can perform different counting operations depending on the input type which is chosen. These are:

- *Disabled:* The input is counted.
- *Increment:* With receiving a telegram, does not matter of which datatype and of which value, the result is counted beyond by one. The number of the incoming telegrams is been counted.
- *Decrement:* With receiving a telegram, does not matter of which datatype or which value, the result is reduced by one. The number of the incoming telegrams is been counted.
- *Add Value:* The value of the input telegram is been added to the present calculated value.
- *Sub Value:* The value of the incoming telegram is been subtracted from the present calculated value.
- *Clear:* Is an entry detected on this input the result of the counter will be set back to this value (the start value).
- *Preset:* With this option an initial value can be used for the further calculation. With it is possible to set a kind of offset value.
- *Preset Value:* The value of the incoming object will also be used as the value for the output object.

Preset

The preset value can be determined if the corresponding counter operation is been chosen. Thus causes that the value is been used by every further operation as the base. The preset value in this case forms a kind of offset value.

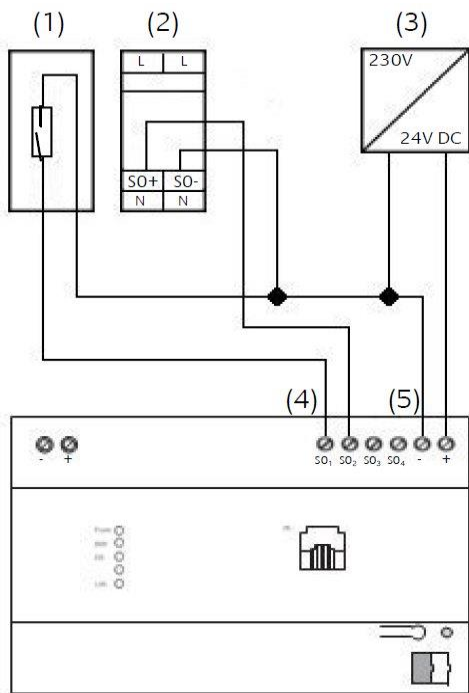
Important: Pay attention that the counted value is not exceeding the range of the outputs datatype.



6.2.11 PULSE COUNTER

The pulse counter adds the pulses of the S0-interface, the arbitrary KNX-telegrams or the operation time of EIBPORT. S0-interfaces have every EIBPORT version 3, up from august 2012, as a standard feature. In case you like to upgrade your EIBPORT version 3 with a S0-interface, please contact info@bab-tec.de.

To count pulses of a S0-interface, it is necessary to connect them correctly. Please consider following wiring diagram:



- (1) Reed-contact to be placed on the counter.
- (2) e.g. Eltako Single-phase Energy Meter WSZ12D-32A
- (3) Power Supply 24V DC
- (4) S0 pulse input terminal for analyzing measured value
- (5) Terminal for S0 pulse input Power Supply 24V DC

Figure 130: S0-connection schematic

The access to several S0-interfaces takes place in the job mask by respective menu.

Job configuration

To apply a new pulse counter job, either button in menu bar of job editor or the right click on the job container ("pulse counter") can be used. In case, that you haven't use a S0 interface, you can utilize the job for counting KNX-telegrams or for counting the operation time of EIBPORT ("power on time")

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Release object

By release object, job will be released or blocked. It is an EIS1 object.



- *Group address not assigned* = Job released
- *Group address registered, value 1* = Job released
- *Group address registered, value 0* = Job blocked
- *Group address registered, no value* = Job blocked

As soon as one address was entered in the field, release will work accordingly to the group address's value. When no value was sent to the address up to this point and therefore address is without a value, job will be blocked.

Source

Here please define the source of pulses, which shall be counted. For selection:

- *KNX*: Job will count the number of an arbitrary KNX telegram (thereby data type doesn't play any role).
- *SO #1 -#4*: Job will count So-pulses of the So-terminals connected units. Numbering „#1-#4“ is the result of the unit's labelling. By connecting So-units, please consider wiring diagram as shown above.
- *Power on timer*: In this case, job will reproduce operating time in seconds of EIBPORT since its initial commissioning.

By source selection, differences arise for the choice of parameters. These are marked in the description of parameters and will be grayed out in the job mask by configuration.

Parameter

All parameters of the pulse counter jobs in job mask are described top down as follows. One illustration example of a configuration, you will find at the end of this chapter.

Input address

This field will be enabled only by source selection „KNX“. The numbers of telegrams are counted which will reach this group address. Thereby, EIS-type (data type) is not relevant.

Value request

This object serves for the request of actual count and state values. This object can include one arbitrary data type, only the input of a telegram will be rated. Requested values will be sent to the objects „Counter“ and „Value“ (see Description further down).

Watchdog Interval / Watchdog Output

If no pulse will receive the source „Input address“ (KNX) or „SO“ (So#1-#4) during this interval, job will send out a telegram to the output „Watchdog output“ to notify one faulty or misconfiguration.

Prescaling

By this value, pulse can be calculated with an arbitrary factor before processing. By example, if pulser sends one pulse for every watt-hour (Wh), counter can convert values into kilowatt-hour (kWh), by the help of a prescaler like „0,001“. In this case, counter would give back a value only for every 1000 pulses.

Figure 131: Job Mask Pulse Counter



Main counters settable?

This field only will be enabled by the source selection „KNX“ or “SO #1- SO #4”. If this flag is setted, the unscaled counter value of the main counter can be set to an arbitrary value, by the help of the object “*counter setting*”. Also see the description of “*counter setting*”.

ZZ reset value

The intermediate counter (ZZ) will be resetted to the here entered value, as soon as an EIS1 telegram will be detected on the group address under menu „ZZ resetting”. See also “ZZ resetting”.

Transmission only by modification

This field will be enabled only by source selection “KNX” or “SO#1 – SO#4”. If this flag is active, job will send values as soon as they were modified towards previous values. Please consider here the specification of the prescaler. Is the actual value of the prescaler = „1“, counter will reproduce every pulse, because the counter value changes after every pulse. But is the actual value of the prescaler = “10”, counter value will alter after every 10th pulse, in order that, the sending will happen only then. Did you select “*power on timer*” for the source, the menu item “*Sending only in case of change*” can`'t be used. This option can be adjusted separately for main or intermediate counters.

Periodically transmission

By setting this flag, job sends initial values periodically in an interval, which was preadjusted under menu item „*transmission interval*”. This option you can be adjusted separately for main or intermediate counters. This option can be adjusted separately for main or intermediate counters.

Transmission interval

Please enter here the interval in seconds, in which job will send out initial values. Transmission interval can be adjusted separately for main or intermediate counters.

Counter setting

This field will be enabled only by source selection “KNX” or “SO#1 – SO#4”. By this object, main counter can be reset to desired value, as soon as flag “*main counter settable*” is activated. In doing so, data type of the object refers on the data type, which are adjusted in the job for the unscaled counter values (“*Counter EIS*”). That only applies for the main counter. The intermediate counter only could be reset, see “ZZ reset value” and “ZZ resetting”.

Counter

By help of the entered group address here, the unscaled counter value will be sent with the also selected data type. The data type can be defined in the field below “*Counter EIS*”. Main und intermediate counter have to get different group addresses.

Counter EIS

Please select here the data type for the unscaled counter value, which will send to the group address in field above. Possible data types are:

- *EIS 10u (2 byte value unsigned)* = value from 0 - 65.535
- *EIS 11u (4 Byte Wert unsigned)* = value from 0 - 4.294.967.295
- *EIS 14u (1 Byte Wert unsigned)* = value from 0 - 255

This option can be adjusted separately for main or intermediate counters.

Value

By the help of the used group address here, the scaled counter value is sent. In the process the “*value*” will be multiplied by the „*factor of value*” and added with „*value offset*”. Data type will be defined by “*value EIS*”. Main and intermediate counter have to get different group addresses.

Value EIS

Please enter here data the type of the value, which will sent out by the group address in field „*value*”. It is a matter of a scaled counter value. Possible data types are:

- *EIS 5 (2 byte floating point value)*
- *EIS 9 (4 byte floating point value)*



This option can be adjusted separately for main or intermediate counters.

Factor value / Offset value

To get the scaled counter account „*value*“, the value of the counter has to be multiplied with factor and added with offset. This option can be adjusted separately for main or intermediate counters.

Example: To convert an unscaled counter value (Wh pulses) to kWh, a factor of „0,001“ has to be filled in.

Overflow

According to selection of data type, the unscaled counter value „*counter*“ exceeds the maximum value. These are for EIS 14 = 255, for EIS 10 = 65535 and for EIS 11 = 4.294.967.295. If these values are exceeded, counter will restart from zero. Simultaneously one EIS 1 telegram with value of „1“ will be sent to the group address „*Overflow*“, to inform of counting in the overflow.

ZZ counting direction

This field is unique to the intermediate counter (ZZ). By an EIS 1 telegram to this group address, the counting direction can be adjusted. Thereby it is valid:

- *Value „1“* = intermediate counter enumerates forwards
- *Value „0“* = intermediate counter enumerates backwards

Please note: If the group address has not got a value, object will act as a value of „0“. the intermediate counter also will enumerate backwards.

ZZ reset

This field is unique to the intermediate counter (ZZ). By an EIS 1 telegram with value „1“, intermediate counter can be reset to the under „*ZZ reset value*“ determined value. A telegram with value „0“ has no function.

ZZ start / stop

This field is unique to the intermediate counter (ZZ). The intermediate counter can be started or stopped by an EIS1 telegram to this group address. Thereby it is valid:

- *Value „1“* = intermediate counter starts
- *Value „2“* = intermediate counter stops

EXAMPLE: MEASURING ENERGY CONSUMPTION

To use pulse counter job for a counter of energy consumption in kWh, example configuration might look as follows:

1. Please connect the pulser to the *So* terminal of EIBPORT (see connecting diagram). The pulser is connected for example to *So #1* und will send a pulse for every Wh.
2. Please change the job mask and apply a new pulse counter job with following parameters:
 - *Source*= *S0 #1*
 - *Prescaler*= 1
 - *ZZ reset value* = 0
 - *Transmit by modification of HZ* = *ON*
 - *Counter* = 16|0|1
 - *Counter EIS* = EIS 11u
 - *Value*= 16|0|2
 - *Value EIS* = EIS 9 FP
 - *Value factor* = 0.001
 - *Value offset* = 0

Figure 132: Example Configuration Puls Counter Job

In order that, pulse counter enumerates Wh pulses of the unit, connected to *SO#1* and will reproduce unscaled counter values (number of pulses) of GA16/0/1. To the address 16/0/2, the scaled counter value (also number of pulses multiplied with 0.001) will be reproduced. Because of factor 0.001, it isn't about Wh, but KWh.



6.2.12 INTEGRATOR

This job is executing the mathematical function of integrating. With it the area calculating among a graph is ment (definite integral). The function hereby is the the input value over the time. Thereby the job is especially made for calculating the power consumption out of the current values giving out by actuators with current detection. Afterwards this description you will also find an example about this.

EIS-Formats

The integrator job supports the following EIS Formats at the input and output object:

- *Input*
 - EIS 1 (1 Bit)
 - EIS 5 (2 Byte FP)
 - EIS 6 (1 Byte)
 - EIS 9 (4 Byte FP)
 - EIS 10s (2 Byte Value)
 - EIS 11s (4 Byte Value)
 - EIS 14u (1 Byte unsigned)
 - *Output*
 - EIS 5 (2 Byte FP)
 - EIS 6 (1 Byte)
 - EIS 9 (4 Byte FP)
 - EIS 10s (2 Byte Value)
 - EIS 11s (4 Byte Value)
 - EIS 14u (1 Byte unsigned)
- In addition the job is offering the feature that the output can send the result also EIS 15 formatted. In this case there is the possibility to influence place right and left of decimal point by control characters. The following syntax applies with the control characters:
- Open control character - '%'
 - Closing control character - 'f'
 - Optional place- '#'
 - Forced place - '2' (example)
- Example: There should be displayed a number with 2 places left of decimal point and minimum 3 places right of the decimal point: %2.###f

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Release object

By release object, job will be released or blocked. It is an EIS1 object.

- *Group address not assigned* = Job released
- *Group address registered, value 1* = Job released
- *Group address registered, value 0* = Job blocked
- *Group address registered, no value* = Job blocked

As soon as one address was entered in the field, release will work accordingly to the group address's value. When no value was sent to the address up to this point and therefore address is without a value, job will be blocked.

Interval (s)

Because the integrator underlies a function over the time here is the possibility to define the interval of the x- axis. At the same time the interval is determining how often the result is given out.

Important: During calculation the integrator depends on a constant, which corresponds to the Input value that is active within the interval!

Clear on Timeout

Is this flag activated and there is no further telegram detected during the timeout interval set in the input settings, the output of the job will be resetted.

Inputs

Every Integrator can use 4 inputs. The different input values are then added and integrated. Setting up the inputs there are some things to consider.

- *Factor:* The input value is multiplied by the factor. With it also the conversion in the different units is been made, so the job contains several default factors. They can be chosen by the menu item on the left. The following is available:
 - mA in Ws (milli-ampere in watt seconds)
 - mA in Wh (milli-ampere in watt hours)
 - 100 mA in Ws (100 milli-ampere in watt seconds)
 - 100 mA in Wh (milli-ampere in watt hours)
 - A in Ws (ampere in watt seconds)
 - A in Wh (ampere in watt hours)The correct factor is been added by selecting
- *Offset:* The offset value is added onto the input value.
- *Minimum / Maximum Value:* Determines a value range in which the input value of the objects must be located at.
- *Timeout:* Determines the timespan in seconds after that a timeout signal is been sent. Is the additionally the flag "Clear on Timeout" set in the output configuration the value of it will be resetted.
- *Init:* If enabled the input uses the information of the address state table when initializing itself. After interval time has expired the output will be sent due to the information in the address state table, and this could differ from the real value.

EXAMPLE

Like it is also mentioned in the description about the „Top Consumers“ Element, the Integrator is especially designed for converting the current which is sent out by actuators with current detection into the energy consumption values like watt hours. For this intention here a little example:

The configuration of a job for the value calculation for displaying it the "Top Consumers" Element:



Figure 133: Job Editor – Configuration example Integrator

In this example the job gets a milli ampere value from an actuator with current detection and is calculating watt hours with it. The output value of the integrator is then being passed over to the visualisations' "Top Consumers" element by a virtual group address.

Configuration of the „Top Consumer“ Element:

Figure 134: Visualisation Editor – Configuration example Top Consumers

The virtual group address is then being linked to a consumer in the visualization element. Beside the correct datatype and value format here must not considered anything else.



6.2.13 RTR JOB

The RTR job integrates in EIBPORT the complete range of functions of a room temperature controller.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

MODE OF OPERATION

Room temperature controller distinguishes various modes of operation. So it is possible, to activate different temperature setpoints, for example depending on the absence of one person, the state of the heating- or cooling system, the time of the day or weekday.

Comfort:

Comfort operation should be activated, if personal will be present in the room and therefore room temperature has to be adjusted to a comfortable suitable value.

Standby:

In case one room will be not in use during the day, because for example personal is absent, standby operation can be enabled. In this way room temperature can be adjusted to a standby value for saving heating or cooling energy.

Night operation

During night operation or by extended absence it will be useful to adjust room temperature of heating systems to a lower temperature (for example in bedrooms). In this case, cooling plants can be justified to a higher temperature, if air conditioning is not necessary. (for example in offices).

Frost/heat protection

Frost protection will be required for example, if room temperature should not come under critical values by open windows. Heat protection could be necessary if temperature will rise to high, in most cases by external influences of a steadily warm surrounding. In these cases, freezing or overheating of the room can be prevented by activating the frost/heat protection, depending on the adjusted mode of operation "cooling" or "heating".



Comfort extension

This is a kind of a party function, which could be used to hold comfort temperature for a certain time, for example if the room will be utilized during night time, too. One separate button will activate this function.

Summer compensation

For reasons of energy saving and for holding a comfort difference in temperature by entering an air-conditioned building in summer, an elevation of room temperature depending on outside temperature should be established.

In operating mode „Heating and cooling“, 6 temperature settings can be modified. In dependence on the parameterized temperature decrease, - increase or dead zone, all temperature set points deduce from the basis nominal temperature. Thereby attention should be paid to, that all other temperature set points will be modified by altering of the comfort nominal temperature for heating! The dead zone (temperature zone in which neither heating nor cooling take place) is defined as the difference between the comfort temperature setpoint of “heating” and “cooling”. In this case it is valid:

$$T_{\text{comfortTargetCooling}} - T_{\text{comfortTargetHeating}} = T_{\text{dead zone}}; T_{\text{comfortTargetCooling}} \geq T_{\text{comfortTargetHeating}}$$

Important hint:

In case of an asymmetric position of the dead zone, only temperature settings of cooling will be altered by changing the cooling comfort temperature setting. It will be possible to alter the dead zone to 0 °C by the help of a local operation.

($T_{\text{comfortTargetCooling}} = T_{\text{comfortTargetHeating}}$) In this way either heating or cooling proceed, if detected room temperature is equal to the comfort temperature setting.

Temperature settings of „standby“ and „night“ derive from the comfort temperature settings of heating and cooling. So it will be possible to adjust temperature increase (for cooling) and temperature decrease (for heating) of both operation modes.

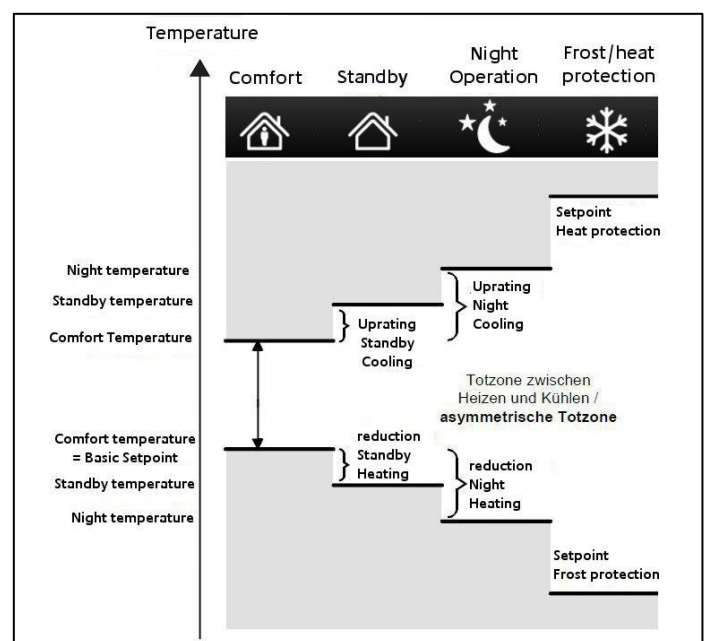
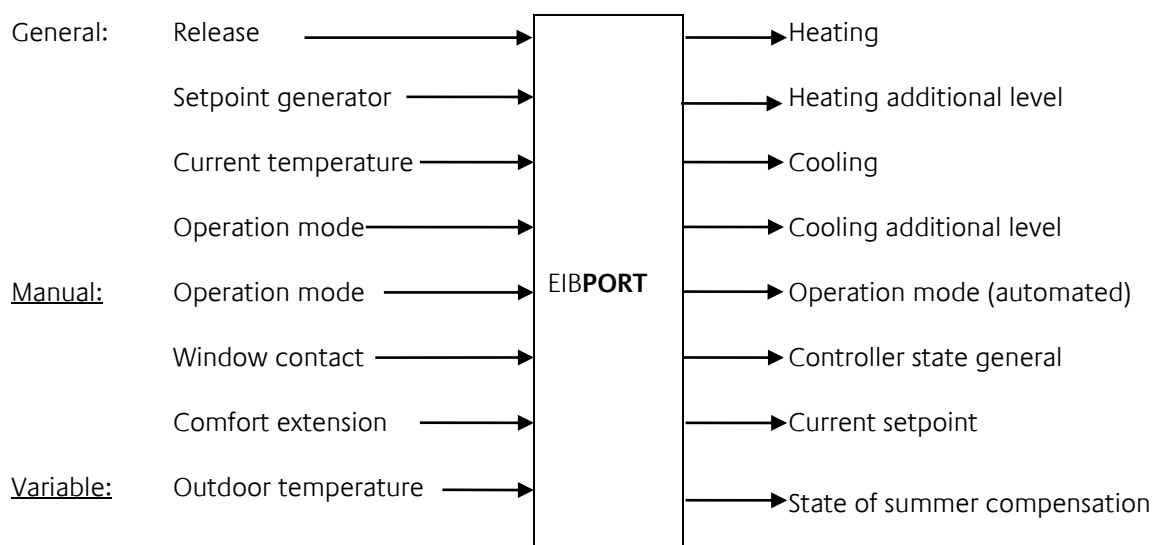


Figure 135: RTR Job – functional scheme

IN- AND OUTPUT:



Setpoint Preferences

Current setpoint Output(EIS5)

By this object current setpoint will be adjusted

Setpoint sending-interval:

In case setpoint will be sent cyclical, here desired time can be parametrized.

Basis Setpoint (Comfort):

This setpoint functions as a reference value, if no group address was assigned to basis setpoint input or no value still was sent to it.

Basis Setpoint Input (Comfort):

With the help of this object the basis setpoint can be adjusted, e.g. by an external RTR.

Setpoint Adjustment Input (EIS14s):

This object serves as a small step adjustment of the setpoint (see setpoint adjustment step).

Setpoint Adjustment Step (EIS5):

Setpoint adjustment step for adjusting by setpoint adjustment input.

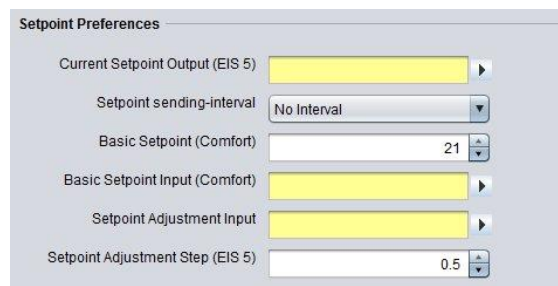


Figure 136: JobEditor – Setpoint settings

Sensor Parameters

Window Contact Input (EIS1):

By way of window contact input, RTR automatically changes into mode of frost or heat protection. To this object, either it can't be sent no EIS1 telegrams. Every value unlike "0" will be interpreted as one open window.

Temperature Input Timeout (min):

After that defined period of time, a temperature sensor will be tagged as defective, as far as it doesn't send no longer any telegrams. RTR will switch into failure mode.

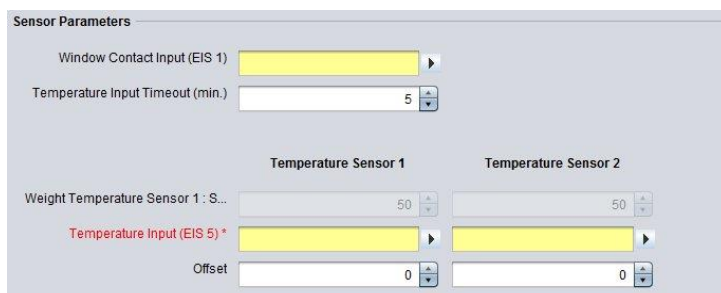


Figure 137: Job editor sensor parameters



Weighting Temperature sensor1: sensor2:

If more than one temperature sensor is registered, weighting of both can be defined here. Normally both sensors should be weighted equally, but according to their assembly site another weighting can be useful.

Temperature Input (EIS5)

In this object group address for the EIS5 temperature sensor has to be entered.

Offset:

In case temperature sensor isn't calibrated correctly, it can be corrected by offset.

Operation Mode

Operation Mode Input (EIS14):

Mode of operation can be altered by this object, using the visualization object RTR display. Various modes of operation can be adjusted.

- Frost-/Heat Protection (Value 0)
- Night Setback (Value 1)
- Standby (Value 2)
- Comfort (Value 3)

Example: By sending of EIS 14 value 2, you will change to operation mode cooling

Example: By sending of EIS 14 value 3, you will alter to operation mode comfort.

Operation Mode Fallback:

If object operation mode input will receive one undefined value, RTR will use this fallback mode.

Comfort Extension

Comfort Extension Time (min.):

Within this defined period of time, RTR will remain in operation mode „comfort“ in case comfort extension is enabled - and mode of operation should change from comfort to another.

Comfort Extension Input (EIS1):

By this object, comfort extension can be enabled or disabled.

Summer compensation

Outdoor Temperature:

Input object of the outdoor temperature sensor.

Activate Compensation:

Before using of compensation option has to be activated.

Compensation Active (out):

Output object over state of summer compensation

Higher and Lower Outdoor Temperature:

Via lower and Higher outdoor temperature it will be defined, from which and until which temperature value a setpoint readjustment for summer compensation will be performed.

Higher and Lower Temperature Offset:

With the help of lower and Higher temperature offset it is defined, by how many Kelvin adjusted setpoint will be raised during summer compensation.

The screenshot displays the Jobeditor configuration interface with the following sections and controls:

- Operation Mode:**
 - Op. Mode Input (EIS 14) *: A yellow input field with a right-pointing arrow.
 - Op. Mode Fallback: A dropdown menu currently set to "Comfort".
- Comfort Extension:**
 - Comfort Extension Time (min.): A dropdown menu currently set to "Inaktiv".
 - Comfort Extension Input (EIS 1): A yellow input field with a right-pointing arrow.
- Summercompensation:**
 - Outdoor Temperature: A grey input field with a right-pointing arrow.
 - Activate Compensation: An unchecked checkbox.
 - Compensation Active (out): A grey input field with a right-pointing arrow.
 - Lower Outdoor Temperature: A numeric input field set to 22.
 - Lower Temperature Offset: A numeric input field set to 0.
 - Higher Outdoor Temperature: A numeric input field set to 30.
 - Higher Temperature Offset: A numeric input field set to 4.
- Control Mode:**
 - Control Mode: A dropdown menu currently set to "Heating".
 - Mode Input (EIS 14): A yellow input field with a right-pointing arrow.
 - Mode Fallback: A dropdown menu currently set to "Heating".

Figure 138 Jobeditor operation mode, comfort extension, summer comp., Control Mode

Control Mode

Control Mode:

Functions which could be selected are:

- Cooling/Heating Automatic: at this place RTR decides on operation mode Heating or cooling.
- Cooling/Heating Manual: at this place operation mode is presetted for RTR.
- Heating
- Cooling

Mode Input (EIS14):

By operation mode input, following working modes can be defined:

- Off (value 0)
- Heating (value 1)
- Cooling (value 2)
- Comfort extension (value 3)

Example: By sending of an EIS 14 value 2, you will change to Control mode cooling.

Mode Fallback:

If in operation mode input one invalid value was received, RTR will change to configured fallback operation mode.

Actuation

Actuation	Heating	Add. Stage Heating	Cooling	Add. Stage Cooling
Difference to def. stage	1K	1K	1K	1K
EIS Type	EIS 1 (PWM)	EIS 1 (PWM)	EIS 1 (PWM)	EIS 1 (PWM)
Actuating Output *				
PWM Interval	10 Minutes	10 Minutes	10 Minutes	10 Minutes
PWM Invert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sending-Intervall	No Interval	No Interval	No Interval	No Interval
Fallback on Mode OFF (%)	0		0	
Fallback on Error (%)	0		0	
Regulation-Type	PI		PI	
Heating- / Cooling-type	Hot Water Heating		Cooling Ceiling	
Proportional Region	1.5K		5K	
Reset Time	100 min		240 min	

Figure 139: Job Editor – control variable

Distance to def. stage:

The application of an additional heater and/or cooling device is possible. In case of greater variance of nominal to actual temperature, room can be heated up or cooled down faster by hooking up of the additional level.

Actuating output (EIS1, EIS5, EIS6):

Current control variable will be sent to this output as one EIS 5 value. By using EIS 1, value will be 0 or 1, resp. by EIS6 0% to 100 %.

Note: Please consider that the group addresses of heating or cooling will differ.

Fallback on Mode Off (%):

In case operation mode will change to “out”, stated control variable will be transmitted at this point

**Fallback on error (%):**

In case of error predefined control variable will be sent out. It is about one case of error, when no actual temperature will be received or invalid values are sent to object operation mode.

Note: Depending on control algorithm, different inputs are necessary. All not relevant input options in this case are disabled.

Switching PI Control (PWM)**EIS Type:**

EIS 1 (switching, 1Bit)

If EIS 6 is selected for output, the value 0% and 100 % will be sent out.

If EIS 5 is selected for output, the value 0 oder 1 will be transmitted.

PWM Interval:

PWM interval defines the switching frequency of the pulse range modulated signal and allows the adaptation to the adjusting cycle times of used actuators. (traversing time the actuator requires to adjust the valve from a completely closed position to a completely opened position).

Control variable transmits Out, On, value 0/1.

PWM Invert:

For adaptation to several actuators, control variable can be inverted. In this case control variable transmits Out, On, value 1/0.

Regulation-Type:

For execution of PVM, PI will be selected.

Heating/ Cooling-type:

There is the possibility to select predefined configurations or to enter values of **proportional region** and reset time manually.

Heating	Cooling
<ul style="list-style-type: none">• Hot water heating• Electric heating• Floor heating	<ul style="list-style-type: none">• Cooling ceiling• Split Unit

Proportional Region:

Adjusting the constant P part of PI control. Choices from 1 to 10 Kelvin.

Reset Time:

Adjusting the variable I part of PI control. Choices from 0 to 240 minutes.

Continuous PI Control**EIS Type:**

EIS 6 (percent 0-100%, 1 Byte)

Transmission interval control variable:

Setting the transmission interval of control variable from 3 to 30 minutes.

Regulation-Type:

For execution of continuous PI-control, PI will be selected.

Heating/ Cooling-type:

There is the possibility to select predefined configurations or to enter values of **proportional region** and reset time manually.

Heating	Cooling
<ul style="list-style-type: none"> Hot water heating Electric heating Floor heating 	<ul style="list-style-type: none"> Cooling ceiling Split Unit

Proportional Region:

Adjusting the constant P part of PI control. Choices from 1 to 10 Kelvin.

Reset Time

Set the variable I portion of the PI control. Selections from 0 to 240 min

Two Point control

EIS type:

EIS 1 (switching, 1Bit)

Regulation-Type:

For execution of the two step control, two point will be selected.

Mode Setpoints

Figure 140: Job Editor - Modus Sollwerte

Comfort

Comfort temperature for heating is defined by the basic setpoint. Comfort temperature for cooling is indicated relatively to the basic setpoint.

Standby:

The value of standby refers relatively to the nominal setpoint of heating resp. Cooling; for heating the nominal setpoint will be reduced by this value, for cooling the nominal setpoint will be raised by this value.

Night Setback:

The value for night setback refers relatively to the setpoint for heating resp. cooling.

Frost-/Heat Protection (absolute):

The temperature for frost- or heat protection is specified absolutely in degrees Celsius, heating or cooling will be activated then automatically.

Hysteresis in °C (only for two point control):

The value of hysteresis defines, when RTR starts to heat. A value of 0,3 signifies, that RTR start to heat from a actual temperature of 19,7 °, in case of a predefined nominal temperature of 20° C. If reaching the nominal temperature, control variable will be resetted to 0.



APPLICATION EXAMPLE

eibPort LAN KNX/TP + EnOcean

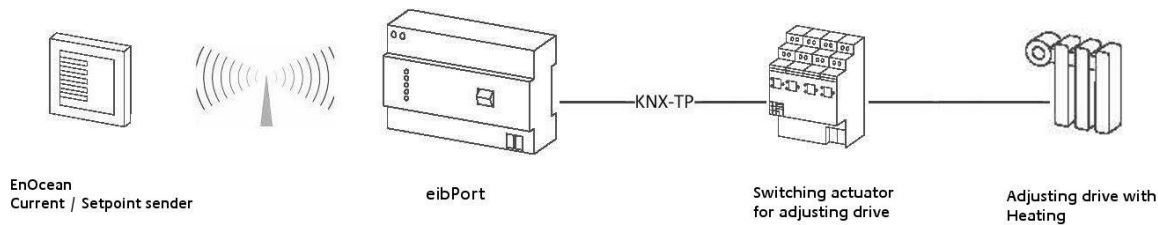


Figure 141: RTR job – application example



6.2.14 TIMERS (WEEKLY TIMER UND YEAR-TIMER)



EIBPORT contains a Weak- and a Year-Timer:

Week Timer

A 24-hour profil will be allocated to the subscribers. Beneath to the 7 days of week, you can parameterize additionally 3 special days. By a clicking the timeline, switch-on time will be entered, a double-click determines the desactivating point; three times of click will erase this point. Releasing of the weekly timer will be controlled by a connection to the year timer. In annual clock switching points are inactive, week modus and special days 1 to 3 were seated. Therewith the year timer decides on which days of month which configuration of week clock will take place. "W" for weekdays Monday to Sunday, S1 to S1 for the special days and "non-active" for no function at all.

Year Timer

Output type: Link to week timer (non EIS): Week clock, which is connected by a respective group address, will be controlled. On timeline of months you can configure which mode of week clock will be activated, "W" for normal week days, "S1 to S3" for the special days or "disable" for no function at all. First you choose the modus, after that, you place it on the month time line.

Output type Enable group address (EIS1): Annual clock is not being connected with a week clock. It activates or deactivates one or several subscribers by itself. For configuration state of "ON" or "OFF" will be chosen and will be placed as desired on the month time line. Clock will always switch at 0:00 clock on respective day.

Note: The year timer always switches at 12:00 a.m. Thus, all changes e. g. to a special day will not be applied before the beginning of the corresponding day.

Parameter*Detect leaps in time:*

In similar circumstances it will be possible, that a switching point will be skipped (by a new clocktime of a NTP server, for example). That will engender, that determined switches will not be performed. These kinds of leaps in time could be controlled optionally, so that a function will be ensured anyhow.

Overwrite:

In case control box is activated, no local operation is possible. Telegram value is determined exclusively by the timer.

Initiate:

If control box is activated, clock sends, after a phase of initialisation (e.g.: restart of EIBPORT, modification of the job parameters), the actual telegram value. If this function is not activated, telegram value will be sent only to the defined switching points.

Note: If the option "Initialise timer" is enabled in the job, the timer will immediately send its current state after each saving process. Depending on the extent of interconnection between the timer and other functions and the job, this can cause a temporary overload of the system! It is therefore recommended that you use this function sparingly.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.



6.2.15 SENDING/RECEIVING DATE AND TIME



Receiving

EIBPORT is able to receive time telegrams (EIS 3) and date telegrams (EIS 4) via EIB/KNX to set the internal system clock. If the clock drift of the EIBPORT system clock is too great, it is corrected. Enable objects can be issued. Time telegrams can also include the date; date telegrams can also include the time. The tolerable clock drift before the system clock is corrected is given in seconds.



Note: Alternatively, the internal clock can also be synchronised via an NTP time server. The connection data of the NTP time servers is entered in the ConfigTool under "Network settings". In this case the time information is retrieved automatically. This requires an internet connection.

Sending

The EIBPORT is able to send time telegrams (EIS 3) and date telegrams (EIS 4). Enable objects can be issued. The time interval between sending two telegrams (telegram pause) is given in seconds.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").



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As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.



6.2.16 ASTRO TIMER

The astro timer determines the different points in time that a defined sun position has. That way it is possible to move e.g. a blind every time at the same brightness resp. darkness doesn't matter if it is winter or summer. For the calculation a correct position and time information is been needed.



Figure 142: Astro timer - add new job

The astro clock job is offering a normal and for more experienced user a more sophisticated entry form. As output datatypes there are EIS 1, EIS 5, EIS 6, EIS 14 and EIS 15 available.

Stages of Twilight

During the transitions from night to day and from day to night people talk about twilight in general. It is a result of light reflection in the atmosphere and is longer in summer and in the winter shorter. In order to have better definability the sunrise- resp. sunset is separated into different twilight stages.

- *Geometric Twilight*
Defines the stage on which the sun is passing the horizon in the geometrical point of view. The sun is at 0 degrees, it is nearly daytime luminous.
- *Civil Twilight*
Is the center of the sun lying about -0.83 degrees below the horizon the civil twilight is beginning according to the definition. About this twilight stage it is spoken as long as -6 degrees are reached. For the reason that the light will be bent by the atmosphere it is as bright as to read the newspaper outside.
- *Nautical Twilight*
During this stage the light is shining fewer, and the brightest stars are eventually visible. Talking about this stage, the sun is between 6 and 12 degrees under the horizon.
- *Astronomical Twilight*
The sun is more than 12 degrees beyond the horizon. It is such dark that nearly all stars are apparent. The range for the astronomical twilight is lying between 12 and 18 degrees.
- *Night*
In astronomical point of view it is night when the center of the sun is less than 18 degrees of the horizon. During that stage it is completely dark and all stars are visible.

Unit of measurement for the solar altitude

The solar altitude is specified in arc minutes. Thereby 60 arc minutes complies to one degree.

- 1 degree = 60 arc minutes

The numerical values behind the twilight designations in the selection of twilight stages are showing off the limits of the twilight stages.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

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- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Position- and Time specification

In order to specify time and position for the astro timer job the EIBPORT can either revert to its adjusted location of installation or a manual input can be done. The location of installation can be changed in "System" > "Configuration" > "General" > Location of installation". Is this setting been used the EIBPORT identifies automatically the correct latitude and longitude (geographical center of the corresponding country) as well as the matching timezone. This data is displayed in a greyed out array in the job mask and is not adjustable. With a manual input there should be more experienced knowledge available about the facts. Additionally it is important to follow the syntax which is described in the mouse-over-help of "longitude" and "timezone".

Figure 143: Astro Timer - Global settings

ASTRO TIMER SIMPLE

When creating a new Astro Timer job there is appearing a choice where two different configurations mask can be selected. With the choice "Astro Time simple" you will reach the standard configuration mask of the job. Beside the previous mentioned essential position- and time specification it can be assigned a name and a gate object to the job. Below that the settings for sunrise and sunset are made:

Twilight Weekday

Please specify here at wich point in time from Monday to Friday should be sent something on the output. The point in time can be either determined through a choice of one of the twilight stages or by entering a time. When selecting a twilight stage the "Time" Button can be used to verify switching time of the current setting. By presetting a switching time in the "Time" – dialogue, in the entry array of the twilight stages



there will be entered an arc minutes value which correspond to the switching point of the current day instead of the twilight name.

Twilight Weekend

At this point the switching times for the two weekend days Saturday and Sunday will be set. This is happening similar to the settings about “Twilight Weekday”.

The screenshot displays the 'Astro Timer Simple' configuration window, divided into two main sections: 'Sunrise' and 'Sunset'. Each section contains a series of settings:

- Twilight Weekday:** A dropdown menu set to 'Geometric (0)' with a 'Time' button next to it.
- Twilight Weekend:** A dropdown menu set to 'Geometric (0)' with a 'Time' button next to it.
- Fixed Offset (min):** A numeric input field set to '0'.
- Random Offset (min):** A numeric input field set to '0'.
- Earliest Time:** A time selection field set to '00:00'.
- Latest Time:** A time selection field set to '23:59'.
- Output time weekdays:** A green bar with the value '17/1/0' and a right-pointing arrow.
- Output time weekend:** A green bar with the value '17/1/0' and a right-pointing arrow.
- Output address *:** A green bar with the value '17/1/2' and a right-pointing arrow.
- EIS-Type:** A dropdown menu set to 'EIS 1 (1 Bit)'.
- Value:** A numeric input field set to '0' for Sunrise and '1' for Sunset.

Figure 144: Astro Timer - Configuration Astro Timer Simple

Fixed Offset (min)

Specifies the time span in minutes that the switching time should be suspended forward or backwards. If the switching should happen earlier a negative value is to be entered and if the switching should happen later a positive value must be set.

Random Offset (min)

With this offset the really circuit time will be suspended for a random value later. In which period of time the random offset happens, can be set here in minutes. By this setting a presence simulation can be realised.

Earliest Time

This time intended from which point the output is allowed to be send earliest. This is to avoid switching time earlier than a certain point in time. For instance: Never earlier than 7 o'clock in the morning or 8'clock in the evening.

Latest Time

Over this time it is able to avoid switching time later than a certain point. For instance: Never later than 8 o'clock in the morning and 10 o'clock in the evening.

Output time weekdays

For each weekday the identified switching times will be sent out on this EIS 3 output object. It will be sent at 0 o'clock at the beginning of the day. The arrow symbol near the address input array allows to display an address matrix, or if happens before, to choose an address out of the ESF file of the ETS (please see “export ESF file out of the ETS”).

Output time weekend

For each day on the weekend the identified switching times will be sent out on this EIS 3 output object. It will be sent at 0 o'clock at the beginning of the day. The arrow symbol near the address input array allows to display an address matrix, or if happens before, to choose an address out of the ESF file of the ETS (please see “export ESF file out of the ETS”).

Output address

Required entries. On this output address the defined output will be sent at the determined time. The EIS type and the output value will be set in the arrays below it. The arrow symbol near the address input array allows to display an address matrix, or if happens before, to choose an address out of the ESF file of the ETS (please see “export ESF file out of the ETS”).

EIS Type

Determine the EIS type of the output. EIS 1, EIS 5, EIS 6, EIS 14 and EIS 15 are available.

Value

Determines the value of the telegram. The value must correspond to the configured EIS type.

ASTRO TIMER (COMPLEX)

The astro timer complex offers compared to the “astro timer simple” more enhanced features and a trigger object. To realise a simple astro timer function please use the job mask “astro timer simple”. Beside the above already mentioned and essential position and time information the job can be allocated a name and a gate object as ever. In addition there is the ability to enter an EIS 14 trigger object.

Trigger input

Over the trigger input it is able to trigger three special points in time which are configured later in the job mask. Also a linkage with the year-timer can be established over this object. The arrow symbol near the address input array allows to display an address matrix, or if happens before, to choose an address out of the ESF file of the ETS (please see “export ESF file out of the ETS”).

Configuration of Point in Time (PIT)

With this configuration there will be specified the points in time which should be used later in the “output configuration”. There can be set maximum 8 points in time. To set up a point in time it shall be marked in the list of “point in time” and configured as desired. The point in time should get a unique name. Example: If a blind is supposed to be moved at sunrise there should be entered 2 points in time; One for weekdays with the name “Sunrise_weekdays” and for weekend with the name “Sunrise_weekend”.

Figure 145: Astro Timer (complex) - Define Point in Time

Point in Time

Is showing the specified points in time by their names. To view the configuration of a point in time it just has to be marked by the mouse while the settings will be display in the corresponding arrays.

Description

Meaning the unique name that is given to the point in time. With the help of this name the point in time is beend identified at the output configuration.

**Source**

This is the point in time from which all further calculations are done (Offset etc.). Additionally it will be defined if it is about a sunrise, sunset, a sun peak or a fixed point in time.

Fixed time

If there is set the “fixed time” at the source choice a fixed point in time can be entered here. Otherwise this field is greyed out.

Twilight

With this choice the five twilight stages can be chosen. The reference point in time can be checked by using the button “Time” next to the “Twilight” menu. Behind the twilight stages the twilight value is been given in the unit arc minutes.

Time

With the Time button it is not only possible to view the point in time of the twilight stages, but also vice versa to enter the twilight value in arc minutes. In order to do that the desired time is entered into the time dialogue. After clicking “OK” at “twilight” arc minutes will be entered instead of the name. If you enter 06:15 am in the time dialogue for instance a twilight value of -570 arc minutes will be filled in. The calculated value alters of course from day to day.

Fixed Offset (min)

With this entry array the before selected reference point in time (source) will be shifted for specified amount of minutes. A negative value is setting the point in time earlier, a positive value sets it later.

Random Offset (min)

With this entry array the reference point in time can be delayed by a random amount of minutes. The settings are made within steps of 5 minutes. The random point in time is then lying somewhere within the delay time. With the help of this setting a presence simulation can be realised.

Earliest Active / Earliest Time

Earlier than this point in time the output is not been switched. E.g.: If a blind should never shut earlier than 07:30 o'clock am.

Latest Active / Latest Time

Determines the latest point in time at which the output is allowed to be triggered. E.g.: If a blind should never shut after 10:30 o'clock pm.

Output raw time

This EIS 3 output object is giving the absolute reference time (raw time). With this point in time neither fixed, random nor earliest or latest times are considered. So this is not necessarily the point at which the output telegram is been sent. The arrow symbol near the address input array allows to display an address matrix, or if happens before, to choose an address out of the ESF file of the ETS (please see “export ESF file out of the ETS”).

Output time

This EIS 3 output object is giving out the original point in time. In this time all offsets and the time limitations are considered. That is the point in time at which the telegram is been sent. The arrow symbol near the address input array allows to display an address matrix, or if happens before, to choose an address out of the ESF file of the ETS (please see “export ESF file out of the ETS”).

Output configuration

If all necessary points in time are specified in the list of “Configuration of Point in Time (PIT)”, they will be related with the outputs in this configuration area. There can maximum 48 outputs be set.

Output Configuration

List of Outputs

Output	EIS-Type	Value	Weekday	Saturday	Sunday
EIS 1 (1 Bit)	0	Inactive	Inactive	Inactive	Inactive

Buttons: Add new Output, Remove selected Output

Output address *

EIS-Type:

Value:

Just use triggers ☐

PIT Weekday:

PIT Saturday:

PIT Sunday:

Active: ☐

Trigger-Value:

PIT:

Trigger (e.g. Special day) 1 ☐

Trigger (e.g. Special day) 2 ☐

Trigger (e.g. Special day) 3 ☐

Figure 146: Astro Timer (complex) – Output configuration

List of Outputs

The created outputs will be shown in this table. Thereby the output address, the EIS type, the valency of output and the relation to the point in time will be displayed.

Add new Output

To add a new output must add a new entry will be added to the list. Is clicked, this happens in the button "Add Output". The list of outputs appears a marked entry "Unknown" and the input fields are activated below.

Output Address

Mandatory Array. In this array the proper output address is been entered. So please fill in the address of the object you want to control. The arrow symbol near the address input array allows to display an address matrix, or if happens before, to choose an address out of the ESF file of the ETS (please see "export ESF file out of the ETS").

EIS type

The EIS type of the output is been set. There are EIS 1, EIS 5, EIS 6, EIS 14 and EIS 15 available.

Value

It is determining the value of the telegram. The value must correspond to the preset EIS type.

PIT Weekday (PIT = Point in Time)

Within the output address it is specified which object /device is been controlled. The PIT choice appoints when the control is happening. In the menu the list of the before configured points in time is available. If the PIT is set to "inactive" there will be nothing executed. Example: Should the blind at sunrise weekdays use the configured point im time "Sunrise_Weekday", it must be chosen in this menu.

PIT Saturday / Sunday

With this both menus it is possible to specify the points in time for the weekend. Is it proposed that on weekend the same point in time as on weekdays should be valid, it would be easily related to the "weekdays-point in time". If there should be other point in time used on the weekend, they have to be configured first in the list of point in time.

Note: Save the outputs:

To save a configured output there must be clicked on "Add new output" again or an already defined output must be chosen in the list.



Remove selected output

To remove a selected output this one must be marked in the list (blue color).

Trigger Configuration

To use the trigger function resp. the linkage to the Year Timer a trigger address must be filled into the the input object of the job. The triggers will not appear in the “List of outputs” overview, but will only be visible if the corresponding entry in the list is been marked.

Linkage with the Year-Timer

In order to realise a connection to the Year-Timer the trigger object of the Astro Timer must be related to the output of Year-Timer. The Year-Timer provides provides the possibility to set the special days 1 to 3 on a calendar timeline (please see Job “Year-Timer”). It then initiates with the EIS 14 values 2 – 4 the complying trigger configuration of the Astro Timer. In the astro timer the trigger values are accordingly presetted.

Note: For each Astro Timer can be set maximum three trigger objects. If are more special points in time are required there must be created multiple Astro-Timers.

Trigger (e.g. Special day 1, 2, 3)

With this checkbox the trigger is enabled. The trigger is listening on the trigger address entered in the job mask.

Trigger-Value

In this entry array the EIS 14 value must be set from which the trigger should be forced to work with (0-255). For the linkage with the Year-Timer the following values are valid:

- Disabled = 0
- Week mode = 1
- S1 = 2 (S= Special day)
- S2 = 3
- S3 = 4

PIT (Trigger)

Like the normal output configuration every trigger has to be assigned a point in time. It is selected in the menu “PIT” and accesses to same the same list which is configured in the “Configuration of Point in Time (PIT)”.

Just use triggers

With the help of this checkbox it is determined if an output is only controlled by the triggers or if the trigger and the normal weekday/weekend configuration should run parallel. If this option is activated the point in time choice for weekdays and Saturday/Sunday will be disabled.



6.2.17 SEND EMAIL

With a telegram you are able to dispatching emails from EIBPORT to several recipients simultaneously.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Please note: E-mails will be sent via the set e-mail provider. Please create a valid e-mail provider first under "System" -> "Configuration" -> "e-mail provider". See chapter "[E-Mail](#)".

Input Group Addresses

This object (EIS1) starts the job, the email dispatch. Exactly conditions, for example shoulder ON, you can determine by using the menu "Send condition".

Value Group Address

With control characters you are able to outline the value of this object in the continuous text of the email. Exactly use of control characters see in [Appendix](#). You are able to calibrate your value with factor and offset.

Note: As soon as value object is entered, job data mask requires the entry of a control character in text. If no control character was filled in, job can't be stored.

Send condition

The dispatch of an email can be started with different conditions. Following choices can be done: „Change of shoulder“, „OFF“, Shoulder OFF“, „ON“, „Shoulder ON“, „ON or OFF“ and „Shoulder ON or OFF“.

eMail – Provider

This menu allows you to choose the email provider for sending your mail. A Mail provider you can set in *System > Configuration > email*. In doing so, the provider entries are listened from 00 to 99, whereas the provider „00“ and „01“ are presettet.

Type

This menu allows you to set the kind of sending for the corresponding addresses. In case you have chosen "not used" for this setting, the addressee will be disregarded.



Note: The "From Setting" (sender) is checked by some mail servers in order to prevent spam messages. There is no valid address, the e-mail is not sent. The "From Settings" can be made even if the e-mail provider settings under "System". There is also the possibility that "all by setting" to enforce, so that even when different entry in the job the right mask "from" - is used for address.

"Real" Name / eMail – Address

Name and email address have to be entered in this menu. If no name and no email address will be filled in at "sender", EIBPORT will use the address out of the configuration data of the email provider (from the ConfigTool).

Subject

This text will appear in the subject heading.

Text

Here you can enter your actually text of your email. To fill in values, control characters have to be entered. (see [Appendix](#))

Hints about the settings in the ConfigTool

To dispatch emails without any problems, you have to determine your email provider in the configuration tool configtool. (*System > configuration > email*). You can add your provider with the help of the menu bar „Append“, in which you have to fill in the settings according to the intentions of your provider. Consecutive numbering of the entries will be done automatically. The address or name of sender, you will enter in the configuration data, are used for the default setting of your job. This default setting will be applied, in case no name of sender or no sender address is entered there. (Settings for email provider, witch will be not required any more, can be erased by using menu bar „Remove“).

Note: Also verify that all network settings are correct. The EIBPORT has to have the correct DNS settings as well for the host name of the mail server address to be resolved correctly.

E-MAIL TO SMS

Besides the possibility to equip EIBPORT with a GSM modem (please ask to this BAB technical hotline or by info@bab-tec.de), the option exists to cause SMS reports by sending out of e-mails. For doing that, one e-mail will be sent to a mobile provider`s defined email-address, on which it will be transformed into a SMS and transmitted. To use this service and to find out the necessary e-mail address, please contact your mobile provider.



6.2.18 SMS SENDER

SMS Sender serves to send out SMS messages. That is only possible, if it is about one EIBPORT with GSM module/modem.

EIBPORT models with integrated GSM modem:

- Art.-Nr. 10304 EIBPORT KNX + GSM
- Art.-Nr. 13304 EIBPORT EnOcean + GSM
- Art.-Nr. 11304 EIBPORT Powernet KNX + GSM

Depending on existing equipment, the opportunity will be offered to upgrade your EIBPORT with a GSM modem. In this case please contact BAB technology hotline or write to info@bab-tec.de.

If a GSM modem was installed in your unit, you can check it in editor under menu item „Help“ – „Info GSM“. Furthermore a corresponding text will be displayed in the job mask („SMS“ / „SMS receiver“), in case GSM modem was not detected or no modem was assembled.



Figure 147: Editor – GSM info dialogue: GSM modem implemented



Figure 148: Job mask – GSM Modem not implemented / not detected

SETTING UP GSM MODEM

To ensure functionality of SMS Sender job, GSM modem has to be configured correctly in your unit. Thereto please change to “system” – “configuration” – „GSM settings“. Two data fields will be displayed:

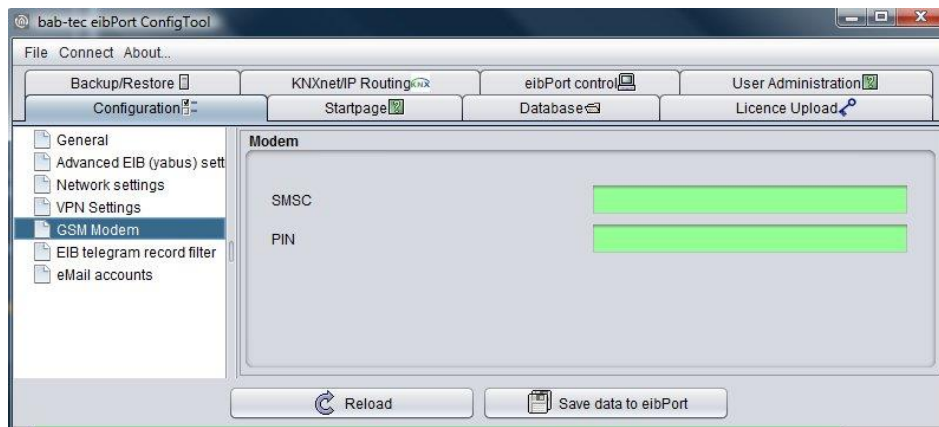


Figure 149: ConfigTool –GSM settings

- *SMSC* = At this place the number of used mobile telephone provider's SMS service center will be entered. Configuration software will read out this number automatically from inserted SIM-card. You don't have anything to enter! If no number is filled in, SIM-card was not detected correctly or no SIM-card was inserted. In case of doubt, please contact BAB-hotline or write us under info@bab-tec.de.
- *PIN* = At this place the PIN number of SIM-card has to be registered. You get the PIN-number combined with the SIM-card from your mobile telephone provider.

Please check out the equipment of your SIM-card in menu item „Help“ – „Info GSM“ of your editor (see above). All relevant SIM-card informations, complete with the reception strength, will be displayed there.

JOB CONFIGURATION

To create a new SMS Sender job, either button in the menu item job editor or a right click upon job container ("SMS Sender") on the left side can be applied. In case EIBPORT GSM modem was not installed, red lettering corresponding text appears in upper left corner of the job mask. Please check GSM modem as outlined above. In spite of it all, job can be configured and stored, but only its function is not available.

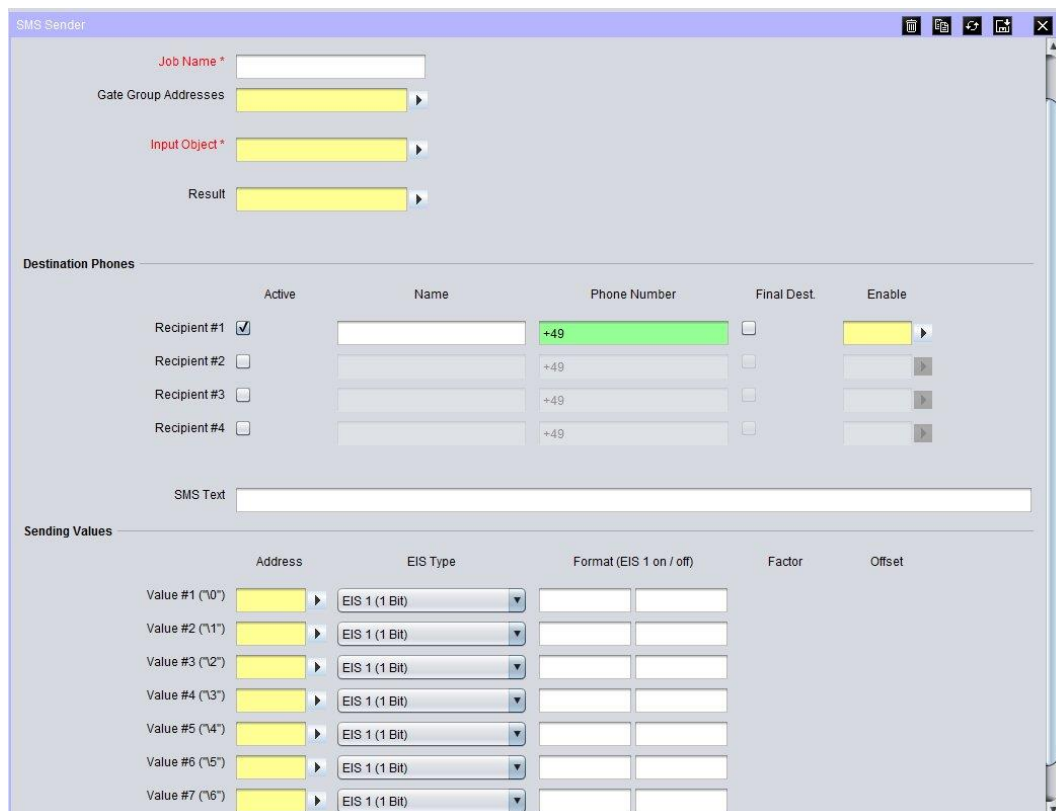


Figure 150: Jobeditor –SMS Sender

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Input Object

Required entry. Any telegram received here will trigger the job. The EIS type is not relevant. All enabled recipient are then proceeded except "Final Dest." is activated or the recipient is disabled by the corresponding gate group address ("Enable").

Result

By request job will give out status feedback over this EIS14 object. At that it will signify:

- *value 0* = SMS transmission is failed. Versand gescheitert
- *value 1* = SMS transmission to receiver # 1 is successful.
- *value 2* = SMS transmission to receiver # 2 is successful.
- *value 3* = SMS transmission to receiver # 3 is successful.
- *value 4* = SMS transmission to receiver # 4 is successful.

Configuration of Destination Phones

For every SMS Sender, 4 receivers can be defined in maximum. In case more receivers must notified, several SMS Sender jobs has to be applied. Each of entered SMS receiver gets the same short message. Basically list of receivers will be processed top down. The processing of all receivers starts on this entry, which was called over the input object. (see above). Each receiver offers following possibilities of configuration:



	Active	Name	Phone Number	Final Dest.	Enable
Recipient #1	<input checked="" type="checkbox"/>		+4917012345678	<input type="checkbox"/>	<input type="text" value=""/>
Recipient #2	<input checked="" type="checkbox"/>		+4917087654321	<input type="checkbox"/>	<input type="text" value=""/>
Recipient #3	<input type="checkbox"/>		+49	<input type="checkbox"/>	<input type="text" value=""/>
Recipient #4	<input type="checkbox"/>		+49	<input type="checkbox"/>	<input type="text" value=""/>

SMS Text:

Figure 151: SMS Sender – configuration of Destination Phones

Active

Receiver is activated for processing or disabled (greyed out) . For correct function, at least one receiver has to be activated.

Name

Optional. A name for respective receiver can be entered.

Phone Number

Please enter here the mobile number of the connection, which your SMS should reach. Please consider, that the mobile number has to be entered with the international standard country code. For Germany the international standard country code is „+49“. This code already is filled in automatically. If the mobile telephone connection is registered in other countries, standard country code has to be changed respectively. In case of doubt, please contact your mobile telephone provider of your target access. Behind country code the actual calling number will follow, but without the leading zero. Example: Calling number is a German telephone connection with the calling number 0170/12345678. The correct entry should be „+4917012345678“. According to that, the same calling number in Austria (+43) has to be „+4317012345678“.

Final Dest.

„Stop after success“. Optimal setting. If this control box of a receiver is enabled, SMS Sender job will stop dispatching (only in case of successful SMS sending), even if further valid receiver would follow on the list.

Enable

Optional. This object offers the opportunity for seperately releasing or locking every receiver again. This release object acts as well as the global release object of the job (EIS 1 object).

- *Field blank* = Job released
- *Field completed, value 1* = Job released
- *Field completed, value 0* = Job locked
- *Field completed, no value* = Job locked

SMS text

Fill in SMS text at this place. At the minimum 1 digit has to be entered. Maximum length is 160 digits. This text will be sent to all receivers (if accordingly configured and activated). By wildcards of value objects (\0, \1, \2, \3, \4, \5, \6, und \7), respective values could be inserted dynamically in the text (see below).

Configuration of Sending Values

SMS text not only can be completed with static text, but also filled in dynamically by value objects, as desired. Altogether 8 value objects are possible. To integrate value objects in text, control characters are necessary. These are defined as follows:

- *Value #1* = control character „\0“ (without quotation marks)
- *Value #2* = control character „\1“ (without quotation marks)
- *Value #3* = control character „\2“ (without quotation marks)
- *Value #4* = control character „\3“ (without quotation marks)
- *Value #5* = control character „\4“ (without quotation marks)
- *Value #6* = control character „\5“ (without quotation marks)
- *Value #7* = control character „\6“ (without quotation marks)

- *Value #8* = control character „\7“ (without quotation marks)

To place value objects in text, simply fill in respective control character to the place in SMS text, where the value of the object should be represented. The control character is the wild card of value and format, which the value object currently will possess. Example will follow further down. The other fields of value object configuration contents the following:

	Address	EIS Type	Format (EIS 1 on / off)	Factor	Offset
Value #1 ("0")	1/1/0	EIS 1 (1 Bit)	Livingroom	-	
Value #2 ("1")	1/1/1	EIS 1 (1 Bit)	Bedroom	-	
Value #3 ("2")	1/1/2	EIS 1 (1 Bit)	Terrace	-	
Value #4 ("3")	1/1/3	EIS 1 (1 Bit)	Bath	-	
Value #5 ("4")	1/1/4	EIS 1 (1 Bit)	WC	-	
Value #6 ("5")	1/1/5	EIS 1 (1 Bit)	Hobby room	-	
Value #7 ("6")	1/1/6	EIS 1 (1 Bit)	Kitchen	-	
Value #8 ("7")		EIS 1 (1 Bit)			

Figure 152: SMS Sender –configuration of value objects

Address

Please fill in the group address of the value object. Following EIS types are possible (see also drop-down menu of „EIS type“):

- EIS 1 (1 Bit)
- EIS 5 (2 Byte FP)
- EIS 6 (1 Byte)
- EIS 9 (4 Byte FP)
- EIS 10s (2 Byte Value)
- EIS 10u (2 Byte unsigned Value)
- EIS 11s (4 Byte Value)
- EIS 11u (4 Byte unsigned Value)
- EIS 14s (1 Byte signed)
- EIS 14u (1 Byte unsigned)
- EIS 15 (14 Byte Text)

Format (EIS 1 ein/aus)

Depending on selected EIS type, data format of incoming value can be defined. Correct formats will already be predefined after selecting the data type and can be changed partially. Thereby it is valid:

- *EIS 1* = 1 Bit value. Instead of value 1 or 0, for example texts “ON” or “OUT” can be used.
- *EIS 5* = 2 Byte Floating Point value. This value will be predefined with specification „%f“. Between % and “f”, it can be additionally defined, how many digits before and after comma transmitted value should have. Thereby it is valid: Any number defines the quantity of digits, for example “%5.2f” = 5 digits before and 2 digits after comma. A hash “#” designates one optional digit, which will only be shown, if this digit would have a value indeed. For example “%3.#” = 3 digits before comma, but only one digit behind comma, if existing anyway.
- *EIS 6* = 1 Byte percentage value. The value is predefined with specification „%d“. „d“ stands for decimal numbers with signs. It is about one percentage value, which only can be outlined decimally. To insert one percentage value, two percentages have to be integrated in a row “%d%”
- *EIS 9* = 4 Byte Floating Point value. It will be formatted with “%f” as well. See EIS 6.
- *EIS 10s* = 2 Byte decimal number with sign (negative and positive values). This value will be formatted with „% d“ as well. See EIS 6
- *EIS 10u* = 2 Byte decimal value without sign. This value will be formatted with „%u“. It is about a decimal value without sign.
- *EIS 11s* = 4 Byte decimal value with sign (negative and positive values). Formatting: see EIS 10u.
- *EIS 11u* = 4 Byte decimal value without sign. Formatting: see EIS 10u.
- *EIS 14s* = 1 Byte decimal value with sign (negative and positive values). Formatting: see EIS 10u.
- *EIS 14u* = 1 Byte decimal value without sign. Formatting: see EIS 10u.



- *EIS 15* = 14 Byte text value (up to 14 digits of text) The value automatically is predefined with „%s“ This format stands for a character string by which arbitrary text can be transmitted.

Factor / offset

In data types EIS 5 and EIS 9 the possibility exists to format values with „factor“ and „offset“. In this case the value will be multiplied with factor and added up with offset. By default these value are predefined with „factor = 1“ and „offset = 0“

Example

State of windows by leaving the house.

EIBPORT should inform you by SMS, if you leave the house und one window is still open. Thereto SMS Sender job will be actuated by a logical connection („or“), which sends to your output, if one of the windows is still open in house. Configure one receiver at least (“configuration of receivers”) and enter group addresses of window contacts (max. 8 per job) in the value objects under “value sending”. Select data type EIS 1 and fill in for format of “ON” the name of the room, for example “living room” and for state “Out” one “-” (hyphen) . Insert in data field “SMS text” a text like „Leaving house, windows are still open: \0, \1, \2, \3, \4, \5, \6, und \7“. Depending on the state of particular value objects` group addresses, either text for the state “ON” or for the state “OFF” will be entered instead of the wildcards (\1, \2, \3, \4, \5, \6, \7). SMS text also could be read for example: Leaving house, windows are still open: -, -, -, terrace, -, lavatory, -, open.”

The screenshot shows the 'SMS Sender' configuration window. It includes fields for 'Job Name', 'Gate Group Addresses', 'Input Object', and 'Result'. Below these is a table for 'Destination Phones' with columns for 'Active', 'Name', 'Phone Number', 'Final Dest.', and 'Enable'. There are four rows for 'Recipient #1' through '#4'. Recipient #1 and #2 are active and have phone numbers entered. Below the table is a text field for 'SMS Text' containing the message: 'Leaving house, windows are still open: \0, \1, \2, \3, \4, \5, \6, \7'. At the bottom is a table for 'Sending Values' with columns for 'Address', 'EIS Type', 'Format (EIS 1 on / off)', 'Factor', and 'Offset'. There are seven rows for 'Value #1' through '#7', each with a specific address and format.

Value	Address	EIS Type	Format (EIS 1 on / off)	Factor	Offset
Value #1 ("0")	1/1/0	EIS 1 (1 Bit)	Livingroom	-	
Value #2 ("1")	1/1/1	EIS 1 (1 Bit)	Bedroom	-	
Value #3 ("2")	1/1/2	EIS 1 (1 Bit)	Terrace	-	
Value #4 ("3")	1/1/3	EIS 1 (1 Bit)	Bath	-	
Value #5 ("4")	1/1/4	EIS 1 (1 Bit)	WC	-	
Value #6 ("5")	1/1/5	EIS 1 (1 Bit)	Hobby room	-	
Value #7 ("6")	1/1/6	EIS 1 (1 Bit)	Kitchen	-	

Figure 153: SMS Sender – sending out state of windows by leaving the house



6.2.19 SMS RECEIVER

SMS receiver job accepts SMS reports and releases telegrams after that. This only will be possible, if it is about a EIBPORT version with GSM module / modem.

EIBPORT models with integrated GSM modem:

- Art.-Nr. 10304 EIBPORT KNX + GSM
- Art.-Nr. 13304 EIBPORT EnOcean + GSM
- Art.-Nr. 11304 EIBPORT Powernet KNX + GSM

Depending on existing equipment, the opportunity will be offered to upgrade your EIBPORT with a GSM modem. In this case please contact BAB technology hotline or write to info@bab-tec.de.

If a GSM modem was installed in your unit, you can check it in editor under menu item „Help“ – „Info GSM“. Furthermore a corresponding text will be displayed in the job mask („SMS“ / „SMS receiver“), in case GSM modem was not detected or no modem was assembled.



Figure 154: Editor – GSM info dialogue: GSM modem implemented



Figure 155: Job mask – GSM Modem not implemented / not detected

SETTING UP GSM MODEM

To ensure functionality of SMS Sender job, GSM modem has to be configured correctly in your unit. Thereto please change to “system” – “configuration” – „GSM settings“. Two data fields will be displayed:

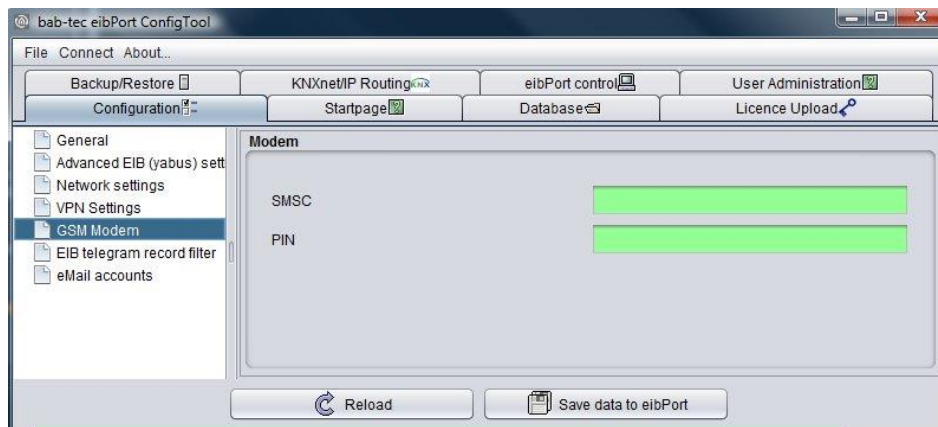


Figure 156: ConfigTool –GSM settings

- *SMSC* = At this place the number of used mobile telephone provider`s SMS service center will be entered. Configuration software will read out this number automatically from inserted SIM-card. You don`t have anything to enter! If no number is filled in, SIM-card was not detected correctly or no SIM-card was inserted. In case of doubt, please contact BAB-hotline or write us under info@bab-tec.de.
- *PIN* = At this place the PIN number of SIM-card has to be registered. You get the PIN-number combined with the SIM-card from your mobile telephone provider.

Please check out the equipment of your SIM-card in menu item „Help“ – „Info GSM“ of your editor (see above). All relevant SIM-card informations, complete with the reception strength, will be displayed there.

JOB CONFIGURATION

To create a new SMS receiver job, either button in menu item job editor or a right click on job container („SMS receiver“) on the left side can be used. In case EIBPORT GSM modem is not installed, respective information in red lettering appears in top left corner of job mask. Check GSM modem as outlined above. In spite of it all, job can be configured and stored, but only its function is not available.

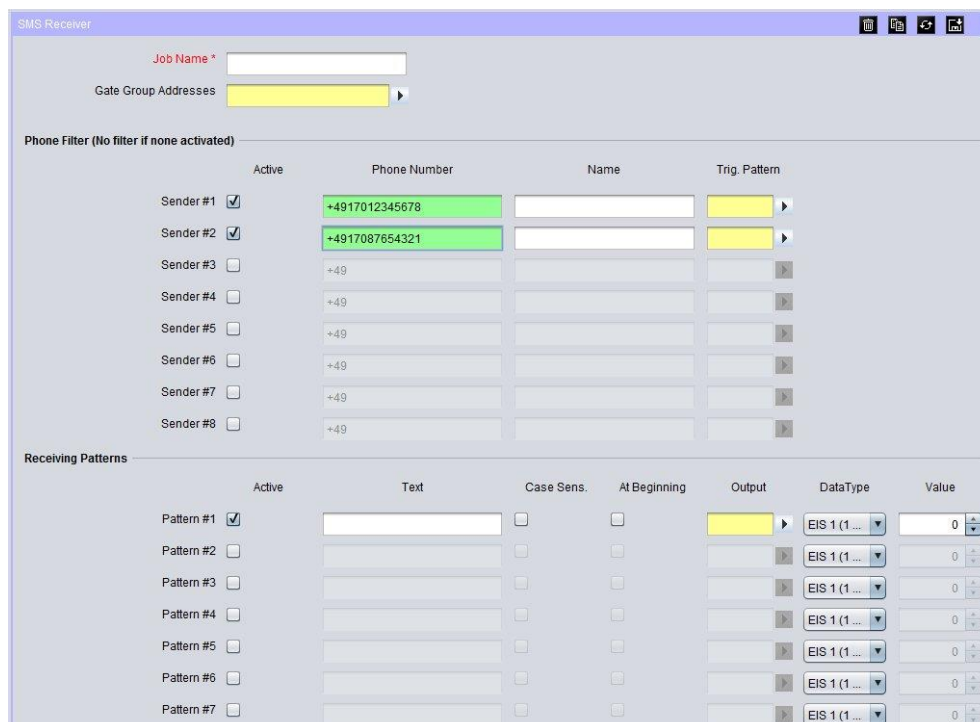


Figure 157: Job editor –SMS receiver

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Address field

If one address field is marked in yellow, no valid group address was entered before. You can enter one group address by keyboard or by ESF-dialogue, which will be opened by pressing the arrow symbol beside the input array. There you can easily choose the address out of previously imported ETS-data. (For further information see chapter ETS).

Configuration of Phone Filter

With the help Of a sender filter, only particular calling numbers can be permitted for the service, if requested. Only these calling numbers will be able to actuate telegrams then. For every job, up to 8 different calling numbers (sender) can be entered. If no sender will be defined, service will be released independently of the sender`s calling number.

	Active	Phone Number	Name	Trig. Pattern
Sender #1	<input checked="" type="checkbox"/>	+4917012345678		
Sender #2	<input checked="" type="checkbox"/>	+4917087654321		
Sender #3	<input type="checkbox"/>	+49		
Sender #4	<input type="checkbox"/>	+49		
Sender #5	<input type="checkbox"/>	+49		
Sender #6	<input type="checkbox"/>	+49		
Sender #7	<input type="checkbox"/>	+49		
Sender #8	<input type="checkbox"/>	+49		

Figure 158: SMS Receiver – configuration of sender-filter

Active

By use of the check box, sender entries will be activated. Registered values will only be disabled (greyed out), not erased.

Phone Number

Please fill in here desired sender phone number, which should be allowed to actuate this job. Please consider, that phone numbers have to be entered in international form with standard country code. The country code of Germany is "+49". This code already is filled in automatically. If the mobile telephone connection is registered in other countries, standard country code has to be changed respectively. In case



of doubt, please contact your mobile telephone provider of your target access. Behind country code the actual calling number will follow, but without the leading zero. Example: Calling number is a German telephone connection with the calling number 0170/12345678. The correct entry should be „+4917012345678“. According to that, the same calling number in Austria (+43) has to be „+4317012345678“.

Name

Optional. A name for the respective sender can be entered.

Trig. Pattern

To the registered group address, a telegram with the index number of respective reception pattern (see below), which the sender has released with his SMS, will be transmitted. Index number of reception pattern you will find in the configuration fields under menu item “reception pattern”. It is about an EIS 14 (1byte) object.

- *Reception pattern #0* = value 0
- *Reception pattern #1* = value 1
- *Reception pattern #2* = value 2
- *Reception pattern #3* = value 3
- *Reception pattern #4* = value 4
- *Reception pattern #5* = value 5
- *Reception pattern #6* = value 6
- *Reception pattern #7* = value 7
- *Reception pattern #8* = value 8
- *Reception pattern #9* = value 9
- *Reception pattern #10* = value 10
- *Reception pattern #11* = value 11
- *Reception pattern #12* = value 12
- *Reception pattern #13* = value 13
- *Reception pattern #14* = value 14
- *Reception pattern #15* = value 15

Configuration of reception pattern

In every SMS-receiver job up to 16 reception patterns can be applied. In the reception pattern the text it is defined, which has to exist in the SMS message to the EIBPORT for initiating action. So the text “ON” can release one switching, for example. One reception pattern has to be defined at least.

Aktiv

By the check-box, respective registered reception pattern will be enabled. Registered values will only be disabled (greyed-out) by removing the hook, not erased.

Text

At this place fill in the text, which should initiate action on EIBPORT. The text can contain up to 160 digits and will be compared with the incoming SMS. Depending on adjustment, notation (using of small and capital initial letters) will not be considered and it will be sufficient, if comparative text occurs in the SMS anywhere. Text also will be compared, if SMS with excess length will be received.

Case Sens.

If this check-box is enabled, by comparison of SMS with registered text, strictly will be paid attention on the notation. In case that in text was entered “ein” and the SMS contains „Ein“, no successful accordance will be reached. If check-box is not enabled, accordance will be reached, no matter how which letters are written in upper or lower case.

At Beginning

By activating, the received SMS has to coincide from the beginning of the sentence with the registered text. If this option is disabled, it will be enough, when the text occurs in SMS anywhere. For example: The reception pattern is “Light on” and “From beginning” is not enabled, SMS can also be read “switch on the light”. But if “From beginning” is enabled, text has to be read “Light on”.

Output

At this place fill in the group address, on which a telegram will be transmitted, if the SMS message coincides with the reception pattern. It is about data type EIS 14 (1 byte). Value of telegram will be defined in following data field "value" (EIS 14 1byte = 0-255). So you can utilize the same group address for all 16 reception patterns by using a different value only.

Example

Switching lights

For example, you fill in the text „light living-room on“, an arbitrary virtual group address (basic group 16-31) for connecting with a logical job, and you enter value „1“ in the first reception pattern. Let check-boxes „upper- and lower case“ and „from beginning“ deactivated. After that, enter a reception pattern for switching off the light by following the same manner. According to that fill in as text „light living-room off“ and as value „0“. Use the same virtual group address right there as in the event of switching the light on. The job will send in case of respective SMS the value „0“ or a „1“ to virtual group address. Lead this virtual group address to one logical job with input and „AND“ conjunction. Output of this logical circuit is the real group address, which should switch desired light. Furthermore job has to be configured with „always sending“ and „Sending all values“. After receiving the correct text, SMS receiver will release the virtual group address, which in turn will release real switching over the logical job.

	Active	Text	Case Sens.	At Beginning	Output	DataType	Value
Pattern #1	<input checked="" type="checkbox"/>	Light Livingroom on	<input type="checkbox"/>	<input type="checkbox"/>	16/1/1	EIS 1 (1 ...)	0
Pattern #2	<input checked="" type="checkbox"/>	Light Livingroom off	<input type="checkbox"/>	<input type="checkbox"/>	16/1/1	EIS 1 (1 ...)	0
Pattern #3	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		EIS 1 (1 ...)	0

Figure 159: SMS receiver – configuration for switching the light

	Input	Operation	Output
Input Number 1	16/1/1	AND	2/1/1
Input Number 2		Send on edge	
Input Number 3		Send always	
Input Number 4		Calculation on Enable	
Input Number 5			

Figure 160: Logic for switching the light



6.2.20 LINKING FACILITIES

The "System coupling" service can be used to transmit group address telegrams from one BAB device to another via a UDP Unicast connection. Thanks to the Unicast connection, communication via network domains can be established at a lower cost than would be the case with a KNXnet/IP routing connection. System coupling is currently supported by the following BAB devices:

- EIBPORT
- FACILITYMASTER
- LINKMODULE
- APPMODULE extension
- DUODMX GATEWAY extension (receiving only)

Note: Communication with system coupling is group address-based. Physically addressed telegrams will not be transmitted. Programming of KNX devices using the ETS is not possible via system coupling.

Using system coupling via BAB SECURELINK provides added security with respect to the connection. See chapter [BAB SECURELINK](#).

Requirements

The following requirements must be met to enable a connection between BAB devices:

- Complete network settings in both devices (Standard Gateway, DNS)
- Free communication on UDP port 1735
- Fixed external address of the target device (fixed IP address / dynamic DNS address / VPN IP)
- Set up and enabled SECURELINK connection if desired

Note: To receive system coupling telegrams no settings have to be made in the opposite device.

Parametrization

Parametrization of facility linking will be done by the integrated job editor – job "Linking facilities". All parameters always be parameterised out of the sight of local EIB-installation in direction to aimed EIB-equipment.

- Should the EIB installation 1 be connected with one EIB installation 2 and reverted, so you have to configure always the service "Linking facilities" in both EIBPORT s.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*



As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Hostname / IP-address

Hostname or IP-address from the destination EIBPORT of the facility linking. (As soon as DNS of EIBPORT will be supported, name of destination EIBPORT could be entered here).

Get Host by name instantly

- *enabled*: by starting the EIBPORT resolution of name happens immediately.
- *disabled*: Name resolution only takes place by activating the job.

Always get host by name

- *enabled*: Every start of the job will cause the name resolving again (only useful by dynamic resolution).
- *disabled*: Hostname will only resolve by the first start of the service.

Allow loop backs

- *enabled*: Permits loopbacks via LAN
- *disabled*: Loopbacks via LAN will be suppressed.

Connection type

- *Direct (LAN)*: Equipment linkage via Ethernet.

Target system ID

Can currently only be used for EIBPORT and FACILITYMASTER. Unique KNX system ID (0 - 25) (no entry: Target system ID = 0)

Rules / transformations

The transmission rules can be used to filter and transform communication to the opposite device. In this way, real group addresses from the source world can, for example, be transformed into virtual addresses (see below) in the target world to avoid unnecessary workloads or overlapping group addresses. When entering the rules, wild cards can be used. The "*" symbol is used as wild card. Depending on its position (before or after the "/"), the "*" represents the KNX main group or sub-group.

Rule	Meaning
//* -> */*/*	All main groups and sub-groups of KNX system 1 are coupled 1:1 into KNX system 2. Important: In the target world, all incoming telegrams (from the real address range) are sent on KNX again!
6/*/* -> 6/*/*	All group addresses of main group 6 of KNX system 1 are coupled into main group 6 of KNX system 2.
7/*/* -> 17/*/*	All group addresses of main group 7 of KNX system 1 are coupled into the virtual main group 17 of KNX system 2. <ul style="list-style-type: none">▪ This prevents overlapping group addresses!
//1 -> */*/1	The addresses 0/0/1; 1/1/1; 2/2/1...32/7/1 are coupled into KNX system 2

Virtual group addresses

Virtual group addresses are the main groups 16-32 They are only available in EIBPORT and they are not transferred to the KNX interface. Virtual group addresses can be used with system coupling to avoid unnecessary workloads and overlapping group addresses.

Note: No settings have to be made in the opposite device to receive system coupling telegrams.



SYSTEM COUPLING VIA BAB SECURELINK

If system coupling is established via BAB SECURELINK, communication between the two system parts is safe from interception. To do this, please proceed as described below.

- Define VPN server and VPN client.
- Initialise VPN server in both devices (see chapter [Initialising VPN SSL server](#))
- Establish SECURELINK from client to server (see chapter [Establishing SECURELINK connection](#))
- Establish system coupling specifying the VPN IP addresses (!)

If the VPN IP addresses are specified, the system coupling communicates via the secured SECURELINK tunnel.



6.2.21 UDP-SENDER

According to its input object, this job sends UDP-datagrams to LAN subscribers. For example to IR-trans devices.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Input group address

Value of input object determines which of max. 8 UDP datagrams will be sent by receiving. If EIS 1 (1 bit) or EIS 14 (8 bit) is used will be automatically interpreted, see „input/trigger value“.

Value object

The value object is used to transmit a portion of the data can change dynamically. The telegram value of the object is entered instead of a control character in the transmit data. Which control characters must be used for what type of data is in the chapter "control characters" described in the Appendix. The data type and factor / offset can be set right next to the field value object.

Hostname/IP-address

Address, to which UDP datagrams are sent, it can either be entered a IP address or a DNS address. By using of a DNS address, you have to consider, that elimination of name is warrented. .

**Get host by name instantly**

- *active*: by starting the EIBPORT resolution of name happens immediately.
- *inactive*: Name resolution only takes place by activating the job.

Port number

In this data field portnumber of recipient will be entered. It has to be ensured, that sender and recipient are able to communicate on the same port.

Note: Please check the port settings of the receiver. If necessary a forwarding by router has to be enabled. IR-Trans LAN always uses Port 21000. This setting cannot be changed!.

Command mode

Here you can choose the command mode. In mode "ASCII" data will be sent in ASCII code. In case of entry "disabled" corresponding line will not be handled. In command mode "HEX" transmit data have to be annotated hexadecimal.

Wildcard

In case the entry is active, value of trigger will not be considered. Datagram will be sent after every received value in input object.

Trigger value (EIS1 or EIS14)

By different values of trigger you can control, which line, and therewith which UDP telegram, will be handled.

For example: In case input object of type EIS 14 with value 147 will be received, EIBPORT sends UDP datagrams with „input/triggervalue“ 147. Range of values of input/trigger value is 0 –255 (EIS 14)

Data to send

In this data field data/commands for sending will be entered. If command mode ASCII is chosen, data have to be entered accordingly, in command mode HEX hexadecimal data will be required. Which data have to be entered, depends on function of target system.

Syntax for sending data of the IR-Trans

Within the IR-Trans a new remote control called „squeeze“ together with the corresponding commands is applied. Aim is to control a Squeezebox device. The name of the On/Off command is „power“. So the following syntax for sending data has to be used:

„snd squeeze,power“

The basic syntax is „snd <remotecontrol name>,<remotecontrol name>“. It is important that there is no blank before and after the comma between name and command.



6.2.22 UDP RECEIVER

Implemented since firmware 3.3.0

This job triggers any telegrams in KNX according to previously defined contents of specific UDP network packets. Thus, in conjunction with the job "UDP sender", a bidirectional connection of UDP-based applications with the EIBPORT and thus the KNX system is possible.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Enable object

The enable object enables or disables the job. It is an EIS 1 object:

- *Group address not assigned* = job enabled
- *Group address entered, value 1* = job enabled
- *Group address entered, value 0* = job is disabled
- *Group address entered, no value* = job is disabled

As soon as an address is entered into the field, the enabling will respond according to the value of the group address. If no value has yet been sent to the address, i.e. it is without value, the job is disabled.

Port

Enter here the port number on which the desired application is to send your UDP data to the EIBPORT: 1-65535.

Protocol analysis

Packet encoding

Select the character encoding which was used to encode the incoming packet. The following is available:

- *ISO-8859-1*: character encoding which is used, for example, by Windows systems
- *UTF-8*: character encoding used by other systems, e. g. Linux, MAC.

If you use the wrong character encoding, the special characters of a message will not be interpreted correctly. You can see which encoding was used by consulting the sending application.

Define hits

With this selection you define which content of the desired packet is to trigger one or several KNX telegrams. You have the following options:

- *via ASCII protocol analysis (1 hit)*: Use an analysis tool ("UDP Packet Analysis Tool") to be able to define the desired packet content as text (ASCII). The analysis tool opens after you have pressed the "Start" button. (For description of the analysis tool see below). In this mode, you can define ONE hit. Create several jobs, if several hits are required.
- *via binary protocol analysis (16 hits)*: Use an analysis tool ("UDP Packet Analysis Tool") to be able to define the desired packet content as binary code. The analysis tool opens after you have pressed

the "Start" button. (For description of the analysis tool see below). In binary mode, you can define 16 hits. Use additional jobs, if more than 16 hits are required.

- *via manual regular expression (16 hits):* If you want to use your own regular expressions, you can use this function. The configuration mask for regular expressions is enabled when you select this function. The hits are marked with brackets ("()") and numbered from the left to the right. Up to 16 hits can be defined.

ASCII PROTOCOL ANALYSIS – UDP PACKET ANALYSIS TOOL

The UDP Packet Analysis Tool for ASCII protocol analysis enables you to record the datagram received, to define the desired packet content based on ASCII and to link it with a group address. The link will be automatically entered into the job mask. Only 1 hit per job is possible.

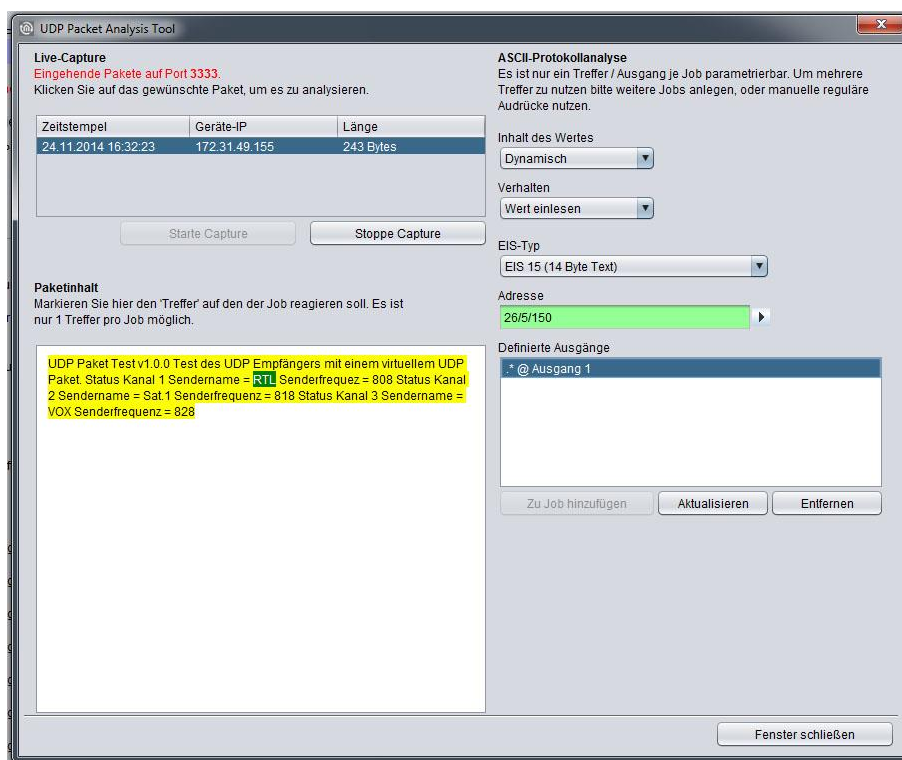


Figure 161: ASCII protocol analysis

Live Capture

This section lists the incoming UDP packets on the port number specified in the job mask. The specified port number is shown in red "*Incoming packets on port XXXX*". The buttons below this list can be used to start or stop packet recording (capture). The recording function is automatically enabled when the analysis tool is started.

Packet content

To view the content of a packet, highlight the desired packet in the Live Capture list. Then, highlight the desired packet content using the mouse cursor.

Content of the value

Define whether the highlighted content is Static or Dynamic.

Behaviour

Determine how the program is to proceed if the highlighted content is included in a UDP packet.

- *Read value:* The highlighted value or the value which appears instead of the highlighted value, is read and sent to the appropriate group address.
- *Report hits:* If the highlighted value exists, a previously defined value is sent to the group address. If this option is selected, the field "Value sent on hit" appears.



EIS type

Determines the EIS type of the defined output. The following types are available:

- *EIS 1* = 1 bit value.
- *EIS 5* = 2 byte floating point value.
- *EIS 6* = 1 byte percentage value.
- *EIS 9* = 4 byte floating point value.
- *EIS 10u* = 2 byte decimal value without sign.
- *EIS 11u* = 4 byte decimal value without sign. Formatting: see *EIS 10u*
- *EIS 14u* = 1 byte decimal value without sign.
- *EIS 15* = 14 byte text value (up to 14 text characters).

Address

Address field to define the group address to which the output is to send (for behaviour of the address field, see above).

Defined outputs

This section displays the previously configured outputs. The following syntax is applied:

[hit content]@[output number]

- [hit content] An "" indicates that the content is dynamic (see "Content of the value"). A specific character string (e. g. "ON") indicates the static content which has been defined.
- [Output number]: Indicates for which output number the hit was configured.

Example: `.*@output 1` means that dynamic content has been configured for output 1. Use the "Add to job" button to load the current output configuration into the job. Administrate the list via "Update" and "Remove".

BINARY PROTOCOL ANALYSIS – UDP PACKET ANALYSIS TOOL

The UDP Packet Analysis Tool for binary protocol analysis enables you to record the datagram received, to define the desired packet content based on binary code and to link it with a group address. The link will be automatically loaded into the job mask. 16 hits per job are possible.

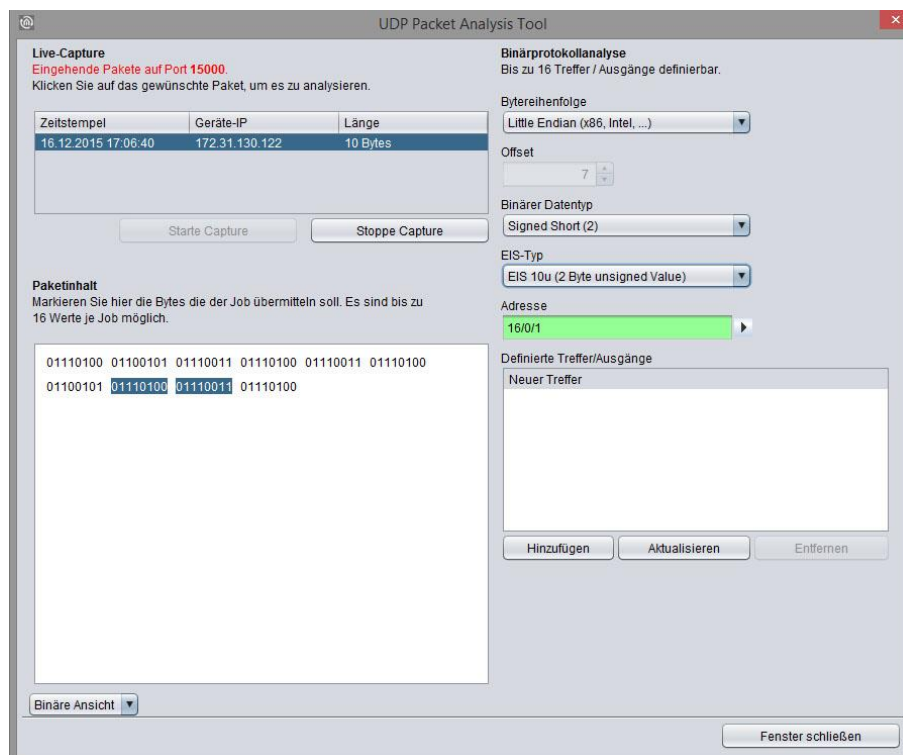


Figure 162: UDP receiver – binary packet analysis

**Live Capture**

See "ASCII protocol analysis"

Packet content

To view the content of a packet, highlight the desired packets in the Live Capture list. Then, highlight the desired packet content using the mouse cursor.

Endianness

The selected byte order determines how binary contents of 2 and 4 bytes are interpreted for conversion to KNX data types.

- *Little Endian (x86, Intel, ...)* = least significant byte is stored at the first location
- *Big Endian (ARM, Motorola, Power PC, ...)* = most significant byte is stored at the first location

Offset

Display element Shows the non-highlighted bytes calculated from byte 0.

Binary data type

Depending on the bytes highlighted in the packet content, all binary data types which can be selected will be shown. It is important that the correct selection is made so that the value is correctly interpreted for further use (with / without sign, floating point number etc.)

EIS type

See "ASCII protocol analysis"

Address

See "ASCII protocol analysis"

Defined outputs

See "ASCII protocol analysis"

Note: When you close the "UDP Packet Analysis Tool", the packet content information will be lost. When you re-open the window, the output (hit) information will still be available but for the packet content to be shown again and for the highlighted strings to be shown again, the packet has to be re-sent.

MANUAL REGULAR EXPRESSION

A regular expression is used to filter the content of the packet and transmit the result to one of the outputs. A regular expression is a string of characters in which the different characters have different filter functions. Please refer to the internet, for information on the functioning of regular expressions.

Regular expression

Enter the desired expression here. In the regular expression, each "hit / output" is represented by a group. A group is within (). In addition, the following flags can be used for the filter:

- *Case Insensitive:* Upper-case and lower-case letters are treated as being the same.
- *Multiline:* Has to be enabled if the expression is to span several lines.
- *Ungreedy:* Instead of looking for as many matches as possible ("greedy"), filtering stops after the first match is found.
- *Dot All:* If enabled, the expression "." also ignores the end of lines. This is useful in connection with "multiline" and a hit over any number of lines.
- *Extended:* Activates extended functions which enable the filtering of comments in complex texts.

Number of hits

Select here the number of hits / output fields which are to be enabled for configuration.

Hit / output #1 - #16

Define here the group address, EIS type and mode for the corresponding hit which is represented by () in the regular expression.

**EIS type**

See "ASCII protocol analysis"

Mode

See description on "Behaviour" under "ASCII protocol analysis"

EXAMPLE

An example for a configuration with regular expressions using XML data of the openweathermap API:

SML data:

```
<current>
<city id="2643741" name="City of London">
  <coord lon="-0.09" lat="51.51"/>
  <country>GB</country>
  <sun rise="2015-06-30T03:46:57" set="2015-06-30T20:21:12"/>
</city>
<temperature value="72.34" min="66.2" max="79.88" unit="fahrenheit"/>
<humidity value="43" unit="%"/>
<pressure value="1020" unit="hPa"/>
<wind>
  <speed value="7.78" name="Moderate breeze"/>
  <direction value="140" code="SE" name="SouthEast"/>
</wind>
<clouds value="0" name="clear sky"/>
<visibility value="10000"/>
<precipitation mode="no"/>
<weather number="800" value="Sky is Clear" icon="01d"/>
<lastupdate value="2015-06-30T08:36:14"/>
</current>
```

Regular expression used:

```
temperature value="([0-9]+.[0-9]+)".*?humidity value="(\d+) "
```

Flags used:

- Multiline
- Dot All

The expression filters the values "72.34" (temperature) and "43" (humidity), thus 2 outputs are defined as follows:

- *Hit / output 1:* EIS type = EIS 5 or EIS 9 (floating point number), mode = read value
- *Hit / output 2:* EIS type = EIS 6 (percentage), mode = read value

Figure 163: UDP receiver – example



6.2.23 SQUEEZE CENTER RECEIVER (SLIMSERVER RECEIVER)

This job translates sent title informations from SqueezeCenter™ to KNX/EIB. The informations can be showed in visualisation or on EIB displays. For this job you have to install and to activated those in [“Appendix”](#) described services.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter [“ESF Upload & Management”](#)).

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

xPL wildcard ?

If this setting is activated, xPL telegrams of all Squeezebox™ equipments in network will be analysed. Setting of xPL instance will be canceled in this case.

**xPL- instance**

xPL- instance determines, which Squeezebox™ is used for data source. This segmentation enables evaluation title information of only one Squeezebox™, even if there are several Squeezebox™ in network. Name of instance can be taken from xPL-Hal manager under xPL device. Instance matches the name of Squeezebox™, for example LIVING ROOM. Please note by naming, that a length of 15 digits do not be exceeded. Name of Squeezebox™ equipment can be assigned in Squeeze-Center™ (settings>player)

Outputs

The output object on which one of the informations (artist, album, title) will be sent on. Value of object is type EIS 15

Modus/ display

Text can be displayed in a most different manner. Between following outline versions could be chosen:

- Left-aligned
- Right-aligned
- From character "start"
- From character "start" (maximised)
- From word „start“
- From word „start“ (maximised)
- Left – rolling (character oriented)
- Right - rolling (character oriented)
- Left - rolling (wordwise)
- Right - rolling (wordwise)
- "back and forth" rolling (character oriented)
- "back and forth" rolling (wordwise)

Speed

With help of this setting, you can determine speed of „rolling“. Between following speed you can differentiate:

- Still (no rolling)
- Very quickly
- Quickly
- Normal
- Slow
- Very slow

„Start“ character/word

Determine from which word outline should be started.



6.2.24 IRTANS RECEIVER

This job enables a connection to IRTrans and activates events in KNX/EIB by IR-remote control. EIBPORT receives along with it, from IRTrans sent UDP-datagrams and will sent out EIB telegrams, according to its defined configuration. For this application, IRTrans with ethernet port and database will be essential.

Please note: Lay out of remote controls and learning of IR-commands take place by use of IRTrans-software. Therby you assign remote control and command names, which have to be known by configuration of that job.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Port

Port number, on which comunication should be taken place. Therefore IRTrans uses port 21001. Port number can be changed in web interface of IRTrans.

IR-Trans,wildcard?

By activated entry, UDP telegrams of all in LAN located IRTrans modules will be processed. By inactivated entry, exclusive those UDP datagrams will be recognized, which names are indicated.

Please note:

For this job it is necessary, that in configuration pages of IRTrans, under menue item "IR relay configuration", both data arrays "UDP broadcast target" and "UDP broadcast port" will be filled in. As standard, UDP port "21001" should be adjusted and as broadcast address "255.255.255.255".

If the IRTrans receiver is not yet flashed with commends it sends out binary data of an IR command on port 21000. To check this the program „Wireshark“ can be used. Therefore type in the capture filter „host <IRTrans-IP>“ under „options“.

If there one unicast address of EIBPORT will be entered, instead of broadcast address as above, then only finally saved IRTrans receiver job will be accepted and will process data packets!



IRTrans name

Here you will enter the name of IRTrans, on which should be „listened“. In case entry „wildcard“ is active, the name will be ignored and it will be listened on all IRTrans modules Name of the unit will be assigned by IRTrans software. Please use only alpha-numeric characters for naming.

“RC“-wildcard?

In one IRTrans several remote controls can be assigned. In case this job has to process all remote controls, this entry must be activated. Otherwise remote control will be used, which name is entered.

“RC“ name

Name of remote control on which should be listened exclusively. If entry “RC-wildcard” is active, name will be ignored and it will be listened on all remote controls. “RC” will be assigned over web interface of IRTrans.

Entry

If the send mode EIS 14 is chosen the entry-number will be sent on the corresponding group address in. The EIS 14 value can be used then to trigger a other job.

Outputs

On this group address a telegram will be sent after receiving the corresponding command

Send mode

The send mode determines what will be sent to chosen group address. Following transmit modes be on hand:

- EIS 1 toggle
- EIS 1 ON
- EIS 1 OFF
- EIS 14 with entry No. as a value
- EIS 15 keycode will be sent on bus as a text.

Key code

Here you will enter by IRTrans-software assigned name of learned command.

Attention: Lay out of remote controls and learning of commands for IRTrans, take place with the help of IRTrans-software. Innovations and modifications will be accepted only after uploading (flashing) of database to IRTrans.

Port settings of IRTrans should be controlled, which is possible in web interface of the device. The web interface will be browsed by just entering the ip-address in the browser. All the other settings could be managed too, by this interface.

Please check the settings „IR relay configuration“ and enter following parameter right there:

- UDP Port 21001
- Broadcast address 255.255.255.255
- UDP relaying activated

Tip: To avoid confusion and to enlarge flexibility, it can be recommended by using of several IRTrans modules, to flash all of them with the same database. That includes the advantage, that in every IRTrans, all adjusted remote controls with its commands are available. Partially inconvenient learning of commands has to be ensured in this way once only. Modifications and assignments could take place quickly and easily in job editor.

Additional scenarios for using

With the help of UDP Datagrams from other computers this job also can be used to trigger group addresses on KNX/EIB. Therefore is no IRTrans necessary. To control the job from other computer, following command has to be sent to EIBPORT:

```
<name of remote control>,<name of command> 0d 0a
```

Hex-values "0d" und "0a" stand at that for „retrun“ and „line feed“ and are closing up the command.

Using the example of following screen shot, it has to be sent to port **21001** of EIBPORT also „test,five 0d 0a“ for the group address **1/4/1** “test, zero 0d 0a” activate group address **1/5/1**. After every command it will be switched.

IRtrans receiver

Job Name *

Gate Group Ad...

Port

IRtrans wildcar... ☒

IRtrans name

"RC" wildcard? ☐

"RC" name

Entry #	Outputs:	Send mode	Key code
1	<input type="text" value="1/4/1"/>	<input type="text" value="EIS 1: tog..."/>	<input type="text" value="fünf"/>
2	<input type="text" value="1/5/1"/>	<input type="text" value="EIS 1: tog..."/>	<input type="text" value="null"/>
3	<input type="text"/>	<input type="text" value="disabled"/>	<input type="text"/>
4	<input type="text"/>	<input type="text" value="disabled"/>	<input type="text"/>

Figure 164: Job Editor - IRTrans Job – example for additional using



6.2.25 XPL REMOTE. BASIC RECEIVER

By this job, Squeezebox™ unit can be used also as IR-interface. If a Squeezebox™ will be managed by remote control, it depotes xPL telegrams. This job makes is possible to interpret these telegrams and to create actions in bus out of this. Precondition for this is, that scheme remote.basic will be supported.

Example for application:

By a second remote control you can switch light. Squeezebox™ works hereby as an IR-receiver.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Address field

If one address field is marked in yellow, no valid group address was entered before. You can enter one group address by keyboard or by ESF-dialogue, which will be opened by pressing the arrow symbol beside the input array. There you can easily choose the address out of previously imported ETS-data. (For further information see chapter ETS).

xPL wildcard?

By activating this entry, xPL telegrams of all xPL devices and applications will be processed. In case you will only listen to one device, so you have to inactivate this entry and the complete name (xPL-vendor/-device/-instance) has to be assigned.

xPL-vendor/device/instance

These values serve as unique addressing of xPL-equipment, they can taken from xPL-Hal manager under xPL device. See "[Appendix](#)"

zone wildcard?

By activating this entry, all xPL-diagrams out of all zones will be processed. By inactivating this entry, xPL-diagrams will be regarded exclusively of this zone, which name is assigned.

"remote" zone [Instance name]

According to the device or application, zone name is assigned firmly or it can be modified freely. Zone of SqueezeCenter™ is named „slimserver“.

**device wildcard?**

By activating this entry, all xPL-telegrams of all in LAN working xPL-devices will be processed. By inactivating this entry, only xPL-telegrams of that device will be processed, which name is assigned.

"remote" device

This name can be chosen freely by using most of all units. Which names will be assigned and where they will be entered, depends on type of device and application. Please read the instruction manual of manufacturer therefore. SqueezeCenter™ terminal name is similar to xPL-instance.

Tip for xPL-settings: The easiest way of changing xPL-settings, is to use monitor of XPL Hal manager. There you can see all xPL-datagrams in the network and you can deduce particular parameters (see appendix "xPL-requirements")

Power status

Here it will be differenced, in which state unit should be situated, that xPL-telegrams will be processed along.

- *on*: xPL-datagram only will be processed, when unit is active.
- *off*: xPL-datagram only will be processed, when unit is inactive. SqueezeCenter™ will send only the key „dead“, in spite of using all buttons of inactivated remote control!
- *don't care*: Das xPL-Datagram will be processed, independent from status.

Entry- No.

If the send mode EIS 14 is chosen the entry-number will be sent on the corresponding group address in. The EIS 14 value can be used then to trigger another job.

Outputs

Entered group address will be sent after receiving respective command.

Send mode

Send mode determines, what will be sent to selected group address. Following sending modes could be chosen:

- *EIS 1 toggle*
- *EIS 1 ON*
- *EIS 1 OFF*
- *EIS 14*: with entry – No. as a value.
- *EIS 15*: key code will be sent to group address. In case key code „RE: +“ will be entered, all received key codes will be transmit to the group address.

Key code

Here entered key code depends on the xPL unit. Please look up in documentation/manual of xPL unit or use the monitor of xPL-Hal manager for observing. There you can see several xPL-datagrams in plain text.

Key code also can be visualised in bus monitor or on displays. Therefore you select sending mode EIS 15 and for the key code „RE: +“ (RE doubledot dot plus). Now all received keycodes will be transmitted to selected group address as text and can visualise in bus monitor or on displays.



6.2.26 EKEY

ekey biometric systems gmbh is a manufacturer of finger print sensors for access control. EIBPORT has implemented the "rare" protocol of the ekey product series "home" and "multi" which can be transmitted to the EIBPORT via the network using the so-called "UDP converter". In this way, all users / finger combinations detected on the fingerprint sensor can trigger different events in KNX.

Note: Please also refer to the applicable product documentation of your ekey product for configuration.

INSTALLING OF EKEY FINGERPRINT SENSORS

To install fingerprint sensors for use with EIBPORT, two steps are necessary. Step 1: After installation and commissioning of fingerprint sensors, the finger of the user has to be trained. Step 2: Is the application of required communication over the network.

Training of finger

The training of finger takes place at the control unit of fingerprint sensor. For the exact procedure please refer associated documentation of ekey. Please note applied user – and related finger-IDs (number). You will need them later on for configuration of the job.

Setting up the network communication

For the fingerprint sensors to be able to send messages to the EIBPORT you have to be able to send to the network via a so-called UDP converter. Please use the appropriate ekey software to configure the UDP converter.

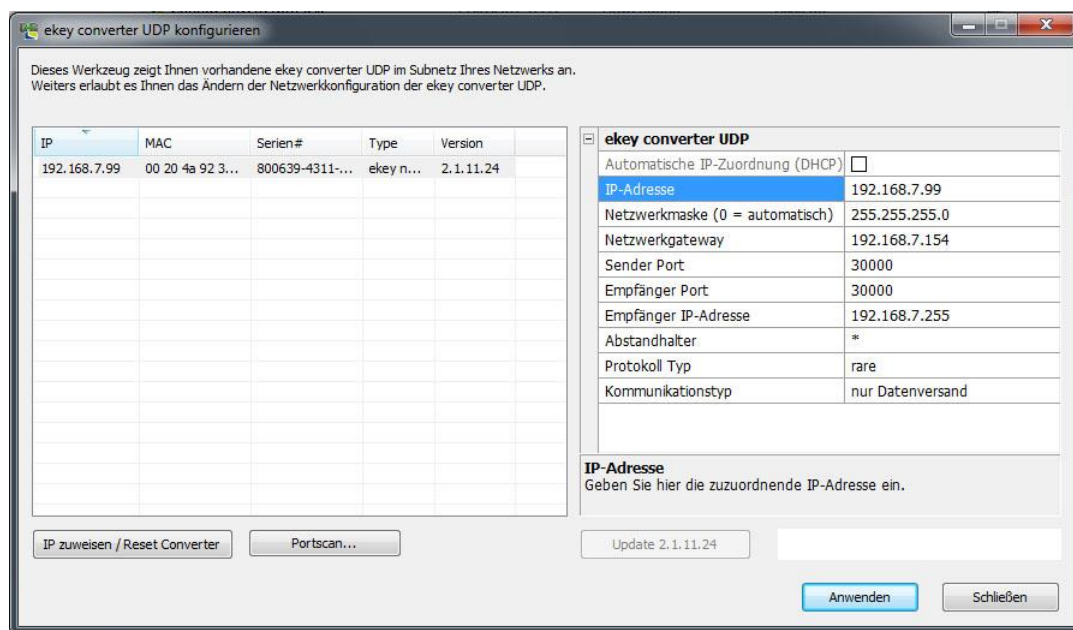


Figure 165: Example of the ekey UDP converter user interface

Please ensure that the following parameters are correct to ensure communication with the EIBPORT.

- *IP-Address settings:* ekey and EIBPORT have to be located in the same network.
- *Sender / receiver port:* EIBPORT and the ekey system have to communicate on the same port number. Please fill in the identical port number here in the job's sender – and receiver port and in the job of EIBPORT. In EIBPORT, the port number "30000" is predefined. In case you will use another port number in your ekey system, the setting of the job has to be adapted respectively.

Please make sure, that all firewall- und safety settings will allow all for ekey necessary communication.

- *Receiver of IP-address:* Fill in here the IP-address of the EIBPORT.



- *Bar spacer*: This setting is beside the point for EIBPORT job. **Please do not make modifications here!!**
- *Protokol type*: ekey fingerprint sensor and EIBPORT have to communicate over „rare“ protocol.
- *Communication type*: Please adjust here „ Only data transmission“

Note: Please note that the "rare" protocol must be selected both for the ekey "home" product series and for the "multi" product series.

If above-mentioned parameters are set respectively, data will be transmitted to the fingerprint sensor by a click on „Apply“.

Reader ID / Serialnumber of the Fingerprint sensors

Terminal ID / serial number of fingerprint sensor

By the help of „reader ID“, every fingerprint sensor can clearly be identified. If various fingerprint sensors should cause different activities based on the same finger, it will be necessary to distinguish the fingerprint sensors from each other clearly. *Terminal ID* calculates itself out of the finger print sensor serial number. This will be determined as follows:

- In this field, the terminal ID, calculated out of serial number of finger print, will be displayed. To enter a serial number, please click on the field with the terminal ID and fill in the 14-digit serial number in the open up array of dialogue. Confirm the entry by “ok” and the respective terminal ID will be calculated. How to identify the serial number, you get to know in chapter “terminal ID / serial number of fingerprint sensor” further up.

Please note this number for the configuration of the EIBPORT later on. The ekey job mask of EIBPORT will calculate the right terminal ID automatically out of the serial number.

JOB CONFIGURATION

If above-mentioned steps are made, ekey job can be configured in EIBPORT with the respective data.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Release object

By the release object, job will be released or blocked. It is about a EIS1 object:

- *Group address not assigned* = Job released
- *Group address registered, value 1* = Job released
- *Group address registered, value 0* = Job blocked
- *Group address registered, no value* = Job blocked

As soon as some address is filled in this field, release will work respectively to the value of group address. In case no value was sent to the address until now, the address is also currently without a value, job is blocked.



Figure 166: ekey Job Mask

Port

Enter here the port number which the desired ekey fingerprint sensor uses for its data communication. See [Installing of ekey Fingerprint sensors](#).

Reader wildcard

The setting of this flag effects, that every ekey fingerprint sensor can release the job, independently from the reader ID. If only one sensor exists in the building or all user are allowed to use all fingerprint sensors of the building (in this case a distinction of different sensors are not necessary), this flag should be enabled. The designation of reader ID / Serialnumber of the fingerprint sensors in the field below will be no longer required then.

Reader ID

In this field, the terminal ID, calculated out of serial number of finger print, will be displayed. To enter a serial number, please click on the field with the terminal ID and fill in the 14-digit serial number in the open up array of dialogue. Confirm the entry by "ok" and the respective terminal ID will be calculated. How to identify the serial number, you get to know in chapter "terminal ID / serial number of fingerprint sensor" further up.

Output: No conformity

To this group address a telegram will be sent, if no conformity of saved finger had taken place. The data type can be adjusted in the field below.

EIS Typ: No conformity

Please select here the data type, which the group address should use under „*Output: No conformity*“. Two data types are available:

- EIS 1 (1 Bit)
- EIS 14u (1 Byte unsigned) value 0-255

**Value: No conformity**

Please enter here the value of the telegram, which in case of no conformity will be sent to respective group address. If data type EIS 1 under “*Eis type: no conformity*” is enabled, value can be 0 or 1, if EIS 14u is selected, a value of 0-255 can be chosen.

Protocols

Select here the protocol which is used by your ekey system. You can choose between the following options:

- *Rare Home* = Uses the "rare" protocol of the "home" product series
- *Rare Multi* = Uses the "rare" protocol of the "multi" product series

Note: Please note that, besides the "rare" protocol, there are other protocols bearing the name of the product series which cannot be used here.

Functions

Every ekey job offers the possibility to apply up to 8 functions. Every function is able to release one different action (group address). For every function, 4 user / finger combinations can be adjusted.

List of functions

For every function of the list, individual settings can take place in the fields below. In field “*description*”, every function can get a unique name to differ from each other.

Function activating (EIS 1)

By this object, every individual function can be enabled or blocked separately. Thereby it is valid:

- *Group address not assigned* = Job released
- *Group address registered, value 1* = Job released
- *Group address registered, value 0* = Job blocked
- *Group address registered, no value* = Job blocked

Description

The name, which was entered here, will appear in „*list of functions*“ and so it will ease the identification of individual functions.

Address output

Please enter here the group address, on which, in case of scanned fingers`conformity, a telegram should be sent. Data type for the group address can be defined in field “*EIS type*” below.

Recognized index transmission

If this flag is enabled, job will send a number, consisting of the user ID and the finger ID, to the group address under „*Address Output*“ . Data type will be automatically EIS 14 then.

EIS Type

Please choose here data type for the group address in field „*address output*“. Following data types are available:

- EIS 1 (1 Bit)
- EIS 14u (1 Byte unsigned) 0 – 255

Value

Define here the value of the telegram for the group address under „*Address Output*“. If data type EIS 1(1Bit) will be selected, value 0 or 1 can be used, if EIS14u (1Byte) will be chosen, values from 0 to 255 can be filled in.

User / finger combination #1 - #4

For every function mentioned above, up to 4 user / finger combinations can be activated. Therefore please use the flag in column “*active*”. In dropdown menu under „*userID*“ and „*fingerID*“, you choose



corresponding IDs, which you have programmed before in the sensor by the ekey control unit (ekey documentation).

User ID

In the controller unit of ekey, 1-99 users with each 0-9 fingers can be applied (see documentation of ekey). The adjusted user ID of the ekey controller unit corresponds to the numbering in the EIBPORT job: user ID 1 = user ID etc. The selection "*" (asterisk) takes care that every user can trigger the action, independent from the user ID. (also called "wildcard-function").

Finger ID

Up to 10 different fingers, the so called "finger IDs" (see ekey documentation), can be allocated to every "userID" in the ekey controller unit. The fingers of the ekey controller unit corresponds to the numbering of fingers in the ekey job mask: finger ID 1 = finger ID 1 etc. To avoid any confusion, we recommend to comply with the finger numbering of ekey, which also is displayed on the graphic beside the finger ID selection in the job mask (coming from the ekey documentation). Selection "*" (asterisk) makes sure, that every finger of the corresponding user can trigger the action. (also called "wildcard-function").

Example

Starting of a lighting scene by opening the door

To activate not only the door opener in case of conformity of the fingers at the fingerprint sensor, but also a lighting scene by adjusting the lighting of the house correctly for coming home, please proceed as follows:

1. Open the new ekey job and assign a unique name, for example *"Coming Home"*
2. Use the standard port number 30000, if you don't have configured something else in ekey fingerprint sensor before (see *"ekey fingerprint sensor installation"*)
3. Please activate „Reader wildcard“
4. Please enter in "Output: No conformity" an arbitrary group address and choose EIS 1 (1Bit) for the EIS type.
5. Please select in „List of Functions“ the "function #1" and enter in the field description for example „Lighting scene 1“.
6. Please configure the output with „EIS type = EIS 1(1Bit)“ as well and fill in the start address of the lighting scene by "Address Output" (lighting scene will be started with value = 1).
7. After that, please actuate „User / finger Combination #1“ and „#2“ and enter desired "user IDs" and corresponding „Finger IDs“.
8. Save the job.

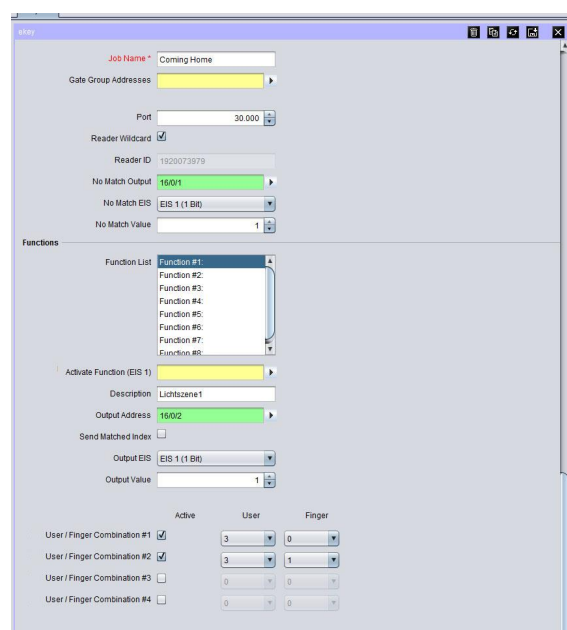


Figure 167: Example ekey Job

In the sequel, user 3 can actuate the lighting scene 1 by the fingerprint sensor with finger 0 and 1.



6.2.27 XPL-SENDER

Dependent on KNX telegrams, this job controls xPL-devices and applications by xPL. In this way stereo equipments can be controlled by KNX-push button sensors, for example.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Input group address

Input object determines which out of max. 16 commands will be processed. EIS types EIS 1 (1 bit) and EIS 14 (8 bit) will be interpreted automatically see "input/trigger value"

Value group address

In case text will be sent to one or several xPL user, you can attach a value out of KNX/EIB-world to the text, for example a temperature value. For value object almost all EIS types are available:

- EIS 1
- EIS 2
- EIS 3
- EIS 4
- EIS 5
- EIS 6
- EIS 8
- EIS 9
- EIS 10
- EIS 11
- EIS 14
- EIS 15

Moreover you can calibrate every value object by factor and offset.

Service-type

Service type determines what kind of xPL datagram will be sent out. Three kind of types are available, "command", "status" and "trigger". The Entry "command" almost always is useful, because most xPL commands, which started from EIBPORT, shall be processed. In state of "inactive" line will not be recommended by processing.



Wildcard

By activating this entry, EIBPORT sends this command on every incoming value. The list of commands will be executed completely top down.

Input/Trigger value

This value determines on which input value the command should react. Therefore on input has to be received an EIS 1 or an EIS 14 value.

For example: In case input object of type EIS 14 with value 147 will be received, EIBPORT will send a command, which will carry „input/trigger value“ 147. Range of values of input-/trigger value is 0 – 255. If the input receives an EIS 1 telegram with the value 0 or 1, the command with the trigger value 0 or 1 would be executed.

xPL-wildcard?

In case this entry is active, this command will be sent to all xPL-devices in LAN. In this way, for example, all Squeezebox™ devices can reproduce one alarm sound.

xPL-vendor/device/instance

These settings are for the unique addressing of a device, for which the xPL-datagram is specified. A valid address is containing „xPL-vendor“, xPL-device“ and „xPL-instance“.

[vendor]-[device].[instance]

Therewith for Squeezebox™ appears following address:

„slimdev-slimserv.instance“

Please note that Squeezebox™ naming should not exceed a length of 15 digits. Squeezebox™ Name can be entered with the help of SqueezeCenter™ (settings > player)

xPL- Schema

The xPL scheme indicates kind/class of device and sets the connected commands. One device can support several schemes, as may be necessary. SqueezeCenter™ supports beside the scheme “audio.slimserv” for level control, also the scheme “remote.basic” and “OSD.basic”. With scheme “OSD.basic” you are able to control the display of a connected SqueezeBox™. It will be possible to write text on that display.

xPL-command

Here you determine actual „command“, which should be sent. Commands are connected with selected schemes. Most of commands don't need additional parameters; therewith entry of „additional data“ is dropped.

Additional data

This array allows entering additional text parameters, which will be necessary for some xPL-commands. For example that is the case when the scheme/command „audio.slimserv / play list“ is used. For this purpose, you have to enter the name of playlist, which you want to start.

Several commands are marked with „(value)“. In this commands you are able to fill in value objects with the help of control characters(%f). Using of control character is described exactly in [“Appendix”](#).

Selecting “OSD.basic” for xPL scheme and “writing” as xPL command, so here entered text will be shown on display of the Squeezebox™.



6.2.28 WAKE ON LAN

By the help of the „Wake on LAN“ job it is possible to put up to 8 PCs or other clients into operation modus.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Active

Select which entries should be active.

Wildcard

In case this flag is set the corresponding line will be performed, independent from input value. It is important only, that something was received at the input.

MAC-address

MAC-address of the device, which should be accosted. The MAC-address is the so called physical address of network adapter. This address is unique and cannot be changed.

Transfer-Type

- *UDP-Broadcast:* By this setting, packets of data will be provided with IP address 255.255.255.255. This address carries no determination and will be sent to all subscribers. Broadcast addresses will not be transferred by router.
- *UDP-Unicast:* Using this setting, it will be possible to enter an IP address. With the help of the IP-address the network in which corresponding devices are situated, can be identified. Unicast is an end to end connection.

Broadcast IP

This data array will be unlocked when the option „UDP-unicast“ is activated. In case you want to use WOL over Internet, you are able to enter the WAN address from the network, in which the desired subscriber is situated. Therefore the corresponding router has to support transferring of „magicPackets“ or „directed Broadcasting“

UDP Port

As may be necessary, port has to be adapted, if WOL over internet has to be done. Standard is port 40000.



6.2.29 EIS 15-MULTIPLEXER

Job „EIS15 multiplexer“ sends predefined text on the basis of EIS 14 input values.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Input group address

Input object of the service. Format: EIS 14

Activate

Activating, inactivating of corresponding output.

Wildcard

In case check mark is set, command will be sent by every input value.

Trigger

Command will be transmitted, if entered value will be received.

Overwrite

In case check mark will be set, text can be the object can be overwritten by another input.

Text

This text will be sent. EIS 15 can outline 14 characters maximal.

EIS 15 output

On this group address the text will be transmitted.

6.2.30 SB-CONTROL

SB-Control stands for “Squeezebox™-Control”. This Job is the further development of the xPL-Interface of EIBPORT. With it the control of SqueezeCenter™ and the connected Squeezebox™ devices is easier and faster to establish. Beyond that it cannot only send data but also receive xPL Datagrams to transcribe in the EIB/KNX.

With SB-Control you can remote control the Logitech Squeezebox™ devices and the central music server SqueezeCenter™. This is working with EIB/KNX switch sensors, room control panels, EIB/KNX panels or the EIBPORT visualisation. It is possible to switch the Squeezebox™ devices on and off, to mute them, to steer the volume or to navigate and choose the playlist titles. Information about the playlist, the titles, the status or the volume e.g. be placed on the text display of a KNX push button or a touch panel display elements in or on the EIBPORT visualization for display.

Requirements for the control of Squeezebox™ devices with EIBPORT:

- SqueezeCenter™ server software must be installed on a PC (Informations about supported OS please see www.logitechsqueezebox.com).
- ExPL-Plugin for SqueezeCenter™.
- xPL-Hub installed on the PC (xPL Hub is not available for all operating systems, please see www.xplmonkey.com).
- The network settings of the device where the SqueezeCenter™ is running on must contain a default gateway address. If there is normally not set any, an unused dummy address must be used.
- One or more Squeezebox™ devices connected to the SqueezeCenter™. (The instance names must be different!).
- A gateway address must be written in the EIBPORT network settings (ConfigTool). Is no gateway available an unused dummy address must be filled in (192.168.1.254 for example).
- Playlist must be created in the SqueezeCenter™.

Specific characteristics NAS drive

Most NAS drives are using a special build Linux firmware. In fact the installation of the SqueezeCenter™ Software will work with it, but to copy the ExPL Plugin onto the drive special rights of hidden folders are required. This could only be solved by having founded Linux skills. Further the xPL Hub, an important instrument to realize controlling by the EIB/KNX World, is not that easy to install. It must be customized specially for the hardware of the NAS drive.

For this reason the company b.a.b-technologie gmbh offers NAS drives of the manufacturer Synology, which will be supplied with a special installation package. There are all necessary components installed then. Please turn enquiries info@bab-tec.de.

Advices:

- **Before setting up the SB-Control job, please read the documentation of the SqueezeCenter™ software and your Squeezebox™ devices.**
- **Activate the xPL-Settings in the SqueezeCenter™ Software. Therefore browse the software with <http://<server IP>:9000/> and go to Server settings>plugins.**
- **For this function the service xPL-Hub must be installed on all participating PCs in the network. See Appendant 9: xPL Requirements for further information.**
- **Before starting the SqueezeCenter™ software the xPL-Hub must be started.**
- **Remember to create a Playlist in the SqueezeCenter™ before continuing with installation**
- **Please be sure that the communication on UDP port 3865 (xPL) not at all involved devices blocked by a firewall.**

Installation of ExPL Plugin:

- Download the ExPL-Plugin from the download area of www.bab-tec.de, or take it from the bab-tec CD.
- Copy the ExPL directories in the SqueezeCenter™ folder ‘Plugins’.
- Restart the SqueezeCenter™ (reboot the pc) and verify that ExPL plugin is started. (*Settings>Plugins*)



Installation of xPL-Hub

If the Squeezebox™ Server on a Windows OS Systems installed please download freeware like www.xplmonkey.com and install it as a windows service.

Configuring SB-Control

To control a Squeezebox™ with this Job please proceed as follows:
Open a new SB-Control Job.

In this service there are two arrays which must be entered: “Job name” and “SB name”. Enter this and complete the others according to the requirement.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*
- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Basic settings

SB name

Here the name of the Squeezebox™ which wants to be controlled is filled in. This name can be figured out in the SqueezeCenter™ software. There is a “player choice” (right above) where all Squeezebox™ devices which are connected to the SqueezeCenter™ are shown. The name can be adopted as it is written there with the following restrictions:

Punctuation marks, special signs and space are not considered in the SB-Control Job.

Example:

The name in the SqueezeCenter™: Squeeze-box 3

Written in the SB-Control: Squeezebox3

Apart from that there is case insensitivity. The name of a Squeezebox™ can be changed in *Settings>Player*.

Figure 168: Job Editor - SB-Control



Volume

Max. volume

The maximum volume the user can choose. 0-100%. Default setting is 100%.

Max. volume in

Provide the option to build a dynamic volume control. Does the transmitted value under-run the proper "max volume" value, this value is valid. Does it overrun it, the static "max volume" value is valid furthermore. The value has to be EIS 6 (0-100%).

Example: After 10 o'clock p.m. the volume will be reduced from 100% to 70%.

Min. volume

It sets the minimum volume between 0 and 100% which the user is able to choose. Default setting is 0%.

Min. volume in

Provide the option to build a dynamic volume control. Does the transmitted value overrun the real "min volume" value, this value is valid. Does it under-run it, the static "min volume" value is valid furthermore. The value has to be EIS 6 (0-100%).

Example: By sending out a datagram it can be avoided that the minimal Volume not can be reduced lower than 30%.

Volume dim up/down

With this object the volume can be changed in the minimal and maximum limits, EIS 2 (dim). The adjusting speed can be set separately. (Dim by holding switch sensor pressed).

Dim width

Set the dim width in seconds. The higher the value the faster is the adjusting (always according to the volume scale of the end device).

Volume step up/down

With this object the volume can be changed in the minimal and maximum limits according to the step width which is set. (EIS 1: 0=lower; 1=higher). (Step by typing the switch sensor).

Step width

Defines the step width for „Volume step up/down“, (according to the volume scale of the end device).

Current output volume

With this group address the current chosen volume is send out as EIS 6 value (0-100%).

Setpoint volume

This group address sets an absolute volume. It will only be assumed if it is in the limits of "min volume" and "max volume". EIS 6 (0-100%).

Track control

Zone on/off

This object switches a music zone on or off. In this case a "zone" is the Squeezebox™ which is controlled by this job. (EIS 1: 0=OFF; 1=ON).

Mute/unmute

This is the mute object. Mute means the player stops playing a title. Unmute means it continues playing. (EIS 1: 0=UNMUTE; 1=MUTE).

Track next/prev

With this object it is switched between the titles forward and backwards. (EIS 1: 0=PREVIOUS; 1=NEXT).

Seek

This is the seeking object. Seeking works like fast-forward and rewind. (EIS 2 value, dim).

**Seek width**

Here it is defined how much units it jumps while seeking. The unit corresponds to the end device. If the seek width is set very high, the device forwards faster than if it is set lower.

Playlist next/prev

This is the object for switching the playlists. The next and previous playlist will be started directly. (EIS 1 Value: 0=PREVIOUS; 1=NEXT).

Display Settings**Display message**

This object gives out the status information of the Squeezebox™ on a one-row-display in an EIB/KNX switch sensor for example. (EIS 15 value).

Text bypass input

Through this object it is possible to overwrite the status information by another EIB/KNX component for a moment, because if this object is used normally no other devices have the chance to send their information onto the display. (EIS 15 value).

Reset textdisplay

With this object the display message will be reset into the normal state. (EIS 1: 0=NO FUNCTION; 1=RESET).

Reset invert

Is this flag activated, the EIS 1 value of „Reset text display“ -object is inverted. (0=RESET; 1=NO FUNCTION).

Reset on zone

With this flag the Display message is reset by the „zone off“ signal.

Reset on mute

With this flag the display message is reset by switch on mute.

Display „No playlist“

This flag activates the display message „No playlist“, when no such information is found.

Display "No title"

This flag activates the display message „No title“, when no such information is found.

Timeout playlist

Means the time in seconds after which the text display switches from the chosen playlist back to the standard display. Normally this is the name of the actual played title. (All other text displays which matches not with the other timeout rules, are affected by this parameter as well).

Timeout mute/zone

Means the time after that the text displays is reset having sent the zone on/off or the mute signal (in seconds).

Timeout volume

Declares how long the settled volume is shown in the display before the display is switch to standard (in seconds).

Additional Text displays**Current playlist**

Giving out the current playlist name (EIS 15 value).

PL select line 1,2,3,4

This is the group address for printing out the first/second/third/fourth position of the playlists choice. The position of the playlists is changed by the command “PL scroll up/down”. It is one EIS 14 value for each position. It could be used less then four lines, too.



Current title

With this group address the actual title is sent as text on the bus, EIS 15 value. Information can only be provided when SqueezeCenter™ can find it in the music data.

Current album

With this group address the current album title is given out, EIS 15 value. Information can only be provided when SqueezeCenter™ is able to find it in the music data.

Current artist

This group address shows the name of the current artist in a text display, EIS 15 value. Information can only be provided when SqueezeCenter™ is able to find it in the music data.

Playlisten selection

PL scroll up/down

The Playlists in the “PL select line” are scrolled with this command. The Playlist are switching through the PL select line 1 to 4. With one datagram a whole page will be switched. (EIS 1: 0=DOWN; 1=UP).

PL selection

With this object a playlist can be directly chose out of the playlist selection. (The value 0 to 3 is for the selection of the lines 1 to 4!), EIS 14 value.

Command Settings

Command code

With this object it is possible to send command code directly over EIB/KNX to the SqueezeCenter™. The following commands are available (1Byte, EIS 14):

EIS 14 Value	Function
1	Synchronize the current volume
2	Refreshes the playlist entrys. If the playlists in the SqueezeCenter™ are changed, with this command the modification is transferred into the EIBPORT .
21	Next playlist
22	Previous playlist
23	Next title
24	Previous title
25	Reducing volume with dim width speed, stop with 27.
26	Increase the volume with dim width speed, stop with 27.
27	Stops volume modification.
28	One step volume reducing.
29	One step volume increasing.
30	Zone off



31	Zone on
32	Play (Mute off)
33	Pause (Mute on)
34	Re-transmit display content
35	Starts fast-forward until stop with 37.
36	Starts rewind until stop with 37.
37	Stopping fast-forward/rewind.
38	Reset text display.
39	Forward with one step.
40	Rewind with one step.
61	Shows the current version number of the SB-control job.
62	Shows the current title.
63	Shows the current playlist.
64	Shows the current volume.
65	Shows the status of the zone.
66	Shows the status of play/pause.
67	Shows information: SB-control version, ExPL-Plugin version, current playlist source, current volume, minimum volume, maximum volume, zone status, mute status.



6.2.31 HTTP- REQUEST

Using http-Requests diverse contents can be called and processed from a web server or can be sent to a server. Therefore the methods GET and POST are available. The URL (Uniform Resource Locator) is a combination of three different parts (basis URL, target and value object resp contents. Compulsory arrays are name, input object and basis URL. For the evaluation of the answer from a webserver a module is available which is able to search the answer by regular expressions and based on this can trigger events on the KNX.

Figure 169: Job Editor - HTTP Request

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*



- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

As soon as one address is filled in, release will behave respective to the value of the group address. If no value was sent to the address and the address is presently without values, job will be blocked.

Input group address

Required entry. Input object has to be EIS 14. According to its value, several entries in the target objects will be released. In case input objects carries option "wildcard", releasing EIS 14 value doesn't play a part.

Error text

If the request did not success normally the server gives out an error text, which job can reproduce as EIS 15 text message.

Protocol

As protocol, „http“ or „https“ (http-secure) is available. Https transmits data encrypted. For doing this, server and client (EIBPORT) have to exchange certificates and keys, so connection buildup will take a longer time as usual.

Basis-URL

Required entry. In this array the address of the server which should be requested must be entered. You can use DNS names or IP addresses. If using DNS name, DNS settings of EIBPORT have to be correct, resp. the DNS server(s) have to be reachable.

Tip: DNS request will take relatively long time sometimes. To speed preforming of the job, IP address of the server can be entered. Then a DNS request will be unnecessary.

Hint: If IP address of a DynDNS account varies, maybe IP will differ for a moment from the address, which EIBPORT has stored in his internal DNS schedule. In this case, request will have the incorrect address.

Auth name und Auth password

If necessary, username and password for http authentication can be entered. In case protocol "http" is activated, http basic authentication will be used. Thereby user data and password will be transmitted in uncoded form. „https“ uses the same account, certainly transmit of authentication data will be encrypted.

Request Type

A HTTP-Request can be executed in two different ways. It may be selected between method "GET", "POST", "PUT" und "DELETE" wählen.

- *GET*= is the most commonly used method to request data from a web server and is also frequently used to transmit data or control commands via URL parameters (The technically correct term for a URL would actually be URI). The actual purpose of GET requests, however, is to request data.
- *POST*= is used to be able to transmit contents to a server. For example, it can be used to transmit form data causing the server to create new data or change existing data. However, data can also be transmitted in the same way as the "GET" method by transmission via URL parameters. Often, these methods are combined. Via URL, the target of the data which is provided is addressed precisely.
- *PUT*= is used in a similar fashion as POST. If one proceeded strictly according to definition, POST would be responsible for changing existing data and PUT would be responsible for creating new data. However, the procedure is the same as with POST. For this reason, PUT is frequently not used and all data manipulation commands are transmitted via POST.
- *DELETE*= is used for deleting data. DELETE is subject to the same limitations as GET. No data is delivered. All parameter setting takes place via URL.

Note: If method „POST“ ist selected the URL may not be completed under „target“ but in array „Basis URL“. The input array for the target definition is available (mx 256 characters) for „POST“ – data.

Content Type

If under „*Request Type*“ method „*POST*“ is selected the selection for content type will be released. The combo box defines the encoding of the data being sent via „*POST*“ method to the server. This array serves to inform the server about the type of data expected. Several data types can be selected:

- *text/plain*: Content of the „*Post-Data*“ is marked as plain text
- *text/xml*: Content is marked as xml- file
- *text/html*: Content is marked as HTML- file.
- *application/x-www-form-urlencoded*: The server is told that the text is URL encoded. Special characters will be replaced by according character strings. More information about this can be found in the web by searching „*URL Encoding*“.

Note: Some servers require a dedicated data type within the content. Due to this all data packets with differed content type information will be rejected even if the content complies with the required content type.

Request: URL Targets

Number of targets

You can allocate to every basic URL several targets. In the targets the variable part of the the URL could be entered, which alters during the different requests. Maximal 8 targets can be filled in.

Wildcard

If this option is activated, corresponding target will be released by any incoming EIS 14 trigger value.

Hint: One job can only contain one wildcard entry.

Trigger value

Determine the EIS 14 value which should trigger the target. EIS 14 has a range from 0-255.

URL

Basic URL will be completed with that data array. To transmit the value objects, which are entered in the following part, the variables „\0“ to „\9“ have to be used. The “backslash” will announce one value object and following digit will determine value object 1-10. “0” will be value object 1 and “9” will be value object 10.

Hint: Between basic URL and URL completion, the necessary separation with „/“ (slash) will not be entered automatically. Slash has to be set by user, neither at the end of basic URL or at start of URL completion.

Send values

Value objects

Up to 10 value objects can be set. Each of them may contain these EIS types:

- EIS 1 (1 Bit)
- EIS 5 (2 Byte FP)
- EIS 6 (1 Byte)
- EIS 9 (4 Byte FP)
- EIS 10s (2 Byte value)
- EIS 10u (2 Byte unsigned)
- EIS 11s (4 Byte value)
- EIS 14s (1 Byte value)
- EIS 14u (1 Byte unsigned)
- EIS 15 (14 Byte Text)



	Address	EIS Type	Format (EIS 1 on / off)	Factor	Offset
Value1	16/0/130	EIS 1 (1 ...)	0	1	1
Value2	16/0/131	EIS 5 (2 ...)	%f	1	0
Value3	16/0/132	EIS 6 (1 ...)	%d	1	0
Value4	16/0/133	EIS 9 (4 ...)	%f	1	0
Value5	16/0/134	EIS 10u (...)	%d	1	0
Value6	16/0/135	EIS 11u (...)	%d	1	0
Value7	16/0/136	EIS 14u (...)	%d	1	0
Value8	16/0/137	EIS 15 (1...)	%s	1	0
Value9		EIS 1 (1 ...)			
Value10		EIS 1 (1 ...)			

Figure 170: Job Editor - HTTP Request Sending Values

Address

Please enter the group address which handed over the value object.

EIS Type

Depending on what EIS Type is chosen the format entry array behind changed.

Format

According to the EIS Type, the format entry array will be set. The format entry array serves the possibility to give the value object the right formatting. In this way for EIS 1 instead of "1" or "0", "ON" or "OFF" can be used.

- *EIS 1*: Entering text for „1“ and „0“ is available.
- *EIS 5 and EIS 9*: Factor and offset can be adjusted. Value will be multiplied by "factor" and added by "offset".
- *EIS 6*: Will be interpreted as percentage value from 0% to 100%. Percent sign will not be transmitted and has to be entered in URL completion if necessary (by "%").
- *EIS 10, EIS 11 and EIS 14*: Will be directly passed as text values in URL completion.
- *EIS 15*: Also these values will be passed directly as text values. In this way fully free completions out of EIB/KNX can be realized. EIS 15 allows maximal 14 digits.
Insert Spaces: If a space is inserted after a value object, it must be "% 20" is entered.

Answer response

Up from Firmware Version 0.11.5 the HTTP Request Job provides the possibility to interpret the response from the web server. For this the content of the response file can be searched by regular terms and so the wanted values can be filtered out. The result of the filters can be sent out on up to 4 outputs to a KNX address.

Groups

In order to allocate values to the 4 outputs groups have to be defined within the regular expression. Per group one output is used. The sequence proceeds from the left to the right resp according to the syntax of the regular expression.

A group is set by ():

Expression(Group1=output1)expression(Group2=output2)... etc.

Regular Expression

Due to the complexity of this subject it would burst this documentation. For more information please refer to the diverse documentation in the internet. There functionality and use of regular expressions are described comprehensively.

To give an example for use it will be described later on.

Flags (Checkboxes above the expression)

These flags serve for changing the behaviour of regular expressions. In more complex expressions this will help f.i. for search in several lines. These flags are available:

- *Case Insensitive:*
- *Dot All:* The expression "." Considered by all the characters. He would not see otherwise line endings. In another context, "Single Line" called.
- *Multiline:* has to be used if the expression is not valid just for one line but spread over many lines
- *Extended:* By setting this flag the expression is also valid for „extended characters. So even commented out strings can be searched.
- *Ungreedy:* Basically a regular expression tries to provide a maximum number of hits. In some cases this can be obstructive; setting the flag causes a break after the first hit. If by ". *?" Resolved in the expression itself.

Outputs

As already described above the outputs are operated by groups within the regular expression. A maximum of 4 outputs is allowed. For each address array the access to the ESF data is possible using the arrow.

EIS Types

These EIS types can be used for the outputs. For EIS 1 and EIS 5 special settings are valid.

- EIS 1 (1 Bit)
- EIS 5 (2 Byte FP)
- EIS 6 (1 Byte)
- EIS 9 (4 Byte FP)
- EIS 10s (2 Byte value)
- EIS 11s (4 Byte value)
- EIS 14u (1 Byte unsigned)
- EIS 15 (14 Byte Text)

EIS 1 (Mode)

If this data type is selected two modes can be used.

- *Read value:* In this mode the value being detected by the expression will be read and sent.
- *Match Pattern:* informs if the expression has led to a result. In case of "yes" it will be sent out a "1", else a "0".

EIS 15 (output: format)

If data type *EIS 15* is selected, the output can be formatted by control characters. These are the possible ones:

- „%f“ = floating point value
- „%d“ = decimal value
- „%s“ = text value

Data / Length

For data types *EIS 1* to *EIS 14u* the data format and eventually the length has to be set. This is due to the fact that the data may be returning from the server in different formats.

- *ASCII - Unsigned long decimal* The content consists of ASCII characters a 'long' data type, unsigned decimal coded
- *ASCII - Signed long decimal* Signed decimal
- *ASCII - Unsigned long hex* unsigned hexadecimal
- *ASCII - Signed long hex* Signed hexadecimal
- *ASCII - Unsigned long octal* Octal unsigned
- *ASCII - Signed long octal* Octal signed
- *ASCII - Floating Point* floating point number



- *Binary - Unsigned integer little endian* (whole) number with little endian byte order, and without a sign
- *Binary - Unsigned integer big endian* With big-endian byte order
- *Binary - Signed integer little endian* Little endian signed
- *Binary - Signed integer big endian* Big endian signed
- *Binary - Floating Point little endian* floating point with little-endian
- *Binary - Floating Point big endian* floating point number with a big-endian

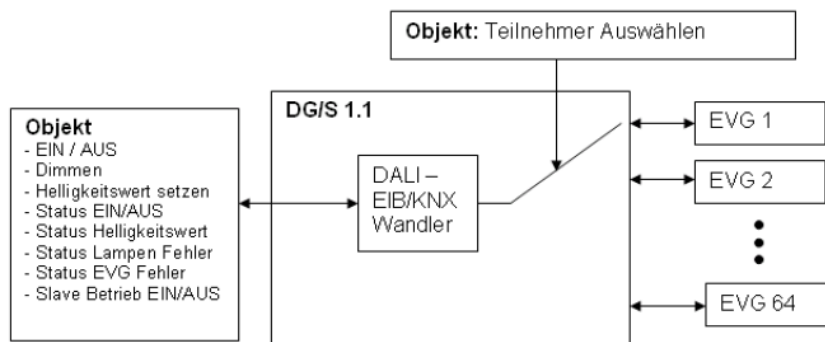
Moreover for all binary data the data length has to be set. The data length can be between 1 and 8 byte.



6.2.32 DALI MONITOR

The Dali monitor job of EIBPORT V3 can be exclusively used in combination with Dali Gateway ABB DG/S1.1 to monitor illuminant and associated electronic ballasts on defect. ABB DG/S1.1 disposes of 2 channels (channel A and channel B), which can control 64 user each. For each channel, one Dali monitor job can be applied. For this purpose, the communication objects “Subscriber” (7/25), “selection failure illuminant” (15/33), “selection failure ballast” (16/34) (figure 153) of ABB DG/S1.1 ETS application will be required.

Functional schematic of Dali gateway ABB DG/S1.1



For each Dali monitor up to 64 outputs can be configured.

Job configuration

To apply a new Dali monitor job, either button in the menu bar of Job editor or a right click on the job container (“Dali monitor”) can be used.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Gate Group Addresses

By Gate Group Addresses job will be released or blocked. Durch das Freigabeobjekt wird der Job freigegeben oder gesperrt. It is about an EIS1 object:

- *Field blank = Job is released.*

- *Field completed, value 1 = Job released.*
- *Field completed, value 0 = job locked.*
- *Field completed, no value = job locked.*

Figure 171: DaliMonitor –Job Mask

Trigger Inputs

Figure 172: DaliMonitor –Job Mask Trigger Inputs

Check all outputs (EIS 14)

Mandatory field. By this object, job will be triggered and all configured outputs will be checked.

Check one output (EIS 14)

With the help of this object (EIS 14), the job can be started for chosen outputs, by selecting the desired outputs in visualization element of Dali monitor.

Communication to Dali Gateway

Figure 173: DaliMonitor –Job Mask Communication to Dali Gateway



Request index (EIS 14)

Mandatory field. By this object the Dali-subscriber which should be requested is selected. Here the communication objects no. 7 resp. 25 „selecting subscriber“ out of ETS-application has to be entered (see figure 152 above).

Response Ballast (EIS 1)

Mandatory field. By this object a malfunction message of the previously selected Dali-subscriber can be read out (e.g. for maintenance purposes).

The communication object no. 16 resp. 34 „selection ballast fault“ out of the ETS application (see figure 152 above) has to be filled in here.

Response Lamp (EIS 1)

Mandatory field. Here the communication object no. 15 resp. 33 “selection lamp fault” out of the ETS-application (see above figure 152) has to be filled in.

Result outputs

Figure 174: Dali Monitor –Job Mask Communication to Dali Gateway

State Ballast (64 Bit)

Mandatory field. This object serves for connection the Dali monitor’s ballast state with the column ballast of the Dali monitor’s visualization element.

State Lamp (64 Bit)

Mandatory field. This object is used for the connection of Dali monitor’s lamp state with the column “lamp” of the Dali monitor’s visualization element.

Any Output Defect (EIS 1)

This object serves for linkage of optional malfunction or warning messages, to e.g. draws the intention to the necessary replacements of a ballast or a lamp.

Delay status feedback

This flag only concerns for the feedback message of the “Request all outputs” process. If this flag is set, state information only will be sent, when all enabled outputs are checked before. By this the bus load is been reduced distinctly during the request.

Check interval (s)

The interval time between each query can be situated between 1 an 10 seconds. Predefined are 3 seconds.

Active

Output will be enabled or disabled (grayed out) for processing. At least one output has to be enabled for a correct function.

Description

Optional. A description for each output can be made, for example the name or location of the ballast and the lamp being checked.

- Out of ETS-application of Dali gateway DG/S1.1, following objects are necessary:
 - No. 7 “Subscriber” with address 15/0/17
 - No. 15 „Selection malfunction lamp” with the address 15/0/19
 - No. 16 “Selection malfunction ballast” with the address 15/0/20
- Open a new Dali monitor job and assign an unique name, for example floor 1 right side.
- Enter a group address at „Trigger Inputs” for „Check all outputs”, by which you want to trigger this job. Optionally you can also assign a group address for “Check one output”.
- Addresses out of ETS application have to be entered at “Communication to Dali Gateway”
 - No. 7 “Select Subscriber” by address 15/0/17 in “Request index (EIS 14)”,
 - No.16 “Selection malfunction ballast” by address 15/0/20 in “Response Ballast (EIS 1)”, and
 - No.15 “Selection malfunction lamp” with address 15/0/19 in “Response Lamp (EIS 1)”.
- In order to do the linkage between the job and the visualization element the addresses at “Result Outputs”, “State Ballast (64Bit)” and “State Lamp (64 Bit)” are used. To avoid an unneeded increase of bus load, please assign virtual group addresses (chapter 4.1).
- Assign unique descriptions of outputs for an easy identification.
- In order to display the results of the Dali Monitor Job in the visualization the “Dali Monitor” visualization element is been used. In the parameters of the “Dali Monitor” visualization element you simply choose the corresponding Dali Monitor Job by its name (chapter 5.6.1.).
- The different colours of Dali monitor’s visualization element will give a state indication of requested ballasts and lamps.
- Example: On lamp 2, illuminant is defective, which is marked in red. On lamp 4, the ballast is already damaged, so that not any further check on the illuminant is been made.

Ausgang	Aktiv	Beschreibung
Ausgang (1)	<input checked="" type="checkbox"/>	E1/re/L1
Ausgang (2)	<input checked="" type="checkbox"/>	E1/re/L2
Ausgang (3)	<input checked="" type="checkbox"/>	E1/re/L3
Ausgang (4)	<input checked="" type="checkbox"/>	E1/re/L4
Ausgang (5)	<input type="checkbox"/>	

Figure 175: Dali Monitor Job Example Configuration

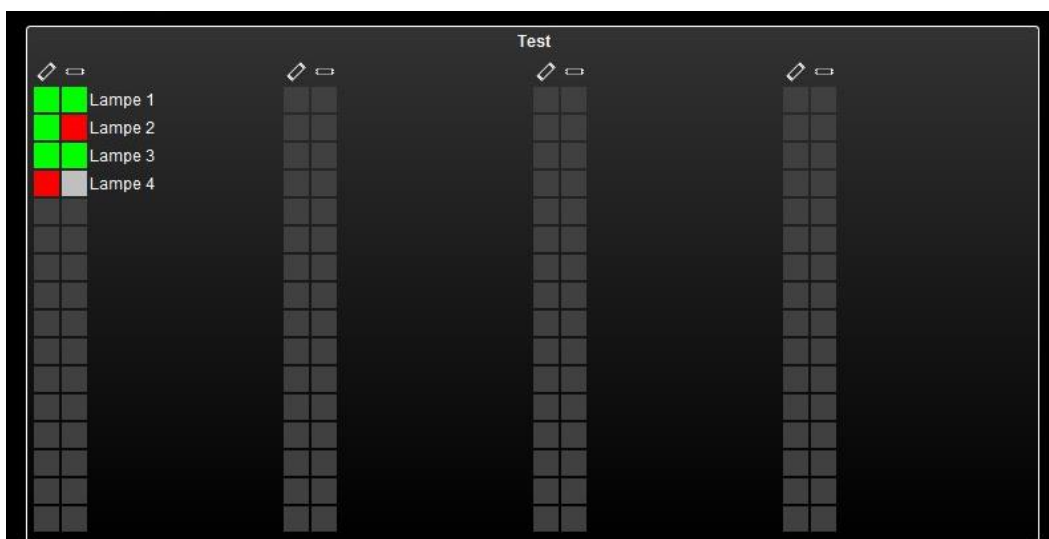


Figure 176: Dali Monitor in the Visualisation



1 WIRE

6.2.33 1-WIRE

By the USB connection of EIBPORT it will be possible, in connection with the 1-wire-adapter, to access the cheap sensor technology of the 1-wire product line.

By 1-wire job, you can assign a group address to the 1-wire sensors in EIBPORT and also a name. For every job, 8 sensors can be integrated.

Note: For information on which 1-Wire sensors are supported in the EIBPORT job, please refer to the list "[Implemented 1-Wire devices.pdf](#)" which is available separately.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Release object

By release object, job will be released or blocked. It is an EIS1 object.

- *Group address not assigned* = Job released
- *Group address registered, value 1* = Job released
- *Group address registered, value 0* = Job blocked
- *Group address registered, no value* = Job blocked

As soon as some address was entered in the field, release will work respectively to the value of the group address. In case no value was sent to the address until now, address is also currently without a value, job is blocked.

Units refreshing

1-wire units will be loaded by starting the job. The list of 1-wire units can be brought up to date manually, by the function "*Units Refreshing*". This function is necessary, if a 1-wire unit was connected after starting the job.

Figure 177: Jobeditor – 1-Wire

All recognized 1-wire units are available in this selection box. With the arrow besides, a name can be assigned to the serial number.

Sensor type

Use this selection box to define the type of the selected sensor. For current information, please refer to the compatibility list for 1-Wire which is available separately. Contact info@bab-tec.de to request this document.

- Presence: With this option you can verify whether a sensor is available on the bus or not. Usually, this is used for iButtons. However, this function can also be used to check other sensor for defects.
- Temperature (supported by several sensor types)
- Humidity (supported by several sensor types)
- Atmospheric pressure (supported by several sensor types)
- Brightness / light (supported by several sensor types)
- Current
- Voltage
- Dew point
- Heat index
- Humidity index
- Hg

Cyclical Transmitting

The value of a sensor, and also its presence, can be sent cyclical. At that, the interval of cycle will be many times higher than the 1 – wire refreshing time, which is indicated in ConfigTool. (Chapter 9.1.2.2)

Sensor available/ Sensor not available

Here adjusted parameter will be sent, if a 1-wire user is available on the bus / not available on the bus.

Available EIS types in case of presence

- EIS 1 (1 Bit),
- EIS 14 (1 Byte unsigned)

Available EIS types for temperature, wetness, air pressure and brightness.

- EIS 5 (2 Byte FP),
- EIS 9 (4 Byte FP)



6.2.34 STATUS INDICATOR

The job status indicator processes status changes in form of 1 bit or 1 byte telegrams on status messages which can be acknowledged and recorded. With the corresponding "Status indicator" visualisation element (see chapter "[Status indicator](#)") the job can be used in the visualisation. Thus, complete status indicator processing can also be used in CONTROL L.

Required fields

All input fields with red titles are required fields which have to be filled in before the job can be saved.

Address fields

The colour of an address field indicates the status it is in. If an address field is highlighted in yellow, the group address has not yet been entered, if it is highlighted in red, no valid address has been entered and if it is highlighted in green, the entered data is valid. A group address can be entered using the keyboard or via the ESF dialog. This opens if you press the arrow symbol to the right of the input field. You can then select the address from the previously imported ETS data (For more detailed information, please refer to chapter "[ESF Upload & Management](#)").

Job Name

Required field. Assign a unique name for the job. The name must not contain more than 15 characters.

Enable object

The enable object enables or disables the job. It is an EIS 1 object:.

- *Group address not assigned* = job enabled
- *Group address entered, value 1* = job enabled
- *Group address entered, value 0* = job is disabled
- *Group address entered, no value* = job is disabled

As soon as an address is entered into the field, the enabling will respond according to the value of the group address. If no value has yet been sent to the address, i.e. it is without value, the job is disabled.

STATUS SETTINGS

Define here which group address and conditions are to trigger the status message and via which address the status change is to be reported.

Status-Einstellungen

Bestimmen Sie hier welche Gruppenadresse und Bedingung die Statusmeldung auslösen soll und über welche Adresse die Meldung der Statusänderung erfolgt. Die Meldung kann als 1 bit (EIS 1) und als 14 Byte Text (EIS 15) erfolgen. Rot beschriftete Felder sind Pflichtfelder!

Statuseingang * 15/6/17

Status Initialisieren ☐

Fehlerbedingung Bei 1

Fehler bei Wert 0

Fehler nach Timeout (Min.) 5

Status- / Meldeausgang * 15/6/18

Ausgang Statustext 15/6/19

Statustext HILFE

Figure 178: Job status indicator – status settings

Status input

Input for detecting a fault

Initialise status

If this option is enabled, the job sends its current state when it is re-initialised. E.g. after the job is saved or after the device is re-started.

Error condition

Which state indicates a fault/error condition. Possible options are:

- 1
- 0
- Rising edge
- Falling edge
- A pre-set fixed value (EIS 14)
- Generally each value change
- Timeout – If there are no incoming telegrams on the status input within a pre-set period of time, the error condition is triggered.

Error indicated by value

This field is enabled if the items "Value" or "Value change" are selected under Error condition. Define here the reference value for the selected condition.

Error after timeout (min.)

Field is enabled if "Timeout" is selected under Error condition. Define here the timeout value in minutes.

Status / message output

The status is reported on this group address. EIS 14 (1 byte) value. Meaning:

- Value = 0 means "OK"
- Value = 1 means "fault"
- Value = 2 means "acknowledged"
- Value = 3 means "fault disappeared unacknowledged"

Status text output

Optionally, a text can be sent as well when an error occurs. The text is deleted after the error has been eliminated. Data type: EIS 15 (14 byte)

Note: Please note that if several jobs share a group address for the status text, the text will be deleted after only one of the errors has been eliminated.

Status text

The field is enabled if a valid group address has been entered in "Status text output". Enter here the status text which is to be transmitted.

ACKNOWLEDGEMENT SETTINGS

You can define up to 5 group addresses incl. acknowledgement text for acknowledging the status change here. An additional acknowledgement text helps you to identify the acknowledging body. At least one acknowledgement address has to be defined.

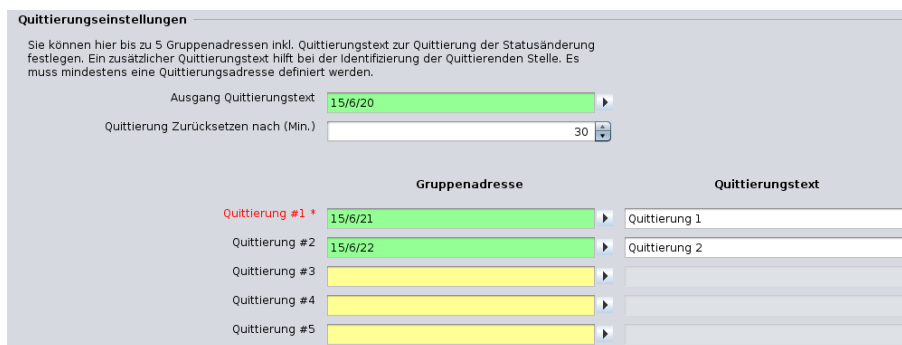


Figure 179: Status indicator – acknowledgement settings

Acknowledgement text output

The corresponding acknowledgement text is sent on this address (#1 - #5) (depending on which of the 5 acknowledgement addresses are used). Data type: EIS 15 (14 byte).



Reset acknowledgement

The acknowledgement of a fault will be cancelled after this interval in minutes provided the fault has not yet been eliminated.

Acknowledgement #1 - #5

It is possible to store up to five group addresses for one acknowledgement. For each group address, an individual text can be stored which is sent via the "Acknowledgement text output" group address. In addition, faults can be acknowledged via the visualisation element. In this case the logged in user is used as text.

LOGGING

This feature can be used to define additional information which are to be included in the log. Besides the actual status events, up to 5 additional values and a comment of any type can be stored. If a camera URL is entered, one camera image is stored as well for each of the 5 most recent faults. The log data can be accessed via the "Status indicator" visualisation element.

Logging

Hier können Sie weitere Informationen bestimmen, die im Log ergänzend festgehalten werden sollen. Neben den eigentlichen Statusereignissen können bis zu 5 weitere Werte sowie ein beliebiger Kommentar festgehalten werden. Zudem wird bei Eingabe einer Kamera-URL zu den jeweils 5 letzten eingegangenen Störungen je ein Kamerabild hinterlegt. Der Zugriff auf die Logdaten erfolgt über das Visualisierungselement "Statusmelder".

Werteeingang	Gruppenadresse	Datentyp	Name
Werteeingang 1	14/0/1	EIS 1	Zusatzinformation
Werteeingang 2		EIS 1	
Werteeingang 3		EIS 1	
Werteeingang 4		EIS 1	
Werteeingang 5		EIS 1	

Log-Kommentar

Kamera-URL: http://camera.local:12345/jpg?img=800x600

Kamera-Nutzername: admin

Kamera-Passwort: *****

Figure 180: Status indicator – logging

Value input 1 – 5

Define here the value input addresses #1 - #5 with group address, data type (EIS 1, EIS 5) and name. At the time of the event (status change), the current value of the specified group address and the specified name are saved in the log file. Value object data type: EIS 1 (1 bit) and EIS 5 (2 byte)

Log comment

Use this field to transmit any additional information for the log.

Camera URL

Enter here the complete URL required by the EIBPORT to call up the still image of the desired camera. For example: "http://[IP address of the camera]:[port number]/image.jpg". If access is protected by a password, please specify the camera user data in the corresponding fields.

Camera user name / camera password

The http basic authentication of the camera

7

CONTROL S

CONTROL S offers visualisation for mobile devices or for TVs. User interface is oriented especially for devices like mobiles (iPhone/iPod, Nokia, HTC, Blackberry). CONTROL S visualisation is able to display and switch values of EIS 1, EIS 5, EIS 6 and EIS 14. Camera images, control of blinds and music controlling are contributed as well.

Call

It is called with the URL: `http:// <eibPort_IP> / web / hic / index.php` or by the EIBPORT Home. By default, the user authentication for the CONTROL S enabled and can be configured in the security settings in visualization editor. It is strongly recommended to use the authentication.

License

Since the firmware version 0.11.5, no license is required to unlock the CONTROL S for use! The CONTROL S can be used immediately after setup.

7.1 LAYOUT OF THE CONTROL S – EDITOR

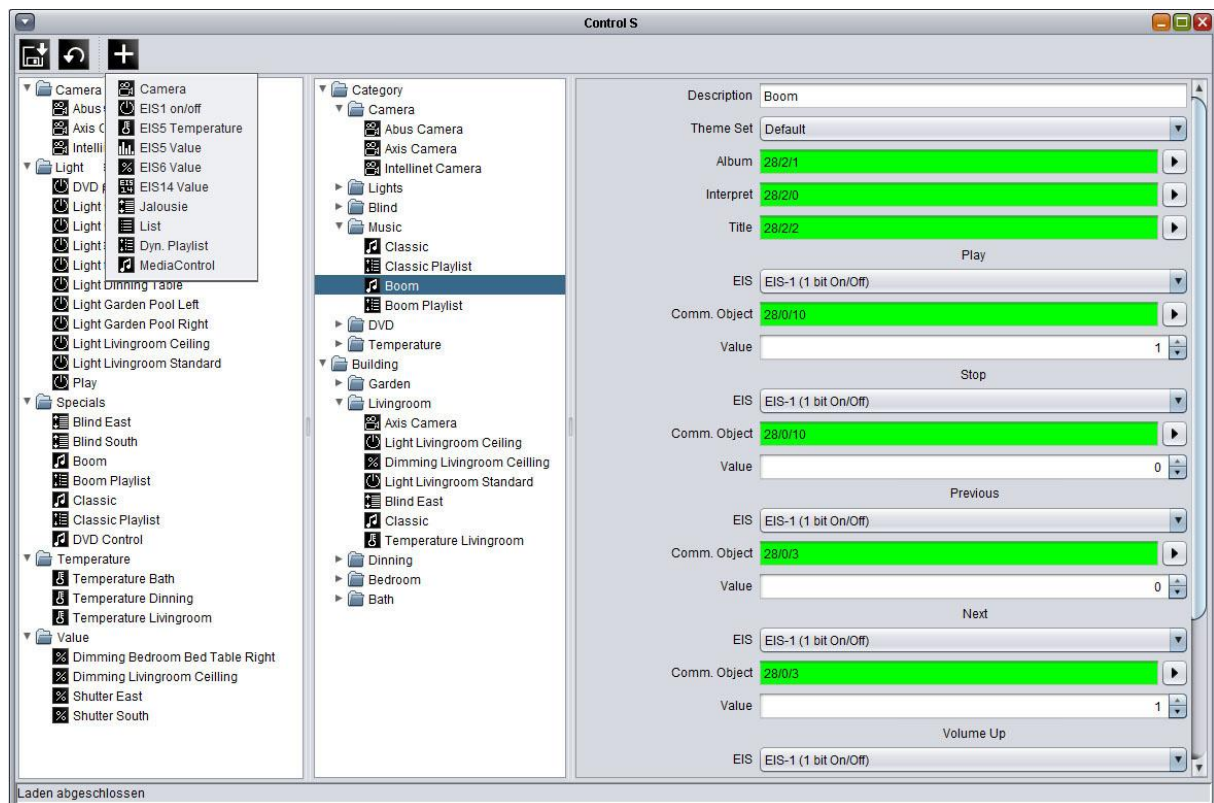


Figure 181: CONTROL S sight of editor

With help of the editor, visualisation will be adjusted. Therefore three different columns are available, in which you can execute each and every step. Control menu is located above.



Control menu

With three symbols at the head of window, the CONTROL S editor will be controlled. There you will find a button for “saving”, a symbol for „reload“ and a symbol for “new element” which allows you to add a new element into the project.



Figure 182: CONTROL S editor – control menu



Figure 183: CONTROL S editor – Element Overview

Left column – element overview

In the element overview first all required elements will be added. Every element will be created automatically in a category folder. For example, element “EIS 14 value” will be stored to folder “Value”. In this column, all required elements are sorted by its category and can be configured over parametrization window (right column). To delete an element or the complete folder, please use the context menu.

Middle column – sight of visualisation

The middle column correspond to the sight of the visualisation. The here performed arrangement will be seen later on in the display of your mobile. The user is able to create folders by him and distribute elements at his will. You can create a folder by context menu (right click to column). Elements, which are parametrized in left column before, will be drawn simply by “drag and drop” to desired folder. Display arrangement of can happen, according to floors and rooms and/or to functions, for example.

Right column – parametrization window

In the right column the parameters of the elements will be entered. The parameters will be displayed, when an element is chosen in left or middle column. By parametrization it makes no different, in which column elements will be marked.

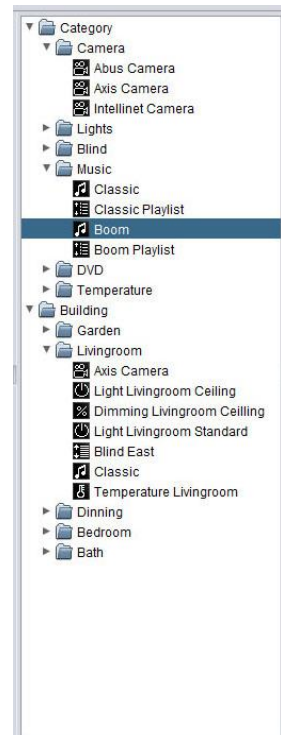


Figure 184: CONTROL S editor – Sight of visualisation



Figure 185: CONTROL S editor – Parameterization window

Address assignments

Address assignments in CONTROL S editor happens conveniently over ESF dialogue, like it does in other editors. The dialogue will open by clicking on the arrow symbol near the data entry field for the addresses. An overview will be displayed, which contains all addresses of loaded up ESF files and/or a address matrix. You can allocate an address to an object by a double click. To every input object you can assign maximal 5 addresses. Addresses for feedback will be entered in brackets, separated with comma, behind the used address.

7.2 AVAILABLE ELEMENT TYPES

EIS 1 on/off

If “is control?” is activated ON/OFF will be sent, in case it is disabled this element can be used as a simple status indication.

EIS 5 temperature

Displays the current and setpoint temperature in EIS 5 format. Is controlling activated, you will be able to set the setpoint temperature by “+/-” in a defined step width. In case “operating” is inactivated, element is just an indicator.

EIS 5 value floating point

Represent EIS 5 values. Maximum and minimum value can be adjusted, step width also. Element can work as a control or as an indicator (“is control?”).

EIS 6 value 0-100%

Represent EIS 6 values. The values 0 – 255 will be converted to 0 – 100 %. Additional maximum and minimum values as well as step width can be adjusted for operation. Element can work as a control or as an indicator (“is control?”).

EIS14 value 0-255

Represent EIS 14 values (0-255). You can specify minimum or maximum value. Step width for adjustment can be defined. Element can work as a control or as an indicator (“is control?”).

Camera with controlling

This element shows pictures from a camera. Therefore the URL to the fixed frame of the camera must be entered. When open the the element in CONTROL S, it will be requested several times in a second, so that a moving pictures will appear. The syntax of the URL behind the camera address will depend on the camera manufacturer.

The entry arrays below the camera URL are for the controlling of the camera by http requests, in case of camera is supporting this. Thereby the camera is told by an URL which position it has to take. The user then has the possibility to control his camera by hitting the image in his mobile on the four cardinal points.

This function is only available together with the job “HTTP-Requests”. This job has to be created before in Job editor and must be parameterized correctly (for hints please see into the description of the http request). After that the “http-request address” of the camera element can be connected with the job. Please consider to set the EIS 14 values correctly.

Please note: For retrieval the picture from off site, also the camera image has to be reached from outside. Normally therefore a port will be forwarded to the camera. As address of camera, external address of router (fixed IP or dyndns) with corresponding port will be entered

Jalousie

Element for controlling shutters or window shades. Some shutter actuators require inverting of telegrams.

MediaControl

Control element for a network music player connected to the system. EIBPORT offers the possibility to controll the Squeezebox™ devices. Element offers functions like “play/stop”, “back/forward” and “volume up/volume down”. Furthermore informations of album, title and artist will be displayed.

Please note: Controlling by CONTROL S only can be realized, if one job (xPL-sender and receiver, or SB-Control) will be applied in job editor before. Element “media control” uses comunication objects of this job. Therefore a perfect function of jobs is absolutely necessary.

List

With this element the playlists of the Squeezebox™ devices will be controlled. Playlists can be triggered by EIS 1 or EIS 14 telegrams. There are 4 possible entries. Name of playlist will not be outlined, but has to be entered before.



Please note: Triggering of a play list can only be realized in connection with considering xPL job (xPL-sender or SB-Control). Communication objects of the job will be used, therefore perfect function has to be assured before.

Dyn. Playlist

This element enables dynamical control of playlists. Communication objects "Current PL" and "PL Display #1 - #4" are EIS 15 output values. By using "Scroll Displays", playlist display will be moved 4 prompts above or below. By menu item "Select PL", one of the playlists in „PL Display #1 - #4“ will be elected. This happens by a EIS 14 telegram, thereby value 0-3 for line 1-4 will be valid. See also job "SB control".

Please note: For the functions of dynamical play list, job „SB control“with respective entries is absolutely necessary. If job once is created correctly, values can be transferred simply.

7.3 CONTROL S USER AUTHENTICATION

To protect CONTROL S the application provides the user a menu "Security Settings" within the visualization editor. The parameterization of the user login can be done there across all three types of visualization.

Each user can then individually created there, access is controlled to CONTROL S. This is in the "User Details" check box "Home Information Center." If the flag is set, can be accessed through the respective user data in the Home Information Center visualization. All other settings return to the "Security Settings", refer to the corresponding chapter in "visualization editor."

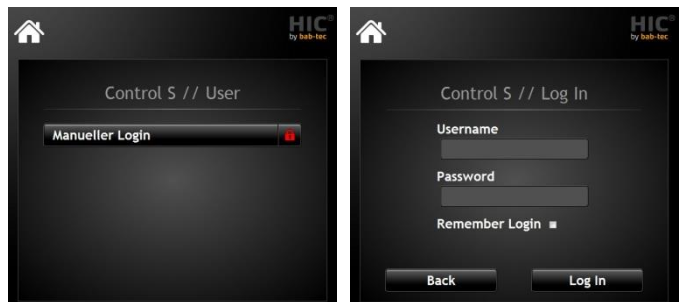


Figure 186: HIC Authentication

Automatic Login

To use an automatic log of the HIC visualization you have the ability to activate at logon check box for "Remember Me". Thus, the credentials are stored locally on the device and not tried. To unsubscribe from the visualization but the HIC logo is used in the visualization interface. When clicked it will return to the login screen and you can adjust the setting to "Remember Me" again.

8 SONOS UPNP

Sonos UPnP is used for remote control of Sonos hifi system devices. The control is with KNX group addresses key, room control devices, KNX - EIBPORT panels or visualization. It is possible with KNX-control devices Sonos hifi system Power On or OFF to control for Mute and Volume Up or Volume Down to navigate to radio stations from your favorites

Requirements for the Operation of Sonos - devices on the EIBPORT:

- One or more devices connected to the Sonos system with differentiated names (such as device names, room names)
- The installed Sonos Desktop Controller - software (PC or smartphone app)

8.1 SONOS CONFIGURATION

GENERAL

In the General tab window, make sure UPnP is switched to be active. It may also be other UPnP devices are detected, but the full functionality can not be guaranteed there. This option has been optimized for Sonos devices.



Figure 187: Sonos general configuration

UPNP DEVICES

Taken after the device through the Sonos Sonos Desktop Controller software was operating in, the device is "Select Device" on display. If the device does not exist in the list will be searched by "updating" for new devices.

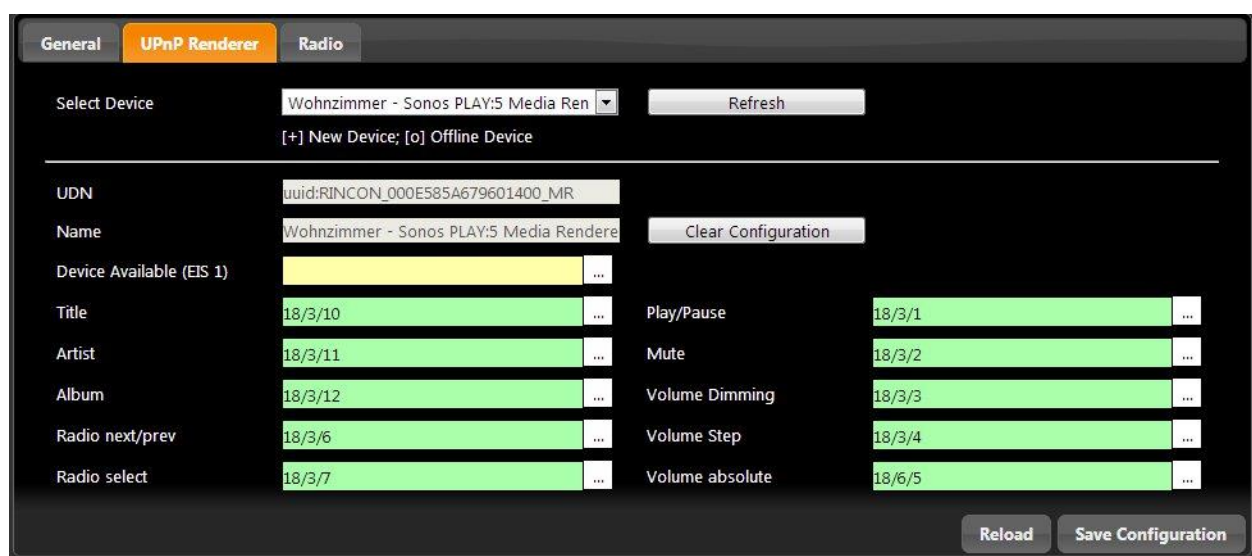


Figure 188: Sonos configuration UPnP devices

Group addresses assigned by the Sonos devices can be controlled via KNX.

**Title (EIS 15)**

About this group address the current title of the radio station will be sent as a text output on the bus, 15 of the EIS. Information can only be made available when this is present.

Artist (EIS 15)

Group address to the text output of the current artist. (EIS 15 value). Information can only be made available when this is present.

Album (EIS 15)

This group will address the current issue album title. (EIS 15 value). Information can only be made available when this is present.

Radio front / back (EIS 1)

The object for switching radio stations forward / back. (EIS 1: 0 = BACK, 1 = ON).

Radio selection (EIS 14)

Group address for selection of favorite radio stations that have been created and managed under the radio (see radio). The list of radio stations beginning with 0, the position of favorites can be connected to a EIS14 button. By specifying the value in EIS14 button can be called the favorite desired (eg 2 for 1Live). ICE CREAM 14 Value.

Play / Pause (EIS 1)

With this object, turn the Sonos playback devices on or off. (EIS 1: 0 = OFF 1 = ON)

Mute (EIS 1)

The group addresses for the mute (Mute). Muting the effect that the song is stopped, and again on Mute OFF continues (EIS 1: 0 = OFF MUTE, AN 1 = mute).

Volume dim (ICE 2)

With this object, the volume can be adjusted continuously, (dim) EIS 2.

Volume up / down (EIS 1)

About this object is in the volume gradually increased or decreased, (EIS 1: 0 = quiet, 1 = up).

Absolute volume (EIS 6)

This group address, it is possible to set an absolute volume. EIS6 value (0-100%).

Save

After editing the objects care must be taken to "save", because otherwise all will be deleted.

Delete Configuration

By "clear configuration" stated the group addresses are removed.

Reload

"Reload" reloads the current configuration EIBPORT.

RADIO

With this window, the transmitter will be assigned to the EIBPORT and managed. These stations were previously searched with the Sonos Desktop Controller were (see more information Sonos Desktop Controller).

Update

Radio station to take the straight instrument is played by Sonos.

Add current stream

Radio stations to add to your favorites list

Delete

Delete the X from the transmitter (title) will be deleted.

Radio Edit

Manual change of title and URI.

Arrow keys

The station IDs are sequential starting with 0 The order of stations can be changed using the arrow keys.



Figure 189: Sonos configuration radio

SONOS DESKTOP CONTROLLER

The Sonos Desktop Controller software is the standard to the Sonos devices. This software is required for the tuning and the creation of the devices. This software is for wide variety of operating systems for smart phones.

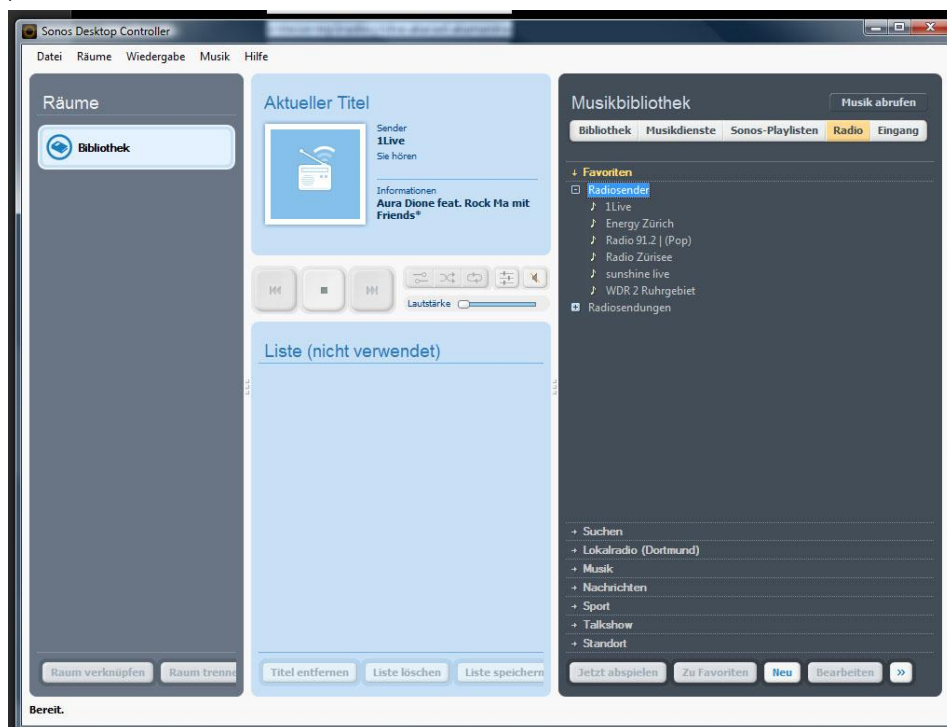


Figure 190: Sonos Desktop Controller

New

With this function you can enter the name and the stream URL manually.

Search

Can search failed to enter the name of the station and look for all possibilities.

**Local Radio**

Under local radio can be set to a city and all the radio stations in the vicinity are displayed.

Add to favorites

After tuning the transmitter is hereby stored in the Sonos favorites.

Now Playing

Play the selected radio station.



9

SYSTEM

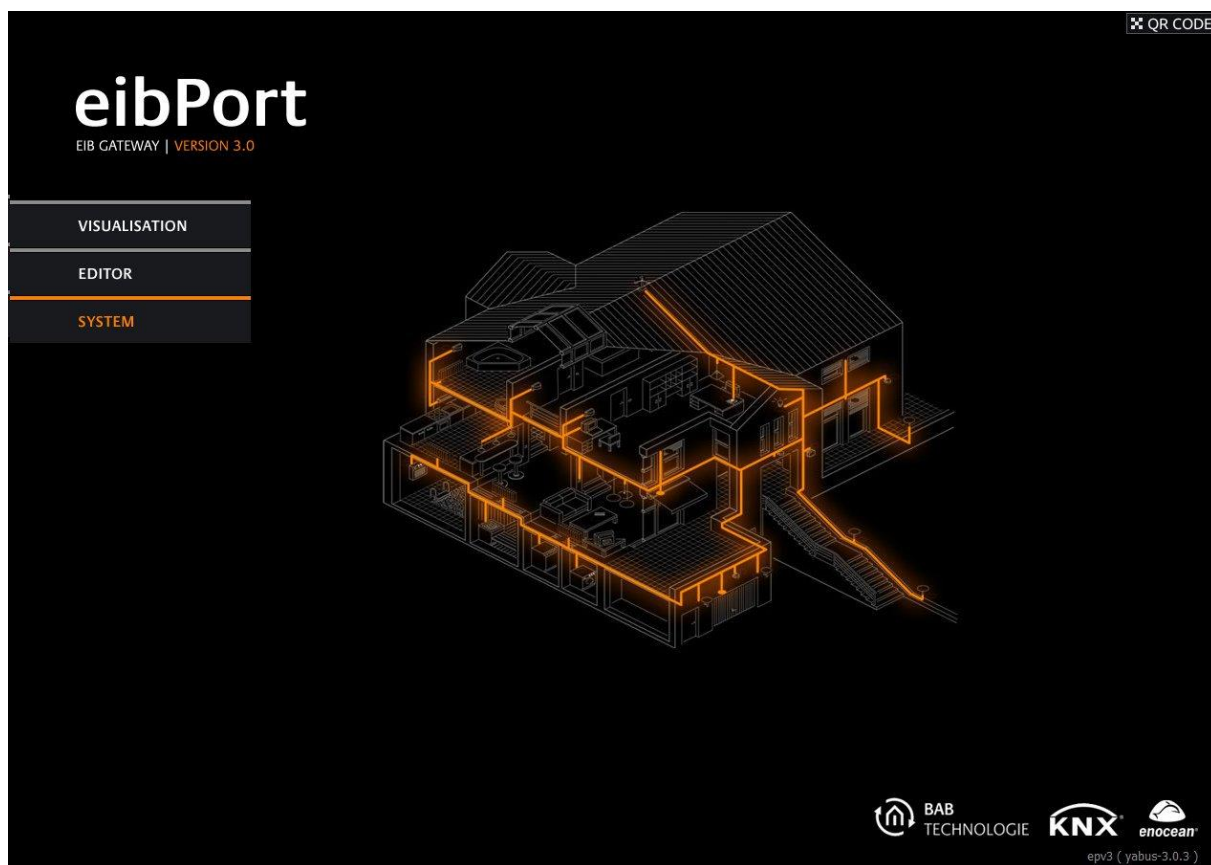


Figure 191: start page - system

By browsing “System” on EIBPORT start page, you will reach the ConfigTool. Fundamental settings for operation will be done here. For that reason, access to ConfigTool is protected additionally by a solid key, the “EIBPORT string”. This key (SSH) is six-digits long and cannot be changed. It is noticed at the backside of the unit and on the short instructions, which be attached also.

Please note: Connection data and key code validation require communication on ssh port (if not altered port 22). Communication on this port has to be warrented.

Please pay attention for case sensitivy.

Since firmware 3.xx you will be asked to enter first the user data and then the string will be requested. There the same user data as by the access to editor will be requested. Access data can be changed in system over „user administration“. In delivery status, authentication contains the following data:

Preset access data:

Area:	Username	Password:
Editor:	admin	eibPort
System:	admin	eibPort



9.1 CONFIGTOOL

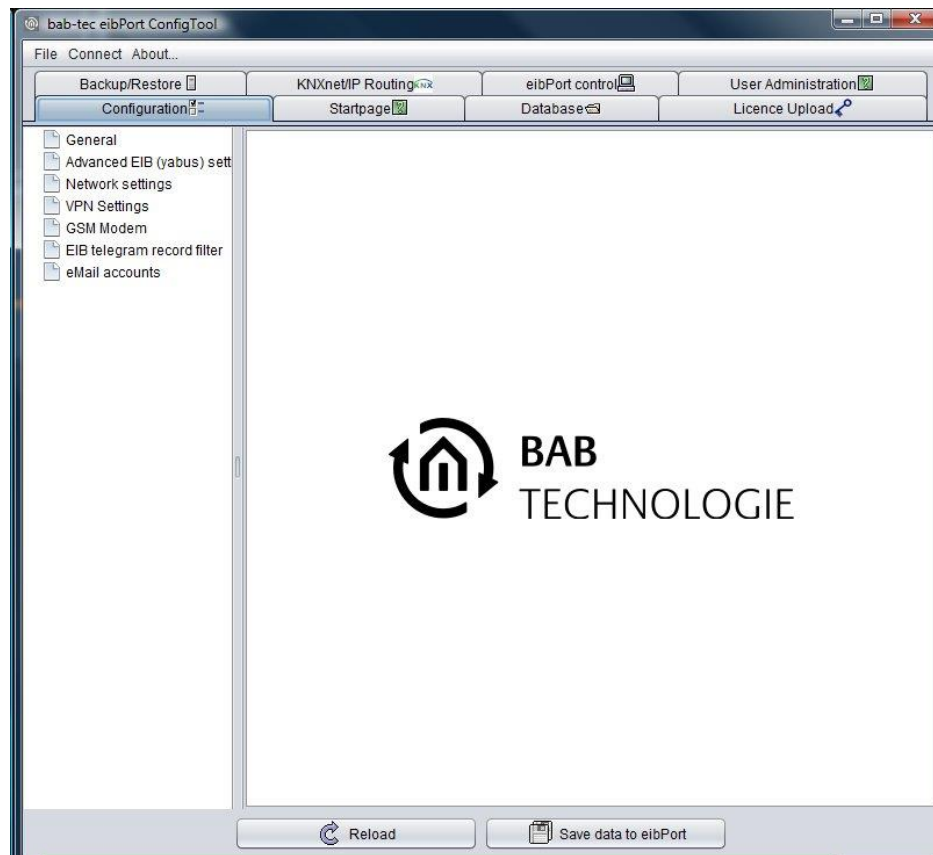


Figure 192: ConfigTool - Overview

EIBPORT will be configured without any help of ETS. Connection settings, user administration, licence upload and other things will be performed over ConfigTool. All data arrays are provided with help text. This text will be displayed, if you drive with your mouse over desired arrays (mouse over help).

9.1.1 LAYOUT

ConfigTool is divided in several areas which are displayed in tabs. After starting it the first tab which is shown is called “configuration”.

Menu bar

- File: By „File > Quit“ ConfigTool will be closed.
- Connect: By click on “Connect > Search/connect EIBPORT (s)...“, “Discovery Tool” will be opened. This program shows all EIBPORT s existing in LAN, independent from their network configuration. All units are displayed with name. (EIBPORT name) If a device will be marked with green colour, device is reachable in the same subnet; if the device is marked yellow, it has another network configuration as the client PC. If you will mark one device, IP and portnumber of it will be shown. To start a connection to another EIBPORT, the button “Ready” can be used. After that you have to enter character string of regarding device.
- About...: „About“ dialogue contains following important information: name, firmware version, serial number, IP-adresse, http-port, ssh-port, MMX TCP and UDP-port, so as used java version of client PC.

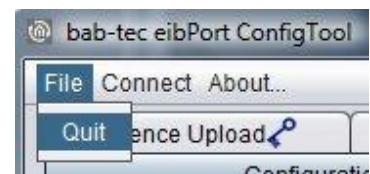


Figure 193: ConfigTool - Menüleiste

Tab bar

Adjustment possibilities are categorised in several tabs. ConfigTool opens itself always with the tab “Configuration” at first. To perform modifications, choose the considering tab. Settings will be done in the middle of window. The tab “Configuration” contains on its left hand side additional submenus.



Figure 194: ConfigTool - tab bar

Save data to eibPort / reload

After changing a setting it is necessary to save the data to EIBPORT. This happens with a button located in the lower part of the window. In the Tab “Configuration”, the settings of all particular pages can be saved together by one action. Depending on which values have been changed, the EIBPORT will automatically reboot.



Figure 195: ConfigTool - save

9.1.2 CONFIGURATION

The tab „Configuration“ contains at its left hand column several submenus (pages). Number of displayed parameter depends on user rights. Function “Save data to EIBPORT” will store all settings, which was made in the whole „Configuration“ Tab. In this way you are able to change all necessary values before storing it into the EIBPORT. To assist you directly, every data array label contains a mouse-over-help.

9.1.2.1 GENERAL

With the page “general” the basic settings of the EIBPORT will be made.

eibPort name

Is giving the EIBPORT an unique name with that it is easier to discover in the network.

Serial

In this array the serial number of the EIBPORT and of the DIMM PC is shown. This are only indicator arrays and cannot be changed.

PHYSICAL ADDRESS

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.

Country settings

The location setting of the EIBPORT defines its time zone and is important for the time settings in general. Beyond that they are playing a role for the correct calculation of the astro timer.

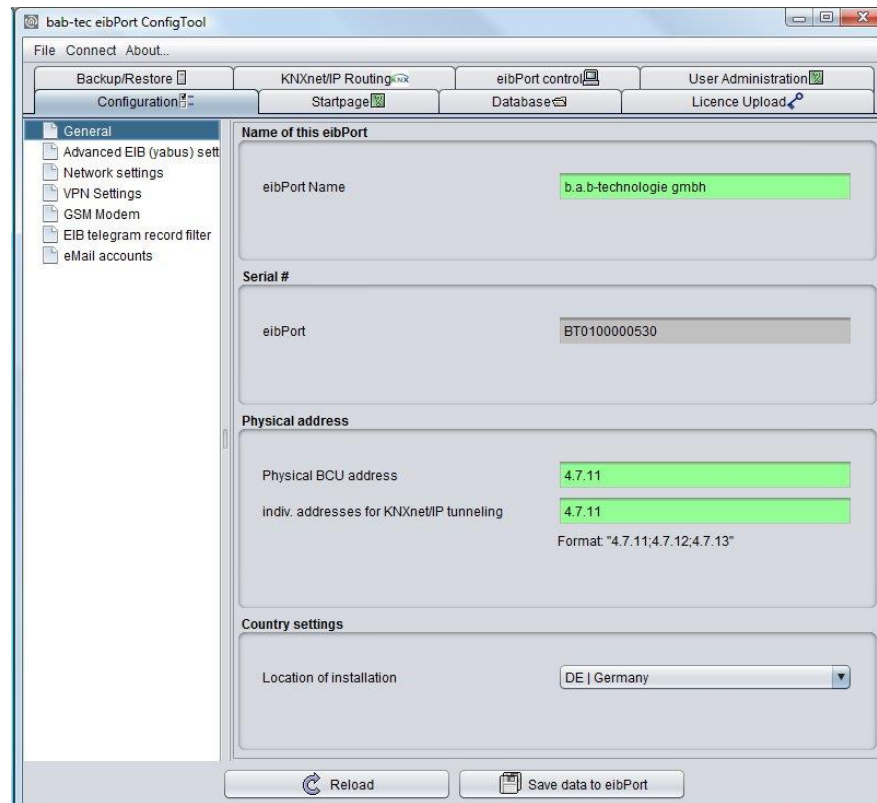


Figure 196: ConfigTool - configuration - general

9.1.2.2 ADVANCED EIB (YABUS) / SETTINGS

Beside port and facility coupling settings here the options about the state table are made. Additionally the remote maintenance can be activated or deactivated. Arrays with grey coloured background cannot be configured; they will serve as an indicator.

Attention: Wrong settings will cause, that you can't access to EIBPORT anymore.

Loglevel details

Determines which accuracy will be used by writing data into the log file. The higher the value („none“ – „*very* detailed“) is set, the higher the cpu of the EIBPORT is loaded.

TCP PORT „BMX“

Among others this port is needed for communication between EIBPORT and Client PC when using visualisation and editor. By using visualisation or editor. In case this port will be blocked by a firewall, no operating will be possible.

Important hint: Highest port number you can assign is 65535! The Portnumbers 0 to 1024 are specified for certain applications. If you would like to modify one port, it will be commended, to choose a port number between 1024 and 65535.

UDP-PORT „BMX“

Communication by the help of this port takes place, if two EIBPORT s will be connected over ethernet. In case connection of EIB/KNX facilities happens over a LAN installation with firewall, it has to be configured accordingly.

Multicast-Port„bmx“ and Multicast- „TTL“ „bmx“

By this data, EIBPORT communicates with the DiscoveryTool. These values are alterable and these settings have to be regarded in large networks.

Multicast- „TTL“ „bmx“

„TTL“ – value (time-to-live) for transmission of BMX multicast reports. (Maximum number of router/gateways)

Beacon signal interval

Beacon signal is an identifying signal to identify devices which are logically located in a other subnet. By the help of the „Discovery tool“ it is then possible to allocate a EIBPORT even if its IP-address belongs to another subnet as the network of the user PC does. If this tool will send a request, EIBPORT will react with a status message, after accidentally chosen period of time. After that, it will send this signal in period of adjusted value. Default value is 30 seconds.

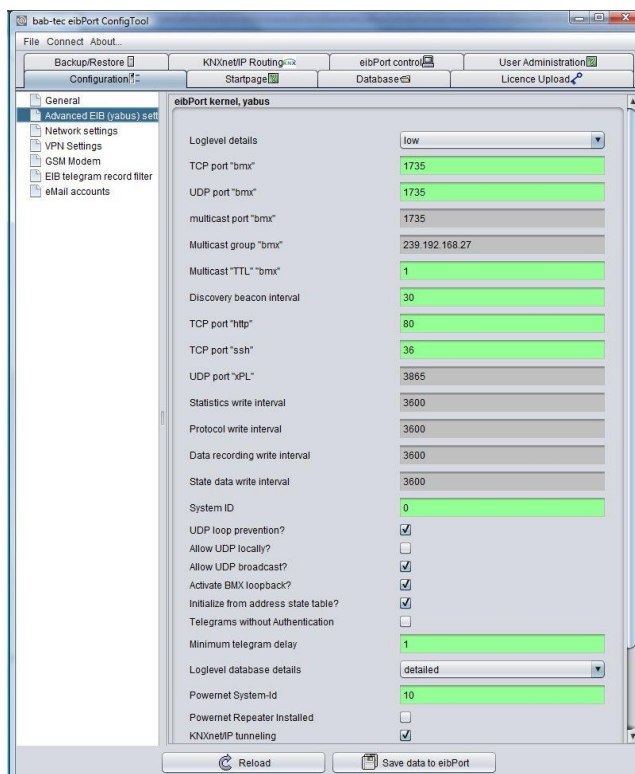


Figure 197: ConfigTool - configuration

Please note: Discovery tool will only works within one collision domain (same physical network)

TCP-PORT „HTTP“

To access the webserver of the EIBPORT (providing the access to the startpage and all other areas) a communication on this port must be ensured. If in the local network another device is responding on port 80, for example a web server, http port of EIBPORT can be modified at this place. For browsing the start page, address with the following syntax has to be entered:

<http://<EIBPORT IP>:<Portnummer>>

Example with port number 8080: **192.168.2.1:8080**

Hint: Please note: After saving modifications of port number, unit will be restarted (duration ca. 2 minutes)

TCP-PORT „SSH“

This port is necessary for communication while updating, data transfer and while accessing to the “System”. By default this port is adjusted on number 22, which can be changed as well. In case communication takes place over firewalls, you have to configure these firewalls accordingly.

System ID

System ID acts as a unique identification in case, several devices should work together in facility coupling. Therewith only these devices are able to communicate, which are using the same System ID.

UDP loop prevention?

Prevent the creating of UDP-loops in case of facility coupling over UDP-bmx protocol (linkage by job “linking facilities”). By a failure configuration it can happen, that UDP datagrams will run in a loop through the network. This effect can be restricted by this option.

**Allow UDP locally?**

In case this option will be placed, EIBPORT will process also those UDP-telegrams, which it will depose for the purposes of facility coupling.

Allow UDP broadcast?

Several services of EIBPORT produce in their function UDP-unicast connections. (UDP-sender, linking facilities). If desired also a „point to multipoint connection“ can be established. Therefore you have the broadcast address has to be entered into the job entry array and this option has to be activated.

Activate BMX loopback?

If this option is activated, a switching will be outlined as conducted at once in visualisation, independent from the actual status. In case option is inactivated, feed back of actuator will be awaited. Option is activated in delivery condition.

Initialize from address state table?

By restarting the EIBPORT, the state of the communication objects will be determined according to the actual state table. In case of gate objects there is not waited until a new telegram arrives but the current state is read out of the state table. In this way the jobs will start dependable. Option is activated as default.

Please note: If status table will be used for initialisation, you have to regard, that telegrams will get the right time stamp. If that is not the case, (and time stamp is older than existing time stamp) existing status will not be overwritten, so that wrong values will be displayed resp. be interpreted.

Telegrams without authentication

If communication over CONTROL W (eibDesk) is desired, this option has to be enabled.

Minimum telegram delay?

Determines the minimal timespan which has to lay between two telegrams generated from the lightscene job. This value cannot be set lower than “1”. This acts as for prevention of exorbitant bus load.

Loglevel database details?

EIBPORT can also write logs to an external database. Here it will be defined, how detailed the log recordings into the database will be. If recording will be very detailed, a lot of computing power will be necessary.

Powernet System-ID

System ID serves as an unique identification for units. Thereby units can only communicate, if they are using the same powernet-system ID.

Powernet –Repeater Installed

This option has to be enabled, if a powernet-repeater will be used.

KNXNET/IP TUNNELING

This flag can be used to enable or disable KNXnet/IP tunneling in the device. KNXnet/IP tunneling serves in particular as interface for the ETS commissioning software See chapter [KNXnet/IP | ETS](#) for a detailed description

URL information for Discovery

The dropdown menu will determine what information a potential for discovery, so the track by other services on the network sends. This information is sent via multicast to the network. It can be determined are whether sending the LAN address, WAN address (if in the bottom field, then fill in as appropriate), or both addresses.

WAN URL for Discovery Signal

This function isn't implemented currently.

WAN HTTP port for Discovery Signal

This function isn't implemented currently

1-Wire Refresh Intervall (2-600)

This is the interval, in which EIBPORT inquires the 1-wire bus. You can define an interval from 2 to 600 seconds.

9.1.2.3 NETWORK SETTINGS

Here the network interface of EIBPORT is configured. Beside from that, you can enter addresses for NTP-time server.

use DHCP

If „use DHCP“ is enabled, following 3 parameter (IP address, subnet mask, standard gateway) will not be considered. EIBPORT will receive these parameters from a DHCP server in the network. After the new settings will be stored, the connection to ConfigTool (“System”) will be automatically disconnected, because something in network configuration has been changed. Check with the additional software “Discovery Tool” (available on EIBPORT CD or in the download area under www.bab-tec.de) which IP-address your EIBPORT got from the DHCP server. If EIBPORT furthermore cannot be reached with the previous IP-address, please execute a “Cold Start”.

Note: If DHCP is enabled, the values that were manually entered into the parameter fields of the network settings will remain unchanged. The fields do not show the addresses which the EIBPORT has received via DHCP!!

Setting IP-addresses manually

If DHCP is disabled, addresses have to be entered manually. Therefore it will be necessary to consider address range of the network, in which EIBPORT will be located. Additionally you should enter a gateway address, as possible, to ensure entire functionality

In delivery condition EIBPORT has the following settings:

IP-address: 192.168.1.1
Subnetmask: 255.255.255.0

Please note: To establish direct connection with EIBPORT, computer and EIBPORT have to be located in same subnet. In subnet 255.255.255.0 it is allowed only to vary the last digit. By older version of hardware (<vers. 2.0) a cross-over connection will be necessary.

DNS server

DNS server will be required to resolve domainnames into IP-addresses. (to translate) It will be recommended always to enter several DNS server. Current routers transfer DNS requests, so it can be enough to fill in the gateway address. Addresses of public DNS servers you will find in the internet or in the “WAN settings” of your router.

Important: Valid entry is precondition for dispatching emails

TIME SERVER

EIBPORT can be used as a eib clock. It fetches the actual time from a NTP server (network time protocol) and corrects its own clock accordingly. This time can be sent to other EIB subscribers by the job time- and date transmitter. You can use DNS names or IP-addresses.

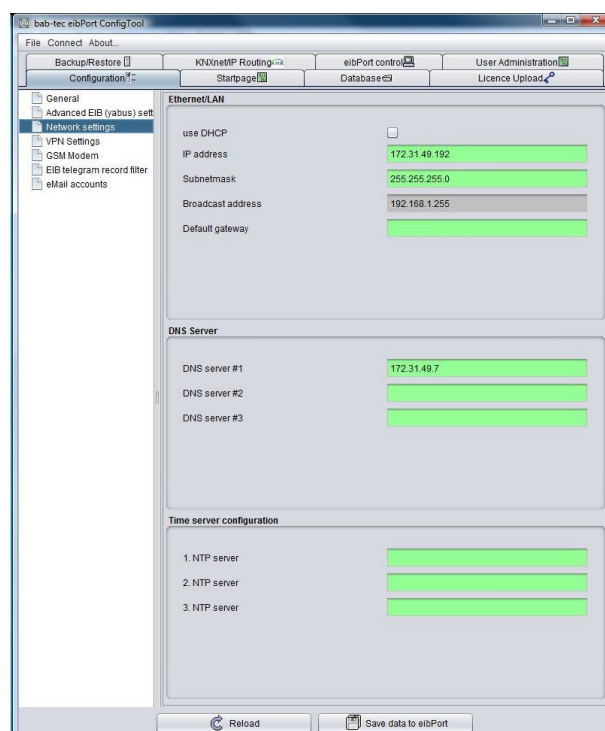


Figure 198: ConfigTool - configuration – Network settings



Public NTP server:

- Physikalische Technische Bundesanstalt ptbtime2.ptb.de
- Technical University of Berlin ntps1-0.cs.tu-berlin.de
- University of Erlangen ntp0.fau.de

Tip: The mouse-over help of the NTP servers propose two addresses that you can use as time server.

Please consider that EIBPORT has to establish a connection with the internet this should be arranged with the administration of the network. The EIBPORT daily tries to reach the time server, to synchronize time. In case attempt to reach entered NTP server will fail, EIBPORT repeats this attempt in defined periods.

9.1.2.4 VPN PPTP

VPN stands for "Virtual Private Network" and means a specially secured connection between server and client. A virtual, individual (private) network is established between the communication partners which cannot be accessed by third parties. Server and client use this network to communicate in such a way as if they were in the same network.

EIBPORT offers two different VPN solutions: "VPN PPTP" and "VPN SSL". (For "VPN SSL", see chapter [VPN SSL](#))

VPN PPTP

- Automatic configuration on client side
- Solution for iOS devices
- Server functionality only
- No longer meets current security standards

VPN SSL

- Based on OpenVPN
- Server and client functionality (BAB SECURELINK)
- Very secure
- Not possible with iOS

ENABLE THE VPN-PPTP SERVER OF THE EIBPORT

Browse the EIBPORT menu "System" > "Configuration" > "VPN PPTP" and enable the VPN-server.

- The user name "vpn" is not changeable, and the password must be minimum of 10 characters long and should contain upper and lower case letters as well as numbers and special characters.
- The VPN IP addresses are already entered by default (EIBPORT VPN IP = 192.168.42.42, Client VPN IP = 192.168.42.100).
- These addresses should not be the same as are used in the local networks in which EIBPORT or VPN-client are placed.
- If the virtual IP address has to be changed in the EIBPORT, they have to be within the same subnet (255.255.255.0). That means that these addresses must be the same in the first three parts whereas the last part must be different.

Example: In the address space 172.16.0.x only at the point "x" two different numbers (0-255, but not "0" and not "255") must be entered.

Important advices:

- The VPN-address space should not comply with the space in which VPN-client or EIBPORT are part of.
- It is only allowed to use private address space.
- The address space 10.0.0.0/8 can cause problems with windows systems
- Please choose a safe password

FIREWALL SETTINGS

In order to establish a VPN connection through the internet the router onsite needs a port forwarding rule. The necessary port number is 1723 (TCP).

ESTABLISH VPN CONNECTION WITH WINDOWS:

In order to establish the connection with VPN-server of the EIBPORT, a new network connection "VPN" must be created (if it is not done before) in the corresponding windows menu. With Windows 7 please proceed as follows:

- Access the "Network and Sharing Centre".
- Click on "Create connection or a network".
- Choose the option "Connection between network and my workplace"
- Choose the option "No, create new connection", if necessary.
- You want to use "The internet connection (VPN)".
- Please enter the external/WAN IP address or hostname of the router for the EIBPORT network, into the array "Internet address".
- Enter the "username" and "password" for the VPN connection. A "domain" must not be set.
- Push the button "Connect"!

The Windows VPN-Client now tries to establish a connection to the EIBPORT by using the entered access data. If the connection is successful, you will reach the EIBPORT by entering the IP address which is displayed in the EIBPORT menu ("EIBPORT VPN IP" = 192.168.42.42) into your browser.

If the connection can not be established successfully please choose the option "Set up connection anyway". By this it is been applied as a new connection within the network connections of Windows so that it can be adjusted or restarted at any time! You will reach the connection overview by accessing "Control Panel" > "Network and Internet" > "Network connections".

ESTABLISH VPN CONNECTION UNDER IOS

To establish the VPN connection from an iOS device to the EIBPORT, please proceed as follows. (VPN server in the EIBPORT is set up and enabled)

- Open "Settings"
- Open "VPN"
- Select "Add VPN"
- Select "Type" = "PPTP"
- Under "Server", specify the external address which can be used to reach the EIBPORT.
- Under "Account" enter the user name "vpn".
- "RSA-SecurID" remains disabled.
- Under "Password", please enter your vpn password.
- Encoding = automatic
- Send all traffic = active
- Click on "Finished".

The VPN connection has been set up. To enable it, set the status to active. If the connection is enabled, you can reach the EIBPORT by using the specified VPN IP (default = 192.168.42.42).

Note: If you have entered the connection data incorrectly, you have to cold-start the iOS as incorrect connection data would otherwise remain in the temporary store.



9.1.2.5 GSM MODEM

Settings are only relevant if the device has an integrated GSM modem (optional). To ensure the functionality of the SMS jobs (SMS sender /SMS receiver), the GSM modem in the device must be configured correctly. For this, switch to "System" – "Configuration" – "GSM settings". Two fields are shown:

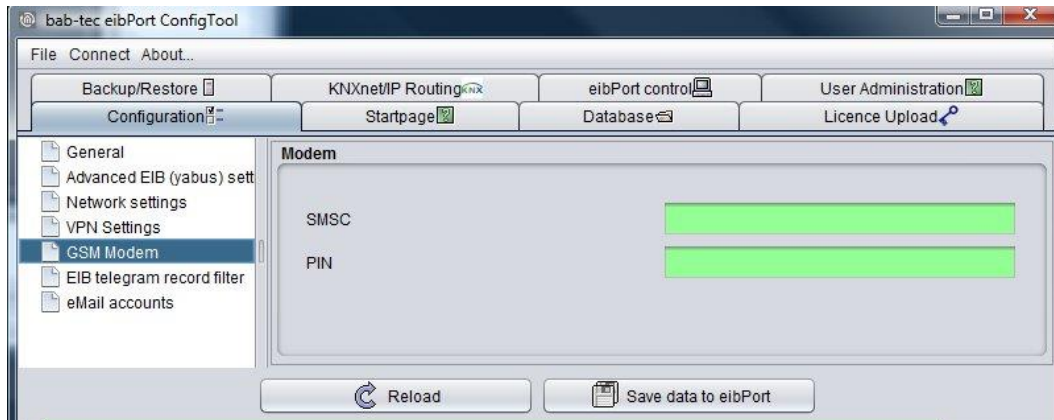


Figure 199: ConfigTool –GSM settings

- *SMSC* = At this place the number of used mobile telephone provider's SMS service center will be entered. Configuration software will read out this number automatically from inserted SIM-card. You don't have anything to enter! If no number is filled in, SIM-card was not detected correctly or no SIM-card was inserted. In case of doubt, please contact BAB-hotline or write us under info@bab-tec.de.
- *PIN* = At this place the PIN number of SIM-card has to be registered. You get the PIN-number combined with the SIM-card from your mobile telephone provider.

Please check out the equipment of your SIM-card in menu item „Help“ – „Info GSM“ of your editor (see above).

All relevant SIM-card informations, complete with the reception strength, will be displayed there.



Figure 200: Editor – GSM Info Dialogue: GSM Modem initialised

9.1.2.6 EIB- TELEGRAM RECORD FILTER

The EIBPORT has a recording buffer of 500,000 telegrams. The last 20,000 of them are also kept in the operating system of EIBPORT and can be viewed over the editor.

In this place rules can be defined, which group addresses will be accepted in memory. By this way only several group addresses or main / middle groups can be captured.

To be able to control the recording of up to 10 filter rules are applied. The filters follow the following principle:

- 1/1/1 => only records the specified address.
- 1/1/* => records the addresses of all principal and agent group 1.
- 1/*/* => records all the details of its main group 1.

Several rules can be active simultaneously.

9.1.2.7 E-MAIL

For sending emails, beside the email job configuration you have to enter the email provider which should be used. To test your job and network configuration you are able to use a presetted provider called „gmxEp“. Maximum 10 providers are possible. All applied providers will be automatically numbered (“mail_provider00” – “mail_provider09”) and will be identified by this number in the configuration mask of the email job.

To add a new provider

Happens with the help of the menu bar called “add”. You have to enter the name of the new provider. This name will appear in the menu for selecting (in ConfigTool). A new form will appear, in which you will be able to enter the following settings:

Entry

This is an automatically created identifier, which allows to identify and to choose the email provider in your job. This entry cannot be changed.

Enabled

This entry enables or disables the provider.

Default entry

This provider is used as default provider. Several providers can be selected.

SMTP Server

Here you have to enter the name of the SMTP server (Outgoing mail server) for example: “mail.gmx.net”.

SMTP port

Here you have to set the current SMTP port, which is used by the SMTP server. In case this port is not set different, the presetted port remains on 25.

Use authentication

According to the SMTP server, an authentication will be necessary. In this case this entry has to be activated.

Using TLS (Transport Layer Security)

You have to activate this entry, if the connection to the SMTP sever should be encoded. Is there no possibility to establish a TLS connection an unencrypted connection will be tried to create.

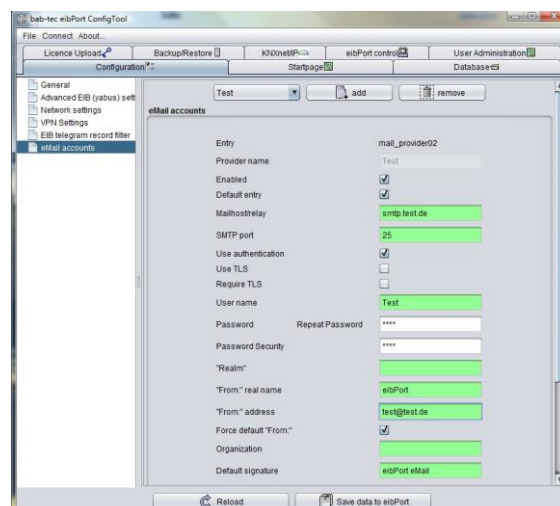


Figure 201: ConfigTool - Configuration - Email

**Require TLS**

This setting has to be activated when the SMTP server requires an encoded connection. In the case this entry is enabled, but no TLS-connection is possible, the connecting will be interrupted. An unencrypted link is not tried to establish.

User name SMTP-Server

With this username (name of email account) the EIBPORT logs on to the SMTP server (Outgoing mail server).

Password SMTP Server

Here the password for the user authentication is entered. To avoid typing errors the password has to be repeated.

“Realm“

The “Realm” entry can be necessary at some providers. It will be used for authentication, to allocate a defined area for the user. Please ask your provider or your administrator for more details.

“From“ real name

Using this name your email will be dispatched, if no other name will be entered in the configuration mask of the email job.

“From:“ address

Using this email address your email will be dispatched, if no other address will be entered in the configuration mask of the email job.

Organization and Default signature

These informations are for optional use und will be integrated in your mail.

Notice: For testing the network configuration, you can send emails in cooperation with the already applied provider. In case you are not sure about your provider settings you can also check your settings with the help of well known email clients, like Outlook or Thunderbird. You only need to apply an email account in there, which contains the same settings like it is in the EIBPORT. Doing so, you have to consider that EIBPORT settings are only matches the outgoing (SMTP) settings.

Notice: Connection to an email server only works with valid DNS Server entries. If it is not possible for EIBPORT to resolve the domain names, the email job will not start and cause problems. The information about valid DNS entries regarding to your email provider you get at the provider itself or in the internet.

The email provider can be used after saving the settings.

9.1.3 STARTPAGE

The startpage is the page, which will be displayed if the address of EIBPORT is entered in the browsers' address bar. In this tab you have the possibility to determine which behaviour takes place in this case. To use your own background image, you are able upload it into EIBPORT by function in field at the bottom.

POSSIBLE START PAGE FUNCTIONALITIES

The drop down menu "Start page" offers the following options:

Standard start page

The known start page containing the menu items *Visualisation*, *Editor*, *System* is shown (condition on delivery). The following additional settings can be made:

- *Play start sound*: A sound is played when the start page is called up
- *Display QR code*: A link with a QR code is placed on the start page. The QR code contains the URL to the EIBPORT start page.
- *Search for update*: If this option is enabled, it is verified whether the current firmware is installed on the EIBPORT.

Individual start page

The image uploaded here is used as start page. The visualisation is called up via a "Start" button which is placed on the individual background image. The following additional settings can be made:

- *Play start sound*: A sound is played when the start page is called up
- *Display QR code*: A link with a QR code is placed on the start page. The QR code contains the URL to the EIBPORT start page.
- *Search for update*: If this option is enabled, it is verified whether the current firmware is installed on the EIBPORT.
- *Display Visu button*: Determines which visualisation is to be called up via the "Start" button:
 - JAVA CONTROL (external window)
 - JAVA CONTROL (browser window)
 - CONTROL L
 - No Visu button
- *Display CUBEVISION*: The start page displays a link to CUBEVISION.
- *Display CONTROL S*: The start page displays a link to CONTROL S.

An individual start page image can be uploaded using the "Background image" menu.

JAVA CONTROL (in external window)

The "JAVA CONTROL" visualisation is immediately opened in the external window.

JAVA CONTROL (in the browser window)

The "JAVA CONTROL" visualisation is immediately opened in the browser window.

CONTROL L

The "CONTROL L" visualisation is immediately opened in the browser window.

CUBEVISION

The "CUBEVISION" visualisation is immediately opened in the browser window.

CONTROL S

The "CONTROL S" visualisation is immediately opened in the browser window.

Note: Irrespective of the settings made in this section you can access the standard start page directly via the URL <http://<EIBPORT IP>/bmxJava2/default.php>



Additional options

These options can be selected, which will appear after that on the front page, for example „QR code“ and „ Searching for updates“. At this place also can be enabled or disabled „start sound“.

Autologin

If the start page setting changes at the same time enabled user management (for visualization), it is necessary for direct access to the visualization, to give the user data in the URL call. Otherwise, first the username and password is required. The information can be found in the "[Autologin / Log Remember](#)".

9.1.4 DATABASE

EIBPORT is able to establish a connection to a databases to store informations about switching operation, status and log-information.

Add Database Connection

With a right click on left column, context menu will open and a new „database connection“ can be created. Following parameters have to enter in mask:

- Description: Under this name database connection in EIBPORT will be applied.
- Enabled: Activates and inactivates database connection.
- DB-Type: At the moment EIBPORT
- Host: IP-address of computer, on which the database server is installed.
- Port: Port for database communication. Standard port is 3306.
- Database: Name of database on specified database server.
- Username: The username for the database access.
- Password: The password for the database access.

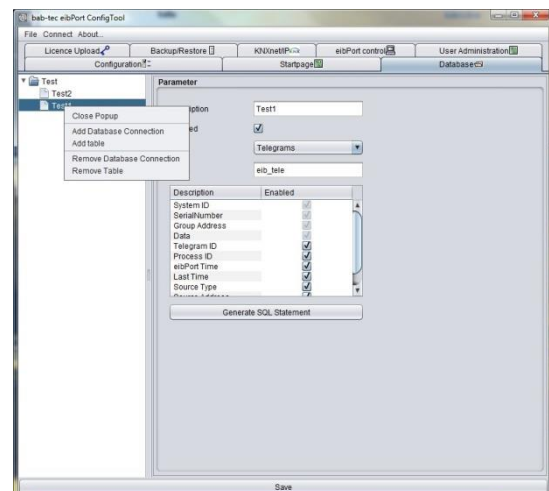


Figure 202: ConfigTool - Database connection

Please note: User has to own the rights INSERT, DELETE, UPDATE, CREATE and DROP for administration of MySQL server.

Afterwards parameters have to be saved and database connection will be installed. To lay out spreadsheets, in which data have to be written into, for every database connection required tables have to create by "Add Table" of context menu. Mask of table contain following parameters:

- Description: Descriptive name of table.
- Enabled: Table can be activated by this field.
- Type: There are three types of tables, which EIBPORT is able to describe. Status-, telegram- and log information spreadsheet. The difference insists on kind of information, which it contains.
- Name: Under this name, table will be applied in database.

Below it, listing will follow, describing which information will be written into database spreadsheet. If a information is not allowed, it can be disabled by a check mark.

9.1.4.1 TABLETYPES

State table

This table collects actual states of EIB group addresses and their time stamps. This kind of table is necessary among others for CONTROL S (before version 0.8.5).

Telegrams

All EIB/KNX telegrams (group address, value and time) will be collected in this table.

Log Messages

In this table log information will be captured. For example informations about SMS dispatch. Recording depth of these log informations can be set in ConfigTool ("System").

Telegrams	State Table	Log Messages
System ID	Serialnumber	EIBPORT time
Serialnumber	Groupaddress	Relevance
Groupaddress	Data	Serialnumber
Data	Telegram ID	Source
Telegram ID	Process ID	Text
Process ID	EIBPORT time	Process ID
EIBPORT time	Initial time	Latest time
Latest time	Latest time	Log ID
Source type	Source type	Repetition counter
Source address	Source address	
Routing counter	Routing counter	
	Update counter	

Generate SQL Statement

By switch area „Generate SQL-Statement“ according statements will be created, which induces database server to apply a database with corresponding tables. With check marks in the upper part of the window statements can be changed, in case an existing database with a similar name has to be erased.

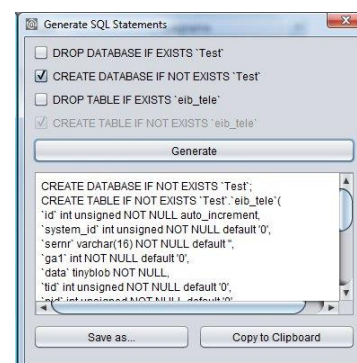


Figure 203: ConfigTool - Database connection- Generate SQL statement



9.1.5 LICENCE UPLOAD

In order that CONTROL R can be used unrestrictedly, a licence will be necessary. CONTROL R acts as controller of greater objects, like schools or hotel plants (see chapter “*Room*”). . For CONTROL S there is no licence needed anymore. It is obsolete since firmware version 0.11.5 (EIBPORT hardware 2.1).

The CONTROL R could be applied, but without a licence it will not be able to generate data. Licence file (*.dat) has to be uploaded to EIBPORT at this place.

Licence data will be chosen by using the file-browser opening with “Choose Licencefile“. And will be uploaded by using the button „Start Upload“. Under it, display array of the licence information is located.

Under „licences“ type of licence is shown. Following types exists:

- *HIC J2ME visualisation*: For display on PDA with own Java installation (Java 2 mobile edition)
- *HIC Ajax (Web-) Visualisation*: For display on windows media center edition PC
- *HIC iPhone Visualisation*: For display on iPhone/iPod or other current mobiles (with Java script)).
- *Room Allocation Plan*: For enabling the CONTROL R module to generate the switching data out of the projected data.

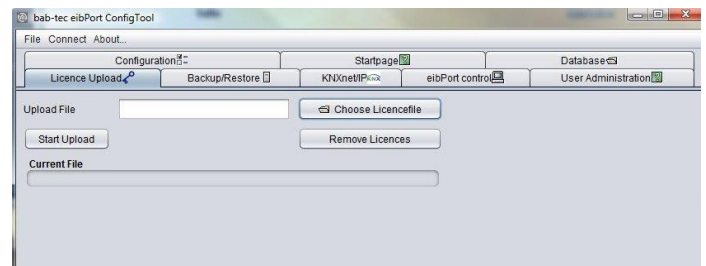


Figure 204: ConfigTool - Licence upload

Note: The types of licenses for the CONTROL S since the firmware version 0.11.5 is no longer needed because the CONTROL S has since been released from the outset. It does not matter but if the licenses are still available in older versions.

9.1.6 BACKUP/ RESTORE

EIBPORT is equipped with functions for „Backup and restore“. Configuration data and all job-, visualisation-, and allocation plan data can be backed up and later on can be restored. Saving and restoring can also happen for particular types of data.

- Configuration
- Jobs
- Visu-Project & Images
- Room Allocation Plan

Configuration

In configuration data all settings of ConfigTool are stored, but not those of connection settings of LAN (IP-address) and, if existing, those of ISDN. In case these data would be saved, it would be possible to be locked out from unit after restoring. Furthermore state- and recording table of EIBPORT will be saved by this adjustment.

Jobs

Job data contains only services, which will be set up in job editor. Job data will not claim much storage space, so that data saving will proceed as quickly as possible. Saved jobs will be written automatically in available folder.

Attention: Already existing jobs will be overwritten by restore.

Visu-Project & pictures

In these data all created visualisation projects will be saved. To these data belongs images and free components (switches from component bulder), which are uploaded into EIBPORT.

Room Allocation Plan (CONTROL R)

Contains all data of created room allocation plan (CONTROL R) projects. It stores the built plan and the generated data from that. EIBPORT could only generate data out of the created plan, if it has a valid licence for that (see chapter [“Licence upload”](#)). One room allocation plan (CONTROL R) project can also be saved and restored solitary. A detailed documentation about room allocation plan can be demanded under info@bab-tec.de

Telegramm History

The EIBPORT has an internal table record for 500,000 telegrams. Based on these message history graphs are drawn in the visualization. Thus, the same data after a restore provide, you can be backed up. The backup is not done, can be used in the target device, the existing data in the visualization and the display is faulty.

BACKUP

A backup of one EIBPORT project can happen in editor and in configTool. By editor, backup file will be applied in the home directory of used computer and the file name will contain the serial number and current date. By backup over configTool, not only filename can be freely selected, but also supplementary information will be stored. This includes the creation date of the backup, the version and name of EIBPORT. Furthermore a comment field offers possibilities to store additional information to the backup file. Moreover it can be made precise distinctions by using check-boxes, which parts of the EIBPORT project should be saved (see above). The file extension of backup file is „*.epb“ (EIBPORT backup)

Please note: Back-up of a project should be performed after every modification, so you can restore last actual status in an emergency.

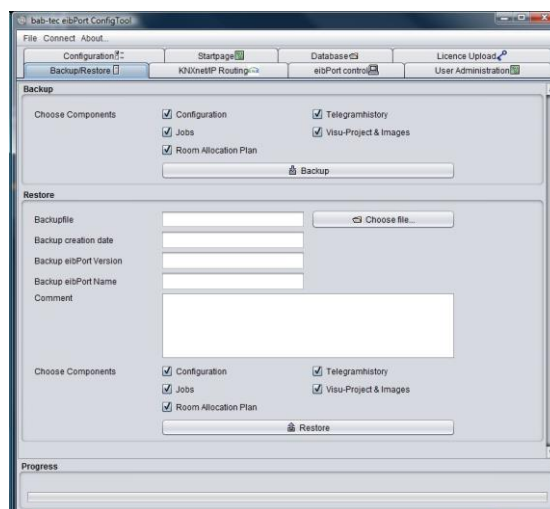


Figure 205: ConfigTool - Save / restore



RESTORE

If desired restore file has been chosen, four check marks will display, which data the backup file contains. Is it, for example, a backup file of configuration, check marks on „jobs“, „Visu-project & pictures“ and „Room Allocation Plan“ are not set. With a backup file, which saved more than one type of data, it can be defined by check mark, which part of backup file will be restored. So it is possible to restore only job data out of a complete backup file. At this place, date of backup including time, the version and name of EIBPORT and the personal comment will be displayed.

Compability

Different EIBPORT versions are created in this manner, that a downwards compability is get. That means that projects which are created with older versions, can be uploaded to newly versions without any problems.

Exception: Units of hardware version 1. Project data of this version (up to firmware 0.3.17) can not be loaded in newly units.

Important: Projects, which are created by newly versions can not loaded up in older versions!

9.1.7 EIBPORT CONTROL

LED test: Test of signal-LEDs.

BCU Reset: Restart of BCU (Bus Coupling Unit).

Warmstart: Restart of internal applications.

Coldstart: Completely restart (equivalent to disconnect from power supply)

9.1.8 VPN SSL

VPN stands for "Virtual Private Network" and means a specially secured connection between server and client. A virtual, individual (private) network is established between the communication partners which cannot be accessed by third parties. Server and client use this network to communicate in such a way as if they were in the same network.

EIBPORT offers two different VPN solutions: "VPN PPTP" and "VPN SSL". (For "VPN PPTP", see chapter [VPN PPTP](#))

VPN PPTP

- Automatic configuration on client side
- Solution for iOS devices
- Server functionality only
- No longer meets current security standards

VPN SSL

- Based on OpenVPN
- Server and client functionality (BAB SECURELINK)
- Very secure
- Not possible with iOS

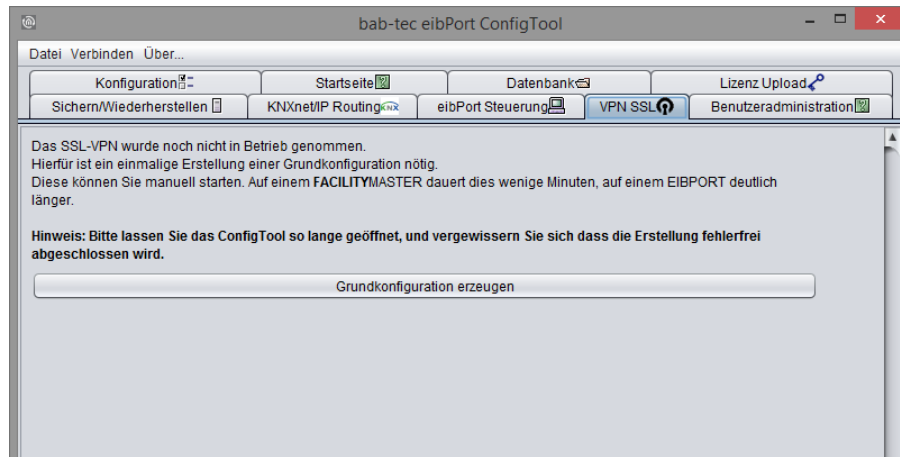


Figure 206: System – VPN SSL

The VPN SSL service in the EIBPORT offers two functionalities:

- Establishing a BAB **SECURELINK** connection (device serves as VPN client) to other BAB devices (**LINKMODULE**, **EIBPORT**, **FACILITYMASTER**)
- VPN server for a secure connection between PC and **LINKMODULE** via an OpenVPN client

To be able to use these functionalities, it is important to initialise the integrated VPN SSL server after commissioning, see below

INITIALISING VPN SSL SERVER

To be able to use the services relevant to VPN SSL (BAB **SECURELINK**, VPN Server) in the EIBPORT, the VPN server has to be initialised once. To do so, click on "Start basic configuration" in the "VPN SSL" menu.

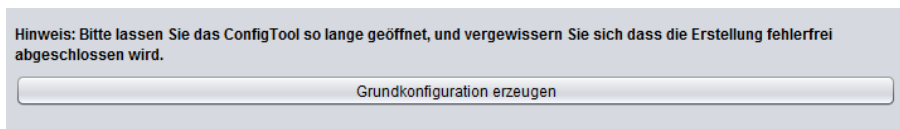


Figure 207: System – VPN SSL, starting basic configuration

Note: Initialising takes approx. 50 minutes. During this time the required certificates are generated. Do not switch off the EIBPORT while this process takes place.

After the VPN server has been successfully initialised (see above) the VPN server settings are displayed.



Figure 208: System – VPN SSL, server initialised

VPN SERVER SETTINGS (FOR INCOMING CONNECTIONS)

The following parameters are available for configuring the VPN server for incoming connections:

- Enable VPN server: VPN server is only enabled if the box is checked.
- Display server log: "CLIENT LIST", "ROUTING TABLE" and "GLOBAL STATS" are displayed.
- External IP address / host name: Please enter here the address under which the EIBPORT can be reached from outside. If the incoming connection (a VPN client wanting to connect with the server) is from the same network, enter here the local IP address of the EIBPORT. If it is an external connection, the external address of the corresponding network has to be used (e. g. the external IP address of the DSL router).
- EIBPORT VPN IP: Specifies the IP address allocated to the EIBPORT within the VPN network.
- VPN port: Specifies the port number on which the VPN service communicates.
- VPN subnetwork IP range: Specifies the IP range in which the VPN network is created (10.8.0.0 is set as default).
- VPN subnetwork mask: Specifies the subnetwork range of the VPN IP range (255.255.255.0 is set as default).
- Maximum number of clients: This number specifies how many VPN clients are able to connect with the server.
- Saving settings: Saves the settings.

Note: The VPN server is only active after "Enable VPN server" has been highlighted and the settings have been saved.

CREATE OPENVPN (VPN CLIENT) CONFIGURATION FILE

Helps to establish a VPN connection between computer and EIBPORT. The required VPN connection settings are compiled in an OpenVPN configuration file and saved on the local computer. OpenVPN is a free software for establishing **VPN** connections for almost all operating systems.

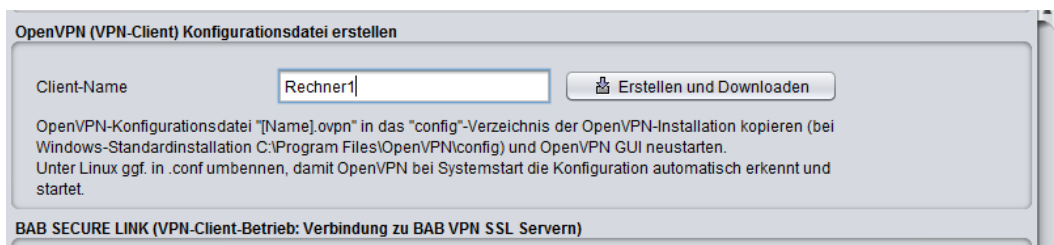


Figure 209: VPN SSL – Creating and downloading OpenVPN file

Please download the correct OpenVPN client software for your operating system.

- Windows: "OpenVPN GUI" (from www.openvpn.net)
- MAC OS: "Tunnelblick" (from www.tunnelblick.net)
- Android: "OpenVPN for Android" (from Google PlayStore)
- iOS: currently not supported ("Inline mode" is not supported)

The current download links are also available on our website: www.bab-tec.de.

- Enter a unique name for the configuration file under "Client name". This name will later be used to identify the computer in the list of "Known clients".
- Click on "Create and download". A browser dialog for downloading the "*.ovpn" configuration file opens. Save the configuration file on your computer. At the same time the configuration file will be included as known client in the list of "Known clients and issued certificates".
- Copy the OpenVPN configuration file '[Name].ovpn' into the 'config' directory of the OpenVPN installation (in Windows "OpenVPN GUI". Standard path: „C:\Program Files\OpenVPN\config“, in MAC OS simply open the file using "Tunnelblick") and restart OpenVPN GUI.
- The context menu of the OpenVPN client then shows all configuration files loaded for the connection. Click on the desired connection name to connect.

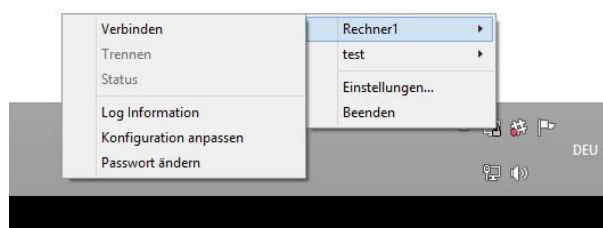


Figure 210: Establishing OpenVPN GUI connection

- A window containing log messages opens and a connection attempt is started. If the connection is successfully established, the colour of the icon in the Windows system tray changes (green) and a message to this respect is shown.

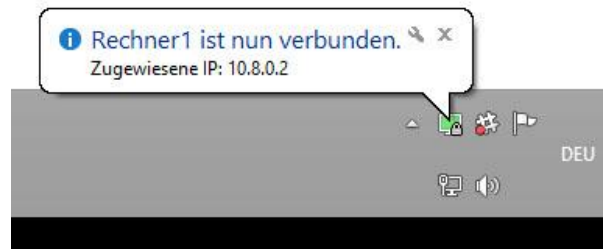


Figure 211: OpenVPN GUI – connection established

KNOWN CLIENTS AND ISSUED CERTIFICATES

This list contains all configuration files that have been created.

Client-Name	Client VPN-IP	Client IP	Verbunden seit	
Rechner1	10.8.0.5		Wed Mar 23 15:42:26 2...	Zertifikat
iPadTst	10.8.0.4	Nicht verbunden	Nicht verbunden	Zertifikat
mario1234	10.8.0.2	Nicht verbunden	Nicht verbunden	Zertifikat
teste	10.8.0.3	Nicht verbunden	Nicht verbunden	Zertifikat

Figure 212: OpenVPN – list of known clients

If a connection is active, the corresponding values are shown in "Client IP" and "Connected since".

Certificate

Each connected client has been allocated its own certificate by the configuration file. The certificate can be displayed using the "Certificate" button, downloaded ("Download") or blocked ("Block").

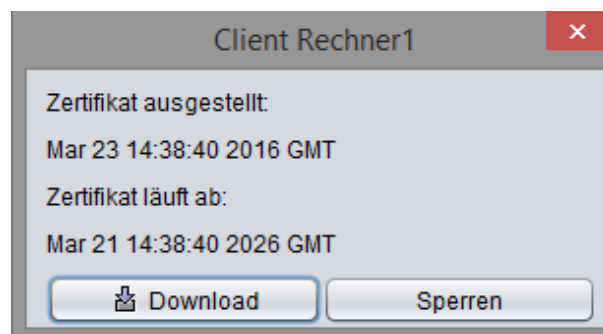


Figure 213: OpenVPN Client – displaying the certificate

Block client

To block a connected client, use the "Block" function in the "Certificate" menu. The client connection will be interrupted immediately. To be able to use the client again, the block has to be deleted and a configuration file has to be re-created.

- Open "Certificate" again. Click on "Delete". You can then load a configuration file for the same client name in the Certificate window.

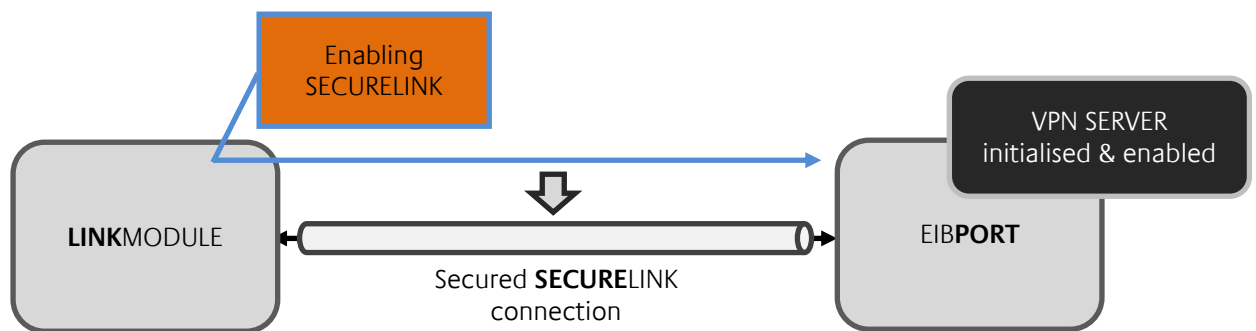
9.1.8.1 BAB SECURELINK

A BAB **SECURELINK** connection is a VPN connection specially adapted to BAB devices which enables you to easily set up secure coupling of several system parts over network domains. Currently, **SECURELINK** is available for the following devices:

- **LINKMODULE**
- **EIBPORT**
- **FACILITYMASTER**

CONNECTION PRINCIPLE

The figure below provides an example of the **SECURELINK** connection principle by describing a connection between **LINKMODULE** and **EIBPORT**. The device (here: **LINKMODULE**) from which the **SECURELINK** connection is established serves as VPN client, the requested device is the VPN server (here: **EIBPORT**). In addition, the **EIBPORT** can serve as client and, like the **LINKMODULE**, establish a connection to a **FACILITYMASTER**.



REQUIREMENTS

The following requirements must be met for a successful **SECURELINK** connection:

- Complete network settings in both devices (Standard Gateway, DNS)
- VPN server in the opposite device must be initialised and enabled (use correct external IP address / host name)
- Communication on TCP port 1724 possible between both devices



ESTABLISHING SECURELINK CONNECTION

To establish a **SECURELINK** connection proceed as follows:

- Go to the "BAB SECURELINK" configuration window.
- Fill in the fields under BAB SECURELINK.
 - *BAB VPN server address:* Enter here the IP address or host name of the opposite BAB devices which has enabled the VPN server.
 - *BAB VPN server HTTP port:* Enter here the http port of the opposite BAB device
 - *BAB device account / password:* Specify the "admin" user data of the opposite BAB device.

Figure 214: BAB SECURELINK menu

- Click on "Retrieve from server". The required **SECURELINK** user data will be loaded from the remote BAB device.
- Check the box "Enable connection" under "Connection status". The connection will then be established.

Display client log

Displays log messages for checking the connection.

Test VPN connection

This function enables pre-testing of the VPN connection.

9.1.9 USER ADMINISTRATION

User administration of ConfigTool is independent from the user management for the visualization (Visualisation Editor). Here you are able to administrate user access to Editor and ConfigTool ("System"). To manage access to visualisation and its projects, the user management in the Editor has to be activated.

In menu you can find a table of applied user. In delivery condition only user "administrator" is entered. In the first column real name and in the second column user name will be shown. Last column shows, if user is visible or not. This column serves only for information. If user should be visible in selection menu of account or not, can be defined in the user settings.

Name	Username	Visible
Administrator	admin	<input checked="" type="checkbox"/>
User 3	Testuser	<input checked="" type="checkbox"/>

Figure 215: ConfigTool - user administration

9.1.9.1 ADD USER

One new user will be applied by button „Add user“. At first name of user has to be defined. This is the name, which will be requested later on by registration process. After confirming with „OK“, user will appear in the list. As the real name automatically „User“ will be entered. Account „user“ will be numbered serially self acting. Every user will be applied initially without any rights.

9.1.9.2 ASSINGING USER PRIVILEGES

New applied users own no rights. To apply these or to modify rights of an existing account, you have to open the context menu by a right click to user name. This menu offers the possibility to edit user or to erase user. By selecting „edit“, a new dialogue will appear, in which specific settings of a user can be made.

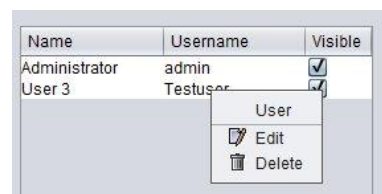


Figure 216: ConfigTool - user administration - edit user

User

Label of user, not the account name.

Username

Account name for registration (will be determined by applying of a new user)

Password

Password for the user account. For invoiding typing errors password has to be entered twice.

Change password

If set, user will be invited to enter a new password by next registration.

Visible

If set, user name will be displayed in user selection list.

Visualization editor

Only when set, user will get access to visualisation editor.

Following parameter define, on which areas in configtool, user will get access. To release access, check mark has to be set. Areas, which are not be released, will be blanked out for respective user in configtool.

User administration

If set, user gets acces to user administration of configtool.

Database Configuration

Access to the tab „database connection“.

Startpage

Access to the startpage settings.

Licence Upload

Access to licence upload.

ABB KNXnet/IP

Access to ABB KNXnet/IP.

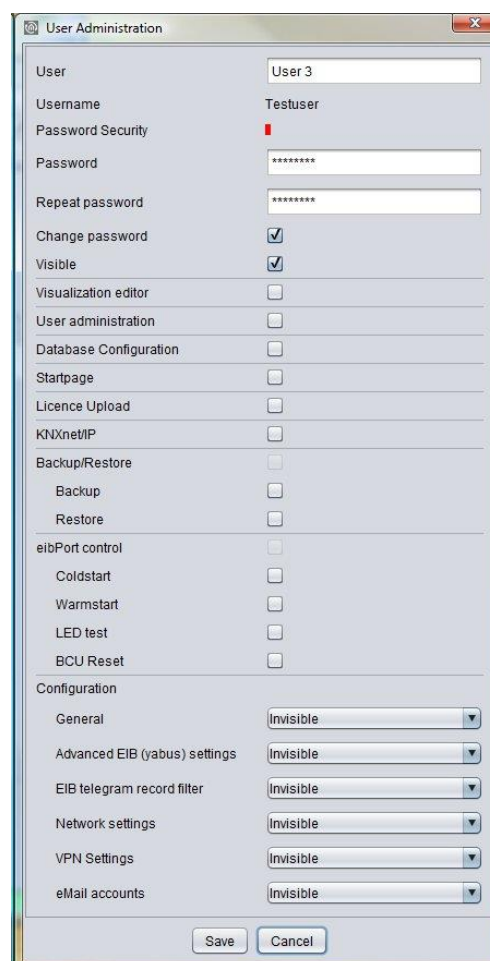


Figure 217: ConfigTool - Assigning user privileges

**KNXnet/IP**

Access to KNXnet/IP settings.

Backup/restore

Access to the backup / restore dialogue, in which access to backup or restore can be managed particularly.

EIBPORT control

Access to the EIBPORT control. It can be set particularly, which function of four functions user is allowed to operate.

Configuration

For options in configuration menu, access can not only be blocked, but also subdivided in five steps.

- *Invisibler:* Parameter categorie is blinded out.
- *Level 1:* Commissioning; only parameter will be shown, which will be necessary for start-up.
- *Level 2:* Standard
- *Level 3:* Extended access
- *Level 4:* Complet access to all parameters.

By mouse-over help (to pause awhile pointer of mouse to selected step) will be displayed, which settings in which level would be activated. Detail “false” means inhibition of settings, “true” means, that setting can be modified.

After modifying the settings, you have to save them.

To delete a user

A user will be erased with the help of the context menu (right click on user name in user overview).



10 OBJECT STRUCTURE / ADDRESS SPACE

EIBPORT emulates structure of communications objects of KNX. That means, to every object can be allocated up to five group addresses. Therefore placing of group address, for example of an actor channel, can be emulated directly. In this way EIBPORT will be informed in every time about real state of actor (not group address) and expensive working with feedback can remain undone. This procedure simplifies creating of logical connections, because to every input object of gatter can allocated up to five group addresses.

10.1 EIBPORT ADDRESS SPACE:

EIBPORT supports 32 maingroups (in 2- oder 3-digits spelling). There are divided as follows:

0–15 real EIB-Address space

Real address space will be sent from EIBPORT to KNX.

16–31 virtual EIB-Address space

Virtual address space will be used by EIBPORT in network and intra EIBPORT.

Based on this address division, real EIB-bus load can be reduced. One in network bound on central visualisation can directly activate or inactivate, for example a timer, without to burden EIB.

10.2 GENERAL SYNTAX

After first group address, following addresses have to set in brackets, separated by comma.

Example: 2/12(2/13,2/14,2/15,2/16)



11 KNXNET/IP | ETS

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
------------	------

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 218: 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.

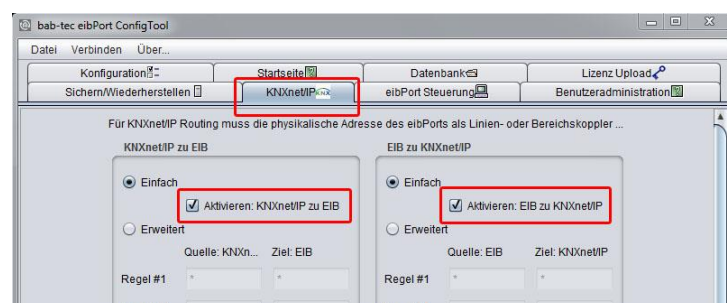


Figure 219: Enabling KNXnet/IP routing

11.1 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](#)

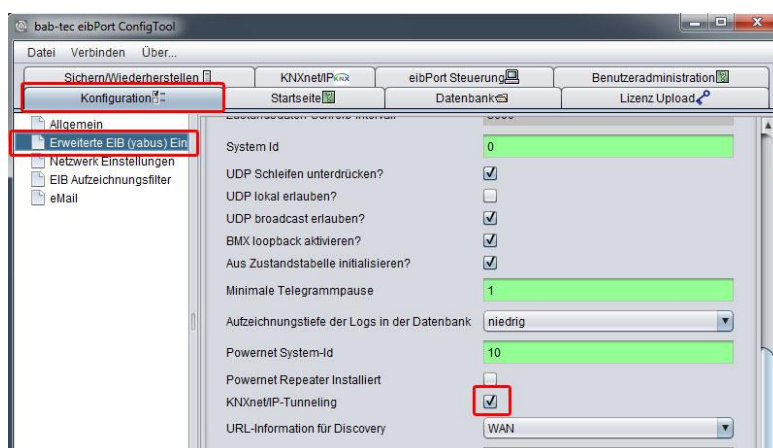


Figure 220: Enabling KNXnet/IP tunneling

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.



11.2 CREATE A VALID ETS RECORD FOR THE EIBPORT

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.

11.3 EXPORT THE GROUP ADDRESSE FROM THE ETS (ESF FILE)

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:

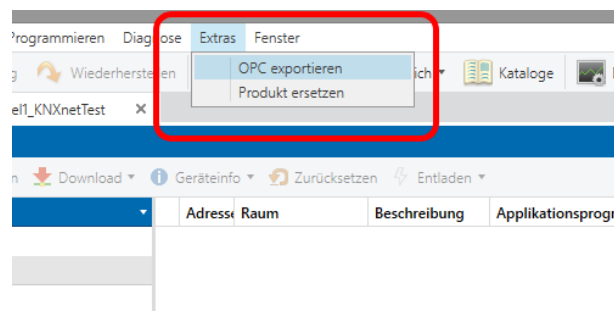


Figure 221: ETS 5 - ESF export

- 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.

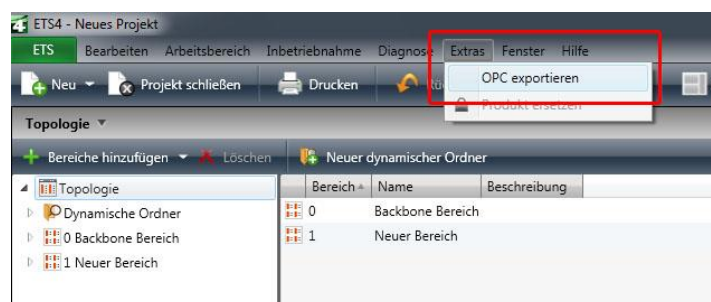


Figure 222: ETS 4 - ESF export

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 223: ETS - exporting ESF file

ADDRESS STRUCTURE SINCE ETS 4

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.



12 PUBLIC IP-ADDRESSES / DYNDNS

In most frequent cases EIBPORT will be situated in a local (privat) network and it will be connected with internet by a router. In such public network like internet, it is necessary, that every user holds his own address und this address have to be unique. This address will be assigned to router by internet service provider (ISP)

Static IP-Address

To get one static internet address, you have to sign a contract with the provider. Corresponding router and thereby the network behind it, will always be reachable by that same address.

Dynamic IP-Address

This kind of address is mostly current in privat surroundings (DSL flatrate etc.) Opposite to statical IP-address, router will get from ISP one random address out of his address space. This address indeed will be unique, but it will be often altered relatively. Every time, if router will connect to internet again, it will get another address. This happens at last after 24 h. If you take the same way for connecting EIBPORT, so it will not be reachable after 24 h at last, because address will not be correct further.

In internet you will find services for free (for example dyndns.org), which will connect dynamic IP-addresses with a so called domain name. That have the advantage that user doesn't has to memorize no unhandy combinations of numbers, but to notice only one name like "athome.dyndns.org" By the help of this unique address, EIBPORT is always be reachable, although real address behind will change constantly. For this service a router will be necessary, which supports dynamic DNS addresses..

13 CHANGE THE LANGUAGE

Because all components of EIBPORT are so called Java-applets, you have to change language not in EIBPORT, but in Java VM. TJava will load up corresponding language files (if available) out of unit and displays desired speech. By “localisation function” in editor, the language file can downloaded, modified and uploaded again.

Dialogue can also be seen in the localization language files that are already included in the editor. When you upload the revised language is intended file on a menu in the dialogue which language localization file contains the new. After that, the language will only be set in the Java VM. The default language setting of the Java machine depend on the language of the operating system on which it is installed.

Language setting of Java VM will be changed as follows:

- In Windows on *start -> settings -> systemcontrol*
- Double click on java symbol
- Change to tab Java
- Under Java-Applet run time settings click on „display“ – Window Java runtime settings will open.
-

To enter desired language according to following syntax:

German	-Duser.language=de
English	-Duser.language=en
Swedish	-Duser.language=se
France	-Duser.language=fr
Spain	-Duser.language=es
Netherlands	-Duser.language=nl
Italian	-Duser.language=it



Figure 224: Java Control Panel - change of language

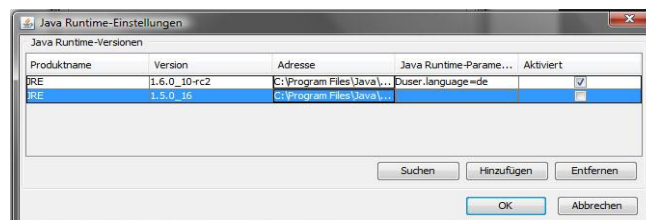


Figure 225: Java Runtime settings - change of language

In case on client PC will be installed several Java versions, desired parameter has to enter in all runtime parameters. Should windows will use an older Java for one function, so language will also be set.

- Control field closing with “ok” .
- Important: To close all browser windows, to restart browser completely.

After restart of browser and call up of EIBPORT, desired language will be displayed.



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15 APPENDIX

Appendix 1: Status LED

Description of LED-functionality:

Current operating state of EIBPORT are displayed by LEDs at the front side of unit. During boot phase power-LED will shine orange for ca. 30 sec. End of boot phase is signalled by a test of all LEDs. After ending of boot phase, power LED has to shine green.

At this LED will show following conditions:

POWER-LED

LED Anzeige	Status
OFF	The device is not ready for operation. There is no power supply
GREEN	The device is ready for operation.
ORANGE	The device is booting

BMX-LED

LED Anzeige	Status
OFF	The application server is not running. Only access to the EIBPORT startpage.
GREEN	The application server is running..
GREEN flashing	Indicates current communication via BMX-Protocol.

EIB-LED

LED Anzeige	Status
OFF	The KNX-driver is not running.
RED	The EIBPORT starts the KNX-driver.
GREEN	The KNX-driver is running.
ORANGE	KNX-driver processes telegrams.

LAN-LED

LED Anzeige	Status
OFF	The device is not connected to LAN.
GREEN	EIBPORT has a connection to the LAN on OSI Layer 2.
ORANGE flashing	The device is exchanging data with the LAN.



Appendix 2: Control characters for value objects

In some jobs of the EIBPORT it is able to assign value objects. Therefore it is necessary to fill in control characters into the continuous text depending on the chosen EIS Value. At first the EIS Value has to be parameterized. Values are placed between replacement characters “%” (always without quotes) and “f” (to end the replacement characters string) within the text. With all numeric values the following format should be used:

%[Amount of integer digits].[Amount of decimal digits]f

These replacement characters can be placed anywhere in the text.

Example:

A floating point digit should be displayed with 5 integer digits and 2 decimal digits. Text entries:

“ ... Text %5.2f Text ... ”

Should the prefix be shown in the text, the following entries have to be done. Text entries:

“ ... Text -5.2f Text... ”

Should be displayed the appropriate amount of digits correctly in the text the following entries have to be done:

“... Text %.1f Text...”

If a percent sign should be displayed in the text, the sign has to be entered twice:

“The tank is filled up %.1f%%.”

Or (without decimal places):

“The tank is filled up %.0f%%.”

The following text is then displayed:

“The tank is filled up 82.3%.”

If an EIS 3 or EIS 54 type value is chosen, a “%s” must be entered into the continuous text.

Appendix 3: camera

By EIBPORT, pictures of network cameras will be displayed directly in visualisation or in a separated windows. With the function event camera, automatically will be changed to visualisation page, resp. window of camera pictures will be placed in forefront, by triggering through respective group address.

To integrate camera

Every network-enabled camera can be integrated in visualisation. To display camera picture in its own window, camera element “as icon” has to be inserted. In data field “URL” you have to enter the complete network path to the camera, with prefixed HTTP: (for example: <http://192.168.1.2/record/curent.jpg>)

To display directly camera pictures as a picture in visualisation, option “as icon” must not be activated. . In data field “URL” you have to enter the complete network path to the camera, with prefixed HTTP: (for example: <http://192.168.1.2/record/curent.jpg>)

Please note: How you call up picture memory of camera, depends on manufacturer and model of your camera. Please read operation manual of your network camera or please get informed on website of manufacturer. .

MJPEG-camera

To integrate MJPEG-streams in visualisation, option “MJPEG-camera” has to be activated and path to MJPEG stream of camera has to be connected.

Event camera

To display camera pictures automatically in separat window, after triggerinmg by respective group address, option “as icon” has to be activated. Um das Kamerabild bei Auslösung durch die entsprechende Gruppenadresse automatisch in einem eigenen Fenster erscheinen zu lassen, muss die Option „als Icon“. . In data field “URL” you have to enter the complete network path to the camera, with prefixed HTTP: (for example: <http://192.168.1.2/record/curent.jpg>)

Please note:

For this picture function, camera has to possess its own cache, in which pictures will be stored as JPEG files. Path of picture cache depends on manufacturer of camera. Therefore please read operation manual of your camera. In case, path should not be known, you can find for download a helpful program under <http://www.go1984.de> in download area. This program will know most of current IP-camera models



Appendix 4: xPL- requirements

To use functions of xPL sender and receiver, service xPLhub has to be activated. .

xPL- Hub

xPL-Hub is a part of windows` xPL installation and will be necessary for every xPL application. This service listens to xPL telegrams out of network and pass them to xPL programmes. Hub ist able to support several xPL programmes at the same time. xPL hub applys port 3865, whereas this port has to be released in firewall.

Special NAS drives

Most NAS drives have a special Linux firmware. This can then install the SqueezeCenter™ software while, but at the EXPL plugin to copy the drive special privileges to hidden folders needed. This can be solved only by thorough knowledge of Linux. Moreover, the xPL stroke, an important tool to control the EIB / KNX is to enable the world to install not so easy. It must be adapted specifically for the hardware of the NAS drive. For this reason, company BAB TECHNOLOGIE GmbH offers Synology NAS drives, the manufacturer, which are provided on request with a specially developed installation package. Then there are all necessary components installed. Inquiries should be directed to info@bab-tec.de.

xPL-Hal-Manager

By xPL-manager, you can see all xPL-user in a network. In xPL Hal manager you will find under xPL devices also values for xPL-manufacturer, xPL-device and xPL instance. The manager offers one monitor and one transmit function for testing your settings. XPL HAL manager will not be necessary imperatively, but only it will ease settings and will enable testing your setting.

Manager

Tools Help

2.168.51.200

Scripts

Determinators

Events

x10

xPL Devices

Globals

Vendor	Device	Instance
BABTEC	EIBPORT	BT0120019911
SLIMDEV	SLIMSERV	19216851201

Further informations for installation und adjustment and also links for download of xPL-Hub and xPL-Hal-manager you will find in internet www.xplhal.org

Addressing of xPL Geräte

Address of xPLdevices look like as follows: :

[manufacturer].[device].[instance]

Thereby following address for SqueezeCenter™ will appear:

„slimdev-slimserv.instanz“

EIBPORT always sends by address:

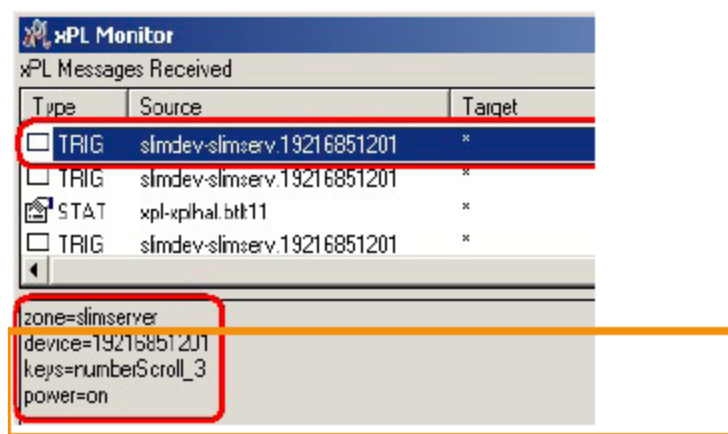
„babtec-eibport.[Serialnumber]“

These values can be extracted from xPL-Hal manager under xPL device. The Instance will correlate the name of the Squeezebox™, e.g. LIVING ROOM. Please consider by naming of Squeezebox™, that a number of 15 digits should not be exceeded. Name of Squeezebox™ could by entered by SqueezeCenter™ (settings > player).

In case Squeezebox™ haven` t got one name, xPL-Hub will take the numerical order of IP-address for naming. Subsequent modifications of IP-address will not be accepted by the xPL- Hub, therefore it is necessary to give one unique name to SqueezeCenter™, under “settings > player”

Tipp: xPL-settings:

You can reach xPL settings simplest by use of xPL-Hal manager monitor. There you can see all xPL datagrams in network and you can deduce several parameter. Following figure shows a part of monitor, in the lower part of window you can see all important informations



A detailed manual for application of music control by EIBPORT, you will find in document “multiroom audio control” of attached CD or you will get them on demand under info@bab-tec.de.



Appendix 5: EIS types

Pos.	EIS-Type	Description	Resolution	Datatype	Range
1	EIS 1	switching	1 Bit	DPT 1.001	[0 .. 1]
2	EIS 2	switching	1 Bit	DPT 1.001	[0 .. 1]
3	EIS 2	dimming relatively	4 Bit	DPT 3.007	[brighter .. darker .. stop]
4	EIS 2	dimming value absolut	1 Byte	DPT 5.001	[0% .. 100%] (step size 0,4%)
5	EIS 3	time	3 Byte	DPT10.001	
6	EIS 4	date	3 Byte	DPT 11.001	
7	EIS 5	number of floating points	2 Byte	DPT 9.xxx	[-671088.64 .. 670760.96]
8	EIS 6	skale	1 Byte	DPT 5.xxx	[0x .. 255x] (step size x)
9	EIS 6	percent	1 Byte	DPT 5.001	[0% .. 100%] (step size 0,4%)
10	EIS 6	angle	1 Byte	DPT 5.003	[0° .. 360°] (step size 1,41°)
11	EIS 7	drive control drive (direction)	1 Bit	DTP 1.008	[up (0) .. down (1)]
12	EIS 7	drive control step (direction) / stop	1 Bit	DTP 1.007	[up (0) .. down (1)]
13	EIS 9	number of floating points, (high accuracy)	4 Byte	DPT 14.xxx	[- 3.4028*10 ³⁸ .. 3.4028*10 ³⁸]
14	EIS 10	unsigned integer	2 Byte	DPT 7.001	[0 .. 65535]
15	EIS 10	integer with sign	2 Byte	DPT 8.001	[-32768 .. 32767]
16	EIS 11	unsigned integer (high range)	4 Byte	DPT 12.001	[0 .. 4294967296]
17	EIS 11	integer with sign (high range)	4 Byte	DPT 13.001	[-2147483648 .. 2147483647]
18	EIS 14	unsigned integer (small range)	1 Byte	DPT 5.010	[0 .. 255]
19	EIS 14	integer with sign (small range)	1 Byte	DPT 6.001	[-128 .. 127]
20	EIS 15	character string (14 ASCII digity)	14 Byte	DPT 16.000	



Appendix 6: DTP (data point type)

Pos.	Datatype	Description	Resolution	EIS Type	Range
1	DPT 1.001	switching	1 Bit	EIS 1	[0 .. 1]
2	DPT 1.001	switching	1 Bit	EIS 2	[0 .. 1]
3	DPT 1.007	drive control step (direction) / stop	1 Bit	EIS 7	[up (0) .. down (1)]
4	DPT 1.008	drive control (direction)	1 Bit	EIS 7	[up (0) .. down (1)]
5	DPT 3.007	dimming relative	4 Bit	EIS 2	[brighter .. darker .. stop]
6	DPT 5.xxx	scale	1 Byte	EIS 6	[0x .. 255x] (step size x)
7	DPT 5.001	dimming value absolut	1 Byte	EIS 2	[0% .. 100%] (step size 0,4%)
8	DPT 5.001	percent	1 Byte	EIS 6	[0% .. 100%] (step size 0,4%)
9	DPT 5.003	angle	1 Byte	EIS 6	[0° .. 360°] (step size 1,41°)
10	DPT 5.010	unsigned integer (low range)	1 Byte	EIS 14	[0 .. 255]
11	DPT 6.001	integer with sign (low range)	1 Byte	EIS 14	[-128 .. 127]
12	DPT 7.001	unsigned integer	2 Byte	EIS 10	[0 .. 65535]
13	DPT 8.001	integer with sign	2 Byte	EIS 10	[-32768 .. 32767]
14	DPT 9.xxx	number of floating points	2 Byte	EIS 5	[-671088.64 .. 670760.96]
15	DPT 10.001	time	3 Byte	EIS 3	
16	DPT 11.001	date	3 Byte	EIS 4	
17	DPT 12.001	unsigned integer (high range)	4 Byte	EIS 11	[0 .. 4294967296]
18	DPT 13.001	integer with sign (high range)	4 Byte	EIS 11	[-2147483648 .. 2147483647]
19	DPT 14.xxx	number of floating points (high accuracy)	4 Byte	EIS 9	[-3.4028*10 ³⁸ .. 3.4028*10 ³⁸]
20	DPT 16.000	Character string (14 ASCII digits)	14 Byte	EIS 15	