



Installation manual

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More information can be found at www.xxter.com

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Welcome

With xxter you can expand the possibilities of an automated home or office in only a few steps and control it with a smartphone, tablet or pc.

This manual is intended for the installation professional and starts with a short explanation of the workings and configuration options of xxter. In the following chapters you will be taken through the steps for initial registration, configuration, connecting the device and initialisation.

The explanation of how the visualisation for smartphones, tablets and pc's can be created and adapted is included in the user manual. This makes it possible for the end-user to fine tune xxter completely to his or her personal needs.

The installation manual expects you, the installation professional, to have basic knowledge on Ethernet networks and the applied home automation standards (KNX/ETS, Artnet DMX, Hue).

We often refer to the end-user. The end-user is the intended person to use xxter after installation. More information on the use of xxter can be found in the user manual.

This manual only describes the basic installation of xxter. For additional options and extensions like cameras, intercom systems, audio controls (e.g. Sonos and BluOS), graphs, scripts and many other options, separate manuals are available. Please refer to www.xxter.com for more information.

1. Introduction

With xxter you can easily control an automated home or office with a smartphone, tablet or pc, at home or over the Internet when you are away. Additionally, xxter gives you the possibility to connect the different home automation standards to each other and integrate it in one environment.

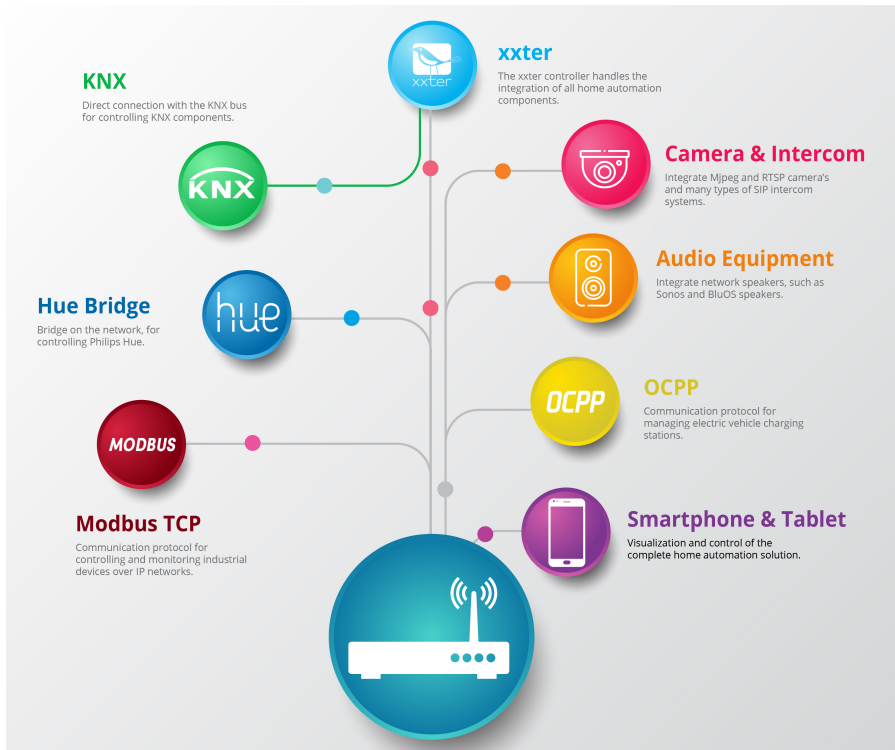


Image 1: xxter overview

The configuration of xxter is performed on xxter's central servers. This configuration is then downloaded on the xxter device itself and in the app.

In the following chapters, this central configuration is explained in more detail.

2. xxter configuration overview

The xxter configuration is created in four separate parts: devices, projects, profiles and pages.

The device is the xxter controller itself. The device should be registered by the installation professional as well as the end-user and is the basis for the rest of the configuration.

The project contains the actual technical configuration, wherein the home automation components are defined as well as additional other features, like for instance cameras. By connecting a project to a device, this configuration will be enabled for that device.

The profile describes the visualisation for smartphone, tablet and pc. By connecting a profile to a device, the visualisation will become available for that device.

The pages are the different visualisation screens to control a profile. Every profile has one page as index page and any number of following pages.

As an installation professional you can configure the project and connect it to a device. Of course it is possible to manage multiple projects and devices for one professional.

As an end-user you can manage the profile and the subsequent pages. It is possible to use multiple devices and profiles next to each other. On the smartphone, tablet or pc you can choose which profile you want to load for the specific device.

This manual describes the configuration of the device and the project. For more information about managing profiles and pages, please refer to the user manual.

The installation professional also has access to the section for the end-user in the configuration environment.

3. Project configuration

Every project is built from components and every component has a type, a name and group addresses to identify the component.

The type of the component has to correspond with the characteristics of the home-automation component that is used. For an overview and explanation of the different component types, see addendum A.

The name of a component is important for identification by the end-user, so he or she understands which component was intended, for instance 'Kitchen table ceiling light'. The end-user can always use another description when including the component in the visualisation.

For the technical identification of the component, group addresses are used:

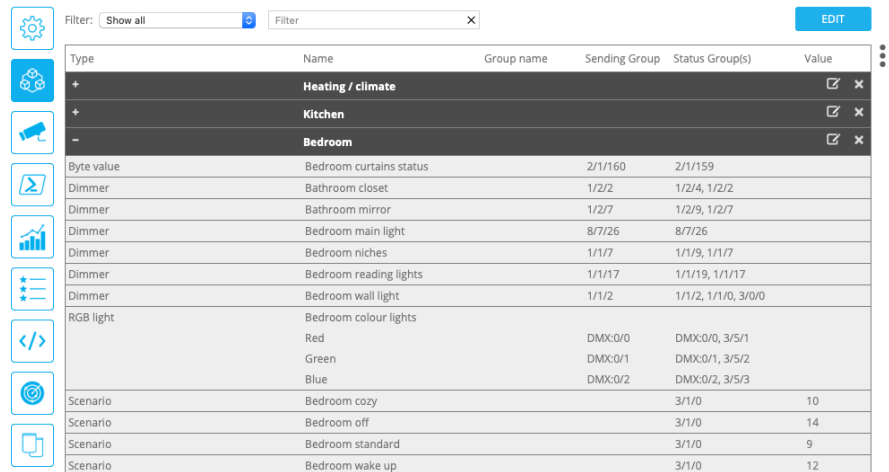
- The sending group contains the group address to which a telegram should be sent. There is a maximum of one sending group address per component
- The status group(s) contains one or more group addresses to display the status of that component. Often the sending group address is also a status group.
- The value contains the value that should be sent or the value on which xxter should react.

The group addresses are used for all different protocols of home-automation: KNX, DMX and Hue. Details about these protocols can be found in the corresponding chapters, later on in this manual.

Apart from these main settings, you can set-up whether xxter should perform a bridge function for a component, between the different protocols, for instance between KNX and DMX.

For every component you can also select whether the component should be available for the end-user to use as a scenario option or in the planner. Normally all actuators that are used by regular switches in the house should also be available for scenarios and the scheduler (e.g. lights, curtains, etc).

Projects can be configured through the central webpages of *My xxter*.



Type	Name	Group name	Sending Group	Status Group(s)	Value
+	Heating / climate				✎ ✕
+	Kitchen				✎ ✕
-	Bedroom				✎ ✕
Byte value	Bedroom curtains status		2/1/160	2/1/159	
Dimmer	Bathroom closet		1/2/2	1/2/4, 1/2/2	
Dimmer	Bathroom mirror		1/2/7	1/2/9, 1/2/7	
Dimmer	Bedroom main light		8/7/26	8/7/26	
Dimmer	Bedroom niches		1/1/7	1/1/9, 1/1/7	
Dimmer	Bedroom reading lights		1/1/17	1/1/19, 1/1/17	
Dimmer	Bedroom wall light		1/1/2	1/1/2, 1/1/0, 3/0/0	
RGB light	Bedroom colour lights				
	Red		DMX:0/0	DMX:0/0, 3/5/1	
	Green		DMX:0/1	DMX:0/1, 3/5/2	
	Blue		DMX:0/2	DMX:0/2, 3/5/3	
Scenario	Bedroom cozy		3/1/0		10
Scenario	Bedroom off		3/1/0		14
Scenario	Bedroom standard		3/1/0		9
Scenario	Bedroom wake up		3/1/0		12

Image 2: project configuration example on *My xxter*

Scenarios

With the use of scenarios, the end-user can easily select a set of actions to perform with a single push on a button.

The end-user can manage the scenarios himself, but to be able to use the scenarios from the automated home, it is important that the installation professional initially creates a set of scenarios, to which xxter will react. xxter will listen to the specified group address and value. When a KNX switch sends a telegram to one of these addresses, xxter will perform that scenario. Scenarios for which the installation professional has entered a group address can never be deleted by the end-user.

Scenarios can also be used from within the visualisation. The end-user can always change the name of a scenario.

How to configure and use scenarios is explained in the user manual.

4. xxter basic installation

Now the basic concepts of xxter are explained, we can start with the installation. The basic installation of xxter consists of the following steps:

1. Registration [chapter 5]
2. Configuring home automation components
 - a. KNX [chapter 6]
 - b. Artnet DMX (RGB led) [chapter 7]
3. Connecting the device [chapter 8]
4. Set-up [chapter 9]
5. Teaching-in home automation components
 - a. Philips Hue [chapter 10]
6. Initialisation [chapter 11]

The configuration of KNX and DMX components can be prepared beforehand (for example from the office), before the xxter controller is physically connected and set-up. To teach in Hue components, the specific home automation components as well as the xxter controller have to be installed. In case you want to prepare this from the office, a test setup has to be created, similar to the desired setup at the intended user location.

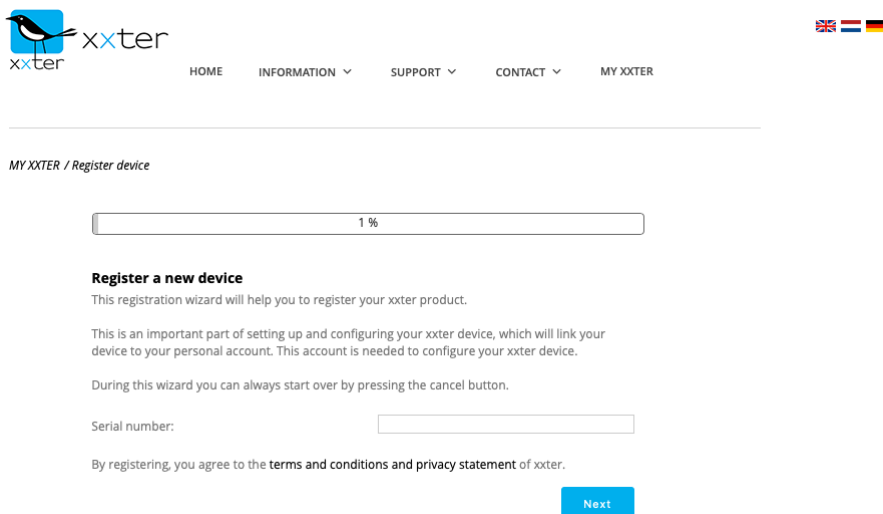
After the basic installation has been performed, the visualisation from the smartphone or tablet can be configured. The instructions for the visualisation can be found in the user manual.

Apart from the basic installation, xxter also supports cameras, intercom systems, audio controls (e.g. Sonos and BluOS), graphs, scripts and many other features. Separate manuals are available for these features on the website www.xxter.com.

5. Registration

Every xxter product has to be registered before use. After registration the installation professional can configure the xxter controller and the end-user can personalize it. Therefore, it is required to register xxter by the professional as well as for the end-user.

For the registration of xxter, please follow the registration help on:
<http://www.xxter.com/register>



The screenshot shows the xxter website's registration wizard. At the top, there is a navigation bar with the xxter logo on the left and flags for the UK, Netherlands, and Germany on the right. The navigation menu includes links for HOME, INFORMATION, SUPPORT, CONTACT, and MY XXTER. Below the navigation bar, the page title is "MY XXTER / Register device". A progress bar indicates that the registration is 1% complete. The main content area is titled "Register a new device" and contains the following text: "This registration wizard will help you to register your xxter product." followed by "This is an important part of setting up and configuring your xxter device, which will link your device to your personal account. This account is needed to configure your xxter device." and "During this wizard you can always start over by pressing the cancel button." Below this text is a label "Serial number:" followed by an empty input field. At the bottom, there is a line of text: "By registering, you agree to the terms and conditions and privacy statement of xxter." and a blue "Next" button.

xxter

HOME INFORMATION ▼ SUPPORT ▼ CONTACT ▼ MY XXTER

MY XXTER / Register device

1 %

Register a new device

This registration wizard will help you to register your xxter product.

This is an important part of setting up and configuring your xxter device, which will link your device to your personal account. This account is needed to configure your xxter device.

During this wizard you can always start over by pressing the cancel button.

Serial number:

By registering, you agree to the [terms and conditions](#) and [privacy statement](#) of xxter.

Next

Image 3: Registration help

Please remember the usernames and passwords well, because they are needed for the rest of the installation.

The serial number of the device can be found on the device itself and on the packaging.

6. Configuring KNX components

For the configuration of a KNX installation in xxter, the KNX group addresses will have to be transferred to xxter as components in the project. The easiest way to do this, is by exporting the KNX configuration in ETS as a 'KNXproj' extraction and then import it in the project in my xxter, <https://my.xxter.com/>. Here you can easily transfer the relevant components from the ETS configuration to the xxter configuration.

You can program with ETS directly through the xxter device, see chapter 15.

The screenshot displays the 'Import KNXproj file' dialog in the xxter configuration tool. On the left, a tree view under 'Groupaddresses' shows a hierarchy: '0 - Verlichting' (expanded) contains '0/0 - Schakelen' and '0/1 - Dimmen' (expanded). Under '0/1 - Dimmen', several group addresses are listed: '0/1/1 - Slaapkamer spotjes', '0/1/2 - Keuken spotjes', '0/1/12 - Woonkamer bollamp', '0/1/24 - Gevel verl.', '0/1/27 - Verl. Job beneden', and '0/1/28 - Verl. Job boven'. Other categories like '0/2 - Status melding', '0/3 - Waarde sturing', '0/4 - Status waarde', '0/5 - Alles uit', and various sturing (control) groups are also visible. The right panel of the dialog contains the following fields and options: 'Selected:' is set to '0/1 - Dimmen'; 'Name:' is 'Sub-group name'; 'Send:' is '0/1/*'; 'Status:' is '*depending on group*'; there is an unchecked checkbox for 'Add additional status group'; radio buttons for 'No group', 'Group by main and middle groups', 'Group by building plan', and 'Group manually' (which is selected); 'Group name:' is 'Lighting / dimmers'; 'Allow in scenarios and schedulers:' is checked; 'Add as:' is 'Switch'; and an 'Add' button at the bottom.

Image 4: xxter project configuration example

To configure scenarios, you can manually choose one or multiple free group addresses. These need to be 1-byte (0-255) group addresses with a value between 0 and 255. When a certain value is sent to the specified group by for example a KNX switch, xxter will execute the specified scenario. See also the paragraph scenarios in chapter 3.

7. Configuring Artnet components

To configure Artnet DMX equipment, for instance to control RGB led lighting, the Artnet DMX identification of the specific components must be transferred to the project. Every DMX address will usually have to be included as the sending group as well as the status group.

Artnet DMX only supports byte values and can be used with switches, dimmers, sending byte values and RGB led lighting. When a switch is used in combination with a DMX address, that address will be set to 100% when an 'on' command is given.

A DMX address consists of a universe and an address. The universe can be between 0 and 31 and the address between 0 and 511. In the xxter configuration DMX addresses always contain the prefix "DMX:", followed by the universe, a "/" and then the address.

An example of a DMX address is: DMX:0/12

With which we intend address 12 of universe 0.

Type	Name	Sending Group	Status Group(s)	Value	Bridge	Scenario / Read Scheduler
Dimmer	dmx dimmer	DMX:0/5	DMX:0/5			
RGB light	Bedroom colours					✓
	Red	DMX:0/0	DMX:0/0			
	Green	DMX:0/1	DMX:0/1			
	Blue	DMX:0/2	DMX:0/2			
Switch	dmx switch	DMX:0/8	DMX:0/8, 14/0/1		#	

Image 5: DMX configuration example

8. Connecting the device

The xxter controller needs to be connected with a UTP cable to the (internal) network. xxter must be able to connect to the Internet to be able to download the configuration and for future firmware updates.

KNX direct

For KNX, connect the bus cable to the KNX connector. Subsequently connect the power to the 10-36 VDC white yellow plug*. For the HK02E models, also a 5 VDC power adaptor can be used.



Image 6: xxter device

*) Please use a KNX certified safety isolating power supply.

Artnet DMX

For the use of DMX components, an ArtNet->DMX node is required. This node must also be connected to the same internal network as the xxter controller. A list of ArtNet->DMX nodes that are tested with xxter can be found on the website.

Philips Hue

When using Philips Hue, make sure that the xxter controller and the Hue network module (bridge) are both connected to the same internal network.

9. Set-up

The following settings need to take place on the xxter controller itself. Access the device on the local network with your web browser using the IP address the xxter device has received. When the device has started successfully and was able to connect to the Internet, you can find the IP address under the link to local settings on *My xxter* at the devices page.

Normally xxter will automatically receive an IP address through DHCP. You can look up the IP address that was given out on the DHCP server or router, after the xxter device has fully started. You can also use the IP finder tool to find the xxter device. You can find the tool on the downloads page for professionals within *My xxter*:

<https://my.xxter.com/>.

In case xxter could not reach a DHCP server, it will use 'Auto IP' to determine its own IP settings. Within the same network, the controller can be found through the following local URL:

<http://xxter.local>

Please note: this functionality is available from xxter version 4.2. In case you are running an older version, please connect the controller to a network with internet connection first, and update to the latest version, see chapter 13.

To continue the set-up, follow the xxter configuration help:

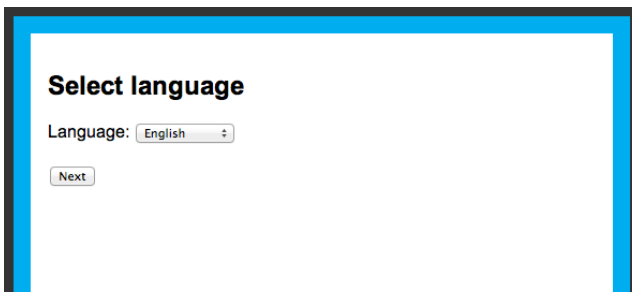


Image 8: configuration help

After the basic settings are completed, the protocol specific settings need to be set. On the xxter controller, open the *Settings – Protocols* page.

KNX direct

Under the *KNX settings* the KNX protocol should be enabled, with the connection method set to 'Direct'. Verify whether the KNX physical address is not used on the KNX bus by another component. We advise you to reserve this address in KNX as a dummy component, to prevent the address to be used by another device in the future.

KNX connection over IP

Under the *KNX settings* the KNX protocol should be enabled. In case you are using the KNXnet tunnel protocol, enter the IP address of the KNX/IP module. In case you are using the KNXnet routing protocol, set this feature to "on" and verify the standard Multicast IP address.

Artnet DMX

Under the *ArtNet settings* enter the IP address of the ArtNet receiver. To guarantee the connection between Artnet DMX and xxter after (network) interruptions, xxter can repeat the status of the DMX components in a specified interval. Turn on this feature if desired.

Philips Hue

Under the *Hue settings* enter the IP address of the Hue bridge(s). Then, push the button on the Hue bridge itself and subsequently click the *Confirm* button. You can connect up to 5 Hue bridges to one xxter.

When you open the *Status* page, you can verify whether the KNX or Hue are connected correctly.

10. Setting up Hue components

Before using Hue components, make sure that all Hue lights are correctly configured within the Hue system, as described in the Hue manual(s). When xxter has been successfully linked with the Hue bridge (see chapter 9) you can see which Hue lights are available on the *status* page of the xxter device.

Hue
Connected to bridge: 1
HUE1:4 = Lamp nr 4
HUE1:5 = Hue color lamp 1
HUE1:6 = Hue color lamp 2
HUE1:7 = Hue Smart plug 1
HUE1:G1 = Woonkamer
HUE1:G2 = Keuken
HUE1:G3 = Spreekkamer

On *My xxter* you can then add the different Hue lights. Always enter a Hue light in the sending group as well as the status group.

A Hue light is always defined in the following format:

“HUE” followed by the bridge number, “:” followed by the lamp or group number, a “/” and the desired command. For instance, “HUE1:1/S” for switching lamp 1 on bridge 1 on/off.

The following commands are supported:

Switch	S	Switching on/off
RGB lighting	R	Red
RGB lighting	G	Green
RGB lighting	B	Blue
Dimmer	HUE	Hue (colour)
Dimmer	SAT	Saturation
Dimmer	BIR	Brightness
Dimmer	CT	Colour temperature

To set a certain colour of a Hue light the ‘RGB lighting’ component can be used, or two separate dimmers for setting the Hue and Saturation. The Colour temperature can be used to control the “warmth” of the colour of white light.

Type	Name	Group name	Sending Group	Status Group(s)
Hue lamps				
Dimmer	Hue group kitchen brightness		HUE1:G2/BRI	HUE1:G2/BRI
Dimmer	Hue lamp 6 color temperature		HUE1:6/CT	HUE1:6/CT
Dimmer	Hue lamp 6 hue		HUE1:6/HUE	HUE1:6/HUE
RGB light	Hue lamp 1			
	Red		HUE1:1/R	HUE1:1/R
	Green		HUE1:1/G	HUE1:1/G
	Blue		HUE1:1/B	HUE1:1/B
Switch	Hue Smart plug		HUE1:7/S	HUE1:7/S

Image 10: Hue configuration example

11. Initialization

Now the installation and configuration is complete, it can be loaded onto the xxter device. Access the device on the local network with your web browser using the IP address of the xxter device and log in. Press the button *Load configuration* in the top left hand corner of the menu.

When the configuration is successfully loaded, the technical installation is completed. Now, using the user manual, the visualisation for the smartphone, tablet or pc can be created and the xxter app installed and set up to connect to the xxter device.

We recommend that the installation professional always creates an initial visualisation for, or together with, the end-user.

12. Using xxter over the Internet

When the end-user wants to use xxter not only from within the home or office, but also over the Internet, this can be done with the use of the *xxter connect service*, a service of xxter, see the user manual chapter 6. Alternatively, it is also possible to allow external access through port forwarding. However, but please be aware of the related security risks.

To allow port forwarding, the router, firewall or modem of the end-user needs to be set up to forward the xxter port to the internal IP-address of the xxter device. Please refer to the manual of the router, firewall or modem in question how this should be done. By default, the xxter port number is: TCP 2199

It is also possible to configure the xxter device to work on a different port number. This can be done on the *Settings – basic* page under the ‘*advanced network settings*’. When using an alternative port number, this should also be explicitly added when configuring the xxter app.

For more information on use of xxter over the Internet, please refer to our documentation page on our website www.xxter.com.

13. Updating firmware

Regularly new versions of the xxter firmware will be released. These releases can add new features, but can also contain bug fixes or improvements. On the xxter website the latest version of the firmware is listed.

The xxter device itself can verify whether new firmware is available. Access the device on the local network with your web browser using the IP address of the xxter device and log in. Then open the *Settings* – *system* page and in the *Firmware* section press the *Check* button to check for firmware updates. In case a new version is available, you will be prompted to update the firmware.

By selecting *update firmware*, the device will download and install the new firmware. This can take some time. After the firmware is successfully updated, the xxter device needs to be restarted. This can be done by clicking *Reboot*, to reboot the device.

Important: never turn off the xxter device while it is updating the firmware!

It can be required to update the firmware multiple times in a row, before the xxter device is updated to the latest version. The xxter controller will always automatically load the configuration after an update, to process the latest configuration.

The firmware can also be updated using the xxter app, when the xxter app is installed and set up (see user manual). In the app, you can update the device from the *configuration* menu on the *settings* page.

14. Reset options and status LEDs

In case of any problems, the xxter device can be reset in several different ways.:

Reset button - Press shortly	Full restart
Reset button - Medium press (< 3 sec.)	Reset network settings only
Reset button - Hold during boot	Reset to factory defaults
Reset button - Press long (longer then 3 sec.)	Reset to factory defaults

*) Please note, that for the HK02E model, the R1 button can be used as the reset button

When the xxter device is connected to power, the system status can be seen using the LED indicators:

OK	green slow flashing	Currently booting or shutting down
OK	green continuous	Application started and ready for use
NETWORK	green slow flashing	Normal operation - OK
NETWORK	yellow slow flashing	No connection to KNX
NETWORK	red quick flashing	LAN problem, no network
NETWORK	red / green intermittent	No Internet connection, only LAN connection*
BOTH	quick red / green intermittent	Currently updating firmware of device

*) the Internet connection is only verified during boot and when the *Check Internet connection* button is pressed on the status page of the xxter device.



Image 11: xxter device

15. Programming KNX through xxter

It is possible to program with ETS through the IP address of the xxter controller, using the KNXnet/IP tunnel protocol or the KNXnet/IP routing protocol. The xxter controller supports KNX IP secure and it is strongly recommended to enable IP secure and set a unique password. Access to KNXnet/IP is normally disabled and must be activated by the user explicitly. Access can be granted for a period of 1 hour, 4 hours, 8 hours or indefinitely.

After the device is connected and set up, this option can be found on the status page of the xxter device under *KNX tunnel input*. When the xxter app is installed and set up (see user manual), it is also possible to grant access through the *configuration* menu on the *settings* page with the option 'Allow access to KNX bus'. This way the end-user can grant you as the installation professional temporary access for maintenance. The app will enable access for a default period of 8 hours.

External access

For secure remote access to the xxter controller, allowing programming from a different location (such as your office), the *xxter Pro service* is available. This service gives you, as a professional, secure access to all your clients' devices. It is necessary to enable this on each xxter controller on the *Basic - Settings* page. The *Pro Connect app* can then be used to connect to the device and the KNX bus, without a VPN solution or port forwarding. More information about *xxter Pro* can be found on our website: www.xxter.com.

Important: for security reasons, you should always enable IP secure, and set a unique password. Additionally, you should never 'Allow access to KNX bus' without a restriction of time in combination with external access.

16. Service and support

Answers to frequently asked questions can be found on:

<http://www.xxter.com/faq>

On our forum you can exchange information with other professionals:

<http://www.xxter.com/forum>

Additional support can be found on:

<http://www.xxter.com/support>

In case you are unable to resolve the issue here, you can contact us on support@xxter.com. Please always include the serial number of the xxter device it concerns.

Addendum A (component types)

In this addendum we supply a short explanation for the project configuration of the most used types of components for home automation.

A switch refers to a relay or switch actor and can only be turned on or off.

A dimmer refers to a dimming actor and can be set to a scale of 0 to 100%.

RGB lighting is a combination of three connected dimmer components for red, green and blue. Together they set one RGB lamp to the desired colour.

Bit/Byte values can be used to send or receive values from the home automation installation. The type of component defines what kind of bit or byte value should be used.

Sensor values like temperature, wind speed, etc. can be used to read information from the home automation installation, but can also be used to send a value, for instance to set a thermostat temperature.

Technical specifications

Size (lxwxh):	90x72x60mm
Type:	DIN-module (4 MW)
Weight:	100 grams
Voltage:	12-36 VDC
Power consumption:	1W (avg.)
Cooling:	passive
Storage temp:	-40°C to 85°C
Environment temp:	0 °C to 70 °C
Humidity:	0-90% non-condensing
Protection level:	IP20
Fire resistance:	UL94-V0 (housing)
Over voltage cat.:	Category III