PAIROT

Project editing
HOWTO

Version 2.1 – September 2020

More information can be found at www.xxter.com/pairot/en

Pairot project howto

Welcome

With Pairot, from xxter, you can control the KNX installation with HomeKit, Amazon Alexa and Google Home.

This "HOWTO" document explains the Pairot project configuration for the installation professional, as a supplement to the manual. This document expects the installation professional, who has knowledge of the KNX home automation protocol, to be responsible for the KNX installation.

Before performing the Pairot project configuration, it is required that the professional has performed the product registration.

For more information, please visit www.xxter.com/pairot/en.

Project configuration overview

A project consists of components. 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.

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'. Components can also be grouped. These groups are used in HomeKit for the zones and room assignment.

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.

For the configuration of Pairot, the KNX group addresses will have to be transferred into 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:

http://www.xxter.com/myxxter

To import the 'KNXproj' extraction, open the Pairot project you want, select the *Components* tab and click the *Edit* button. Click *Import KNXproj file* and follow the import wizard. The wizard offers several options to automatically transfer components. More information about this, can be found in the video tutorial: http://www.xxter.com/support

Transferring a component

To transfer a component from the KNXproj export to the Pairot project, select the desired main, middle or sub group on the left-hand side panel. When selecting a main or middle group all components of the correct datatype will be added from those groups.

In the right-hand side panel select the type of component you want to add in the pulldown menu. Also, enter the appropriate status group of the component(s). For instance, you can use "0/0/+2" to add a status sub group of +2 which will result for the component "0/3/1" to receive a status group "0/3/3".
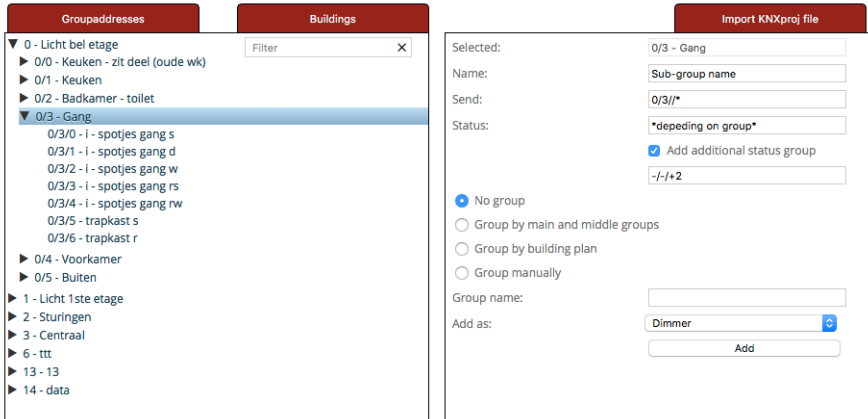
Please note: every type of component in the Pairot project requires group addresses to have the correct datatype. Components that are incomplete or have an incorrect type will not be accepted and cannot be loaded onto the Pairot device or used in HomeKit, Alexa or Google Home. Components with errors will be shown with a red exclamation mark and are streaked out.

Linking

Components that belong to one device, should be linked together. This can be done by creating a linking group (via *Add group*) and moving the components to that the group.

Grouping

Components that are in a certain room, should be placed in the same group (but not linked). In HomeKit, these groups can be used for the room assignment, when using the Pairot app for iOS. By combining the rooms in another group (for instance to indicate the floor, or inside/outside) this information can be used in HomeKit as zones, when using the Pairot app for iOS. This allows the end-user additional commands like "Hey Siri, turn off everything on the first floor" or "Hey Siri, turn on the lights outside".

Type	Name	Group name	Sending Group	Status Group(s)	
−	**Outside**				☑ ✕
−	**Garden**				☑ ✕
Valve	Example		0/0/20	0/0/20, 0/1/20	
Type	Irrigation (with timer)				
−	**Inside**				☑ ✕
−	**First floor**				☑ ✕
+	**Kitchen**				☑ ✕
+	**Living room**				☑ ✕
−	**Second floor**				☑ ✕
−	**Bathroom**				☑ ✕
Leak sensor	Example			1/0/7	
−	**Children's room**				☑ ✕
Blind	Example position and tilt				
	start/stop		0/0/13	0/0/13, 0/1/13	
	position (%)		0/0/12	0/0/12, 0/1/12	
	Horizontal tilt (%)		0/0/14	0/0/14, 0/1/14	
+	**Main bedroom**				☑ ✕

Switch contact

A switch contact requires a one-bit switching sending group and one or more similar type status group addresses.

Switch contact		Example	0/0/1	0/0/1, 0/1/1	1.001 ✕

Dimmer

A dimmer requires a one-byte scaling sending group for 0-100 values and a one-bit switching sending group. Both require one or more similar type status group addresses. Optionally, you can also add the colour temperature (DPT 7.600).

Dimmer		Example	0/0/2	0/0/2, 0/1/2	5.001 ✕
		Switching	0/0/3	0/0/3, 0/1/3	1.001
		Color temperature (K) (optional)	0/0/10	0/0/10, 0/1/10	7.600

Blind

A blind requires either (example 1) one-bit switching sending and status groups for up/down movement and a one bit switching and status group for the start/stop.

Blind	Example up/down				✕
Google type: Awning	Up / down control	0/0/10	0/0/10, 0/1/10	1.009	
	start/stop	0/0/11	0/0/11, 0/1/11	1.010	

Or (example 2), a one-byte scaling sending and status groups for 0-100 values for the position and a one bit switching status group for the start/stop status. Optionally, you can also set the horizontal or vertical tilt with one-byte scaling sending and status groups for 0-100 values (corresponding to -90 to +90 degrees, meaning value 50 corresponds to "opened").

Blind	Example position and tilt				✕
Google type: Blinds	Position control	0/0/12	0/0/12, 0/1/12	5.001	
	start/stop		0/0/13, 0/1/13	1.010	
Google has no tilt support.	Horizontal tilt (%)	0/0/14	0/0/14, 0/1/14	5.003	

Temperature

A temperature requires a two-byte status group address for the corresponding floating-point value.

Temperature	Example	1/0/1	9.001 ✕

Please note: For HomeKit, temperatures are restricted from -30º to +200º C.

Light intensity (HomeKit only)

A light intensity requires a two-byte status group address for the corresponding floating-point value.

Light intensity [Not for Alexa] [N	Example	1/0/0	9.004 ✕

Please note: For HomeKit, the maximum value is 500000 lux.

Humidity (HomeKit and Google Home)

A humidity requires a two-byte status group address for the corresponding floating-point value.

| Humidity [Not for Alexa] [Not for | Example | | 1/0/2 | 9.007 ✖ |

Occupancy sensor (HomeKit only)

An occupancy sensor requires a one bit switching status group address.

| Occupancy Sensor [Not for Alex | Example | | 1/0/3 | 1.018 ✖ |

Motion sensor (HomeKit only)

A motion sensor requires a one bit switching status group address.

| Motion Sensor [Not for Alexa] [N | Example | | 1/0/4 | 1.010 ✖ |

Contact sensor (HomeKit and Google Home)

A contact sensor requires a one bit switching status group address.

| Contact sensor [Not for Alexa] [I | Example | | 1/0/5 | 1.009 ✖ |

Smoke sensor (HomeKit and Google Home)

A smoke sensor requires a one bit switching status group address.

| Smoke sensor [Not for Alexa] [N | Example | | 1/0/6 | 1.005 ✖ |

Leak sensor (HomeKit and Google Home)

A leak sensor requires a one bit switching status group address.

| Leak sensor [Not for Alexa] [Not | Example | | 1/0/7 | 1.005 ✖ |

CO sensor (HomeKit and Google Home)

A CO sensor requires a one bit switching status group address to indicate whether the measured value exceeded the norm. Optionally, the two-byte values can be added for the measured CO and/or peak measured CO value.

CO sensor [Not for Alexa] [Not f	Example		1/0/8	1.005 ✖
	Measured value (ppm, optional)		1/0/21	9.008
	Peak measured value (ppm, optional)		1/0/22	9.008

CO2 sensor (HomeKit only)

A CO2 sensor requires a one bit switching status group address to indicate whether the measured value exceeded the norm. Optionally, the two-byte values can be added for the measured CO2 and/or peak measured CO2 value.

CO2 sensor [Not for Alexa] [Not	Example	1/0/9	1.005 ✖
	Measured value (ppm, optional)	1/0/23	9.008
	Peak measured value (ppm, optional)	1/0/24	9.008

Push button or Switch

A push button requires a one bit switching sending group and one or more similar type status group addresses.

Push button	Example	0/0/4	0/0/4, 0/1/4	1.001 ✖

RGB light

An RGB light can be controlled in different ways:
- With three one-byte scaling group addresses for 0-100 values for red, green and blue and optionally one for white
- With an RGB group address (DTP 232.600)
- With an RGBW group address (DTP 251.600)
- With an XY spectrum group address (DTP 242.600)

And, there is also an optional one-bit switching group address, to turn the light on/off. The different ways to control the light can be used simultaniously. Every element that is used, requires one or more status group addresses of the same type.

RGB light	Example			✖
	Switch (optional)	0/0/5	0/0/5, 0/1/5	1.001
	Red (optional)	0/0/6	0/0/6, 0/1/6	5.001
	Green (optional)	0/0/7	0/0/7, 0/1/7	5.001
	Blue (optional)	0/0/8	0/0/8, 0/1/8	5.001
	White (optional)	0/0/9	0/0/9, 0/1/9	5.001
	RGB (3x 0-100%) (optional)	0/0/20	0/0/20, 0/1/20	232.600
	RGBW (4x 0-100%) (optional)	0/0/21	0/0/21, 0/1/21	251.600
	XY spectrum (optional)	0/0/22	0/0/22, 0/1/22	242.600

Scene button

A scene button allows you to trigger a KNX scene. It requires a one byte scene sending group and the desired scenario value when the button is turned on. Optionally, another scene sending group and value can be added when the scene button is turned off.

Scene button		Example				
		Scenario for on	2/0/0	1	(value)	17.001
		Scenario for off (optional)	2/0/0	0	(value)	17.001

Stateless button (HomeKit only)

A stateless button only has a one-bit switching status group address. It can be used in HomeKit as an automation trigger allowing different actions depending on "short press", "double press" or "long press". The button expects a "1" value for press and "0" for release. This button can be used for a door bell or a wall switch, for instance.

Stateless button [Not for Alexa]		Example	0/0/10	1.001

Valve (HomeKit and Google Home)

A valve actuator requires a one-bit switching sending group and one or more similar type status group addresses. For display purposes you can set the type, and you can choose whether to use a timer in HomeKit.

Valve [Not for Alexa]		Example	0/0/20	0/0/20, 0/1/20	1.009
	Type	Irrigation (with timer)			

Thermostat

There are different ways to set up the thermostat, depending on the KNX-component that is used. A thermostat that uses a set point temperature (example 1) requires a two-byte sending group address to set the floating-point value of the desired temperature and one or more status group addresses of the same type.

For a thermostat using a shift function (example 2), a one-byte signed sending group address is used as a shift to increase or decrease the temperature in 0.5 degrees steps, with one or more status group addresses of the same type and a two-byte status group for the set-point temperature.

Depending if the thermostat supports heating, cooling or both one-bit status group addresses are to be added for the current heating and cooling statuses. Optionally a one-bit sending and status group address can be added to set the thermostat to heating mode, cooling mode, auto mode (both) or stand-by. For thermostats that support both heating and cooling, optionally a one-bit sending and status group address can also be used to switch the thermostat on/off or to force a switchover between heating or cooling mode and a HVAC control mode sending and status group to set the thermostat to the right mode.

In all cases, a two-byte status group is required for the floating-point value of the current temperature and there is an optional two-byte status group address for the floating-point value of the humidity.

Please note: For HomeKit, set point temperatures are restricted from +10º to +38º C and current thermostat temperatures are restricted from 0º to +100º C. For Google Home and Alexa, set point temperatures are restricted from 0º to +38º C.

Fan

A fan requires a one bit switching group address to turn the fan on and off. Optionally, for the speed of the fan, a one-byte scaling group address for 0-100 values can be used and a one bit switching group to turn on/off the swing of the fan. Every used element requires one or more status group addresses of the same type.

Fan	Example	0/0/40	0/0/40, 0/1/40	1.001 ✖
	Swing (optional)	0/0/41	0/0/41, 0/1/41	1.001
	Speed (optional)	0/0/42	0/0/42, 0/1/42	5.001

Service and support

In case of problems or questions, please always contact the installation professional of your KNX installation first.

Answers to frequently asked questions can be found on:
http://www.xxter.com/faq
On our forum you can exchange information with other users:
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 device it concerns.