



PAIROT

Project editing
HOWTO

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

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:

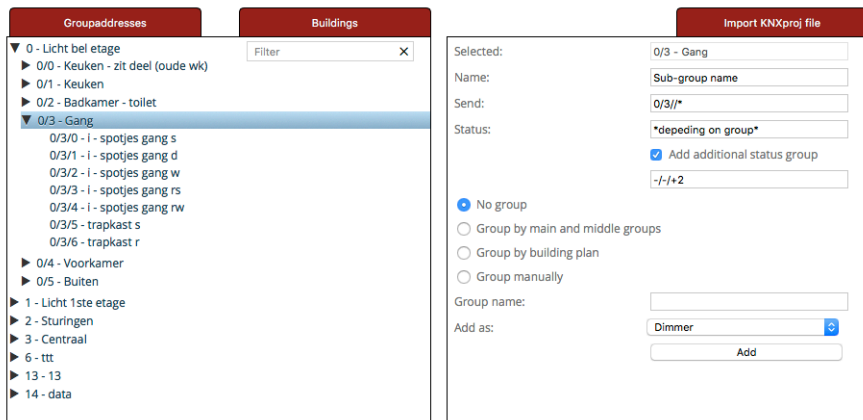
<http://www.xxter.com/myxxter>

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.

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.

Kitchen light switch			
Push button	Kitchen light switch 1	1/4/7	1/4/7, 1/4/8
Push button	Kitchen light switch 2	1/4/9	1/4/9, 1/4/10

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 ✕
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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.

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

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					X
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					X
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 (HomeKit and Alexa only)

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

Temperature [Not for Google As]	Example	1/0/1	9.001	X
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Please note: For HomeKit, temperatures are restricted from -30° to +200° 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	X
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Please note: For HomeKit, the maximum value is 500000 lux.

Humidity (HomeKit only)

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

Humidity [Not for Alexa] [Not for]	Example <input type="text"/>	1/0/2	9.007
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Occupancy sensor (HomeKit only)

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

Occupancy Sensor [Not for Alex	Example <input type="text"/>	1/0/3	1.018
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Motion sensor (HomeKit only)

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

Motion Sensor [Not for Alexa] [N	Example <input type="text"/>	1/0/4	1.010
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Contact sensor (HomeKit only)

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

Contact sensor [Not for Alexa] [i	Example <input type="text"/>	1/0/5	1.009
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Smoke sensor (HomeKit only)

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

Smoke sensor [Not for Alexa] [N	Example <input type="text"/>	1/0/6	1.005
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Leak sensor (HomeKit only)

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

Leak sensor [Not for Alexa] [Not	Example <input type="text"/>	1/0/7	1.005
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CO sensor (HomeKit only)

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	✘
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RGB light

An RGB light requires three one-byte scaling sending and status groups for 0-100 values for red, green and blue and optionally an additional one for white. There is also an optional one-bit switching sending and status group, to turn the light on/off.

RGB light	Example				✘
	Switch (optional)	0/0/5	0/0/5, 0/1/5	1.001	
	Red	0/0/6	0/0/6, 0/1/6	5.001	
	Green	0/0/7	0/0/7, 0/1/7	5.001	
	Blue	0/0/8	0/0/8, 0/1/8	5.001	
	White (optional)	0/0/9	0/0/9, 0/1/9	5.001	

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				X
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	X
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Valve (HomeKit and Google only)

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	X
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.

Thermostat	Example cooling w/o shift			
Cooling	Current temperatur		3/0/0	9.001
	Set point temperatur	3/0/10	3/0/10, 3/1/10	9.001
	Use no shift			6.010
	Cooling active		3/0/11	1.011
	Cooling mode on/off (optional)	3/0/12	3/0/12, 3/1/12	1.001
	Current humidity (optional)		3/0/13	9.007

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.

Thermostat	Example heating w shift			
Heating	Current temperatur		3/0/0	9.001
	Set point temperatur		3/0/1	9.001
	Use shift	3/0/2	3/0/2, 3/1/2	6.010
	Heating active		3/0/3	1.011
	Heating mode on/off (optional)	3/0/4	3/0/4, 3/1/4	1.001
	Current humidity (optional)		3/0/5	9.007

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.

Thermostat	Example both w/o shift			
Heating and cooling	Current temperatur		3/0/0	9.001
	Set point temperatur	3/0/20	3/0/20, 3/1/20	9.001
	Use no shift			6.010
	Heating active		3/0/21	1.011
	Cooling active		3/0/22	1.011
	Heating mode on/off (optional)	3/0/23	3/0/23, 3/1/23	1.001
	Cooling mode on/off (optional)	3/0/24	3/0/24, 3/1/24	1.001
	Thermostat on/off (optional)	3/0/25	3/0/25, 3/1/25	1.001
	Heat/Cool switchover (optional)	3/0/26	3/0/26, 3/1/26	1.100
	HVAC control mode (optional)	3/0/27	3/0/27, 3/1/27	20.105
	Current humidity (optional)		3/0/28	9.007

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 +10° to +38° C and current thermostat temperatures are restricted from 0° to +100° C. For Google Home and Alexa, set point temperatures are restricted from 0° to +38° C.

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.