

Chorus range

KNX HOME AUTOMATION CONTROL WITH HAPPY HOME APP

Technical insight



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INTRODUCTION


The purpose of this document is to provide basic technical information on “**HAPPY HOME**”, an App that allows users to monitor and manage their KNX systems using an Android/IOS smartphone or tablet.

The technical insight is structured as follows:

- Section 1 - Description of the HAPPY HOME App
- Section 2 - FAQs

This document can be read from start to end (we advise readers to do this at least once in order to acquire an in-depth understanding of the App, its functions and potential).

“HAPPY HOME” APP: GENERAL FEATURES AND FUNCTIONS

HAPPY HOME - App for KNX systems	
The App is available from Samsung, Google Play and Apple App stores and is compatible with Android/IOS tablets and smartphones. With this App users can control an IP / KNX system through GW90767AP and GW90767 interfaces.	
TECHNICAL DATA	
<i>Supported operating systems</i>	Android 4.2/IOS 7 or later
<i>Connection to the KNX BUS</i>	Only via Gewiss GW90767AP and GW90767 interfaces
FEATURES AND FUNCTIONS	
<i>Supported languages</i>	<ul style="list-style-type: none"> - HAPPY HOME user interface in 6 languages: ITA-ENG-FRE-GER-SPA-POR - Converter tool - 6 languages: ITA-ENG-FRE-GER-SPA-POR (this tool is available free of charge and is described in the following paragraphs)
<i>General</i>	<p>The App controls an unlimited number of systems, i.e. of different homes, each with a maximum of 8 areas and 32 environments.</p> <p>Setup procedures and times for navigation pages are negligible since they are created automatically according to a preset layout; however personal settings can be applied using the "Converter Tool" (available free of charge); available customisations include: changing the name of individual environments, sorting the objects in an environment and changing the icons for individual areas, environments, control items and scenarios.</p> <p>The background image can be changed from within the App (Tablets only).</p>
<i>KNX</i>	<p>Ability to convert an ETS project or an Easy project created by Easycontroller via the Converter Tool:</p> <p>Supported functions (by means of 300 functional blocks for ETS or 64 for Easy Controller):</p> <ul style="list-style-type: none"> - Lighting (ON/OFF, dimmer, RGB dimmer) - Motorised elements (roller shutters, Venetian blinds) - Temperature control (HVAC or setpoint) - KNX scenarios (excl. sequence scenarios) - Energy Management (only energy consumption is displayed, load control is not included)
<i>Safety</i>	<p>Management of GW10931 burglar alarm control unit via KNX interface GW10948 and IESS control units supported by interface GW10947</p> <p>Supported features:</p> <ul style="list-style-type: none"> - Activation/deactivation - Partialisation - List of sensors under alarms (1 bit status of sensors)
<i>Video entryphone</i>	Video entryphone functions not supported
<i>Video control</i>	Images from cameras are not displayed on the APP (to view these images directly connect to the cameras' IP address or the video server they are connected to).
<i>Sound transmission</i>	Controlled via dedicated KNX Gateways
ACCESSORIES	
<i>Communication interface</i>	Via GW90767AP or GW90767 interface (not included)

ARCHITECTURE

The architecture of the system is pictured below, the following components have been highlighted:

- KNX system
- KNX/IP Interface (GW90767AP or GW90767)
- ADSL Modem Router
- Smartphone / Tablet



The KNX/IP interface is connected (via cable) to the home network through the modem-router.

The APP accesses control of the automation functions created by the KNX system through the KNX/IP interface, that in turn is reached through the ADSL modem-router:

- Local access: the App connects to the KNX/IP interface via the home WiFi network
- Remote access (internet): the APP connects to the KNX/IP interface via public access to the ADSL modem-router, i.e. from the landline provider's network.

CONNECTIVITY

CONNECTION TO THE KNX BUS

Tablets/smartphones - KNX system connection only occurs via Gewiss GW90767AP or GW90767 interfaces .

The GW90767AP interface allows up to five simultaneous connections, i.e. the APP can be installed on several tablets/smartphones, but only five may be connected to the system at any one time.

In the event that the connection to the KNX BUS is performed with other IP/KNX interfaces, the APP prepares to operate in DEMO mode. In this mode up to four elements can be controlled (one element = one functional block, i.e.: 1 dimmer, 1 roller shutter, 1 thermostat, ...).

CONNECTING VIA LAN OR INTERNET

The APP can be used locally (typically via Wi-Fi) and remotely (via internet) using the home's static or dynamic IP address, by configuring the home router accordingly (port-forwarding). Additionally - for improved security of the exchanged data - a Virtual Protected Network can be used.

A Home IP address is the public IP address that identifies the modem-router in the home. This modem-router is connected to all the devices on the home LAN including the GW90767AP (or GW90767) KNX/IP interface.

The modem-router can have two types of public IP addresses:

- Static: allocated permanently (never changes) by network provider; the network provider often charges a fee for a permanently allocated static IP address.
- Dynamic: an IP address is allocated to the modem-router each time it connects to the network, i.e. every time it is turned on; thus, with a dynamic address, the IP address is unknown until the device is turned on.

During the configuration of the APP, the user can select how it connects:

- Local access via direct connection to the home network:
WiFi network and local IP address of the KNX/IP interface are specified; when the device (smartphone/Tablet) recognizes the aforementioned WiFi network it uses the local connection (not via the internet) to connect to the KNX network.
- Remote access via internet:
the user specifies whether the connection uses a Static or Dynamic IP and has the option of setting up a VPN connection.
When the Static IP option is selected, the user is prompted to enter the IP address that has been permanently allocated by the network provider (e.g. 158.60.60.108). If Dynamic IP option is selected, services provided by DynDNS.com or NOIP.com can be used to avoid any problems arising as a result of the changes to the IP address (i.e. each time the modem-router is turned on).

CONFIGURATION

The following chart shows the steps required to configure the control pages on the APP, from the KNX project to uploading the pages onto the target device (smartphone or Tablet).



KNX PROJECT

The KNX project can be developed with ETS4 and the Easy Controller; projects created with ETS3 can be converted to ETS4 using the ETS4 dedicated tool.

A virtual device (dummy) is inserted into the project, functional blocks (300 with ETS or 64 with Easy Controller) - with the associated functions - are then activated via the dummy's database, thus communication objects can be associated with their group addresses under ETS or preset channels in the functions created by the Easy Controller.

A functional block is: 1 ON/OFF light, 1 dimmer, 1 RGB, 1 roller shutter, 1 thermostat, ...

CONVERTING THE FILE

A KNX project file can be converted into a file that is compatible with the APP using the Converter Tool, a freeware software available for download on the Gewiss website (GW KNX App Configurator).

Navigation pages are created automatically according to a preset layout; however the software allows users to apply their own settings: changing names, sorting objects in an environment and changing area icons, environments, control items and scenarios.

UPLOADING CONTROL PAGES

The converted file may be sent to the tablet/smartphone according to the device's specifications, e.g.: via bluetooth, via e-mail, ...

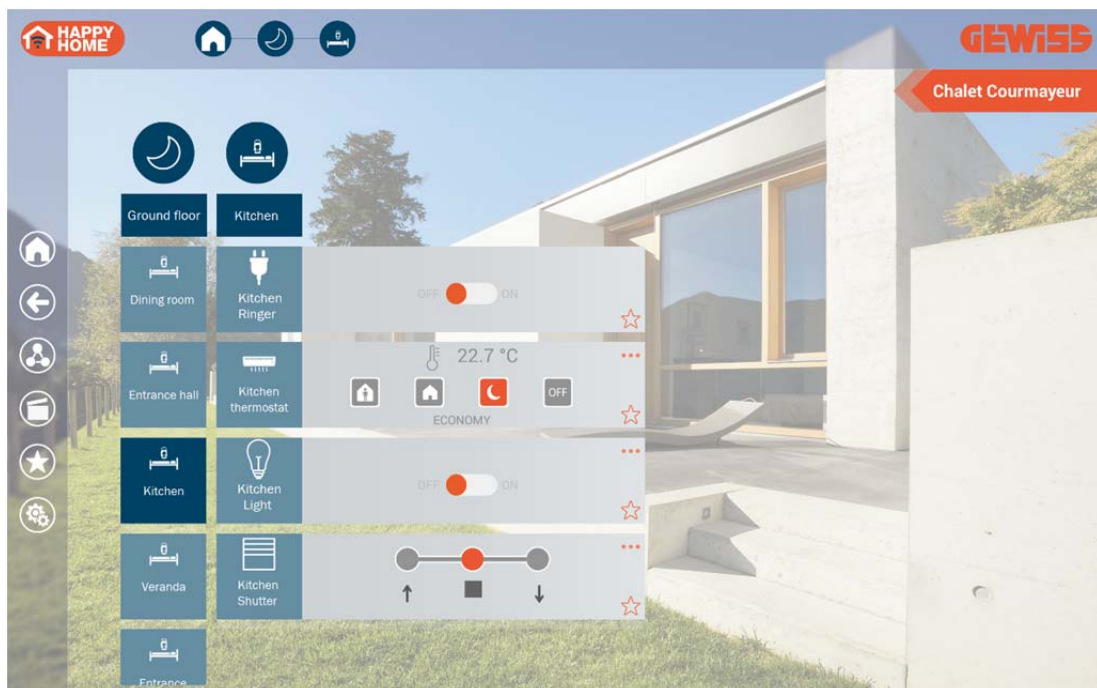
Now the APP can import the file and start; the background image can be changed from within the App (Tablets only).

USER INTERFACE

TABLET

A pleasant and intuitive design allows the user to browse the environments (up to 32 environments divided in 8 areas) and thus access the associated functions.

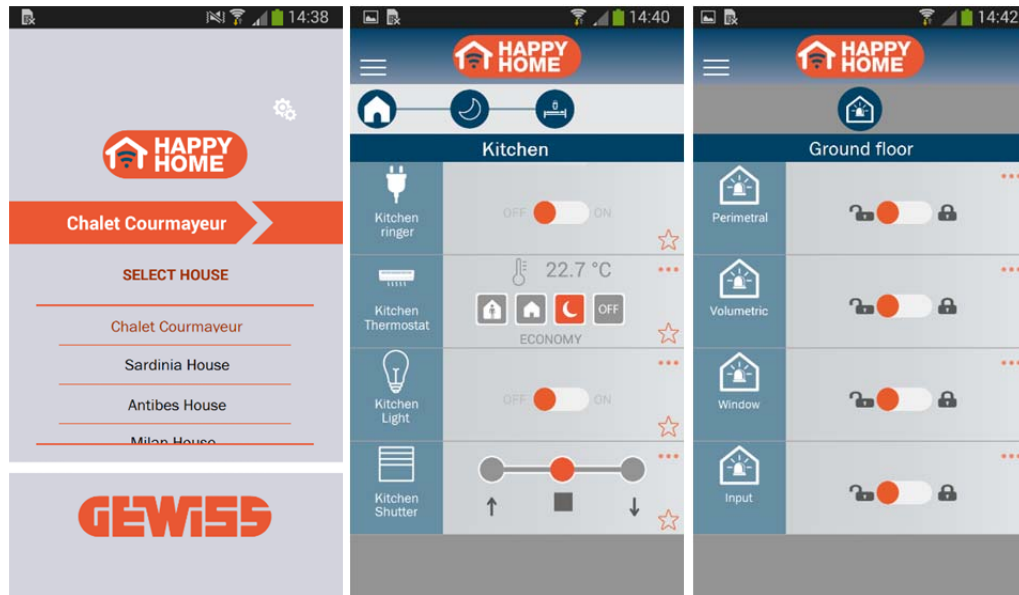
Background images: background images can be uploaded for each control page, these may include images of the specific environment or a 3D layout of a particular area of the house.



SMARTPHONE

A simplified design ensures effortless browsing through environments (up to 32 environments divided into 8 areas) and thus access to the associated functions.

Background images: Users can customise background images on tablets (see previous paragraph), however this option is unavailable to smartphone users since the resulting images would be inadequate as a result of the small screens that come with these devices.



FAQ

- *Do I have to pay for the APP?*
 - o No, the APP can be downloaded free of charge from the relevant Store.
- *How do I connect the tablet/smartphone to the KNX BUS?*
 - o Via the GW90767AP or GW90767 interfaces to the LAN; any other IP/KNX interface limits APP functions to DEMO mode.
- *Can the APP replace a KNX server?*
 - o No, because the APP was not designed to be permanently connected to the system and thus specific functions (logics, conditions, time slots etc.) are not included.
- *Does the APP only support a limited number of KNX devices?*
 - o No, there are no limits in terms of devices, but there is a limited amount of available functional blocks, i.e. 300 for ETS and 64 for Easy Controller. A functional block roughly resembles a function, e.g.: 1 ON/OFF light, 1 dimmer, 1 RGB, 1 roller shutter
- *Does the APP communicate with a system even if it includes KNX devices from different manufacturers?*
 - o Yes, in KNX Systems (programmed with ETS) and KNX Easy (programmed with Easycontroller).
- *Does the APP support indoor video entryphone position (Digital Vision and City Vision)?*
 - o No.
- *Does the APP interface with the GW10931 control unit of the Gewiss burglar alarm system?*
 - o Yes, via the GW10948 interface through which the user can control the main features of the burglar alarm system