Product Manual

ABB i-bus® KNX

Telephone Gateway, Analogue
TG/S 3.2

Intelligent Installation Systems

This manual describes the function of the Telephone Gateway TG/S 3.2 with the user program *Notification Remote Control/2.0*.
Subject to changes and errors excepted.

Exclusion of liability:
Despite checking that the contents of this document match the hardware and software, deviations cannot be completely excluded. We therefore cannot accept any liability for this. Any necessary corrections will be inserted in new versions of the manual.
Please inform us of any suggested improvements.

Contents

1 General

This manual will support you during the commissioning and operation of the Telephone Gateway.

1.1 About this manual

This manual is intended for the commissioning engineer of the Telephone Gateway. The necessary steps for the initial commissioning are explained and the available functions are described.

1.2 Product and functional overview

Using the Telephone Gateway, it is possible to send configurable voice messages via the telephone network. In addition to the voice messages, text messages can also be sent as e-mails or SMS messages. If the device is called, it is possible to navigate through a menu using dial tones (DTMF) where states can be queried and commands can be executed.

The device has an integrated web server which enables simple operation and parameterisation via the LAN using a conventional browser.

Device features

- 100 communication objects as inputs/outputs
- Configuration of up to 10 users (name, PIN, password, telephone number, …))
- Integrated visualisation of the configured objects with simple display and operating feature via the browser
- Voice messages can be downloaded to the device as *.wav files to send the messages to the users as voice mail
- Text messages as SMS (direct to SMS centre) or as e-mail (via provider)
- Simple configuration via ETS and browser
- 230 V AC and/or 12 V DC power supply
- Simple installation on a 35 mm DIN rail in the electrical distribution board

2 Device technology

Using the Telephone Gateway, it is possible to send configurable voice messages via the telephone network. In addition to the voice messages, e-mails and SMS messages can also be sent.

If the device is called, it is possible to navigate through a menu using dial tones (DTMF), in which states can be queried and commands can be executed.

The device has an integrated web server which enables simple operation and parameterisation via the LAN.

The device can be powered with 230 V AC and/or 12 V DC.

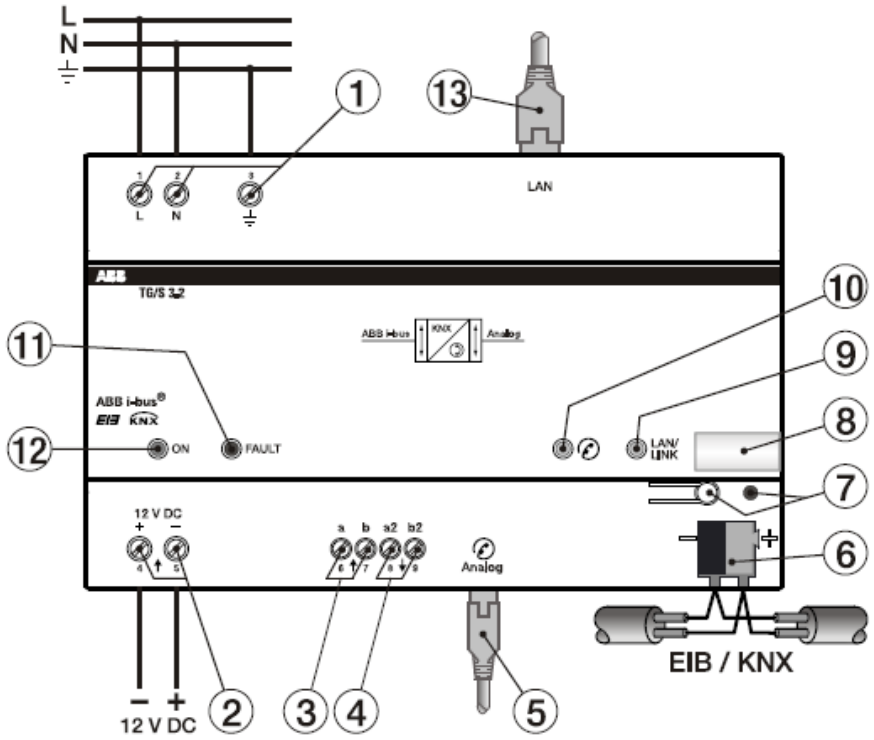
2.1 Technical data

Power supply:	- Via mains or auxiliary voltage	
	- Mains voltage range	90...265 V AC , 50/60 Hz
	- Auxiliary voltage range	10…30 V DC
	- Power consumption	Max. 2.5 W at 230 V AC Max. 2.5 W at 12 V DC
	- Total power consumption	Max. 3.0 W, typical 2.3 W
Bus voltage KNX:	- Current consumption	Max. 10 mA
Connections:	- KNX	Bus connection terminal
	- Mains voltage, auxiliary voltage	Screw terminal 0.2 … 2.5 mm^2 stranded 0,2 ... 4 mm^2 single-core
	- Telephone connection terminals	Screw terminal 0.2 … 2.5 mm^2 stranded 0.2 … 4 mm^2 single-core
	- Tightening torque	Max. 0.6 Nm
	- Telephone connection plug-in	RJ11 socket
	- LAN connection	RJ45 socket
Operating and display elements:	- ON LED green	Display for operation readiness
	- FAULT LED, red	Displays an internal device fault (e.g. application program not loaded)
	- ✆ LED, green	Displays that the device is dialling (flashing) / connection successfully established
	- LAN/LINK LED, yellow	Displays the connection to a network and telegram traffic (flashes)
Internal real-time clock	- Power reserve at voltage failure	10 h
Degree of protection:	- IP 20	to DIN EN 60529
Safety class:	- II	to DIN EN 61140
Isolation category:	- Overvoltage category	III to DIN EN 60664-1
	- Pollution degree	2 to DIN EN 60664-1
Temperature range:	- Operation	-5° C ... + 45° C
	- Storage	-25° C ... + 55° C
	- Transport	-25° C ... + 70° C
Design:	- Modular installation device (MDRC)	Modular installation device, ProM
	- Dimensions	90 x 144 x 64 mm (H x W x D)
	- Mounting width	8 modules at 18 mm
	- Mounting depth	68 mm
Installation:	On 35 mm mounting rail	to DIN EN 60 715
Mounting position:	as required	
Weight:	0.257 kg	
Housing, colour:	Plastic, grey, halogen free	
Approvals:	KNX to EN 50 090-1, -2	
CE mark:	in accordance with the EMC guideline and low voltage guideline	

Application program	Number of Communication objects	Max. number of group addresses	Max. number of associations
Notification Remote Control/2.0.	118	254	255

Note The programming requires EIB Software Tool ETS2 V1.3 or higher. If ETS3 is used a ".VD3" type file must be imported. The application program is available in the ETS2 / ETS3 at ABB/communication/telephone.

2.2 Circuit diagram



1: 230 V AC connection

2: 12 V DC connection

3: Terminal for telephone connection (exchange)

4: Terminal for outgoing telephone connection for looping

5: Telephone connection (exchange), RJ11 socket

6: KNX bus connection

7: Programming LED with programming button

8: Label carrier

9: LAN / LINK LED

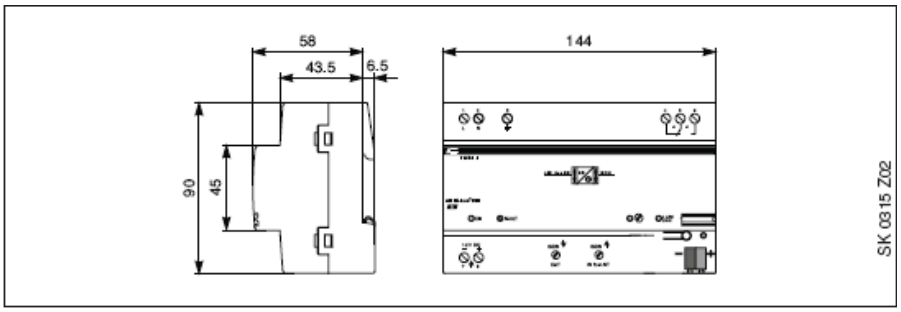
10: LED for telephone connection

11: LED for fault indication

12: Operation LED

13: LAN / Ethernet connection

2.3 Dimension drawing



2.4 Assembly and installation

Accessibility to the device for the purpose of operation, testing, visual inspection, maintenance and repair must be must be provided (conform to DIN VDE 0100-520).

Supplied state

The Telephone Gateway is supplied with the physical address 15.15.255. The IP address is set to 192.168.0.222.

2.5 Scope of delivery

The following is included in the scope of delivery for the Telephone Gateway:

- TG/S 3.2 device with bus connection terminal
- Telephone connection cable RJ11, black
- Adapter RJ11 to TAE, black
- Crossover network cable, grey
- Installation and operating instructions

2.6 Description of the inputs and outputs

Supply voltage input 230 V AC (terminals 1, 2, 3)

The 230 V AC supply voltage of the TG/S is connected to terminals 1, 2 and 3. Once the supply voltage has been connected to the system, a start routine is executed in the device. As soon as it is ready for operation (max. 150 s after connecting the supply voltage), the ‘ON’ LED on top of the device lights up.

Supply voltage input 12 V DC (terminals 4, 5)

As an alternative to the 230 V AC supply, it is possible to connect a 12 V DC supply voltage to terminals 4 and 5. Once the supply voltage has been connected to the system, a start routine is executed in the device. As soon as it is ready for operation (max. 150 s after connecting the supply voltage), the ‘ON’ LED on top of the device lights up. Supply via 12 V DC is primarily a good idea if a 12 V backup supply is available.

Note: The supply voltage on the 12 V connection must be 10 V … 30 V DC. Otherwise the device may be damaged!

Bus connection

The bus connection terminal supplied is used for connection to the KNX.

Telephone connection (RJ 11 or terminals a, b)

For connection to the telephone network, you can either use the supplied RJ11 connection cable or wire the telephone line to terminals a and b. You can find the pin assignment of the RJ11 socket in the appendix.

If you wish to loop through the telephone line, you can use terminals 2a (=a2) and 2b (=b2).

LAN connection

The network connection is carried out via an Ethernet RJ45 interface for LAN networks. The network interface can be operated with a transmission speed of 10 or 100 Mbit/s. The connection to a network is indicated by the *LAN/LINK* LED on the top of the housing.

A normal patch cable is required to connect to the LAN network.

The enclosed crossover network cable is used for direct connection of the Telephone Gateway to the network card on the PC.

2.7 LED display on the device

ON LED, green	**Operation** *LED flashes:* - Device starts *or* - After programming of the device with the ETS the modified data is transferred to the device *or* - The flashing function has been triggered with the TG software tool *LED continuous on:* The device functions correctly.
FAULT LED, red	**Device fault** *LED flashes:* Internal fault (e.g. with initialisation of the internal modem) *LED continuous on:* The application program in the KNX bus coupler does not operate. Possible causes: - The application program has been removed - The device is programmed with the ETS - The KNX bus voltage has failed - The KNX bus voltage is not connected
LED, green	**Telephone connection active** LED flashes: An attempt to establish a connection (dialling) LED continuous on: Connection successfully established
LAN/LINK LED, yellow	**Network traffic** Displays the connection to a network and telegram traffic (flashes)

3 Commissioning

3.1 Overview

The commissioning of the TG/S is carried out in 2 steps:

1. First of all the device has to be engineered and programmed via the ETS.
2. The device is then connected to the network connection of the commissioning PC using a crossover patch cable (supplied). Using a normal web browser (e.g. Internet Explorer), settings can then be made directly on the device such as for example the user passwords, telephone numbers, e-mail addresses and the texts.

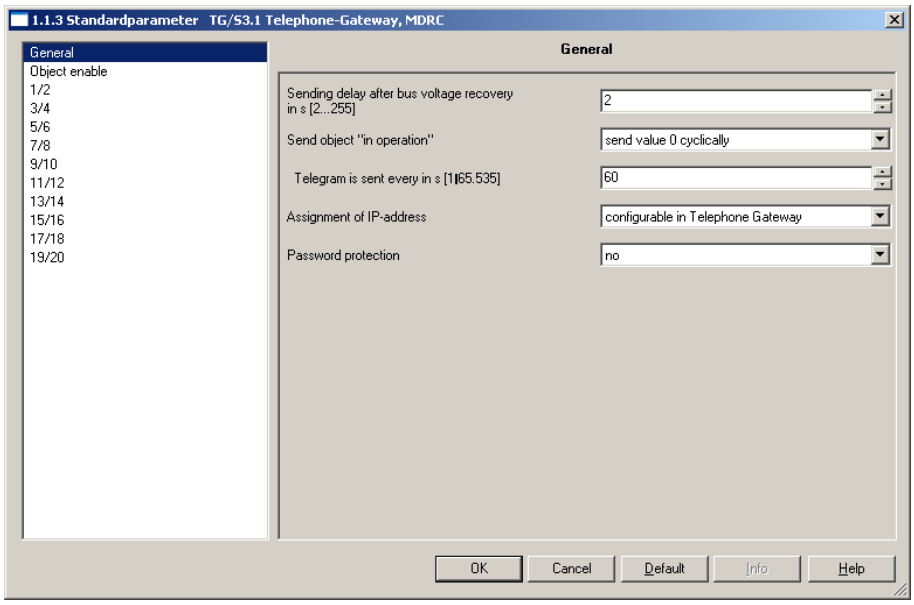
Supplied state

The device is assigned with the physical address 15.15.255 in the factory. The application program is already preloaded. In order to reprogram the device it should be completely removed using the ETS beforehand.

3.2 Parameterisation in the ETS

The first step in setting the parameters of the Telephone Gateway is undertaken with the Engineering Tool Software ETS (from ETS2 version 1.2a or higher). In the following the parameters and the communication objects of the application program *Notification Remote Control/2.0* are described. It is located in the ETS catalogue entry *Communication – Telephone.*

3.2.1 "General" parameter window



Sending delay after bus voltage recovery in s [2...255]

Options: 2...255 s

Telegrams are only received during the sending delay. The telegrams are not processed however and not transferred to the telephone section. No telegrams are sent on the bus.

After sending delays have timed out, telegrams are sent on the bus and any messages are sent by telephone if they are present.

If objects are read during the sending and switching delay (e.g. by a visualisation system), these read requests are stored and a response is sent after the send and switching delay has been completed.

A starting time of about 2 seconds (reaction time until the processor is ready to function) is included in the initialisation time.

"Send object "in operation""

Options: no
send value 0 cyclically
send value 1 cyclically

The *in operation* communication object indicates the correct function of the device on the bus. This cyclic telegram can be monitored by an external device.

The following parameters become visible with the options *send value 0 cyclically* or *with send value 0 cyclically*.

Sending cycle time in s [1...65,535]

Options: 1...60...65.535

Here a time interval is set which the object *In operation* uses to cyclically send a telegram.

Assignment of IP-address

Options: configurable in Telephone Gateway
automatic (DHCP and AutoIP)
fixed setting: 192.168.0.222

The Telephone Gateway features a LAN connection and requires an IP address as a network device.

configurable in Telephone Gateway: The IP address of the device can be set via the configuration using the Internet browser. By default DHCP/AutoIP is active and the IP address can be determined using the TG software tool.

In the configuration using the Internet browser the DHCP/AutoIP can be deactivated. The set IP address will then remain unchanged.

automatic (DHCP and AutoIP): The Telephone Gateway expects the assignment of an IP address by the DHCP server. If none is available, it will be assigned automatically by AutoIP.

This setting is useful if the telephone gateway is located in a computer network and it is possible to access the device from any PC.

With this option the IP address in the Internet browser cannot be changed. The address is highlighted in grey and displayed.

fixed setting: 192.168.0.222: With this setting the Telephone Gateway has a static IP address. It can not be changed during configuration using an Internet browser. The address is highlighted in grey and displayed.

Use this setting if the Telephone Gateway is normally not connected to a network, but rather has a direct connection, e.g. using a crossover network cable.

What is an IP address?

An IP address is used in computer networks, for example the Internet, to transport data from the transmitting party to any intended recipient. Similar to a postal address on an envelope, the data packages are provided with an IP address which uniquely identifies the recipient. Every device is assigned with at least one IP address in an IP based computer network.

Why does the Telephone Gateway need an IP address?

The Telephone Gateway features a network connection. This is why it also requires an IP address for communication.

How can you determine the IP address of a device?

Use the so-called “TG Software Tool”. More detailed information can be found in section 3.3.1.

What is DHCP?

The Dynamic Host Configuration Protocol (DHCP) enables the network configuration (also the IP address) on devices with a so-called “DHCP Server”. This is a standard procedure in conventional computer networks.

What is AutoIP?

With AutoIP the device “comes to an arrangement” with other devices in the network and assigns itself an IP address in the range 169.254.xxx.xxx.

Password protection

Options: yes / no

The password protection requirement for configuration using an Internet browser can be deactivated here. When the browser is then accessed, the user is automatically logged on as the administrator and the *Operation* page appears immediately (a login panel does not appear). This function is thus only useful when you can be certain that no unauthorized persons can access the device over the LAN.

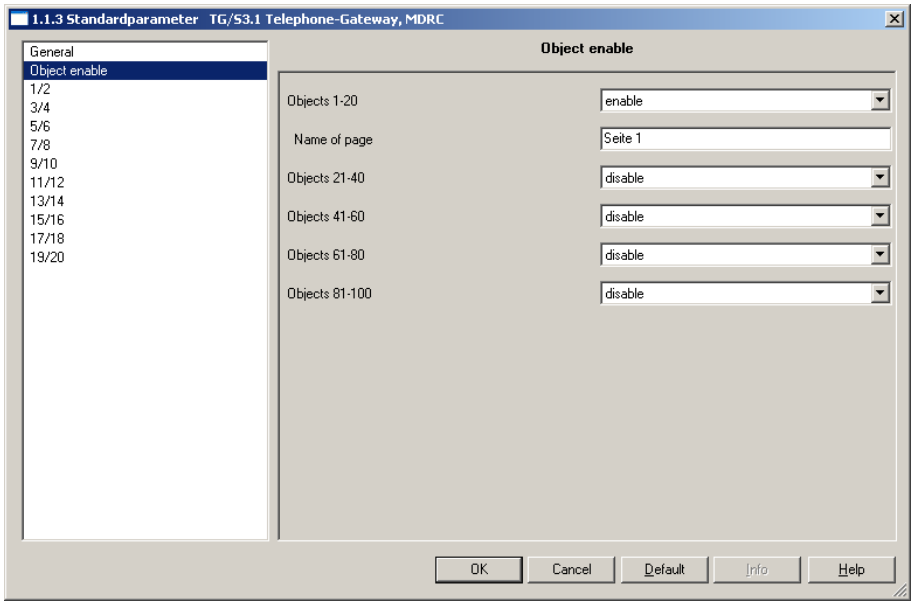
Forgotten your password?

Proceed as follows if you have forgotten the administrator password:

Set the value *no* in the ETS parameter *Password protection* and reprogram the device via the ETS. Then it is possible to access the device again without a password.

After you have reassigned the password for the administrator, set the parameter *Password protection* back to *yes* and reprogram the device.

3.2.2 Parameter window “Object enable”



Objects 1-20

Options: disable
enable

Objects 1 to 20 are communication objects which can be used to transmit messages to/from the Telephone Gateway. If these objects are activated, further tabs will appear on which 2 objects can be parameterised.

Name of page

Options: Text entry (max. 30 characters), default: Page 1

Here the name of the page is defined in which the objects 1-20 are displayed in the configuration via Internet browser.

Objects 21-40

Options: disable
enable

Objects 21 to 40 are communication objects which can be used to transmit messages to/from the Telephone Gateway. If these objects are activated, further tabs will appear on which 2 objects can be parameterised.

Name of page

Options: Text entry (max. 30 characters), default: Page 2

Here the name of the page is defined in which the objects 21-40 are displayed in the configuration via Internet browser.

Objects 41-60

Options: disable
enable

Objects 41 to 60 are communication objects which can be used to transmit messages to/from the Telephone Gateway. If these objects are activated, further tabs will appear on which 2 objects can be parameterised.

Name of page

Options: Text entry (max. 30 characters), default: Page 3

Here the name of the page is defined in which the objects 41-60 are displayed in the configuration via Internet browser.

Objects 61-80

Options: disable
enable

Objects 61 to 80 are communication objects which can be used to transmit messages to/from the Telephone Gateway. If these objects are activated, further tabs will appear on which 2 objects can be parameterised.

Name of page

Options: Text entry (max. 30 characters), default: Page 4

Here the name of the page is defined in which the objects 61-80 are displayed in the configuration via Internet browser.

Objects 81-100

Options: disable
enable

Objects 81 to 100 are communication objects which can be used to transmit messages to/from the Telephone Gateway. If these objects are activated, further tabs will appear on which 2 objects can be parameterised.

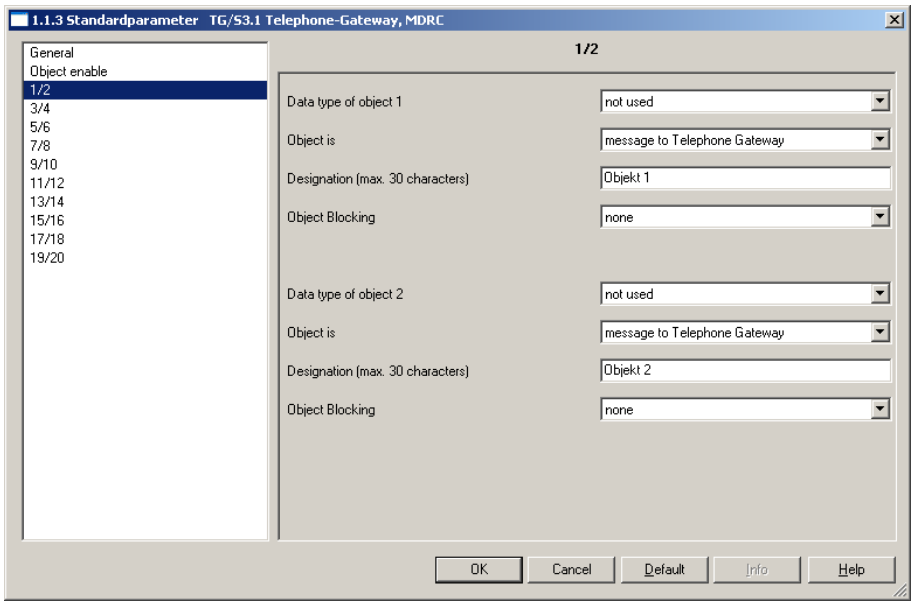
Name of page

Options: Text entry (max. 30 characters), default: Page 5

Here the name of the page is defined in which the objects 81-100 are displayed in the configuration via Internet browser.

3.2.3 Parameter windows “1/2” ... “99/100”

The tabs are only visible if the respective objects are activated in the parameter window *Object enable*. The parameters for all tabs are identical.



Data type of object …

Options: not used
1 bit value (switch)
1 byte value (percent, counter)
2 byte value (counter, temperature, floating point)
4 byte value (counter, floating point)
14 byte string

Select the respective data type for the object here that you wish to send to/from the Telephone Gateway. In the default setting *not used*, no communication object is visible. As soon as a data type has been selected the communication object appears.

If required the data type in the settings of the Telephone Gateway can be defined even more precisely (see 3.3.5).

Note: The data type *14 byte string* can only be assigned for the first 20 objects.

Object is

Options: message to Telephone Gateway
command from Telephone Gateway
message and command
input with cyclic polling
command with cyclic sending
message and command with cyclic polling

Using this parameter you can set so that the Telephone Gateway considers the object as a command or as a message.

message to Telephone Gateway: Using this object a message is sent to the Telephone Gateway via the bus. It can for example, be routed to a user by telephone.

Command from user: A command is sent on the bus via the object. The command for example can be given by a user on the telephone, in order to e.g. switch on the heating.

message/command (both directions): If an option is both a message and a command, this option must be selected.

input with cyclic polling or *command with cyclic sending*: If it is necessary to ensure that the object is also cyclically polled via the bus and sends its response, the respective option *input with cyclic polling* or *command with cyclic sending* must be selected.

Note: If an object is to be polled cyclically, the Telephone Gateway must be able to read the corresponding group address via the bus. For this purpose, e.g. the “Read” flag must be set with an actuator.

The cycle time for polling and cyclic sending of the corresponding configured objects can be set directly via the browser directly in the Telephone Gateway (see 3.3.6.4).

Designation (max. 30 characters)

Options: Input (30 characters)

The *Designation* entry field is used to designate an object so that it can be uniquely identified later.

After loading the parameter into the Telephone Gateway using the ETS, the designations are also accepted into the configuration pages of the Telephone Gateway and appear in the configuration using the Internet browser (see 3.3.5). Further settings are undertaken there.

Object Blocking

Options: none
via blocking object 1
via blocking object 2
...
via blocking object 10

The blocking object is used to prevent a message and an alarm in certain situations. It can for example, prevent the fault from being externally indicated if a person is present. The Telephone Gateway has 10 fixed blocking objects for different applications. For each object, you can now determine for which blocking object it should respond to.

A message suppressed by a blocking object is lost. They are not stored. When a block is removed, messages which are present do not trigger a message via the Telephone Gateway.

If the blocking object has the value 1, the objects assigned to it behave as if in the parameter *Send message if* the value *never* is set (see in the configuration via browser under *Configuration – Object*).

3.2.4 Overview of the communication objects

No.	Function	Object name	Data type	Flags
0	**In operation**	**General**	**1 bit DPT 1.011**	**C, T, R**
Cyclically sends a 0 or a 1 on the bus. This device can be used to monitor the life signs of the device, e.g. via a monitoring module. This object serves simultaneously to indicate that the telephone section cannot be contacted. In this case the object value is inverted. Example: The object cyclically sends the value 0 on the bus (in accordance with the parameter settings). In the event of a fault (bus coupler still operating), the object cyclically sends the value 1. The failure of the bus coupler or the removal for the device from the bus can be recognised by cyclic monitoring of the object.				
1	**Fault of mains voltage**	**Device status**	**1 bit EIS1 DPT 1.011**	**C, T, R**
Indicates a fault of the 230 V AC mains supply. The object value is automatically reset to “0” if the fault has been remedied. 0: Mains supply OK 1: Mains supply failed				
2	**Fault of auxiliary supply**	**Device status**	**1 bit EIS1 DPT 1.011**	**C, T, R**
Indicates a fault of the 12 V AC auxiliary supply. The object value is automatically reset to “0” if the fault has been remedied. 0: Auxiliary supply OK 1: Auxiliary supply failed				
3	**Fault phone line**	**Device status**	**1 bit EIS1 DPT 1.011**	**C, T, R**
Indicates that the last attempt to establish a connection was not successful. Possible causes of the fault: 1. The device has not detected a dialling or ringing tone 2. The device has unsuccessfully attempted to send a message, e.g. because - the subscriber was busy (engaged) or did not answer. – No free trunk line available - the system was overloaded The object value is sent with every established connection, independently of whether the connection has or has not been successfully established. 0: Establishment of a connection successful 1: Establishment of a connection not successful				
4	**Message acknowledged**	**Signal**	**1 bit EIS1 DPT 1.011**	**C, T**
Indicates that the message from the user has been acknowledged via the telephone. The object always sends the telegram value “1”.				
8 **9**	**Time** **Date**	**Device status**	**3 bytes DPT 10.001 DPT 11.001**	**C,W,T,R**
This object is used to compare the time/date of the bus and the telephone gateway. Whether the Telephone Gateway sends the time on the bus (TG is the “master”) or if the time is received from the bus (TG is the “slave”) can be set in the configuration via the Internet browser.				

No.	Function	Object name	Data type	Flags
10	**Status byte**	**Device status**	**8 bits**	**C, R**
Serves for reading the device status. The object value is not sent actively. Bit 0: Mains voltage 230 V AC not available Bit 1: Auxiliary voltage 12 V DC not available Bit 2: LAN fault Bit 3: At last call no dialling or ringing tone Bit 4: Subscriber busy at last call Bit 5: The called subscriber did not respond at last call Bit 6: Internal device fault Bit 7: Not used, equal to “0”				
11 **...** **20**	**Block**	**Blocking Object 1** **...** **Blocking Object 10**	**1 bit**	**C, W**
These objects are used for blocking messages or commands via the bus They can be assigned in the parameter window of the message objects. If the blocking object has the value 1, the objects assigned to it behave as if in the parameter *Send message if* at the value *never* is set (see in the configuration via browser under *Configuration – Object*). 0: Blocking not active 1: Blocking active				
21 **...** **120**	**Switch or Value**	**Object 1** **...** **Object 100**	**(adjustable)**	**C,W,T,R**
The messages or commands to or from the Telephone Gateway are transmitted via these objects. The data type is adjustable in the ETS. The displayed object function is dependent on the set data type: - 1 bit → Object function = “Switch“ - otherwise → Object function = “Value”				

3.3 Configuration of the Telephone Gateway via browser

The second part of the parameterisation of the Telephone Gateway is implemented directly on the device. For this purpose, the first part of the parameterisation (chapter 0) should already be completed.

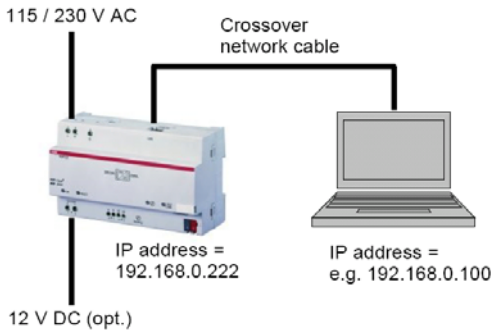
3.3.1 First steps

In the ETS parameters it is defined how the Telephone Gateway is assigned with an IP Address. More detailed information can be found in the description of the respective parameter (see section 3.2).

The IP address is set in the factory to 192.168.0.222. The IP address can be changed after the initial programming with the ETS.

Case 1: Fixed IP address (see ETS parameter)

In order to configure the Telephone Gateway, simply connect it to the network port of a PC using the supplied crossover network cable.



Connect the Telephone Gateway to the mains supply and/or the 12 V auxiliary power supply.

Allocate the PC with an IP address from the same range of the IP address of the Telephone gateway, e.g. 192.168.0.100 and the subnet mask 255.255.255.0 (see also Appendix 1).

If a proxy server has been set on your Internet browser, is should be deactivated (e.g. Internet Explorer: *Tools – Internet Options – Connections – LAN Settings…*).

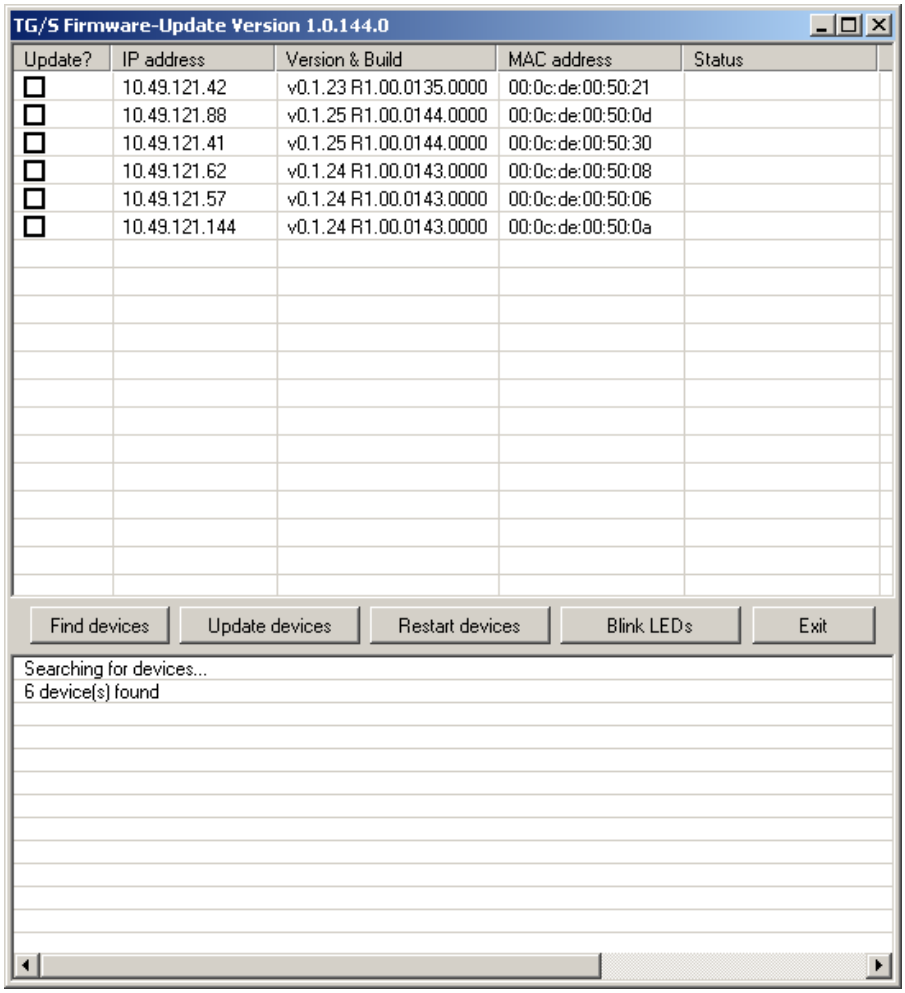
Case 2: IP address is adjustable or is automatically issued via DHCP / AutoIP (see ETS parameters)

The advantage of automatic assignment of the IP address is that no change in the network configuration of your PC or Internet browser is required. The IP address must however be determined using the TG software tool.

Locating a device with the TG software tool

The *TG Software Tool* is a free PC software application which is used do determine the IP address of the Telephone Gateway. It is available as an executable file (.EXE) for download on the Internet.

After the download, run the program, e.g. by a double click on the file in Windows Explorer.



After clicking on *Find devices* all Telephone Gateways available on the network are listed and their respective IP and MAC addresses are displayed. The MAC address is a world-wide unique address for your Telephone Gateway.

In order to select a device from the list, mark the required device in the *Update?* Column and click on *Blink LED*. The ON LED of the device will then flash for approx. 4 seconds.

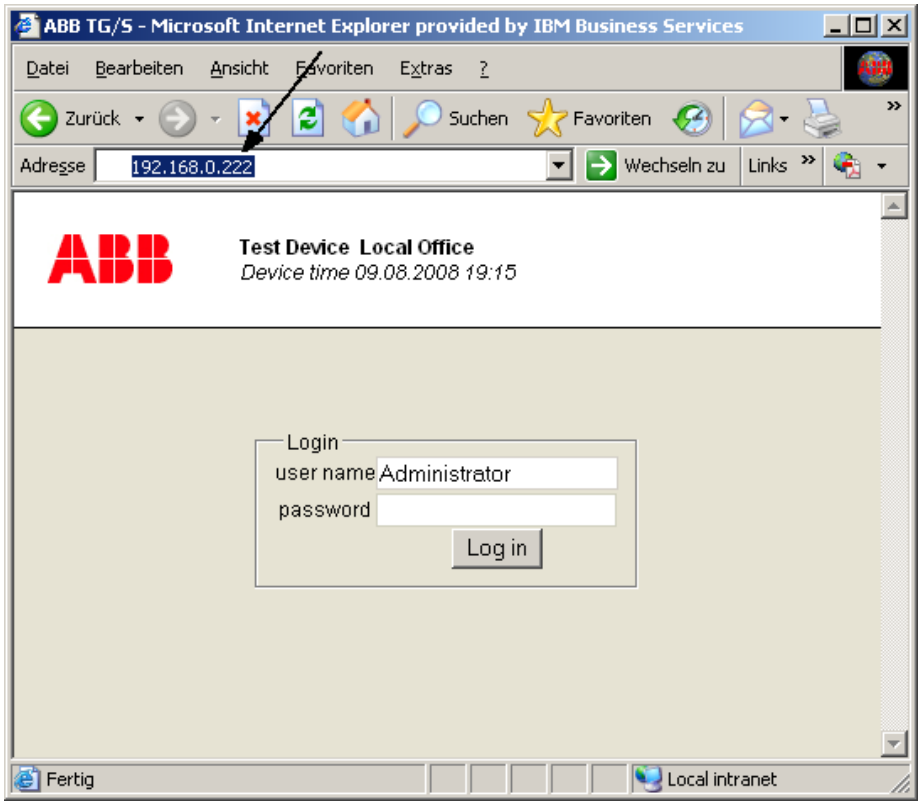
The TG Software Tool can also be used for a Firmware update of the device software. With a click on *Update devices*, all marked devices are updated.

Important: All configuration settings are lost during a Firmware update!

The TG Software Tool can be terminated again with *Exit*.

3.3.2 Start the browser and enter the password

Now start the Internet browser, e.g. MS Internet Explorer on your PC and enter the IP address of the Telephone Gateway in the address line (example: fixed IP address 192.168.0.222).



The login page for entering the user name and password (if *yes* has been entered for the *Password protection* in the ETS parameter) appears. By entering

User name: **Administrator**

Password: ***(empty)***

you can login. Do not enter anything under *Password*.

Note: If the user does not undertake an action for 30 minutes, they will be automatically logged out.

Forgotten your password?

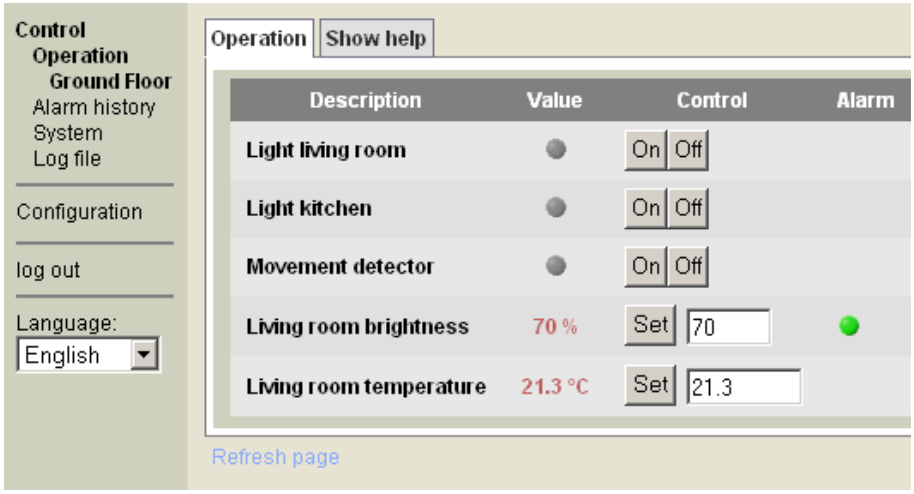
Proceed as follows if you have forgotten the administrator password:

Set the value *no* in the ETS parameter *Password protection* and reprogram the device via the ETS. Then it is possible to access the device again without a password.

After you have reassigned the password for the administrator, set the parameter *Password protection* back to *yes* and reprogram the device.

3.3.3 The Operation page

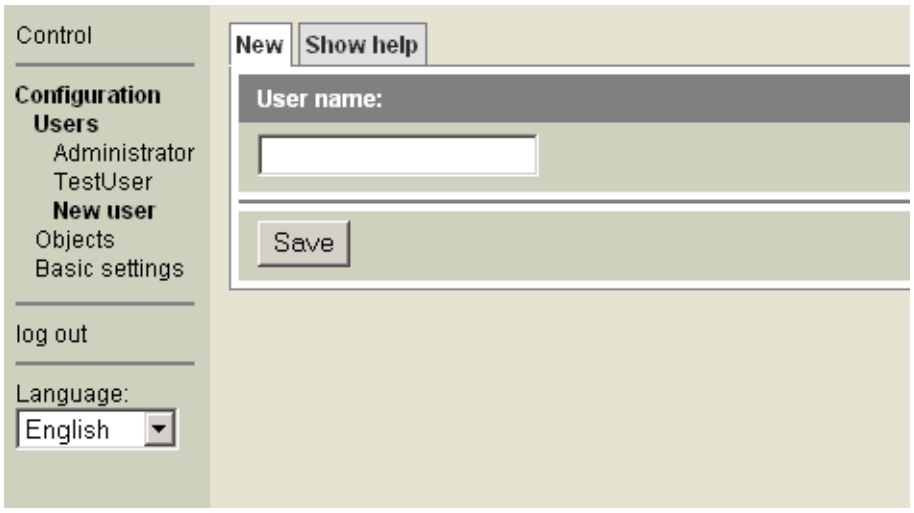
The operation page of the Telephone Gateway appears automatically after login. The communication objects with the names you have already assigned in the ETS will appear here.



Click subsequently on C*onfiguration* to open the configuration menu. More detailed information concerning operation of the building functions can be found in section 4.1.

3.3.4 Creation of a user account

In order to add a new user, click in the configuration menu on *Users* and then on *New user*. A maximum of 10 users can be created.



User name

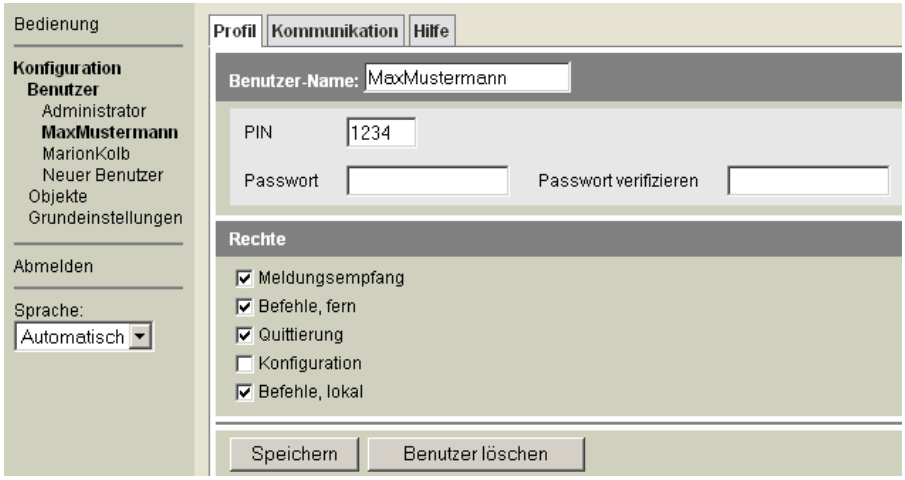
Options: Text, max. 50 characters,
spaces and special characters are not permitted

Enter unique user names here.

By clicking on *Save*, a new user is created and the user name appears in the left column. The settings for the user can now be changed here:

Tab: Profile

In the *Profile* tab you can edit the user profile.



PIN

Options: array of numbers, 4 digit

The PIN is used to identify the user on the telephone. Please note that a different PIN must be used for each user. It must have exactly 4 digits. Shorter or longer PINs are not permitted.

Password

Options: alphanumeric sequence of characters,
spaces and special characters are not permitted

The password is used for authorization purposes via the browser. It must be entered twice in order to ensure that an incorrect entry has not been made.

If both passwords are different or contain special characters or spaces, the respective error message will appear after saving.

Rights

In the *Rights* area you can decide on the actions which the user can carry out:

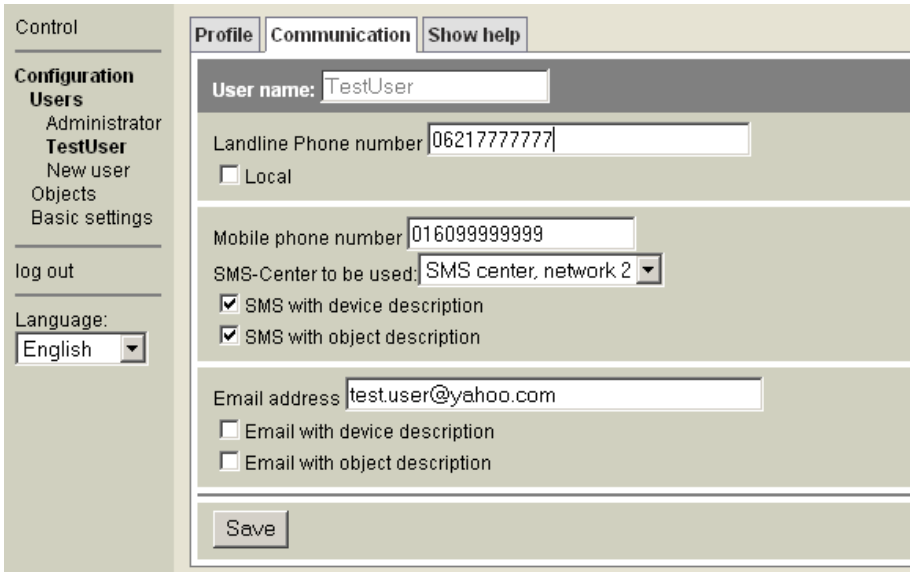
Receive message	The user can receive messages from the Telephone Gateway as SMS, e-mail or voice mail. Default value: allowed
Commands, remote	The user can issue commands via the telephone keypad (e.g. switch KNX objects). Default value: allowed
Message acknowledged	The user can acknowledge messages so that the telephone gateway, e.g. with a message chain, informs no other users. Acknowledgement can occur via the browser or the telephone Default value: allowed
Configuration	The user can open the configuration menu of the Telephone Gateway (only via browser), create users and make all settings Default value: not allowed
Commands, local	If set: The user can open the user pages of the Telephone Gateway and operate KNX objects via the browser, and view messages and measured values. If not set:

	The user can view the states of the KNX objects via the browser. Operation is not possible however. Default value: allowed

Note: After entering a user, the configuration must be stored by clicking on the *Save* button .

Tab: Communication

The C*ommunication* tab is used for setting the telephone numbers, e-mail addresses and options for receiving SMS texts.



Landline Phone number

Option Numerical sequence, spaces and special characters are not permitted

The landline telephone number of the user which is dialled for transferring messages from the Telephone Gateway is entered here.

Local

Option: Check box, not set by default

If a voice message is to be sent to a telephone which is connected to the same telephone switchboard as the Telephone Gateway (e.g. telephone of the caretaker), by activating the *local* check box, you can ensure that the Telephone gateway does not use an area dialling code (see 3.3.6.4) for this number.

Mobile phone number

Option Numerical sequence, spaces and special characters are not permitted

The mobile telephone number which is dialled for transferring messages from the Telephone Gateway is entered here (voice mail and SMS).

SMS-Center

Option: SMS-Center 1
...
SMS-Center 4

Here you select the SMS center which can be used to send the SMS messages to the user.

Note: The SMS centres which you want to use can be configured under Configuration/Basic settings/Services/SMS. (see section 3.3.6.3, tab *SMS*).

SMS with device description

Option: Check box, not set by default

If this check box is activated, the device description of the Telephone Gateway is transmitted in the SMS.

SMS with object description

Option: Check box, not set by default

If this check box is activated, the object description of the Telephone Gateway is transmitted in the SMS.

An example for the structure of an SMS can be found in the next section on the tab *Text message*.

Email address

Options: Character array, max. 100 characters,

The e-mail address of the subscriber to which the e-mail is to be sent is entered here.

Email with device description

Option: Check box, not set by default

If this check box is activated, the device description of the Telephone Gateway is transmitted in the e-mail.

Email with object description

Option: Check box, not set by default

If this check box is activated, the object description of the Telephone Gateway is transmitted in the e-mail.

An example for the structure of an e-mail can be found in the next section on the tab *Text message*.

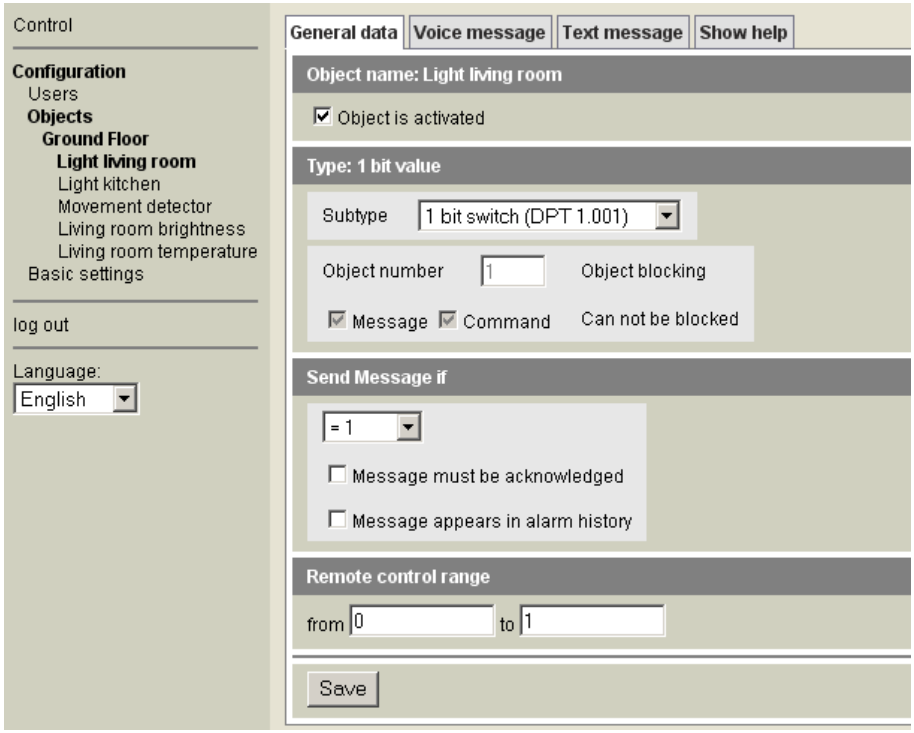
3.3.5 Configuration of the communication objects

A prerequisite for the configuration of the command and message objects in the ETS is that the parameterisation has been undertaken beforehand in the ETS, and the ETS application has been loaded.

After loading of the application, the objects in the Telephone Gateway have been created and can be configured in detail via the browser.

For this purpose click on C*onfiguration* and then on *Objects*.

Tab: General data



The attributes of the communication objects are set here.

After the device has been programmed with the assistance of the ETS, the attributes set there are assumed automatically from the ETS project and displayed on this page (e.g. name of the communication object).

The *Object name*, the *Object type*, the *Object number* and the display whether the object is a *Message* and/or a *Command* is assumed from the ETS parameters. They can not be changed.

Object is activated

Option: Check box, set by default

Using the check box *Object is activated* a communication object can be enabled or blocked. If the check box is not activated, the object is neither active on the operating side nor does it trigger a message.

All the objects assumed from the ETS configuration are activated automatically (check box is set at *Object is activated*).

Subtype

Option: Selection field, dependent of data type; see table below

If a data type has been selected for the object which is not explicit, the parameter *Type* can be used to specify the data type more exactly. For example, a 2 byte value of the subtype *16 bit temperature °C (DPT 9.001)* can be selected.

Data type	DPT subtype	Send message if
1 bit	**DPT 1.001 Switch** DPT 1.008 Up/Down	=1, =0, always, **never** =1, =0, always, **never**
1 byte	DPT 5.001 Percent **DPT 5.010 Counter +** DPT 6.010 Counter +/-	≥, ≤, =, always, **never** ≥, ≤, =, always, **never** ≥, ≤, =, always, **never**
2 byte	**DPT 7.001 Counter +** DPT 8.001 Counter +/- DPT 9.001 Temperature °C DPT 9.00x Floating point	≥, ≤, =, always, **never** ≥, ≤, =, always, **never** ≥, ≤, always, **never** ≥, ≤, always, **never**
4 byte	**DPT 12.001 Counter +** DPT 13.001 Counter +/- DPT 14.0xx Floating point	≥, ≤, =, always, **never** ≥, ≤, =, always, **never** ≥, ≤, always, **never**
14 byte	**DPT 16.001 Text**	=, always, **never**

Defaults settings are **bold**.

ETS settings are shown underneath the subtype. They can not be changed:

- Object number
- Object Blocking: Is a blocking object assigned to the object?
- Message: Is the object transmitted as a message?
- Command: Is the object sent as a message on the KNX?

Send message if

Option: Selection field, dependent of data type; see table above

Under *Send message if* you can define the object value at which the Telephone Gateway should send a message (voice or text message).

The figure values allow the option of triggering a message if the value is exceeded (≥ value) or undershot (≤ value).

Message must be acknowledged

Option: Check box, not set by default

If a check box is ticked here, the message is displayed in the alarm history (page *Operation – Alarm history*) and remains active until it is acknowledged by the user.

Important: If this option is not activated, the transmission of a voice mail is not assured! If for example a mailbox or answering machine responds to the call, the call is deemed to have been completed.

Message appears in alarm history

Option: Check box, not set by default

Here you can determine if a message should appear in the alarm history. If the parameter *Message must be acknowledged* is active, then the message always appears in the alarm history and this parameter is not available.

Remote control range

Option: Figure values, dependent on data type
By default there are no limitations on the remote control range

If the object is configured as a command under *Remote control range*, it is possible to enter the range in which the values can be remotely changed. This relates to the value entry via the telephone keypad and in the operating range of the browser.

A table for the value range dependent on the data type can be found in section 4.1.1.

For example, the setpoint room temperature can be remotely set only in a range between 16 and 23 degrees Celsius.

The value range which can be entered in these fields is orientated according to the data type of the communication object. Furthermore, the value range is limited to whole integer values from -100 to +100.

How are the values entered on the telephone (by voice message)?

The announcement is dependent on the *Remote control range*. Should no values have been entered here, the following messages occur in dependence on the data type of the communication object

- If you are dealing with a 1 bit object, dependent of the current state of the object the announcement ans10a.wav (“Press ‘0’ to switch off“) or ans10b.wav (“Press ‘1’ to switch on“) are played.
- If you are dealing with a value object announcement ans10c (“Please enter a value now or press the # Button to cancel“) is played.

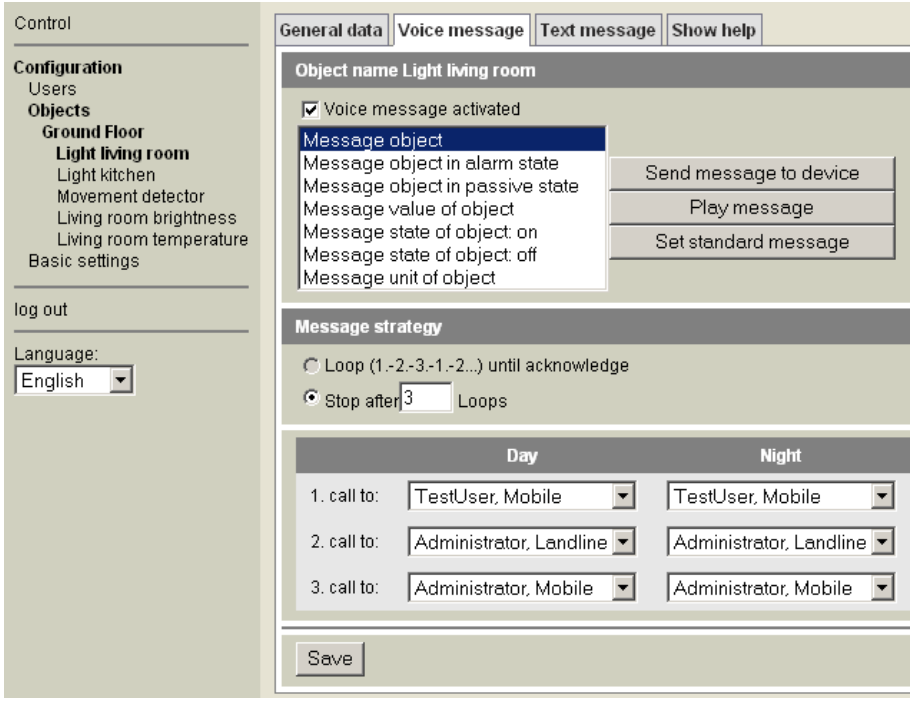
The following announcements are played if in the *Remote control range* at least one value has been entered:

- ans10d.wav (“Please enter a value of at leas“), if only a lower range value has been defined
- ans10e.wav (“Please enter a value of maximum“), if only an upper range value has been defined
- ans10f1.wav, ans10f2.wav, ans10f3.wav (“You can now enter a value between“, “and”, “or press the # Button to cancel“), if an upper and lower limit have been entered.

The figure values num00.wav to num100.wav are lead by minus.wav if they are negative.

If the entered range is out of the remote control range, the closest allowed value in the range is automatically set. Announcement ans10g.wav informs the user of this fact.

Tab: Voice message



Here the settings are made to issue voice messages by telephone.

How is a voice message structured?

A voice message is structured as follows:

<Announcement1: Welcome>

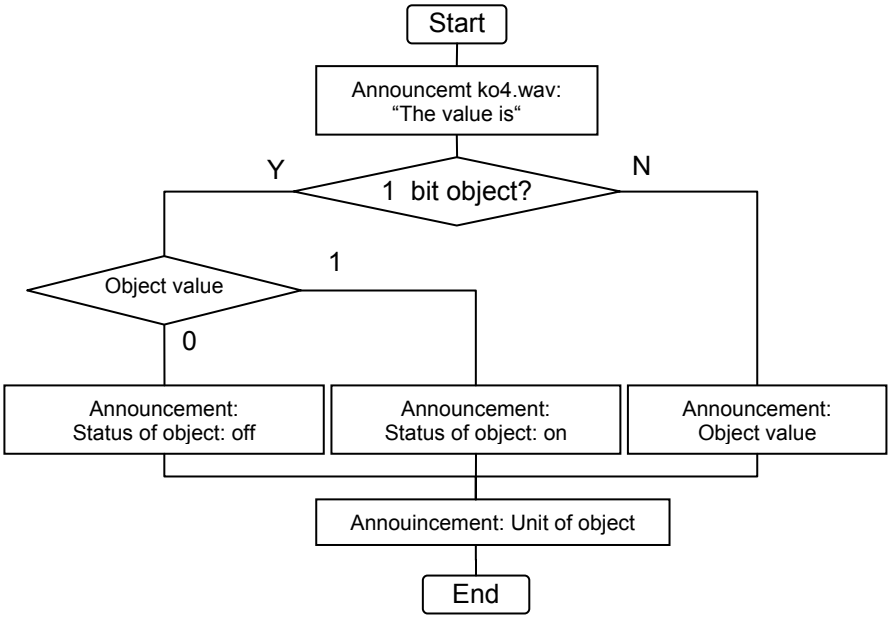
<Device description> (if parameterised in the browser)

<Object description> (if parameterised in the browser)

<Announcement object>

<Announcement object in the alarm state>

It is then followed by the announcement of the object value:



At the completion of the voice message, the PIN is requested and the device switches to menu 1 “Alarm recall“, where all the alarm announcements which are present are announced.

How is a voice message triggered?

A voice message is triggered if the value of a communication object complies with the criteria as defined at *Send message if* (page *Configuration-Objects-General data*). In this case the device calls the first users which are defined in the *Message strategy*.

The following must be fulfilled in order to send a voice message:

- The object must be activated (see *General data*)
- The object must be parameterised as a *Message* or *Message and Command* (ETS parameter)
- The object may not be blocked (communication object *Blocking*)
- The voice message must be active (see *Voice message* page)
- At least one user who will be called must be defined (Message strategy)
- The settings on page *Basic settings-Interfaces-Phone* must be correctly set.

Note:

If there is a problem when making an external call, check the LED display on the device first. Furthermore, the ticked check box beside *Do not wait for dial tone* on page *Basic settings -Interfaces-Phone* can be set in order to exclude a case where the device cannot detect a dialling tone.

Voice message activated

Option: Check box, not set by default

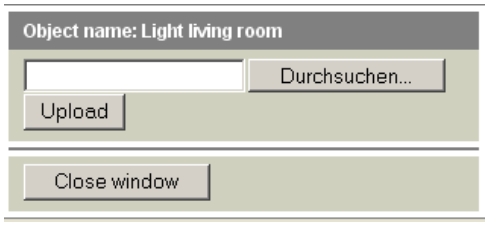
When the *Voice message activated* check box is set, the device sends a voice message as soon as the criteria *Send message if* (tab *General data*) is fulfilled.

Send message to device

Standard announcements are provided for all objects. The following list provides an overview:

Designation	Default text, German	Default text, English
Announcement object	“Objekt Nummer“	“object number”
Announcement object in the alarm state	“Ist im Alarmzustand”	“is in alarm state”
Announcement object in the normal state	“Ist im Ruhezustand“	“is in normal state”
Announcement value of the object	“Der Wert beträgt“	“the value is”
Announcement status of the object: On	“Ein“	“on”
Announcement status of the object: Off	“Aus“	“off”
Announcement unit of the object	(leer)	(empty)

With the function *Send message to device* you can overwrite the default announcement by a user defined announcement. A dialog appears in which a message file search (“Browse“) is undertaken and uploaded to the device (“Upload“):



Tips for creating your own announcements can be found in section 5.4.

Play default message / Play message

If the button *Play message* appears instead of the *Play default message*, this means that a user defined message has been uploaded. You can hear the current message with this button.

Set standard message

Should you wish to continue to use the default message after an upload of a message you have created, click on *Set standard message*.

Message strategy

Options: Loop (1.-2.-3.-1.-2.-...) until acknowledge
Stop after (3) loops

Loop (1.-2.-3.-1.-2.-...) until acknowledge: The Telephone Gateway will permanently successively loop the voice messages until a user acknowledges them. This setting is very useful with important messages.

This option is only available if in the tab *General data* the check box *Message must be acknowledged* is set.

Stop after … loops: The Telephone Gateway ends the calls after the number of loops set here has been completed (default value: 3). The calls are also ended after acknowledgement by the user. If the option *Message must be acknowledged* in the *General data* tab is not set, the Telephone Gateway ends the calls as soon as the voice message has been sent.

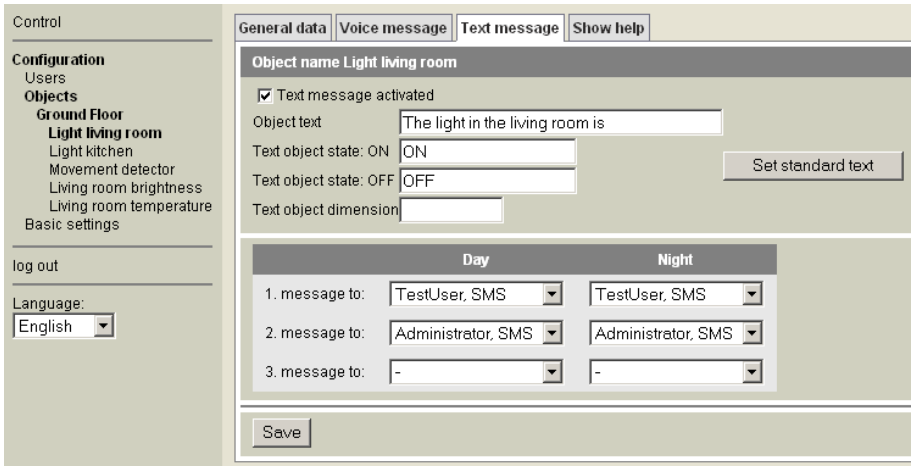
1. call to / 2. call to / 3. call to

Options: Selection of any user (mobile / landline)

Here you define the users and the sequence in which they are to be informed. If the Telephone Gateway should make a distinction between day and night is decided in the basic settings (see *Basic settings – Messages – General*).

In the parameter *Time between deliveries* (page *Basic settings – Messages*) the time between the two calls can be set.

Tab: Text message



Here you can make the settings to trigger a text message (SMS or e-mail).

Structure of a text message

A text message is structured as follows:

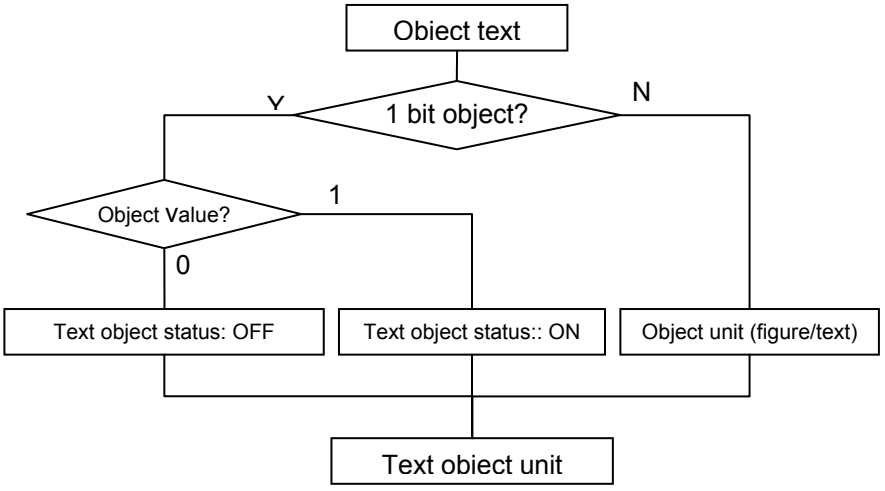
<Date and time of the message>

<Device description text>, if parameterised in the browser

<Object description text>, if parameterised in the browser

<Object value>

Structure of the object value:



Text message activated

Option: Check box, not set by default

When the *Text message activated* check box is set, the device sends a text message (e-mail or SMS) as soon as the criteria *Send message if* (tab *General data*) is fulfilled.

Object text

Options: Character array, max. 40 characters,

A standard text is entered here which proceeds every message. It generally describes the object, e.g. “The light in the living room“.

Text object state: ON
Text object state: OFF

Options: Character array, max. 20 characters,

If you are dealing with a 1 bit object texts which are dependent on the object value (1 or 0), it can be defined here.

If you are not dealing with a 1 bit object these texts are not relevant.

Text object dimension:

Options: Character array, max. 10 characters,

Here you can enter a text which is attached to the end of the text message. Generally it is a unit such as “mA“ or “kWh“.

Set standard- text

Using this button predefined text is entered in the text fields. **CAUTION: The existing text is overwritten!**

1. message to / 2. message to / 3. message to

Options: Selection of any user (SMS / e-mail)

In order to define who is informed and the sequence in which they are informed, select the users from the list. If the Telephone Gateway should make a distinction between day and night, it is decided in the basic settings (see *Basic settings – Messages – General*).

The Telephone Gateway will then send the text message to the first user on the list (1. message to). If it is not possible to send a message to this user (e.g. technical fault at the SMS centre) or the user does not acknowledge the text message, the user entered under *2. message to* is informed, etc. If a message has been sent successfully, this user will receive no further text messages.

In the parameter *Time between deliveries* (page *Basic settings – Messages*), the time between the two text messages can be set.

Note: Text messages can not be acknowledged by e-mail or SMS. This is only possible by telephone or via the browser.

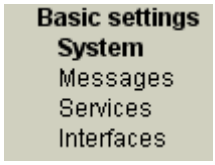
In which sequence are the text messages and the voice messages sent?

If voice and text messages are configured for an object, the sequence of the messages is as follows:

1. Send first voice message
   Send first text message
2. Send second voice message
   Send second text message
3. Send third voice message
   Send third text message

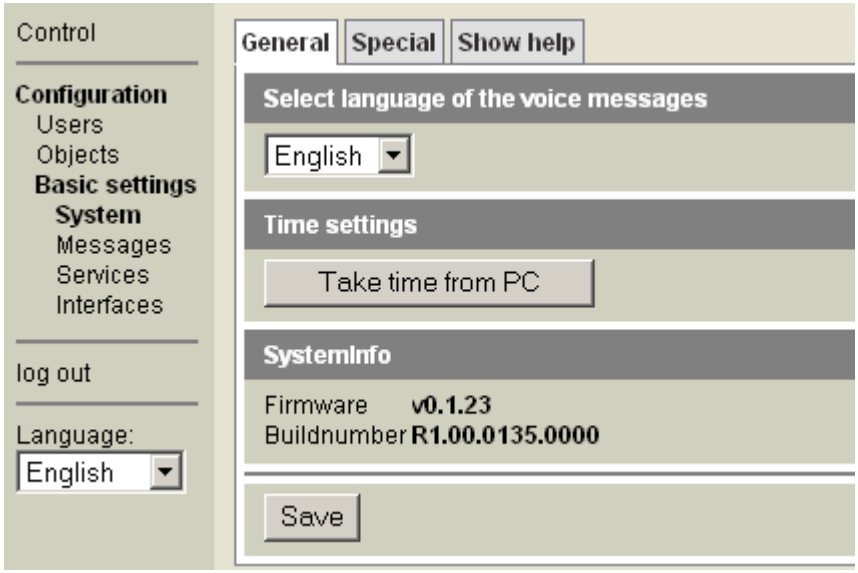
3.3.6 Basic settings

The basic settings incorporate the four sub-sections System, Messages, Services and Interfaces. Click on the sub-section that you wish to edit.



3.3.6.1 Basic settings / System

Tab: General



Select language of the voice messages

Options: Deutsch
English

Here you can set the language that the Telephone Gateway uses to send the voice messages. If the language which you require is not included, you can download an additional language package (see tab *Special*).

The Telephone Gateway can thus offer three languages: German, English and a user defined language.

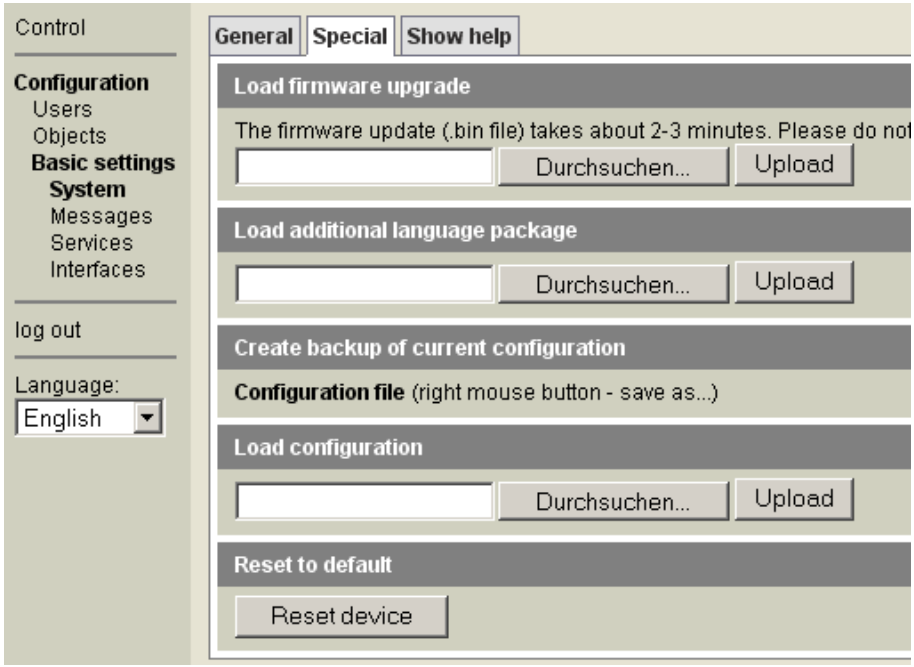
Note: The language of the browser interface is shown on the left navigation column under “Language”. In addition to the setting *Deutsch* and *English*, the setting *Automatic* is possible, which automatically assumes the language of the browser (Default: *English*).

Take time from PC

In order to set the time of the Telephone Gateway, you can transfer the current time and date of the PC on which you are working to the Telephone Gateway by clicking on “Take time from PC”. Subsequently, the real-time clock of the Telephone Gateway will then operate using the new time.

Note: Dependent on whether the clock of the Telephone Gateway is configured as a master or slave on the KNX, the assumed time, e.g. can again be overwritten by a telegram from a clock on the KNX (if the Telephone Gateway is a slave, also refer to 3.3.6.1).

Tab: Special



The tab **Special** offers the opportunity to download an additional language or a Firmware update.

Load firmware upgrade

Click on *Browse* to define a *.bin file which is to be downloaded as the new Firmware into the device.

Important: During a Firmware update the current configuration of the device is deleted because the factory default settings are restored. You should therefore save the device configuration before you undertake a Firmware update (see below).

The following message appears after a successful Firmware update:
The firmware was updated successfully. Restarting device …

The device then restarts.

Load additional language package

The German and English languages are installed by default in the device. In addition to both of these languages, it is possible to have a third (user defined) language. The third language is always overwritten when a further language is loaded.

Under this point you can also change the system announcements. To change the user defined announcement see 3.3.6.2. To establish a language package see section 5.5.

Copy the file onto your PC to load the language package or the Firmware update. Click on *Browse* to define the storage location and then on *Upload* to upload the package into the device.

If a file is missing in the language package, the file of the default language should be loaded.

Create backup of current configuration

The configuration settings which have been made in the browser can be saved in a file. Click with the right mouse button on the text and then select (dependent on the browser) *Save target as.*

You can either protect the data against loss or transfer a copy of the settings to another device.

Load configuration

Is used for loading the backup configuration.

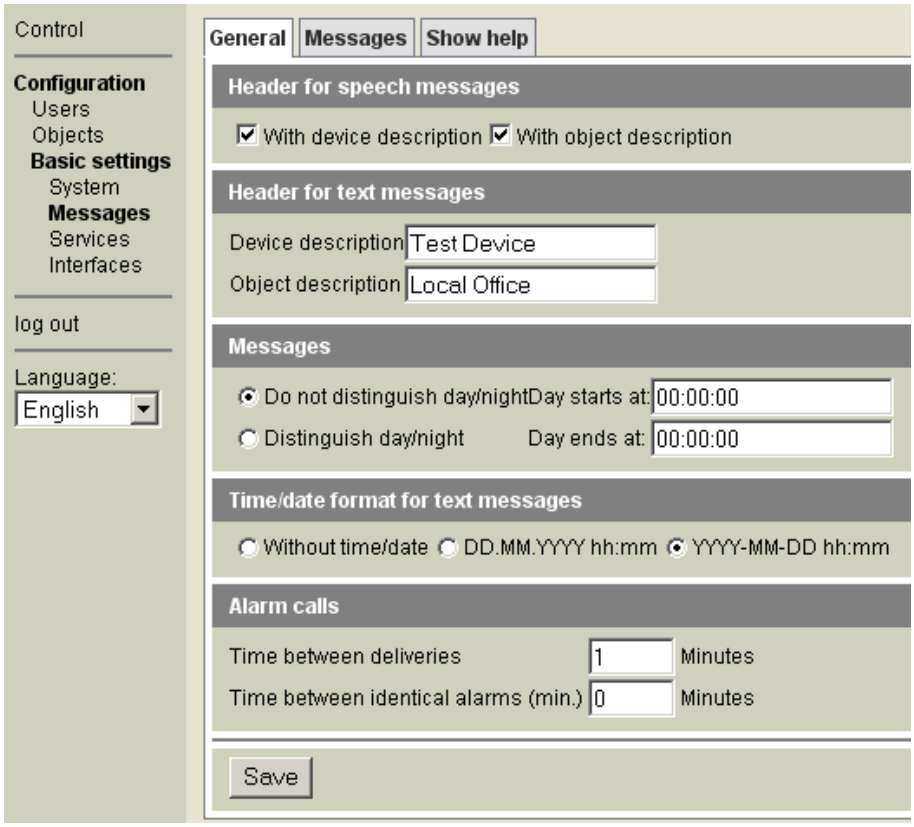
Caution: All device settings are overwritten! In case of doubt, we would recommend saving the present configuration beforehand.

Reset to default

By clicking on *Reset device* the device configuration is reset to the default settings. A safety prompt prevents unintentional execution of this function.

3.3.6.2 Basic settings / Messages

Tab: General



Header for speech messages

Options: Check box *With device description*
Check box *With object description*

Default values: both check boxes are not checked.

Here you can set if the device description or the object description is set in front of a voice message. Both can be set in the *Messages* tab.

This message header is specially for persons who receive messages from several different Telephone Gateways. They can then recognise from which system (or house) the message originates.

Header for text messages

Options: *Device description text* (max. 50 characters)
Object description text (max. 50 characters)
Check box *With device description*
Check box *With object description*

Default values: both check boxes are not checked.

As with voice messages, a defined text can lead the text messages (SMS or e-mail). The texts are set here. If you select the check boxes *With device description* and *With object description*, they lead a text message.

Messages

Options: Do not distinguish day/night
Distinguish day/night

For all messages (text and voice) you can select if you wish to *Distinguish day/night*, in order to notify a different person during the night than you

would notify during the day. If you wish to distinguish between night and day, you must first of all define when the day commences and when the day ends. Times outside this range are then viewed as night.

Entry of the times is in the format hh:mm:ss.

Under *Time/date format for text messages,* you can decide if the date and time should also be displayed for a message and the format in which it should occur.

Time/date format for text messages

Options: Without time/date
DD.MM.YYYY hh:mm
YYYY-MM-DD hh:mm

The date and time are contained in a text message in the message text. Their formats are defined here.

Time between deliveries

Options: 0 / 1 / 2 / ... / 9999 minutes

The *Time between deliveries* defines the minimum time to wait between calls after an unsuccessful attempt by the Telephone Gateway to place a call (e.g. device could not dial or user did not acknowledge the message) and before a renewed attempt is made.

Time between identical alarms (min)

Options: 0 / 1 / 2 / ... / 9999 minutes

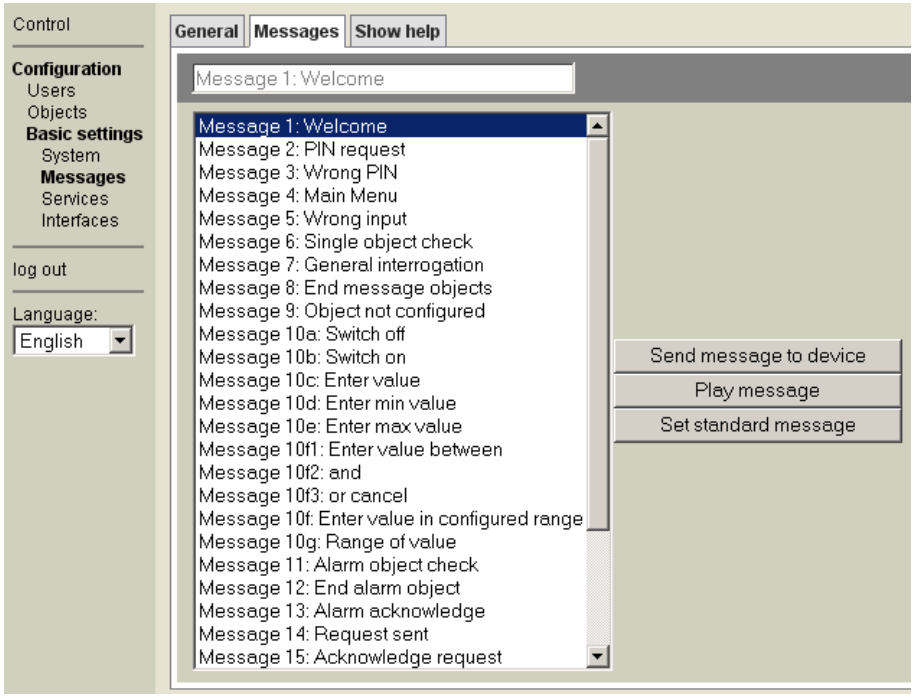
The *Time between identical alarms (min)* (value range 0...9999 minutes) defines the time duration after which an alarm can be repeated via the same input object. If within the *Time between identical alarms (min)* the same message is triggered to the Telephone Gateway, the second message is disposed of.

Repetition of messages

In principle, every object value received from the bus triggers a new message (voice message and text message) if it complies with the criteria of *Send message if*.

If an alarm message is cyclically received from the bus, then the voice message/text message is repeated cyclically provided that the *Time between identical alarms (min)* is observed.

Tab: Messages



You can configure the general text messages here, which for example, are used for the menu which is applied during a call to the Telephone Gateway.

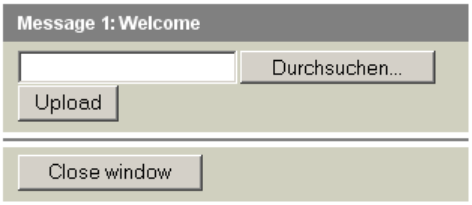
Send message to device

Standard announcements are provided for all objects. The following list provides an overview:

Designation	Description, German	Description, English
Announcement 1	Begrüßung	Welcome
Announcement 2	PIN Aufforderung	PIN request
Announcement 3	Falsche PIN	Wrong PIN
Announcement 4	Hauptmenü (HM)	Main Menu
Announcement 5	Falsche Eingabe	Wrong input
Announcement 6	Einzelobjektabfrage	Single object check
Announcement 7	Generalabfrage	General interrogation
Announcement 8	Ende Ansage-Objekte	End message objects
Announcement 9	Objekt nicht konfiguriert	Object not configured
Announcement 10a	Mit 0 ausschalten	Switch off
Announcement 10b	Mit 1 einschalten	Switch on
Announcement 10c	Wert eingeben	Enter value
Announcement 10d	Kleinsten Wert eingeben	Enter min value
Announcement 10e	Größten Wert eingeben	Enter max value
Announcement 10f	Bereichswert eingeben	
Announcement 10f1	Wert im Berech von	Enter value between
Announcement 10f2	und	and
Announcement 10f3	oder Abbruch	or cancel
Announcement 10g	Bereichswert eingeben	Range of value

Announcement 11	Alarmabfrage	Alarm object check
Announcement 12	Ende Alarm-Objekte	End alarm object
Announcement 12a	Keine Alarme	No alarms
Announcement 13	Alarm Quittierung	Alarm acknowledge
Announcement 14	Befehl geschickt	Request sent
Announcement 15	Quittierungsaufforderung	Acknowledge request
Announcement 16	KNX nicht OK, allgemein	KNX not OK, general
Announcement 17	KNX nicht OK, Befehl	KNX not OK, control
Announcement 18	Befehl nicht geschickt	Command not sent
Announcement 19	Anlagenbezeichnung	Object description
Announcement 20	Gerätebezeichnung	Device description
Announcement 21	KNX gestört	The connection to the KNX is interrupted.

With the function *Send message to device* you can overwrite the default announcement by a user defined announcement. A dialog appears in which a message file search (“Browse“) is undertaken and uploaded to the device (“Upload“):



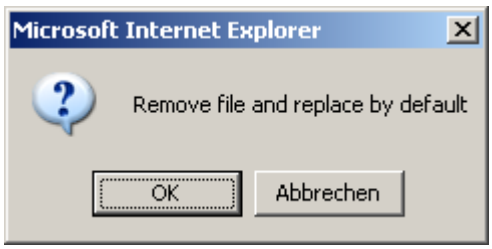
Tips for creating your own announcements can be found in section 5.4.

Play default message / Play message

If the button *Play message* appears instead of the *Play default message*, it means that a user defined message has been uploaded. You can hear the current message using this button.

Set standard message

Should wish to continue to use the default message after an upload of a message you have created, click on *Set standard message*.



By acknowledgement with OK the standard message is restored and the user defined message is deleted.

3.3.6.3 Basic settings / Services

In the Services submenu the settings for Internet access, e-mail and SMS can be made.

Tab: Internet

The data of the Internet Service Provider (ISP) used by the Telephone Gateway for dial up of the Internet is entered here. In the illustration an example of a configuration for the Internet Service Provider ***arcor*** is shown (Password: “internet”). You can use any provider here.

Phone number: Phone number of the service provider

User name: Is provided by the service provider.

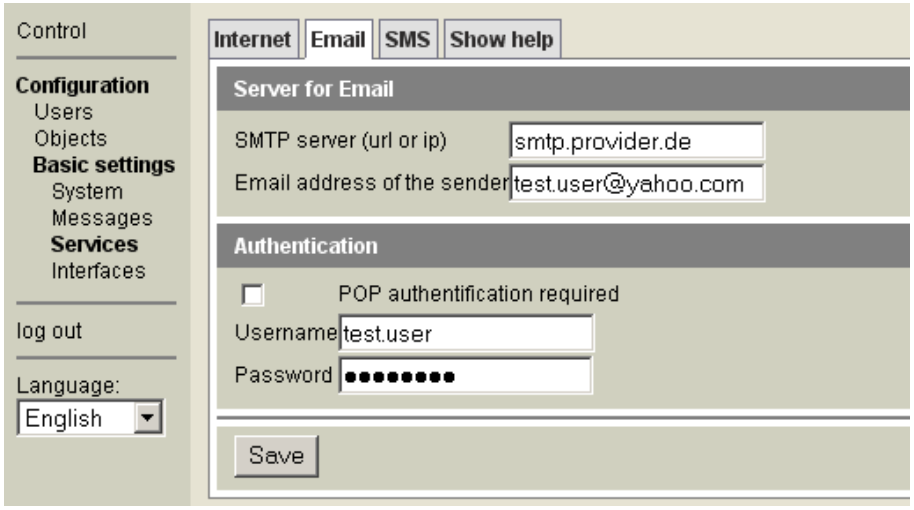
Password: Is provided by the service provider. The entered password is masked when typed.

DNS server: Optional details for the IP address of the DNS server. Entering the details may be required if a speaking URL (no IP address) is entered with the configuration of the e-mail data.

Note: The device can be accessed either via the modem or LAN on the Internet. If under *Phone number* there is no entry made, e-mails are sent via the LAN, otherwise the modem is used.

Note: If you use a broadband Internet connection (e.g. via DSL Router) it is not necessary to program Internet access via a modem. Delete the preset values in this case. The Telephone Gateway then automatically attempts to send the e-mail via the standard gateway (see 5.3.3.4 for setting).

Tab: Email



Here you will find the settings which are required so that the Telephone Gateway can send an e-mail. The Telephone Gateway uses the standard SMTP protocol to exchange data with the provider.

SMTP server (URL or IP)

Here you enter the address of the SMTP server. You will receive this from the account provider of the e-mail account (e.g. T-Online, web.de, gmx, hotmail, msn, yahoo …).

Email address of the sender

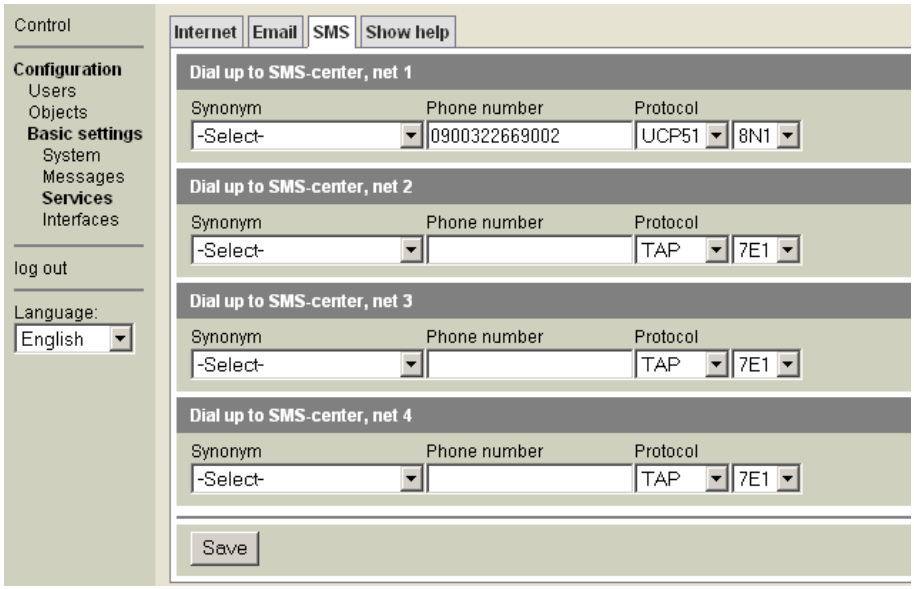
Here you enter the e-mail address of the sender which is to appear.

POP authentification required

If the provider demands a POP authentification for the SMTP access, set this check box and enter the appropriate information under **Username** and **Password**.

As shown in the illustration, in this tab the address of the SMTP server, the senders address and the data for POP authentification for access to the e-mail account are entered. You will receive this from the account provider of the e-mail account (e.g. T-Online, web.de, gmx, hotmail, msn, yahoo …).

Tab: SMS



The SMS centres which are available with the configuration of the user accounts can be set here.

Proceed as follows to enter the centre yourself:

Under *Synonym* assign a name for the SMS centre.

The *Phone number* and the specifications for the protocol are available from the provider. The protocol consists of the protocol names (e.g. TAP), the bit coding (e.g. 7E1) and the character coding (e.g. GSM7).

In the following you will find a list of SMS centres which can be used for transfer. As the providers of SMS centres occasionally change, we cannot guarantee that this list is up-to-date:

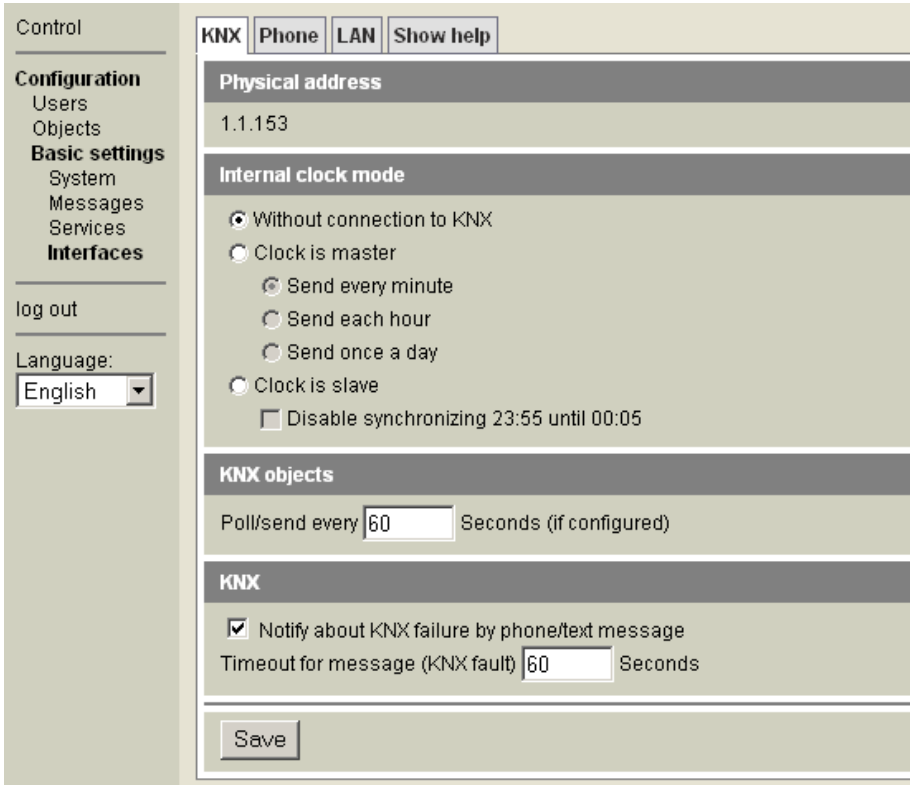
Country	Name	Telephone number	Protocol
Australia	Telstra	+61 18018767	TAP, 7E1
Austria	A1	+43 900 664914	TAP, 7E1
Austria	AirPage	+43 688 3232111	TAP, 7E1
Belgium	Mobistar	+32 495 955205	UCP01, 8N1
Belgium	Proximus	+32 075 161622	UCP01, 8N1
Denmark	Tele Danmark	+45 4362 5250	UCP, 8N1
Finland	Sonera	+358 20 9801	UCP01, 8N1
Germany	Anny Way	+49 900 32669002	UCP51, 8N1, GSM7
Germany	T-Mobile	+49 171 2521002	TAP, 8N1, GSM7
Germany	E-Plus	+49 177 1167	TAP, PG1, 8N1, GSM7
Ireland	Eircell	+353 1 2607000	TAP, 8N1
Ireland	Esat Digifone	+353 86 8525352	TAP, 8N1
Netherlands	KPN	+31 653 141414	UCP,
Norway	Telenor	+47 900 02198	UCP01, 8N1
Portugal	Telecell	+351 91 1449	UCP, 8N1
Portugal	TMN	+351 96 2113	UCP01, 8N1
Spain	Movistar	+34 609 001058	UCP, 8N1
Sweden	Telia Price 1	+46 740 930000	UCP, 8N1
Sweden	Telia Price 2	+46 740 930100	UCP01, 7E1
Sweden	Telia Price 3	+46 740 930200	UCP, 8N1
Switzerland	Swisscom	+41 900 900941	UCP,
Switzerland	NatelD	+41 79 4998990	UCP, 8N1
UK	BT Paging	+44 345 581354	TAP, 7E1
UK	Vodafone	+44 385 499993	TAP, 8N1
UK	Cellnet	+44 860 980480	UCP, 8N1
UK	Cellnet	+44 860 980480	TAP, 8N1
UK	Hutchison	+44 941 100400	TAP, 7E1
UK	one2one	+44 958 879889	TAP, 7E1
UK	Orange	+44 973 100601	TAP,

Please note that use of SMS centres will result in additional costs.

3.3.6.4 Basic settings / Interfaces

In the Interfaces submenu the settings for all Telephone Gateway interfaces can be found.

Tab: KNX



This tab contains all the settings for the KNX interface of the Telephone gateway.

Physical address

The address which has been assigned with the ETS is shown here. It cannot be changed here. In the default state on delivery the address used is 15.15.255.

Internal clock mode

Here you can define if the Telephone Gateway clock is to operate independently of the time from the KNX (option *Without connection to KNX*), whether the Telephone Gateway should send the time on the bus (option *Clock is master* on the KNX) or if the Telephone Gateway should synchronize by listening into the time telegrams in the KNX (option *Clock is slave* on the KNX). With the setting as slave, the synchronization between 23:55 and 00:05 is blocked in order to avoid that a time telegram triggers an incorrect date setting in this time.

KNX objects

The parameter *Poll/send every … Seconds (if configured)* defines the intervals as which a communication object is sent on the bus (with the setting of the ETS parameter *Object is ...with cyclic sending*) or is polled via the bus (with the setting of the ETS parameter *Object is … poll with cyclic sending*). The description of the ETS parameter can be found in section 0.

KNX

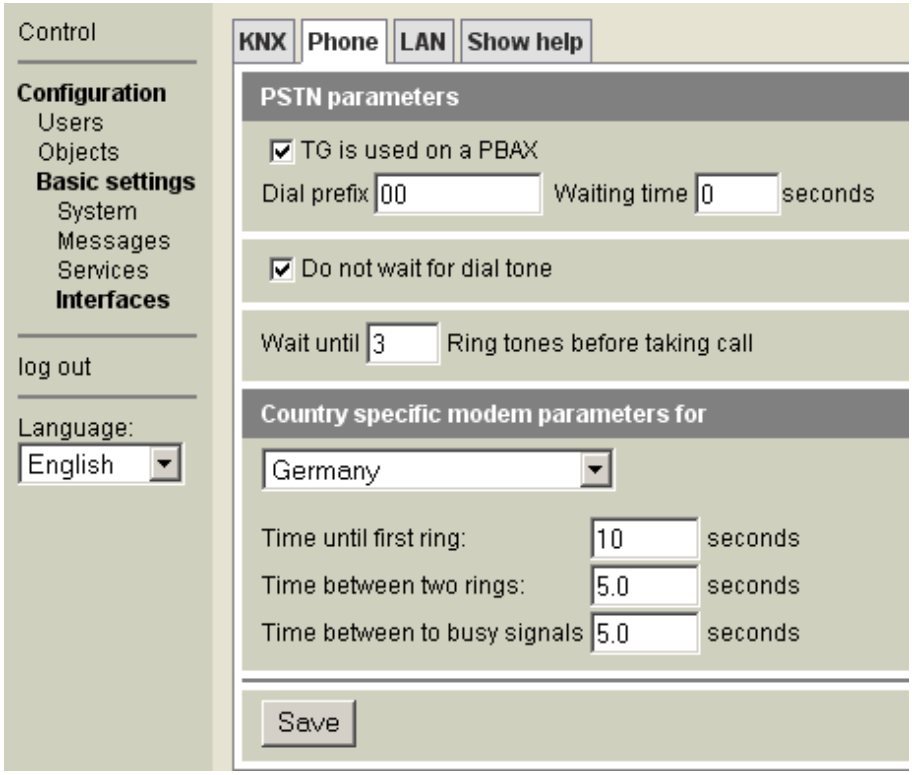
Notify about KNX failure by phone/text message: The Telephone Gateway detects a fault of the KNX and can send this message to the administrator (check box is ticked). The message is sent using the following procedure:

First of all the voice message is sent to the landline number of the administrator. If a landline number is not specified or the user does not answer, the mobile telephone number is contacted.

Then the test message “<Date> <Time> <Object designation> <Device designation> KNX Error“ is sent via SMS and e-mail if the user settings facilitate it.

Timeout for message (KNX fault): Here you can predefine how long the Telephone Gateway should wait until the *KNX fault* message is issued.

Tab: Phone



The settings for the telephone connection can be made here.

PSTN parameters

TG is used on a PABX: Here you set if the device is used on a PABX (*in-house switchboard*) and must therefore dial one or several *Dial prefix(es)* . Some (older) telephone systems also require a *Waiting time* until the exchange is switched through to the extension.

Do not wait for dial tone: If the Telephone Gateway does not establish a connection even though there is a dial prefix established (can be recognised when the LED *Telephone* just flashes and does not light continuously), activation of this function can achieve that the Telephone Gateway dials immediately without waiting for a dial tone.

Wail until x Ring tones before taking call: For the case that the user of the Telephone Gateway calls, you can define when the Telephone Gateway should answer a call. This can achieve that other devices on the same connection have sufficient time to accept the call before the Telephone Gateway accepts the call.

Country specific modem parameters for

Here you set the country in which the Telephone Gateway is operated. A corresponding list of countries can be found in section 5.2. The following settings can be changed accordingly. They can however be changed manually to suit local requirements.

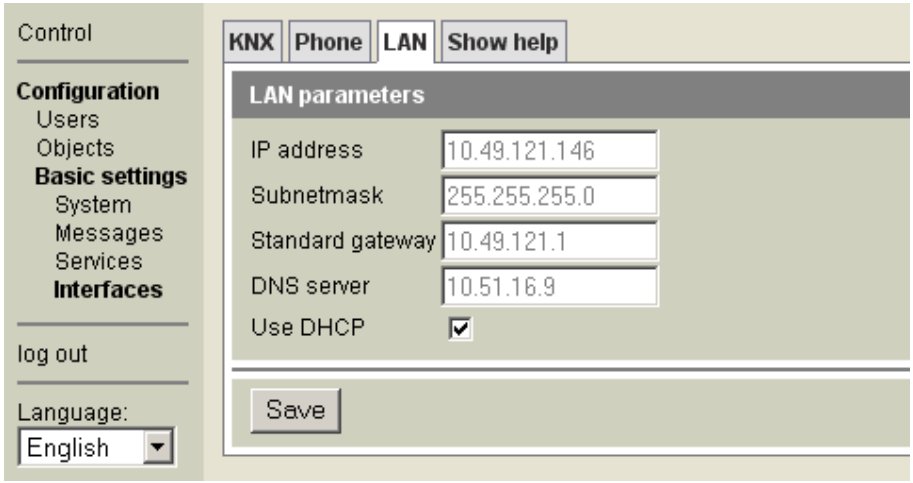
Time until first ring:Here the time is set at which the device expects the first ring tone at the very latest. If the first ring tone does not occur within this time, the device assumes that the connection has malfunctioned.

If the time is set too long and should the call be answered quickly, a corresponding waiting time may result until the Telephone Gateway commences with the announcement.

Time between two rings: The time between two rings is set here.

Time between two busy signals: The time between two busy signals is set here. This is necessary so that the Telephone Gateway can detect a busy line.

Tab: LAN



The parameter of the Telephone Gateway incorporates the usual parameters for devices on the IP network.

IP address

The *IP address* defines the address of the Telephone Gateway for communication in the network.

Subnet mask

The *Subnet mask* defines the network class. The subnet mask must be set to reflect the number and structure of the subnets. In the simplest case of a small LAN the subnet mask 255.255.255.0 should be set.

Standard gateway

The parameter *Default gateway* defines the connection point (e.g. the IP address of a Router) between networks through which IP telegrams are transferred. If you have a broadband Internet connection at your disposal (e.g. via DSL Router), you can enter the IP address of the routers (e.g.192.168.0.1) as the default gateway. The Telephone Gateway can then send e-mails via the router. If you are not using a router, a standard gateway does not need to be entered.

DNS server

The IP address of a (fixed) Domain Name Server can be set here. This specification is optional.

4 Function and operation

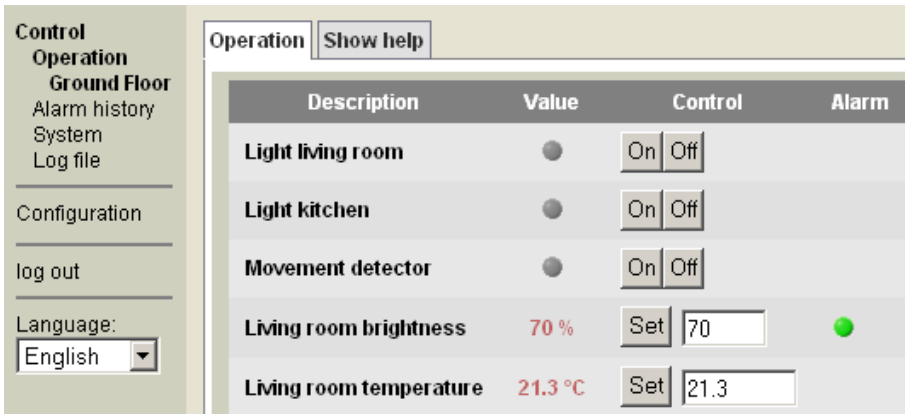
4.1 Operation using a browser

The Telephone Gateway has an integrated server for web pages (web server). With a browser (e.g. Microsoft Internet Explorer version 5.0 or higher, or a similar browser) you can view these pages and make settings on the Telephone Gateway.

4.1.1 The Operation page

The Operation page is available to all users who have the rights to view this page. These rights are assigned by the administrator of the device.

The Operation page of the Telephone Gateway appears automatically after login.



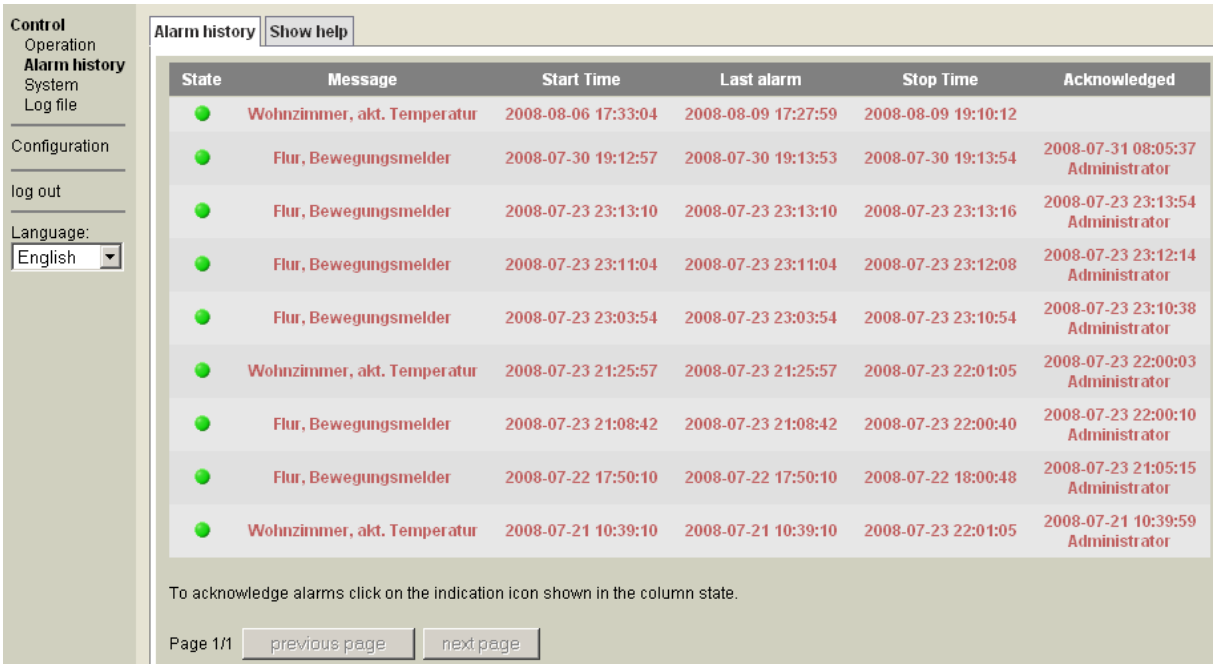
Dependent on the types of object, the current states of the objects can be viewed or commands can be issued. If an alarm has to be acknowledged, an *Acknowledge* button will appear beside the *Alarm* column.

The following table shows the value range for display and entry:

Data type	DPT subtype	Value range in the browser
1 bit	DPT 1.001 DPT 1.008	ON, OFF (selection field) UP, DOWN (selection field)
1 byte	DPT 5.001 DPT 5.010 DPT 6.010	0...100% 0...255 -128...127
2 byte	DPT 7.001 DPT 8.001 DPT 9.001 DPT 9.00x	0…65535 -32768…32767 entire range, in °C, one decimal place entire range, 7 digits, 2 decimal places
4 byte	DPT 12.001 DPT 13.001 DPT 14.0xx	entire range entire range entire range, 7 digits, 2 decimal places
14 byte	DPT 16.001	14 characters

4.1.2 The Alarm history page

All alarms which have occurred are shown on this page.



In the *State* column a coloured point which indicates if an alarm is present appears (“State display”). In order to acknowledge the alarm click on the red or yellow point in the column:

red	The cause of the alarm has not yet been eliminated and the alarm has not been acknowledged.
yellow	Either the cause of the alarm has not yet been eliminated or the alarm has not been acknowledged.
green	The cause of the alarm has been eliminated and the alarm has been acknowledged.

In the *Message* column the name of the detector which has caused the alarm is entered.

The *Start Time* column contains information indicating when the alarm was triggered.

The *Last alarm* indicates when the last alarm message was sent.

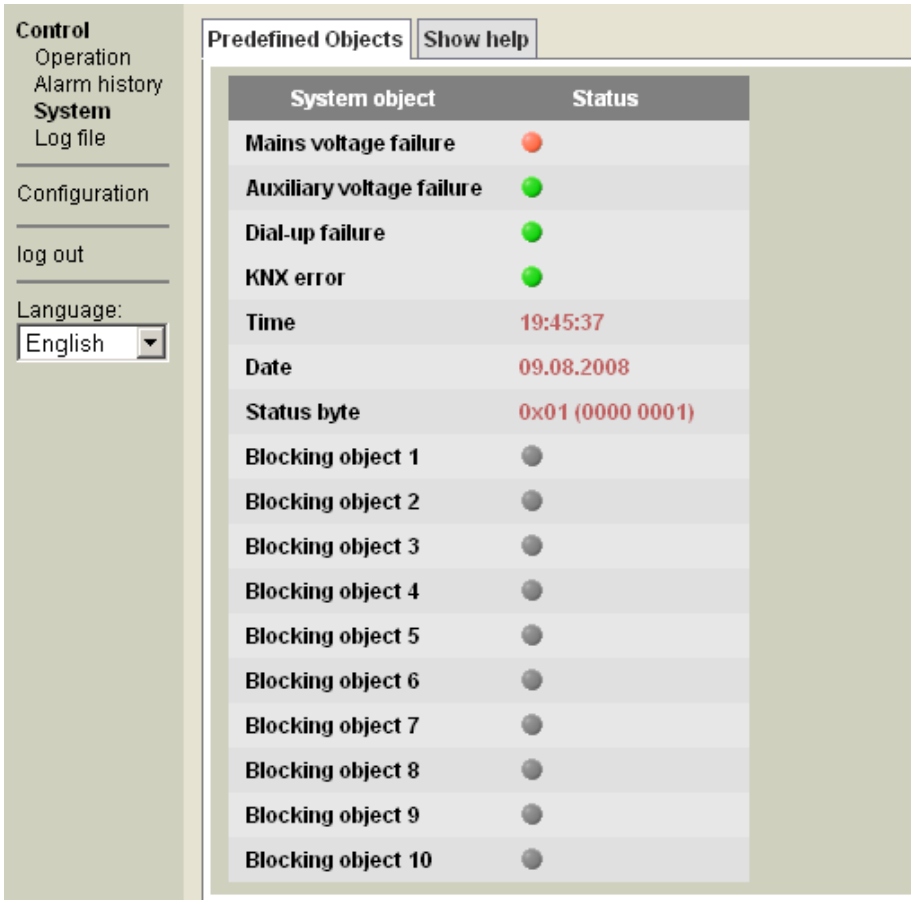
The column *Stop time* indicates when the cause of the alarm was remedied.

The *Acknowledged* column indicates if an alarm has been acknowledged.

Up to 1000 alarm entries can be stored in the alarm history. With more than 1000 entries old alarms are overwritten by new alarms (ring memory).

4.1.3 The System page

This page shows the current system states, e.g. a malfunction of the KNX or the telephone connection.



4.1.4 The Log file page

The *Log file* page protocols important events and provides information on malfunctions.

A log entry has the following structure:

<Date> <Time> <Event> <Additional information>

<Date> has the format “yyyy-mm-dd”

<Time> has the format “hh:mm:ss”

The following events are protocolled:

Event	Additional information	Description
bus voltage	failure	Bus voltage failure (no communication to the KNX bus coupler)
	recovery	Bus voltage recovery
mains voltage	failure	230 V mains voltage failure
	recovery	230 V mains voltage recovery
auxiliary voltage	failure	12 V auxiliary supply failure
	recovery	12 V auxiliary supply recovery
speech message	line busy, hangup	Hung up because line engaged (line busy tone detected)
	no dial tone, hangup	Hung up as no dial tone detected

	subscriber busy, hangup	Hung up because user engaged (line busy tone detected)
	call connected timeout, hangup	Hung up as user does not answer
	message transmitted	Message has been successfully sent
email message	line busy, hangup	Hung up because line engaged (line busy tone detected)
	no dial tone, hangup	Hung up as no dial tone detected
	subscriber busy, hangup	Hung up because user engaged (line busy tone detected)
	timeout call connected, hangup	Hung up as user does not answer
	connection or transmission error	Hung up as login via POP or data transfer not successful
	message transmitted	Message has been successfully sent
SMS message	line busy, hangup	Hung up because line engaged (line busy tone detected)
	no dial tone, hangup	Hung up as no dial tone detected
	subscriber busy, hangup	Hung up because user engaged (line busy tone detected)
	call connected timeout, hangup	Hung up as user does not answer
	transmission failed, hangup	Hung up as transmission of the SMS unsuccessful
	message transmitted	Message has been successfully sent
web user	log-in failed, <user name>	Browser log-in was unsuccessful
	log-in successful, <user name>	Browser log-in was successful
phone	call received	Device has been called and hung up again without entering the PIN
	log-in failed	Incorrect PIN entered
	log-in successful, <user name>	Correct PIN entered
firmware	updated	A Firmware update has been undertaken
language	updated	A language update has been undertaken (if possible to distinguish from the Firmware update)
ETS	download	A new application program was downloaded with the ETS, information has been transferred into the main processor.
general error	<error-code>	General fault (if useful / necessary)

4.2 Operation with the telephone

If you want to recall the states of the KNX system remotely, you can access the Telephone Gateway from any telephone which utilises tone dialling. If you are unable to use a tone dialling telephone, it is also possible to use a tone dialling transmitter when holding the transmitter up to the microphone.

During the call, the Telephone Gateway will answer after the programmed number of ring tones has been reached.

You are then requested to enter your PIN (personal identification number).

Note: If an incorrect PIN is entered three times, the Telephone Gateway will terminate the call.

After entering the correct PIN you will access the main menu.

Depending on the rights which you are allocated, you will either have a selection option or a limited selection available:

Button 0 = general query

Button 1 = objects in alarm state (and acknowledgement feature)

Button 2 = individual object query and commands

The individual menu points are explained in more detail in the following.

4.2.1 General query

If you switch over from the main menu to the general query menu using the 0 button, all configured objects are automatically announced including their current values.

By pressing the # button you can stop the announcement and return to the main menu.

4.2.2 Acknowledge objects in the alarm state, acknowledge alarms

If you switch over from the main menu to the alarm query menu using the 1 button, all objects in the alarm state are announced.

First of all the Telephone Gateway checks if there is an alarm message present. If not, the message *Announcement 12a* “No active alarms” is issued and it returns automatically to the main menu.

If there are alarms active, the device issues Announcement 11. Thereafter, the sequence of the voice messages and status messages of the alarms are issued. All alarms are issued whose conditions fulfil *Send message if*, or who have not yet been acknowledged.

If the user has the appropriate rights to acknowledge alarms (see section 0), the corresponding request is made (Announcement 15) and the device waits for 5 seconds if the user presses the * button as an acknowledgement. If an acknowledgement is made, it is confirmed by announcement 13.

Thereafter the next unacknowledged alarm is announced. At the end of the alarm list the device issues Announcement 12 and then returns to the main menu.

By pressing the # button you can stop the announcement at any time and return to the main menu.

4.2.3 Individual object query and demands

If you wish to check the state of an individual object or send a command to an object, this can be done in the *Individual object request and commands* menu.

First of all the object number must be entered using the telephone keypad. If you do not know the object number, carry out a general query beforehand. (see 0)

After entering the object number the current state of the object is stated. The possible range of operations are also announced. You can for example, switch on a light which is switched off by pressing button 1.

You return to the main menu by pressing button #.

4.2.4 Accepting a voice message / acknowledging of alarms

When answered, the call takes a few seconds before the device detects that the party called has accepted the call. As soon has the Telephone Gateway has detected that the call has been accepted, the voice message is sent.

The user is then requested to enter their PIN. Thereafter, the user can change from the main menu to the *Alarm query* memory (button 1) and acknowledge the alarm (see 4.4.2).

If you wish to subsequently acknowledge the alarms, call up the Telephone Gateway, enter your PIN and change from the main menu to the Acknowledge alarms menu by pressing button 1.

5 Appendix

5.1 Changing the IP address of a PC

The following example shows how the IP address of a computer is changed (Example: Windows XP, English).

Note: The settings must be made by a person with appropriate experience in the configuration of PCs and network technology. Consult your system administrator if required.

1. Access the network settings: *Start – Settings – Network Connections*
2. Double click on the respective network connection under *LAN or High-Speed Internet* and click on *Properties*.
3. The window *Local Area Connection Properties* opens. Select *Internet Protocol (TCP/IP)* from the list and click on *Properties*.
4. Activate *Use the following IP address* and enter the new *IP address* and *Subnet mask*.
   IMPORTANT: Note the old IP address so that you can reactivate it!

5.2 Country list for modem settings

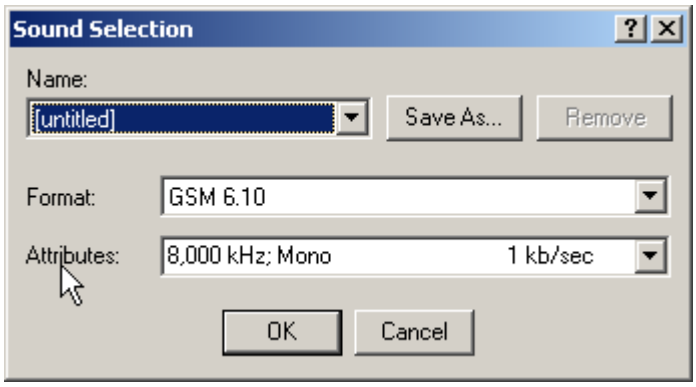
The modem settings can be adapted for the following countries.

	DEFAULT
AR	ARGENTINA
AU	AUSTRALIA
AT	AUSTRIA
BE	BELGIUM
BR	BRAZIL
BG	BULGARIA
CA	CANADA
CL	CHILE
CN	CHINA
CY	CYPRUS
CZ	CZECH REPUBLIC
DK	DENMARK
EE	ESTONIA
FI	FINLAND
FR	FRANCE
DE	GERMANY
GR	GREECE
HK	HONG KONG
HU	HUNGARY
IS	ICELAND
IN	INDIA
ID	INDONESIA
IE	IRELAND
IL	ISRAEL
IT	ITALY
JP	JAPAN
KR	KOREA, REPUBLIC OF
LV	LATVIA
LI	LIECHTENSTEIN
LT	LITHUANIA
LU	LUXEMBOURG
MY	MALAYSIA
MT	MALTA
MX	MEXICO
NL	NETHERLANDS
NZ	NEW ZEALAND
NO	NORWAY
PH	PHILIPPINES
PL	POLAND
PT	PORTUGAL
RO	ROMANIA
RU	RUSSIAN FEDERATION
SG	SINGAPORE
SK	SLOVAKIA
SI	SLOVENIA
ZA	SOUTH AFRICA
ES	SPAIN
SE	SWEDEN
CH	SWITZERLAND
TW	TAIWAN
TH	THAILAND
TR	TURKEY
GB	UNITED KINGDOM
US	UNITED STATES

5.4 Creating your own announcement

Announcement text can be easily created using the supplied Windows tools. You simple require a microphone and the “Windows Sound Recorder“ normally found at *start-Accessories-...* :

Set the audio format as shown under *File – Properties – Convert now*: GSM 6.10: 8000Hz - Mono - 1kb/sec



5.5 Definition of a language package (system message)

If you wish to adapt the standard announcements of the Telephone Gateway to another language, the following files are required for this purpose. Specifications for the audio format and tips for file creation can be found under section 5.4. (German and English text listed):

Name	File name	Default text
Announcement 1	ans01.wav	„Hallo, hier ist das ABB Telefon Gateway” “Hello – This is the ABB Telephone Gateway”
Announcement 2	ans02.wav	„Bitte geben Sie Ihren vierstelligen PIN ein.” “Please enter your PIN“
Announcement 3	ans03.wav	„Falsche PIN! Bitte nochmals eingeben.“ “Wrong PIN ! Please enter your PIN again.“
Announcement 4	ans04.wav	„Sie sind im Benutzermodus. Für eine Generalabfrage drücken Sie die 0. Für die Abfrage aller anstehenden Alarme drücken Sie die 1. Für Einzelobjektabfrage und Befehle drücken Sie die 2.“ “Main Menu. For a General interrogation press 0 – for a report of all active alarms – press 1- to check a single object or to give a command press 2.
Announcement 5	ans05.wav	„Falsche Eingabe“ Wrong input
Announcement 6	ans06.wav	„Sie sind im Modus Einzelobjektabfrage. Bitte geben Sie die Objektnummer ein oder drücken Sie die #-Taste zum Beenden. You are in the mode single object check and command. Please enter the object number or press the #-Button to cancel
Announcement 7	ans07.wav	„Sie sind im Modus Generalabfrage. Es werden nun alle Objekte mit ihren Werten angesagt. Drücken Sie die #-Taste zum Beenden der Abfrage.“ “You are in the mode general interrogation. All configured objects and their values are now reported. Please press the #-Button to cancel.”
Announcement 8	ans08.wav	Es wurden alle konfigurierten Objekte angesagt. All configured objects have been reported.
Announcement 9	ans09.wav	Dieses Objekt ist nicht konfiguriert. This object is not configured.
Announcement 10	ans10a.wav	“Drücken Sie die ‘0” um auszuschalten” “Press '0' to switch off”
	ans10b.wav	“Drücken Sie die ‘1’ um einzuschalten” “Press '1' to switch on”
	ans10c.wav	“Geben Sie nun einen Wert ein oder drücken Sie die Rautetaste zum Beenden” “Please enter a value now or press the # Button to cancel”
	ans10d.wav	“Geben Sie nun einen Wert ein von mindestens” “Please enter a value of at least“
	ans10e.wav	„Geben Sie nun einen Wert ein von höchstens“ “Please enter a value of maximum”

	ans10f1.wav	“Sie können nun einen Wert zwischen” “You can now enter a value between”
	ans10f2.wav	“und” “and”
	ans10f3.wav	„eingeben oder drücken Sie die Rautetaste zum Beenden” “or press the # Button to cancel”
	ans10f.wav	“Sie können nun einem Wert im konfigurierten Bereich eingeben, oder drücken Sie die Rautetaste zum Beenden.“ “You can now enter a value in the configured range or press the # Button to cancel”
	ans10g.wav	“Die Eingabe wurde auf folgenden Wert begrenzt.“ “The input of this value is limited to”
Announcement 11	ans11.wav	„Sie sind im Modus Alarmabfrage. Es werden nun alle Objekte im Alarmzustand angesagt. Drücken Sie die Rautetaste zum Beenden der Ansage.“ You are in the mode report of all active alarms. All objects in the alarm state will be reported now. Press the # Button to cancel
Announcement 12	ans12.wav	„Es wurden alle Objekte im Alarmzustand angesagt.“ “All objects in alarm state have been reported”
Announcement 12a	ana12a.wav	“Es liegen keine Alarme vor” “No active alarms”
Announcement 13	ans13.wav	„Der Alarm wurde quittiert.“ The alarm has been acknowledged.
Announcement 14	ans14.wav	„Der Befehl wurde ausgeführt.“ The command has been sent.
Announcement 15	ans15.wav	„Durch Drücken der *-Taste können Sie den Alarm quittieren.“ To acknowledge the alarm press the * button.
Announcement 16	ans16.wav	„Die Verbindung zum KNX ist momentan gestört. Daher können Meldungen nicht aktuell sein.“ The connection to the KNX is interrupted at the moment. Therefore some events might not be up to date.
Announcement 17	ans17.wav	„Die Verbindung zum KNX ist momentan gestört. Daher sind keine Befehle möglich.“ The connection to the KNX is interrupted at the moment. Therefore no commands can be sent.
Announcement 18	ans18.wav	„Befehl konnte nicht ausgeführt werden.“ The command could not be sent
Announcement 19	ans19.wav	„Anlagenbezeichnung“ Installation name
Announcement 20	ans20.wav	„Gerätebezeichnung“ Device name
Announcement 21	ans21.wav	„Die Verbindung zum KNX ist momentan gestört.“ The connection to the KNX is interrupted.
Characters	char_bslash.wav	backslash
	char_celsius.wav	Celsius
	char_colon.wav	colon

	char_comma.wav	comma
	char_dash.wav	dash
	char_degree.wav	degree
	char_equals.wav	equals
	char_excl_mk.wav	exclamation mark
	char_full_stop.wav	full stop
	char_minus.wav	minus
	char_percent.wav	percent
	char_plus.wav	plus
	char_quest_mk.wav	question mark
	char_scolon.wav	semicolon
	char_slash.wav	slash
	char_star.wav	star
Alphabet	char_a.wav	a
	char_b.wav	b
	…	
	char_y.wav	y
	char_z.wav	z
Numbers	num00.wav	zero
	num01.wav	one
	…	
	num98.wav	ninety-eight
	num99.wav	ninety-nine
	num100.wav	one hundred
Date	day01.wav	first
	day02.wav	second
	…	
	day31.wav	thirty first
Months	mon01.wav	January
	…	
	mon12.wav	December
Announcements	object.wav	object
	minute.wav	minute
	minutes.wav	minutes
	hour.wav	hour
	hours.wav	hours
	oclock.wav	o’clock
Objects	ko1.wav	object number

	ko2.wav	is in alarm state
	ko3.wav	is in normal state
	ko4.wav	“Der Wert beträgt” “the value is”
	ko4a.wav	on
	ko4b.wav	off
	(ko4c.wav)	no actual state
	(ko4d.wav)	no actual state available

File names in (brackets) are reserved for future applications. They are not yet implemented.

5.6 Ordering information

Designation	Ordering details short designation	Order No.	bbn 40 16779 EAN	Price 1 pc. [EURO]	Price group	Weight 1 pc. [kg]	Packaging [pc.]
Telephone Gateway, Analogue, MDRC	TG/S 3.2	2CDG 110 068 R0011	66305 2		26	0.257	1

ABB STOTZ-KONTAKT GmbH
Postfach 10 16 80, D-69006 Heidelberg
Tel (06221) 701-607
Fax (06221) 701-724

www.abb.de/knx
www.abb.de/stotz-kontakt

Technical Hotline:
Telephone (06221) 701-434
E-mail: eib.hotline@de.abb.com

2008-10-08