



Product: EKinEX KONNECT4
Description: KONNECT4 - CONFIGURATION MANUAL
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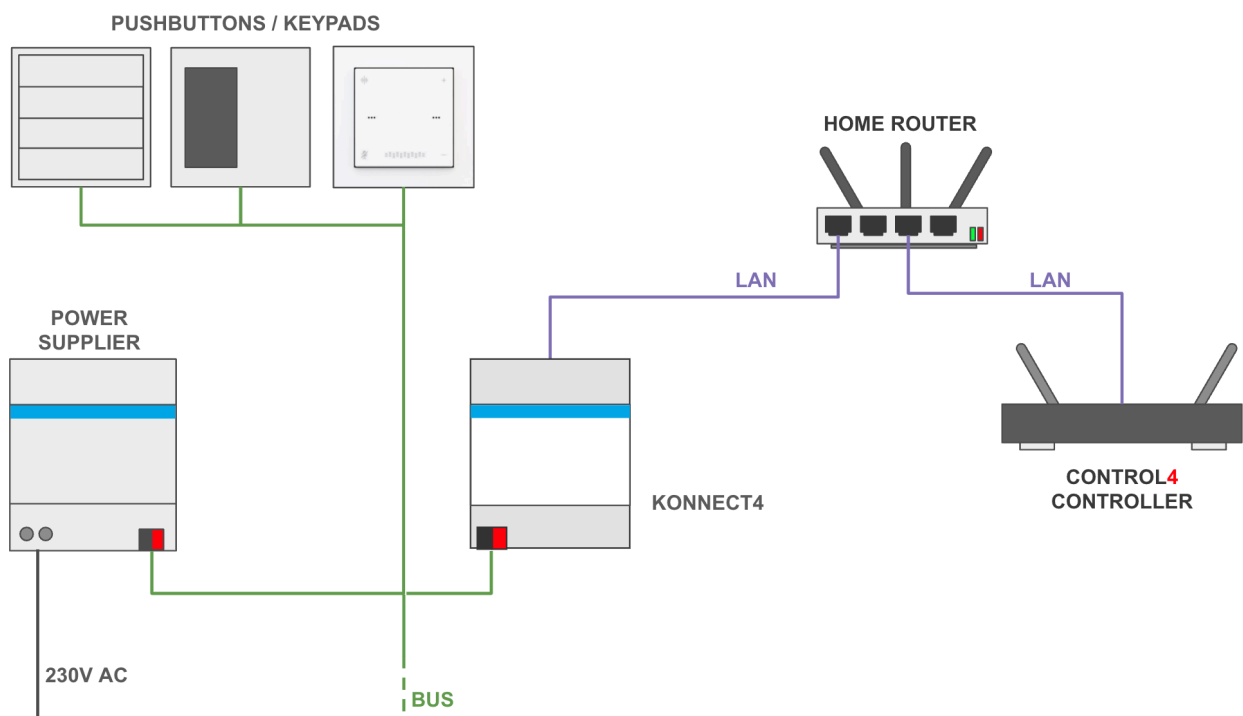
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OVERVIEW

INTRODUCTION

EKINEX pushbuttons can be configured in COMPOSER PRO and used in combination with a CONTROL4 controller, by means of the KONNECT4 gateway. This configuration is called EASY MODE, and it does not require the software ETS PROFESSIONAL at all.

The devices must be connected with a KNX certified cable (the “BUS”), with at least one power supply unit; the bus cable must be connected to KONNECT4 too, which interacts with CONTROL4 controllers over the local IP network, as shown in the following diagram:



EASY MODE SUPPORTED DEVICES

The following products can be used in EASY MODE. Please note that a minimum firmware version is required for the integration to work.

SERIE	CODES	MINIMUM VERSION	NOTES
FF Serie	EK-ED2-TP	05.015 or higher	Refer to printed product label
20Venti Serie 4/8 buttons	EK-E20-TP-4T EK-E20-TP-8T EK-E2E-TP-4L ⁴ EK-E2E-TP-4R EK-E2E-TP-8	05.018 or higher 01.022 or higher	Refer to printed product label
71 Serie	EK-E13-TP	05.015 or higher	Refer to printed product label
Signum ¹	EK-EV2-TP EK-EV3-TP	1.2.3 or higher ²	Refer to the INFO page on screen



Important note: the following pushbuttons are not compatible with the EASY MODE configuration in KONNECT4 at the moment:

- 20Venti Serie with 5 / 10 buttons
- FF Serie with 6 buttons

¹ SIGNUM support requires 2.0.4 as minimum versions of KONNECT4 and KEYPAD DEVICE drivers rev. 11 or higher

² SIGNUM devices equipped with previous firmware versions can be updated with EKINEX TOOL app by following the corresponding instructions in the user guides

³ The support requires 2.0.5 as the minimum version of KONNECT4.

⁴ EK-E2E-TP-* are supported starting from KONNECT4 version 2.0.7

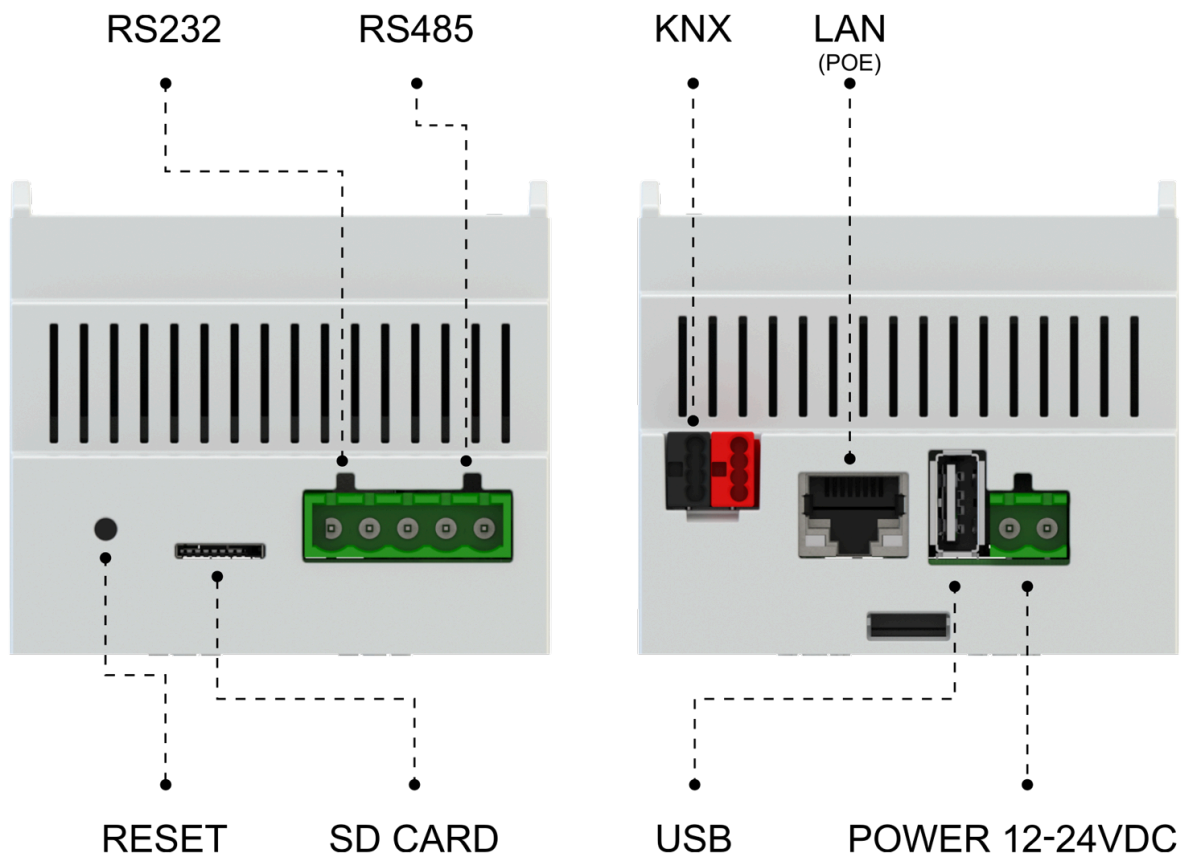
SETUP

INSTALLATION

KONNECT4 is designed to be installed on a DIN rail, by requiring a 4 module-size free space. The following connections are required:

- PoE or 12-24 V DC power supply
- Ethernet connection to LAN
- KNX (standard red-black TP 2-wire connector)

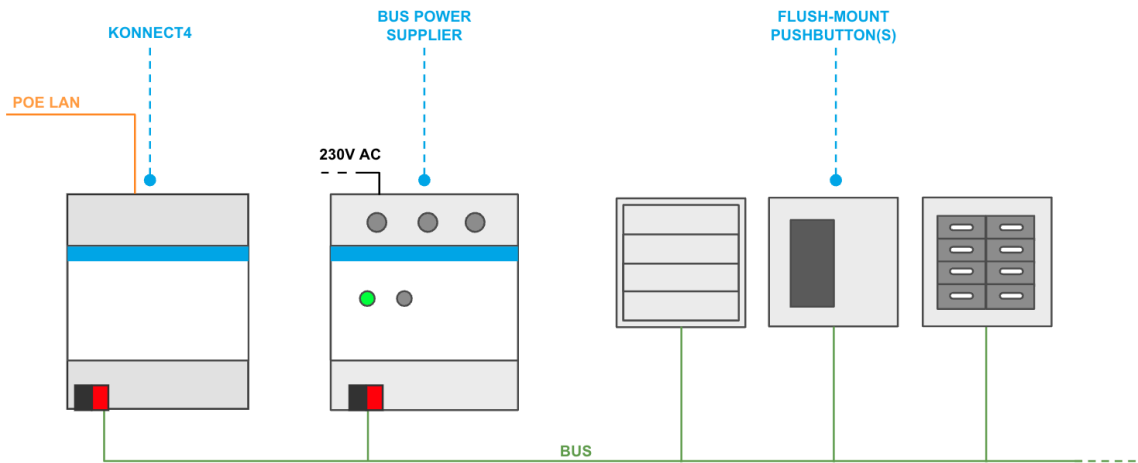
The server offers also an USB and RS485 port, prepared for future use (not available at the present moment in the EASY MODE configuration process).



The front LEDs offer the following signaling:

- POWER: indicates the presence of 12-24 Vdc power supply at terminals
- SERVICE: Normally off, steady or flashing during recovery sequences

The following picture shows the typical connections of a KONNECT4 installation:



KONNECT4 must be connected:

- To a PoE LAN cable or 12-24V DC dedicated power supply unit
- To the same LAN network of the Control4 controller(s)
- To the bus with the standard red+black connector and a certified KNX twisted-pair cable

The following other devices are expected to be connected to the bus:

- A dedicated KNX POWER SUPPLY
- One or more EKINEX devices compatible with KONNECT4
- Eventually other KNX-certified devices

DRIVERS INSTALLATION

The following drivers, necessary for the EASY MODE configuration, can be found on the ONLINE CATALOGUE inside COMPOSER PRO:

NAME	TYPE	DESCRIPTION	LAST REV.
KONNECT4	GATEWAY	Main driver for KONNECT4 Driver filename: <i>Konnect4.c4z</i>	11
KEYPAD	DEVICE DRIVER	Allows the configuration of pushbuttons and integrated thermostat of EKINEX keypads in EASY MODE ³ Driver filename: <i>Device_Keypad.c4z</i>	17
THERMOSTAT	GRAPHIC PROXY	Brings the integrated HVAC controller of EKINEX keypads into visualization Driver filename: <i>Thermostat(GraphicProxy).c4z</i>	3

These drivers are automatically used by COMPOSER PRO during the SDDP DISCOVERY, as explained below. If you need to install the drivers manually, please contact our technical support.



Do not add manually the KONNECT4 and/or KEYPAD drivers to the project, outside the SDDP DISCOVERY procedure described below.

If done, the drivers go to the so-called “ETS MODE” and cannot work with the EASY MODE configuration.



Important note: Konnect4 versions older than the 2.0.8 used drivers with manual installation, with a different naming.

In order to use the last versions of the driver, available on the online catalogue, the KONNECT4 must be updated at least to the version 2.0.8.

For already configured plants or devices, backward compatibility is guaranteed. However, when configuring new devices on existing plants, updating the drivers and the Konnect4 is recommended.

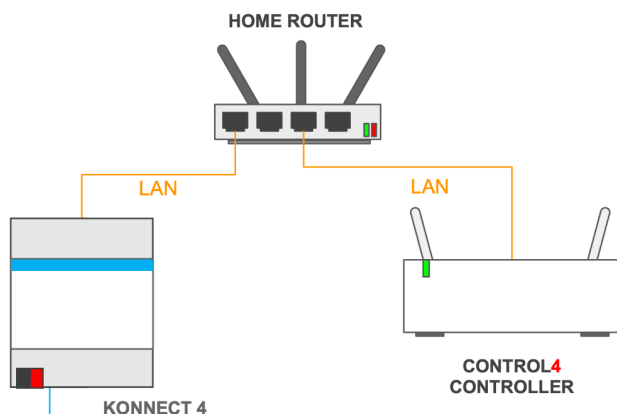
Please refer to the SOFTWARE UPGRADE section for further instructions.

³ Thermostats and the integrated HVAC regulator of pushbuttons are not supported in ETS MODE; please use the CONTROL4 KNX UNIVERSAL THERMOSTAT instead.

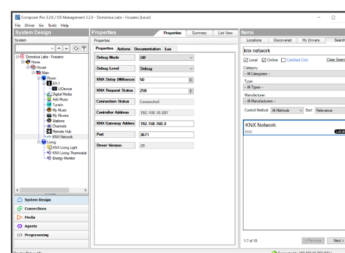
KONNECT4 DRIVER INIT

SDDP DISCOVERY

As soon as KONNECT4 is connected to the local network, it can be found in the DISCOVERED section in COMPOSER PRO:



1a Connect Konnect 4 to the same LAN of the Control4 controller

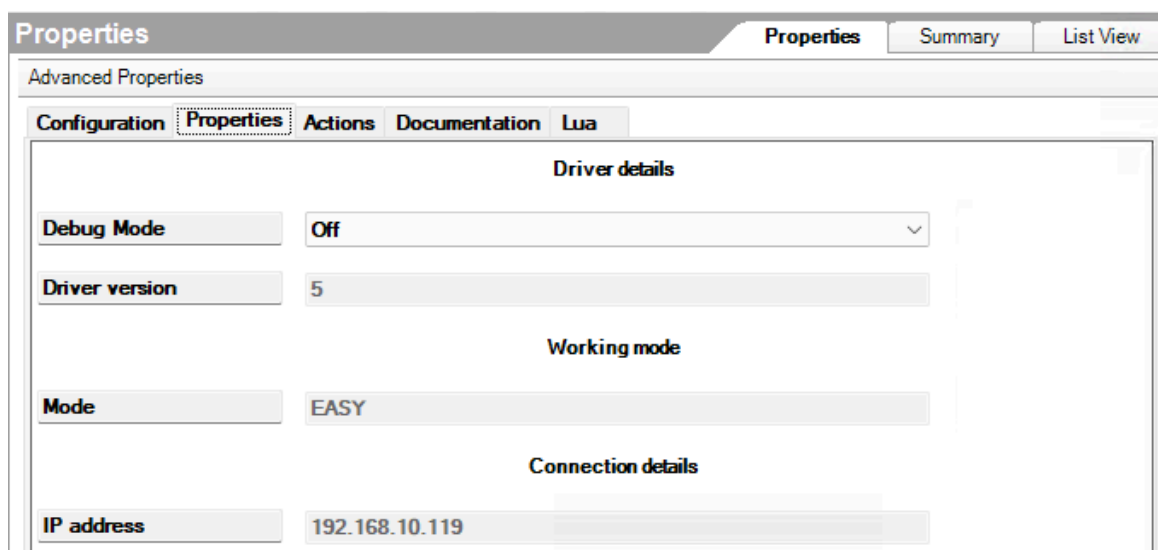


1b Double-click on SDDP discovery to add Konnect 4 driver to the project

Double-click on the discovered item, to add the main KONNECT4 driver to the project.

PROPERTIES

The first time after adding the KONNECT4 to the project, it is recommended to open its PROPERTIES tab; the following screen is shown:



The following items are available in this screen:

IP ADDRESS	Address of KONNECT4 in the local network. Automatically detected from SDDP.
STATUS	Indicates if the driver is communicating with KONNECT4 device

CONFIGURATION

The CONFIGURATION tab contains all the info and functions needed for the EASY MODE configuration; it offers a graphical user interface similar to the following example picture:

The screenshot shows the 'General actions' section with 'General information' expanded. It displays the 'Starting physical address' as 1.1.0. Below this are four buttons: 'SYNC ALL', 'DOWNLOAD ALL', 'ADVANCED', and 'EXPORT GROUP ADDRESSES CSV'. The 'Devices' section shows a table of discovered devices with columns for NAME, TYPE, MODEL, DEVICE ID, ADDRESS, and STATUS. A 'DISCOVERY' button is located to the right of the table.

NAME	TYPE	MODEL	DEVICE ID	ADDRESS	STATUS
Signum	Pushbutton	EK-EV2-TP	1	1.1.1	Unsynced
EK-FF1-TP	Actuator	EK-FF1-TP	2	1.1.4	Unsynced
EK-FE1-TP	Actuator	EK-FE1-TP	3	1.1.5	Unsynced
Unknown device				1.1.2	
Unknown device				1.1.3	

The top area contains the physical address configuration and a group of buttons to be used for changing settings and to perform actions, as described as follows.

ACTION	DESCRIPTION
STARTING PHYSICAL ADDRESS	When automatically assigning KNX physical addresses to attached devices, KONNECT4 uses this value as starting address. For every new discovered device, the Device Address part (the last byte) is automatically increased, filling the gaps if any. Usually it is not needed to change this setting, but if so, adjust it to fit your needs.
SYNC ALL	Saves all devices configuration into your Konnect4. Please refer to EASY CONFIGURATION for more information.
DOWNLOAD ALL	Programs the devices using the provided configuration. Please refer to EASY CONFIGURATION for more information.
ADVANCED	Shows/hides advanced options
EXPORT GROUP ADDRESSES CSV	Export a CSV containing the group addresses automatically assigned to the devices functions. This export can be imported in ETS5/6 using the group addresses import function.

Clicking on the ADVANCED button will reveal some additional functions:

General actions

General information

Starting physical address:

Konnect4 unique name (multi Konnect4 plants only):

SYNC ALL

DOWNLOAD ALL

ADVANCED

RELOAD DRIVERS

RESET CONFIGURATION

EXPORT GROUP ADDRESSES CSV

NETWORK CONFIGURATION

CONFIGURE COMMUNICATION

RESTART SERVICE

BACKUP/RESTORE

SOFTWARE UPGRADE

ACTION	DESCRIPTION
KONNECT4 UNIQUE NAME	Used to specify the unique name associated with this Konnect4 in the local network. This option is used when more than one Konnect4 is installed in your plant: Control4 needs a way to distinguish them and the devices discovered by each one. If your plant uses a single Konnect4, leave this field blank. Please refer to the MULTI KONNECT4 PLANT SETUP chapter for more information. Note: changing this field after a Composer project has been configured (and the connections between the drivers have been created) could required to re-import the devices again and re-configured some aspects of the project itself.
RELOAD DRIVERS	Performs a manual synchronization between the KONNECT4 and the drivers. Use this button if some buttons (like Sync all, Save, Download, etc) seem not to cause any operation.
RESET CONFIGURATION	Clears KONNECT4 project. All the discovered devices and their configuration will be lost. Note: this will not erase any configuration already downloaded on devices.
NETWORK CONFIGURATION	Open the Network settings section, where you can change KONNECT4 network configuration.
CONFIGURE COMMUNICATION	Advanced KNX interface configuration. Usually it is not needed to change these settings, but if so, adjust them to fit your needsings.
RESTART SERVICE	Restarts the KONNECT4 configuration and communication services. If you experience any problems when discovering a device or downloading configurations, try to use this button.
BACKUP/RESTORE	Open the Backup/restore section. You can save a backup of your current configuration on your PC, or restore a previously saved backup.

SOFTWARE UPGRADE	Opens up the Software upgrade section, where you can verify if your KONNECT4 is up to date. If any software update is available, you can update your KONNECT4 to the latest version. This process will require 10-15 minutes, then your KONNECT4 will be rebooted.
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ACTIONS

The ACTIONS tab of the KONNECT4 driver offers a list of commands that can be sent to the driver. The following actions are available:

ACTION	DESCRIPTION
SYNC	Performs a manual synchronization between the KONNECT4 and the drivers. Use this button if some buttons (like Sync all, Save, Download, etc) seem not to cause any operation.
COPY DRIVER CONFIGURATION BY ID	Use this action to quickly duplicate settings among DEVICE DRIVERS of the same typology.
PRINT GLOBALS	Use this action only when requested by EKINEX technical support, to print debug information during the driver usage.



NETWORK CONFIGURATION

By default configuration, KONNECT4 obtains an IP address automatically by the DHCP server in the network. It can be switched to static IP configuration by entering its NETWORK setting page, which can be reached by pressing the SETTINGS button in the CONFIGURATION tab. The following form is presented:

LAN ●

MAC Address

Addressing

Static

IP

192.168.10.119

Netmask

255.255.255.0

Default gateway

192.168.10.1

Primary DNS

8.8.8.8

Secondary DNS

8.8.4.4

SAVE

CLOSE

Fill the requested information as follows:

ADDRESSING	Select if a DHCP or STATIC IP has to be entered In case of DHCP, all the other settings are disabled
IP	IP address to be assigned to KONNECT4
NETMASK	Subnet mask of the IP network.
DEFAULT GATEWAY	Normally the IP address of the router in the LAN
PRIMARY DNS SECONDARY DNS	IP addresses of the primary and secondary DNS.

Once entered the desired configuration, please press SAVE and keep waiting until the new addressing becomes active. The driver will automatically adapt to the new settings, and the Configuration tab will be reloaded.

The other buttons in the network configuration page offer the following functionality:

SAVE	Saves the new configuration.
CLOSE	Closes the network configuration page, without saving the changes.



After a change of IP address of KONNECT4, usually no further action is required.

However, if the Configuration tab is not reloading properly, try to delete the KONNECT4 from your COMPOSER PRO project, and re-add it again from the DISCOVERED tab.

If in the DISCOVERED tab you see the KONNECT4 holding the old address, try to restart your Control4 in order to clean its internal SDDP cache.



If you modify the KONNECT4 IP address, and you have already configured the KNX Tunnelling Gateway, please also remember to change this last driver configuration (see the following section).

IP ADDRESS RESTORE

If necessary, you can restore the factory DHCP network configuration of KONNECT4 using the RESET button available on the device. Follow the procedure below:

- open the front panel of the server KONNECT4 using a small slotted screwdriver, and exerting a slight leverage effect in one of the side slots
- locate the RESET button on the back of the vertical card
- press the button for at least 10 seconds until the SERVICE LED on the front of the device starts flashing, then release the button.
- within the next 5 seconds, press and release the button for 1 second; within a couple of seconds the front LED will light up solidly for a couple of seconds
- when the LED goes out, the device is reset to the default network configuration.

If the LED goes out after long press (10 seconds) before short press, repeat the whole procedure. This procedure resets the IP address and retains all data relating to the configuration previously carried out on the automation system.

CONFIGURE COMMUNICATION

Configuration Properties Actions Documentation Lua

KNX - Physical address

Physical addresses

e.g.: 1.1.200

Communication interface

Enable integrated KNXNet/IP router ☐

Using this page you can configure the following parameters used by KONNECT4 KNX stack.

KNX PHYSICAL ADDRESS	KNX physical address used by KONNECT4.
ENABLED INTEGRATED KNXNET/IP ROUTER	Enables KNX routing. This lets the Control4 drivers use the KONNECT4 as KNX interface using multicast IP addressing, so there is no need to specify the KONNECT4 IP in the KNX driver configuration.

BACKUP/RESTORE

Properties

Advanced Properties

Configuration

Properties

Actions

Documentation

Lua

Database

☒ Export: Save a copy of the current database to your PC

☐ Import: Upload a database backup file from your PC

EXECUTE

CLOSE

From this page you can manage your KONNECT4 backup.

EXPORT	Generates and downloads a configuration backup to be saved on your PC.
IMPORT	Restore a previously made backup from this or from another KONNECT4.

SOFTWARE UPGRADE

Configuration

Properties

Actions

Documentation

Lua

Current configuration

Product	Konnect4
Software version	2.0.6
Serial number	0000-0000

UPDATE

CLOSE

This page allows you to check your KONNECT4 current software version.

If an upgrade is available, an alert will appear and the page will show the new version that can be applied. Click on the UPDATE button to start the upgrade process: this operation will require some minutes and, when done, your KONNECT4 will be rebooted.



When the software upgrade is finished, please close and restart your Composer Pro, so its internal web cache will be refreshed.
Not doing this can cause the KONNECT4 Configuration tab not working properly.

COMMUNICATION DRIVER

KONNECT4 and EKINEX devices use the KNX standard protocol to communicate with each other, and to exchange information and commands with CONTROL4.

One of the following CONTROL4 KNX communication drivers must be preliminarily added to the project, before proceeding with the configuration as described in the following chapters.

- KNX Tunnelling Gateway (preferred choice)
- KNX Routing Gateway



It is highly recommended to add the KNX TUNNELLING GATEWAY or KNX ROUTING GATEWAY drivers to the project BEFORE any other DEVICE DRIVER. Otherwise, the automatic binding with those drivers does not happen.

KNX TUNNELLING GATEWAY

The first driver that can be used is called KNX TUNNELLING GATEWAY and can be found in the online DRIVER SEARCH (manufacturer: CONTROL4). **This is the preferred choice** with KONNECT4 (instead of the routing driver) and it is mandatory in case of multi-gateway installations.

The IP address of KONNECT4 must be (manually) entered in the KNX GATEWAY ADDRESS field; once entered, the driver attempts a connection and, if successful, updates the CONNECTION STATUS to CONNECTED.

The KNX NETWORK operates in point-to-point mode; a single connection is supported in this mode by KONNECT4 webserver.

KNX ROUTING GATEWAY

An alternative solution is offered by the KNX ROUTING GATEWAY, operating in multicast on the LAN; this driver cannot be used in installations with more than one KONNECT4 in the same LAN.

The configuration in COMPOSER PRO of this driver is even simpler, being not necessary to insert any information at all.

The KNX MULTICAST ADDRESS parameter, in fact, is the default multicast address used for

communication, and must not be changed.

In order to make the KNX ROUTING GATEWAY work with KONNECT4, the routing protocol must be enabled, by pressing the CONFIGURE COMMUNICATION button and enabling the flag “ENABLE INTEGRATED KNXNET/IP ROUTER” (press the SAVE button after the change).

EASY CONFIGURATION

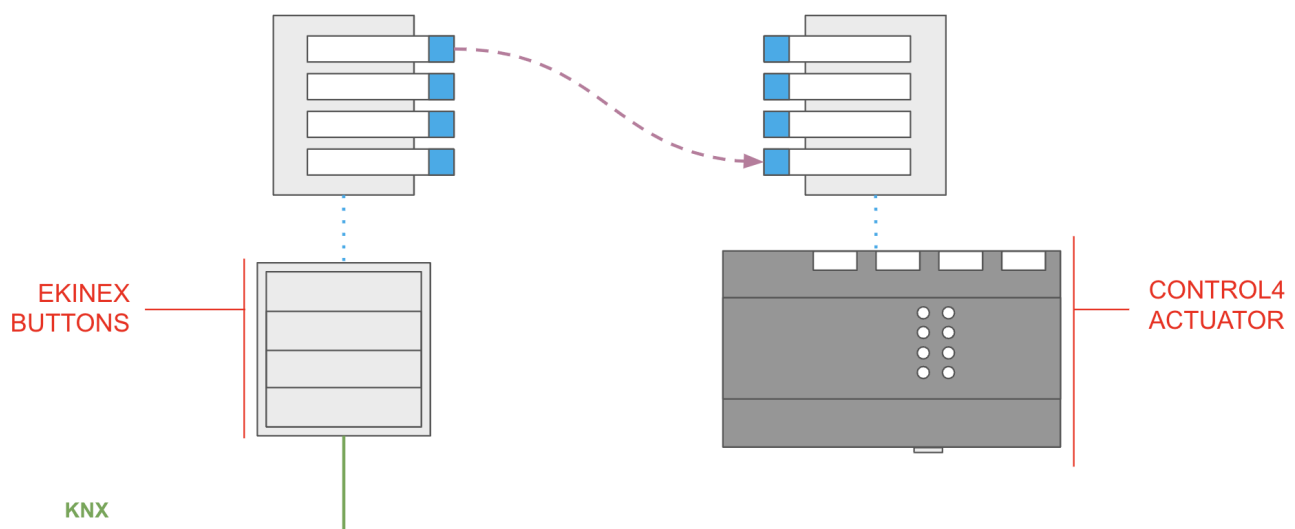
INTRODUCTION

KONNECT4 can be used as a gateway between EKINEX pushbuttons and actuators and CONTROL4, with a simplified configuration in COMPOSER PRO (no need of ETS PROFESSIONAL software).



KONNECT4 is compatible only with a specific range of EKINEX keypads. Please see the previous EASY MODE SUPPORTED DEVICES section for the list of supported products.

Thanks to the EASY MODE configuration, EKINEX pushbuttons can be used to command and show the state of CONTROL4 or third party actuators:



The association with actuators or any other devices supported by CONTROL4 is done with CONNECTIONS, as better described later.

Additionally, the integrated thermostat of EKINEX keypads can be used in combination with external actuators for the visualization and heating / cooling management in CONTROL4.

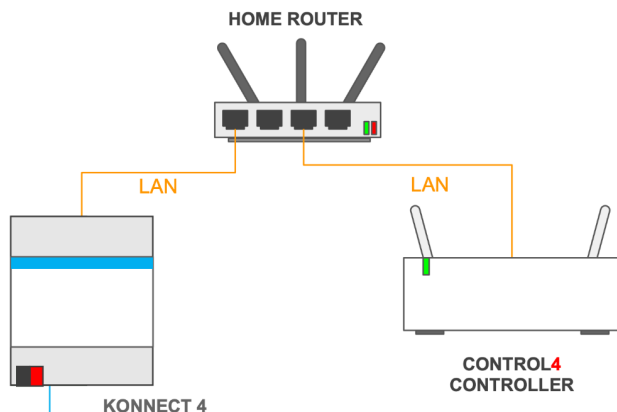


Please ensure your KONNECT4 is updated to the latest available software version to ensure maximum compatibility with the devices. You can update your KONNECT4 using the SOFTWARE UPGRADE feature described in the previous chapter.

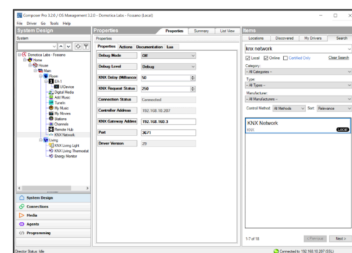
CONFIGURATION OVERVIEW

STEP 1: CONNECTION

As already described in the previous chapter, the first step consists in connecting KONNECT4 to COMPOSER PRO to the same LAN of CONTROL4, find it in the SDDP discovery panel of COMPOSER PRO, and add it to the project with a double-click:



1a Connect Konnect 4 to the same LAN of the Control4 controller



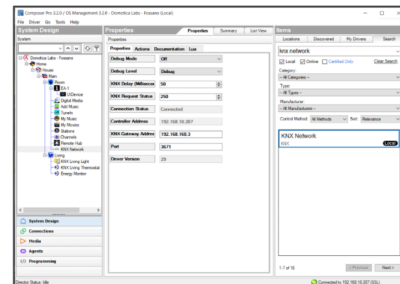
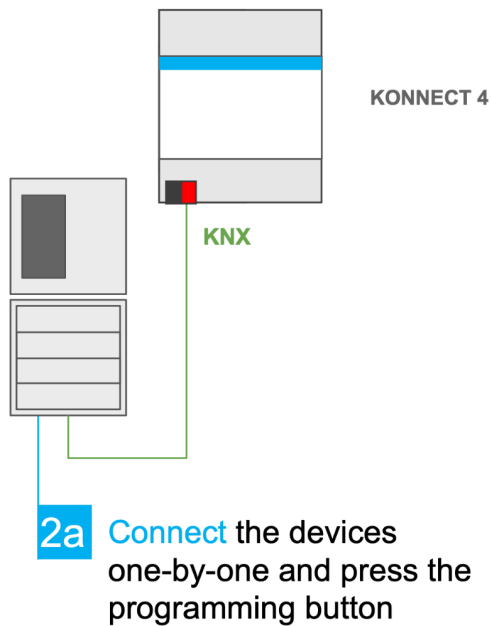
1b Double-click on SDDP discovery to add Konnect 4 driver to the project



SDDP uses a multicast IP address to discover new devices on the network. Having KONNECT4 and CONTROL4 on the same subnet is recommended, if this is not possible, please ensure multicast packets are not blocked between the different subnets.

STEP 2: DISCOVERY

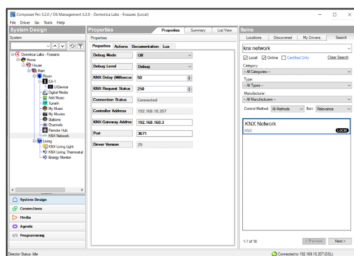
In the next step, the other devices can be connected to the bus; KONNECT4 addresses them automatically in the DISCOVERY procedure, and adds them in the SDDP discovery panel of COMPOSER PRO.



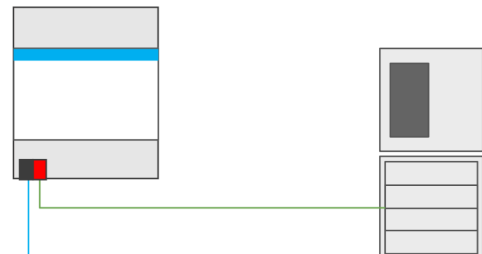
2b Double-click on SDDP discovery to add the device drivers to the project

STEP 3: CONFIGURATION

The device drivers can be used to configure the behavior of the corresponding product; once done, the configuration is automatically downloaded into the devices by KONNECT4:



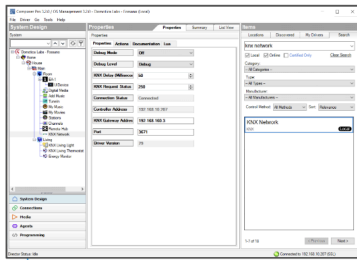
3a Adjust settings for each device (e.g. keypad LEDs, long press time etc...) in the property panel of the corresponding driver



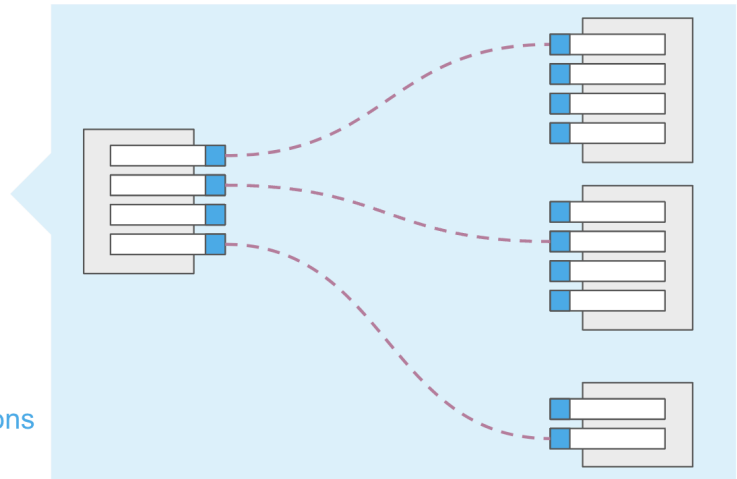
3b Download automatically parameters and addressing into the devices

STEP 4: BINDING

Finally, EKINEX devices can be combined with other devices to make them work together; this is done by binding their connections, or by handling events in the PROGRAMMING section of COMPOSER PRO:

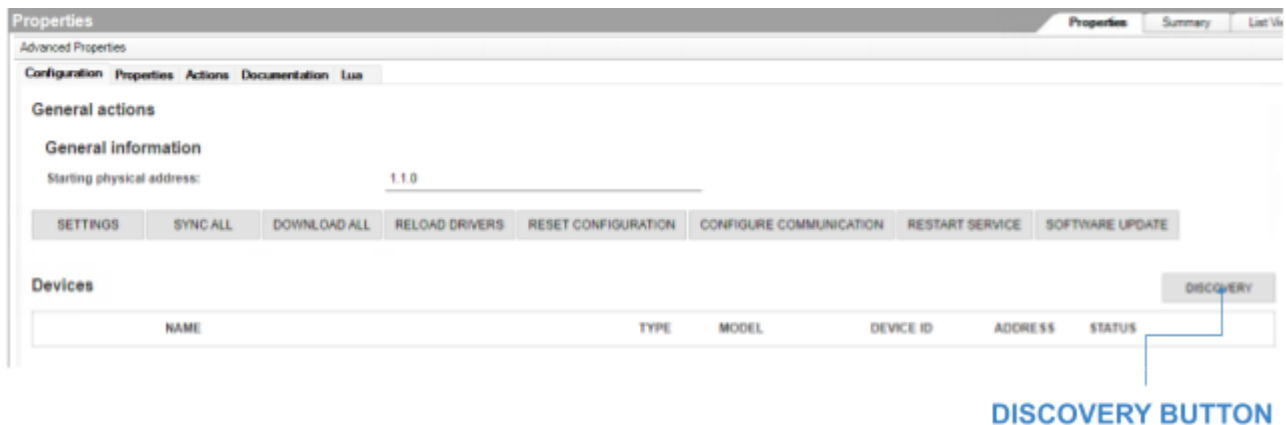


- 4 Bind the **BUTTON_LINK** connections of the device drivers together, in order to obtain the desired functionality



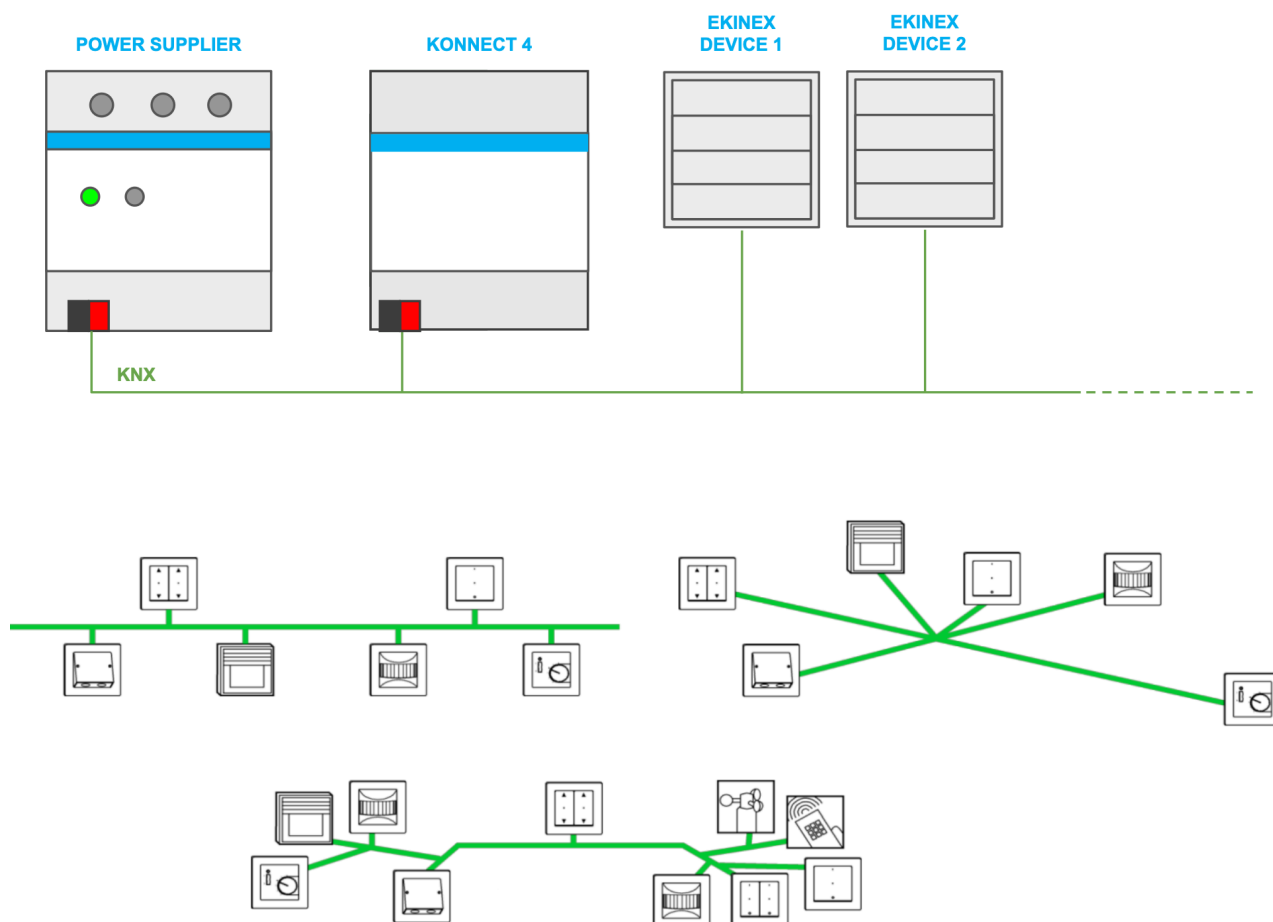
DISCOVERY

Open the KONNECT4 driver in COMPOSER PRO and select the CONFIGURATION tab; a screen similar to the following picture is shown:



Press the DISCOVERY button, and connect the first device to the same bus, where the power unit and KONNECT4 are already connected:

Different *topologies* can be used to connect the devices; the only important thing to remember, is to avoid closing a *ring* with the bus cable:

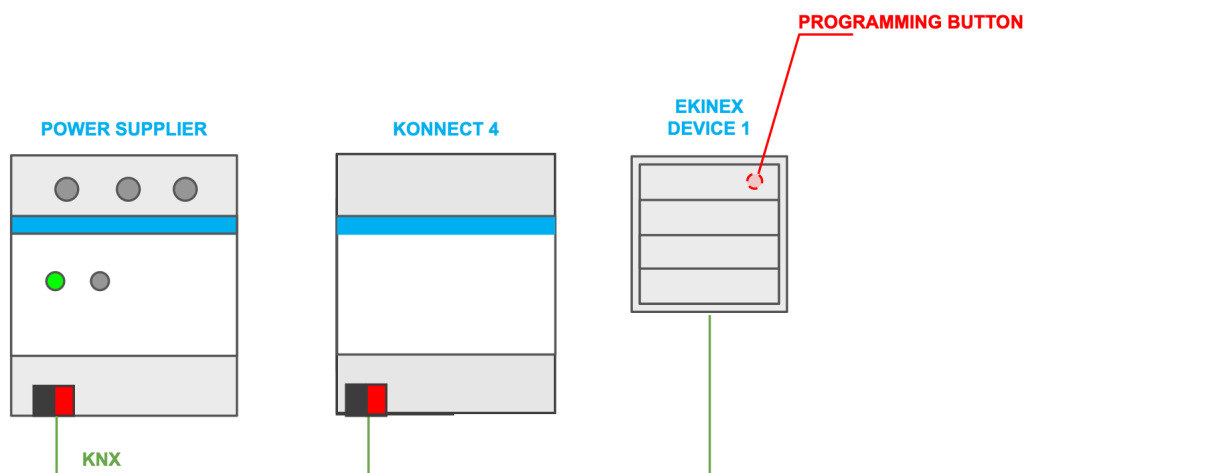


A maximum of 63 devices can be connected to the bus in EASY MODE with a single power supply unit and KONNECT4 gateway

A certified KNX cable must be used to connect the devices; the provided red-black connector can be used to enter and eventually exit with the cable.

Once done, press its programming button, or the combination of front buttons that makes it enter in programming mode (please refer to the user manual of the specific product for more details):

After some seconds, KONNECT4 recognises the new device, assigns it a unique address, and shows it in the DEVICES list:



Devices						DISCOVERY
	NAME	TYPE	MODEL	DEVICE ID	ADDRESS	STATUS
	Device 1	Pushbutton	EK-E20-TP	1	1.1.1	 New
	Device 2	Pushbutton	EK-ED2-TP	2	1.1.2	 New

Each line in the list corresponds to a device, and shows the following information:

NAME	Label assigned to the device (can be changed later)
TYPE	Typology of the device (at the moment only pushbuttons are supported)
MODEL	Product family of the device
DEVICE ID	Progressive number assigned to discovered devices
ADDRESS	Unique address assigned to the device on the bus
STATUS	Programming state of the device

The STATUS can be one of the following:

NEW	Device discovered but not already added to the project
UNSYNCED	Device added to the project, not already configured, or with changes in the configuration that need to be synchronized in KONNECT4
DOWNLOAD NEEDED	Device with a configuration correctly synchronized in KONNECT4, that must be downloaded into its memory
DOWNLOADING	Device with a configuration download in progress
DOWNLOADED	Device with a correct configuration downloaded in its memory and operative

BAD CONFIGURATION	Device with an incorrect configuration. Must be configured, synchronized and downloaded again.
--------------------------	--

As soon as a new device is addressed, it is listed to the DISCOVERED panel in COMPOSER PRO. To add it to the project, simply double-click on it; the corresponding line in KONNECT4 drivers changes to UNSYNCD status:

Devices						DISCOVERY
	NAME	TYPE	MODEL	DEVICE ID	ADDRESS	STATUS
  	Device 1	Pushbutton	EK-E20-TP	1	1.1.1	 Unsynced
  	Device 2	Pushbutton	EK-ED2-TP	2	1.1.2	 Unsynced

Repeat the same procedure by keeping the discovery active, until the last device has been added. At that point, press the STOP button and wait until the DISCOVERY button is displayed again.



The device drivers can be removed from the project, after being added to it; in such a case, they return available in the DISCOVERY panel.

It is important to avoid removing the KONNECT4 main driver when at least one device driver is still in the project; eventually, remove ALL drivers from the project and start configuration again from the beginning.

If the discovered devices don't appear in the Discovered tab, please try rebooting your Control4 controller.

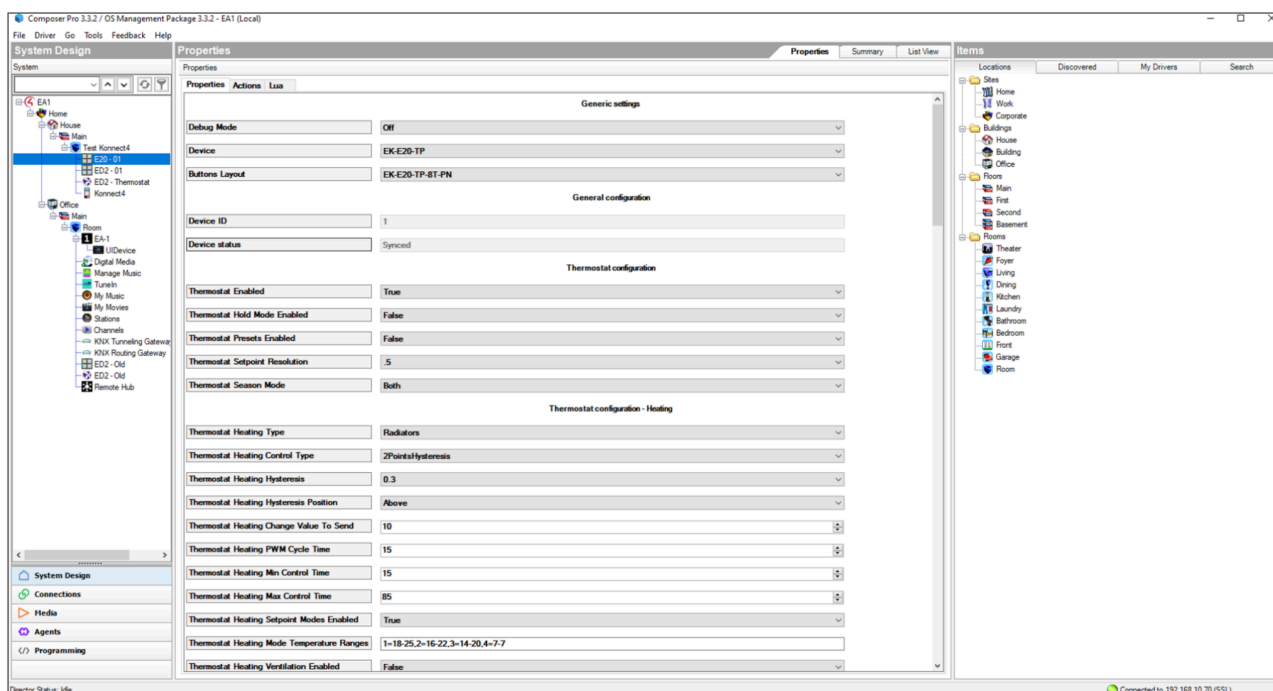
Once added to the project, the device drivers can be renamed with the context menu (right click) in COMPOSER PRO, in order to identify it in an easier way. We recommend renaming drivers as soon as they are added to the project, to avoid the risk of confusing similar products.

CONFIGURATION

Device drivers can be used to determine the behavior of the corresponding device. Typically the configuration requires the following steps:

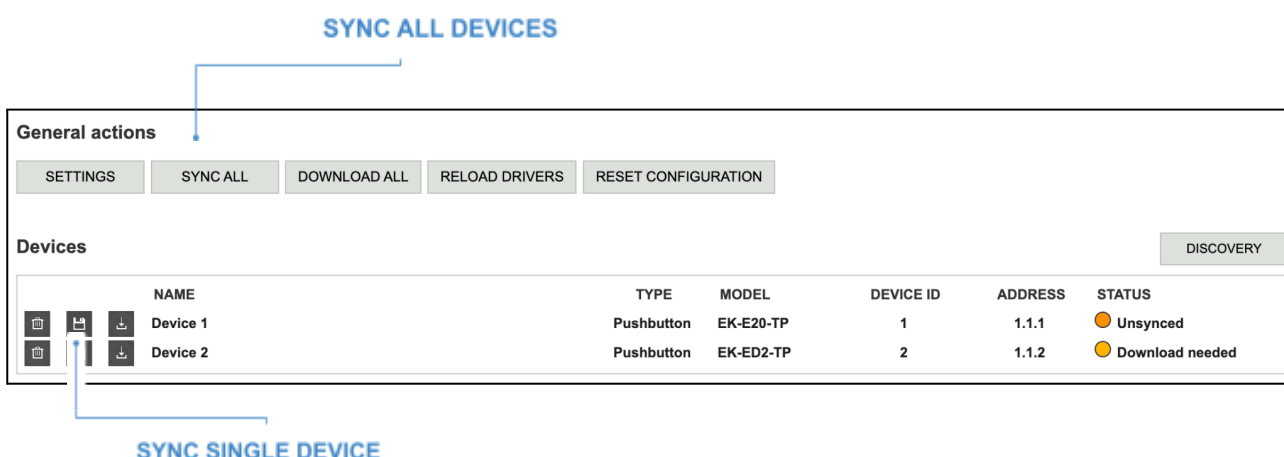
- Selection of the correct BUTTONS LAYOUT
- Configuration of the integrated thermostat
- Configuration of the short/long press and LED behavior for each button

The following picture shows an example of the properties for a device driver:

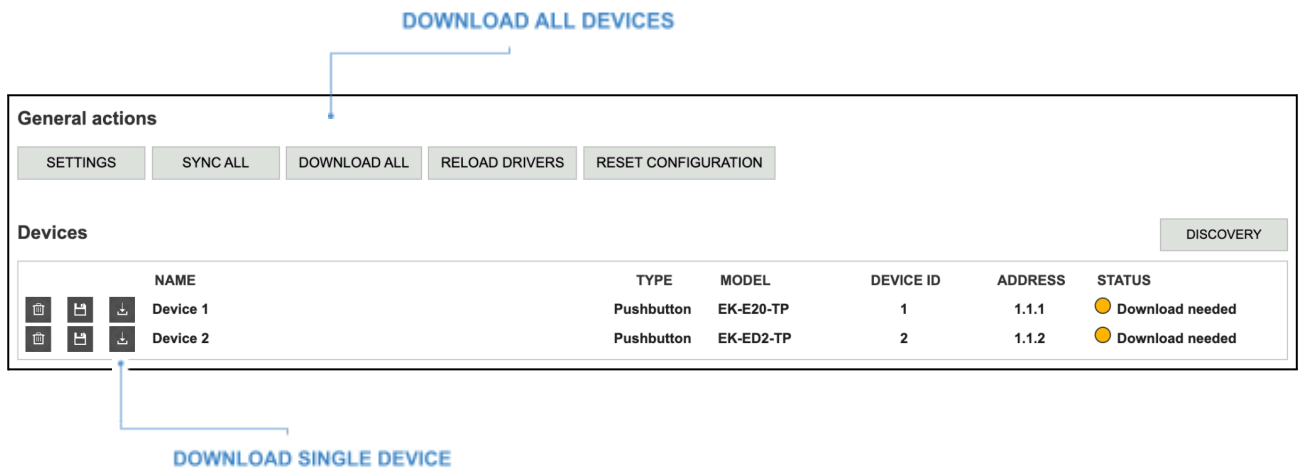


For more details about settings for the specific products family, please refer to the **DEVICE DRIVERS** dedicated chapter later in this document.

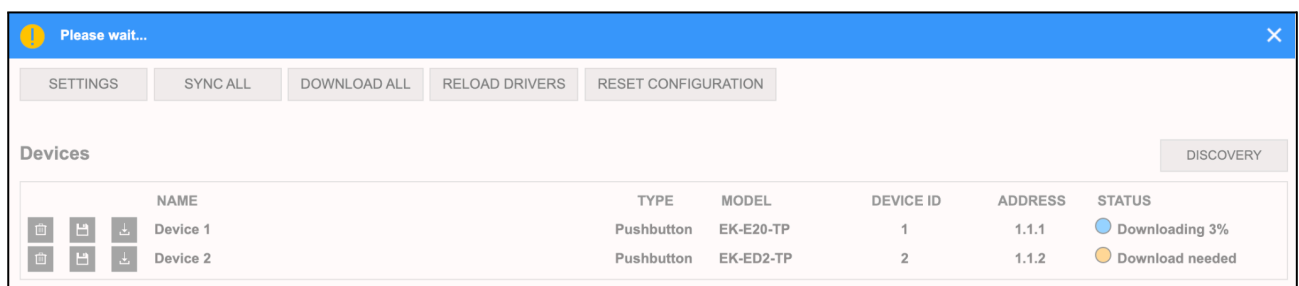
Once the configuration has been done for all the drivers, it is required to open the **KONNECT4** driver again. The devices with changes in the configuration will appear in **UNSYNCED** status; press the specific **SYNC** button, or the **SYNC ALL** button on the top of the list, to synchronize **KONNECT4** with the changes that have been made in the drivers in **COMPOSER PRO**:



Finally, the new configuration must be downloaded into the devices' memory. Press the single **DOWNLOAD** button, or the **DOWNLOAD ALL** button on the top of the list, to start the operation; the download process can take up to a minute for each device, depending on the configuration.

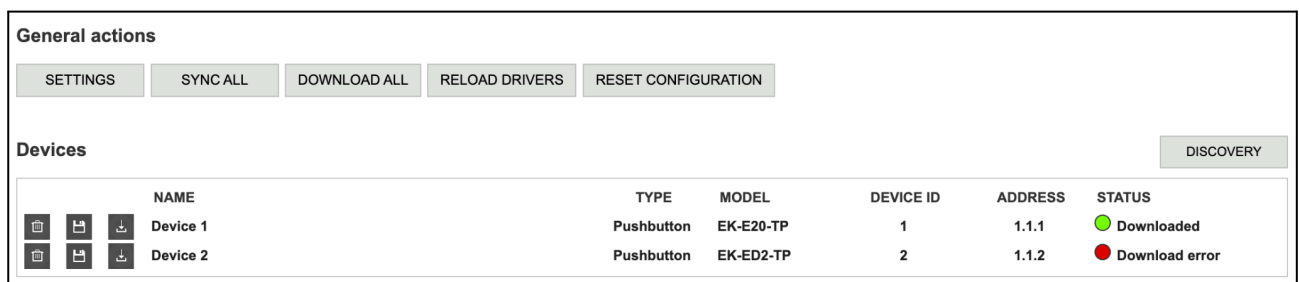


During the download process, no other operation can be done in KONNECT4 driver.



When the download procedure ends, the devices can be used accordingly with their configuration, as better explained later in this document.

In case of errors during the download procedure, the corresponding device assumes the ERROR status, like in the following example:

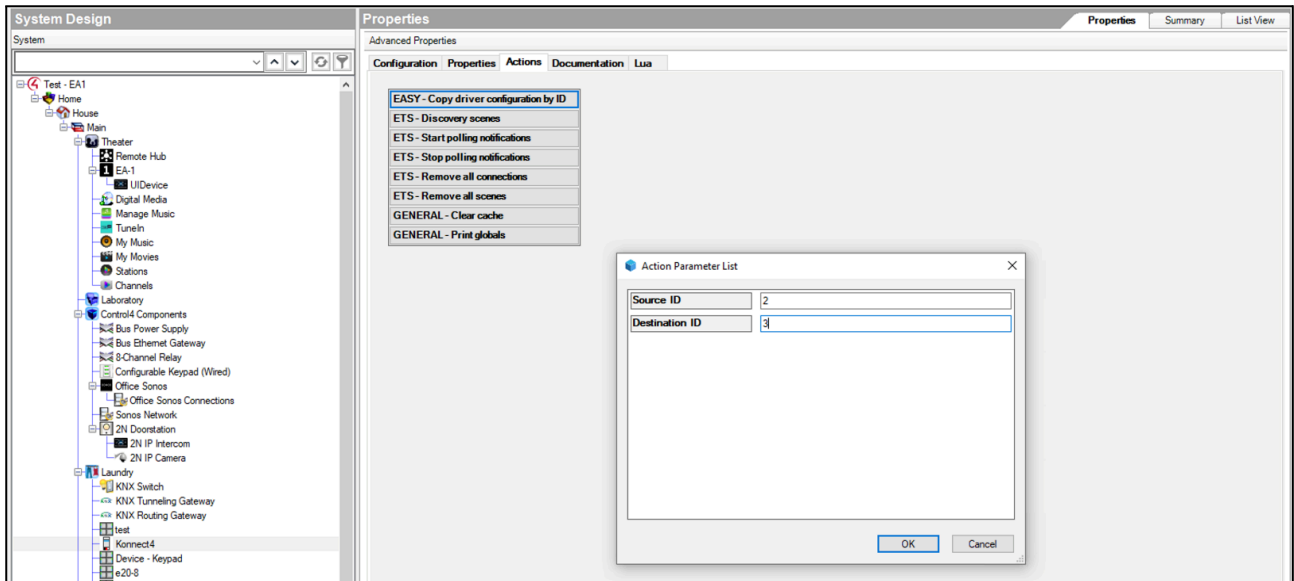


If this occurs, check the physical connection to the device, and try again.

DUPLICATION

It is possible to duplicate the entire configuration of a KEYPAD device driver to another, by means of the COPY DRIVER CONFIGURATION BY ID action (available in the ACTIONS tab of the

KONNECT4 driver):



Fill the fields required in the popup as follows:

SOURCE ID	Number of the DEVICE DRIVER to be copied. The number can be obtained in the DEVICES list of the KONNECT4 driver (column DEVICE ID) or inside the interested driver (DEVICE ID property)
DESTINATION ID	Number of the DEVICE DRIVER that must receive the configuration

Once done, open again the destination driver; change eventually the properties, and do again the SYNC and DOWNLOAD procedure, as previously explained.

CONNECTIONS

According to the configuration entered in the SYSTEM DESIGN view of COMPOSER PRO, each DEVICE DRIVER offers a list of CONNECTIONS that can be bound with other drivers.

Here are some examples of functions that can be obtained by binding connections:

- Command relays of a CONTROL4 actuator by pressing a button on an EKINEX keypad
- Set the status of an EKINEX keypad's LED with the state of another device, or a logic condition
- Send commands to actuators according to the heating and/or cooling demand of the integrated thermostat of EKINEX keypads

In order to make bindings between connections, do as follow:

- Enter the CONNECTIONS view in COMPOSER PRO
- Select an EKINEX DEVICE driver

- Identify the desired connection and select it
- Drop the connection over a compatible connection of another driver, choosing among the ones listed in the bottom part of the screen

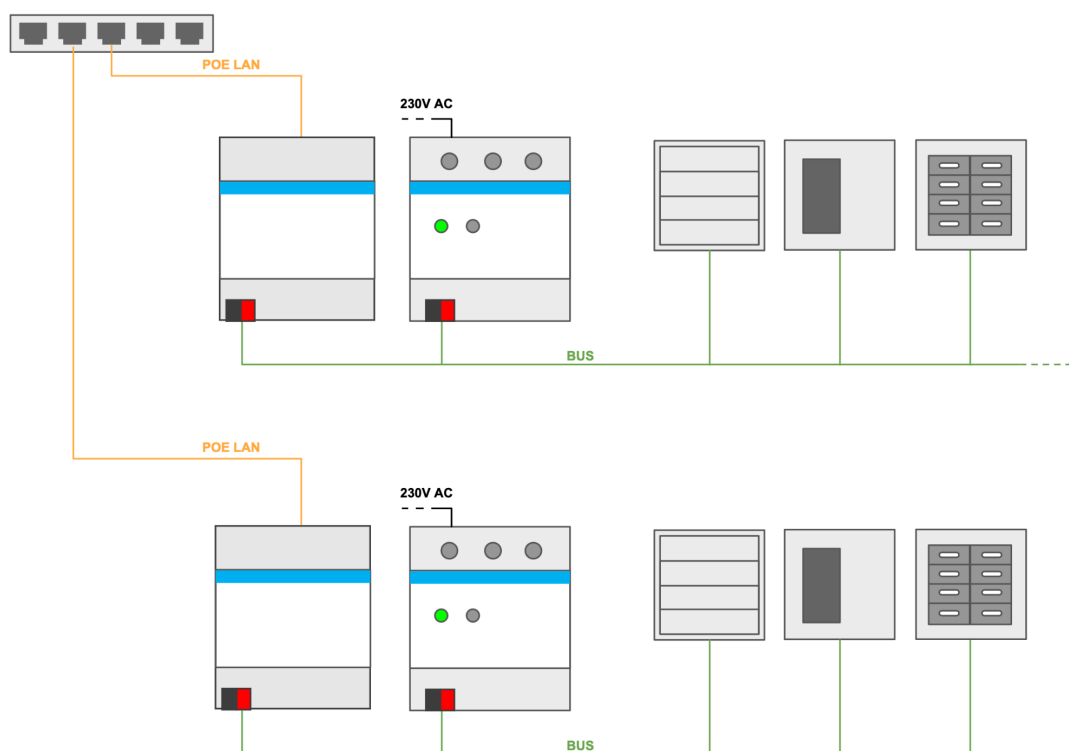
For a more detailed description of all the available connections of EKINEX DEVICE DRIVERS, please refer to the dedicated chapter following in this document.

PROGRAMMING

It is possible to interact in a more flexible way with EKINEX devices in the PROGRAMMING area of COMPOSER PRO. Please refer to the dedicated chapter later in this document.

MULTI-GATEWAY SETUP

It is possible to install more than one KONNECT4 in the same building. Each KONNECT4 must be connected to a separated bus line, with dedicated power supplies (both for 24V DC and KNX bus) as described in the following example schema:



Each KONNECT4 must be connected to its own KNX bus line, physically separated from the other bus lines. Only one KONNECT4 can be used in each line.

If you plan to use more than a KONNECT4 in the same LAN network, it is needed to assign a unique identifier to each of them, to avoid overlapping. Even if the identifier can be modified anytime you need, it's recommended to do this before configuring your plant: changing the ID after a Composer project has been built, can lead to the need to reconfigure part of it (i.e, it could be required to reconfigure the driver connections). In order to do so:

- Connect the first KONNECT4 and wait to be discovered by Composer. Import it into your project, then open the Configuration tab.
- Click on the ADVANCED button. The KONNECT4 UNIQUE NAME will show up. Enter a unique name for your KONNECT4 (max 16 characters, only alphanumeric characters and dashes), then confirm the change.
- KONNECT4 will update its internal SDDP configuration. Wait until the operation is finished. If there are already discovered devices, their configuration will be changed also.
- Now delete the KONNECT4 driver. You'll note that the device address will start with the unique name you assigned ("LIVING-ROOM", in the example). Import the driver in your project.

Locations		Discovered		My Drivers	Search
Type	Manufacturer	Model	Address		
User Interface	Ekinex S.p.A.	Konnect4	LIVING-ROOM-EKINEX_KONNECT4		

- Discovery the devices as usual. The devices will be shown in the Discovered tab. The Address field will report the KONNECT4 they belong to. Import them in your project.

Every device discovered and imported in Control4 holds a connection with the KONNECT4 driver, in order to provide the saving and programming functionality. In a single KONNECT4 project, these connections are automatically created (as you seen in the previous chapter: simply double clicking on a discovered device cause the KONNECT driver to "see" it, and in the Configuration tab, the device automatically switches from "New" status "Unsynced").

In case of multiple KONNECT4 gateways, it is important to check what follows, for each of the DEVICE DRIVERS being added to the project with the SDDP discovery (in the CONNECTIONS section of COMPOSER PRO):

- The DEVICE DRIVER must be connected to the proper KONNECT4 driver (KNX_DEVICE connection)
- The DEVICE DRIVER must be connected to the corresponding KNX TUNNELLING GATEWAY driver (KONNECT4 connection)

Control & Audio Video Connections				
Kitchen Pushbutton				
Name	Type	Connection	Input/Output	Connected To
Control Inputs				
 KNX Control	Control	KNX_DEVICE	Input	KNX Tunneling Gateway->KNX Device
 Konnect4 Control	Control	KONNECT4	Input	Konnect4->Konnect4 Control



In multi-gateway installations, only the KNX TUNNELLING GATEWAY can be used for the communication between the controller and the bus

KEYPAD DRIVER

INTRODUCTION

The KEYPAD driver can be used in both EASY and ETS MODE to manage EKINEX pushbuttons.

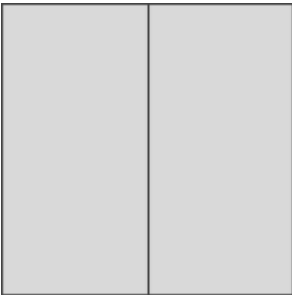
PROPERTIES

GENERIC SETTINGS

When entering the PROPERTIES tab of the DEVICE DRIVER for a keypad, the following fields must be filled according to the specific model and layout of the corresponding product:

DEVICE	Product model Note: this field is automatically filled in EASY MODE
BUTTONS LAYOUT	Depending on the DEVICE, select the most appropriate choice to inform the driver about the number of physical buttons and their layout (where multiple layouts are available e.g. EK-ED2-TP)

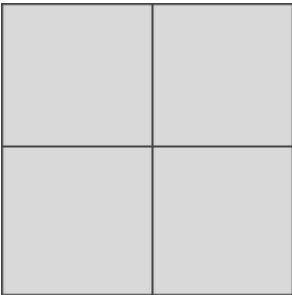
Available layouts for SERIE FF:



2 RECTANGULAR
ROCKERS

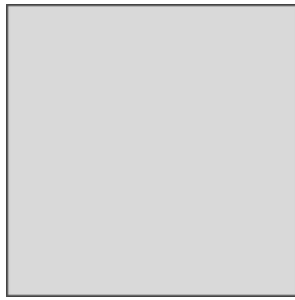


4 RECTANGULAR
ROCKERS

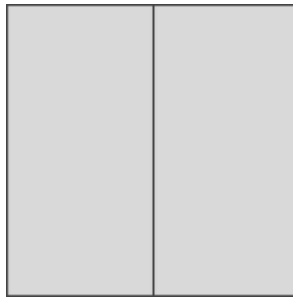


4 SQUARE
ROCKERS

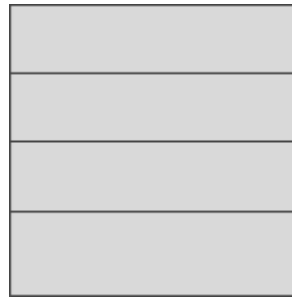
Available layouts for SERIE 71:



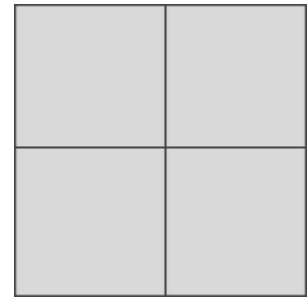
**SINGLE
ROCKER**



**2 RECTANGULAR
ROCKERS**

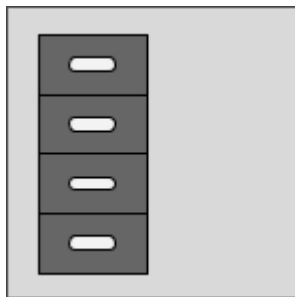


**4 RECTANGULAR
ROCKERS**

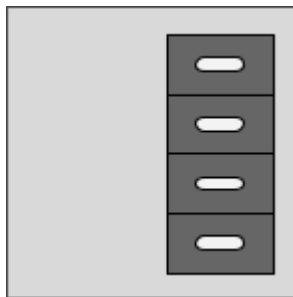


**4 SQUARE
ROCKERS**

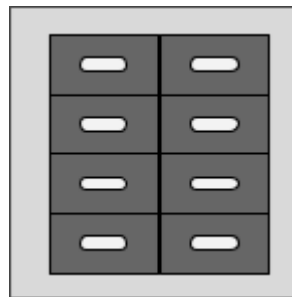
Available layouts for SERIE 20VENTI:



**4 BUTTONS
LEFT SIDE
(EK-E20-4TS-PN,
EK-E2E-TP-4L)**

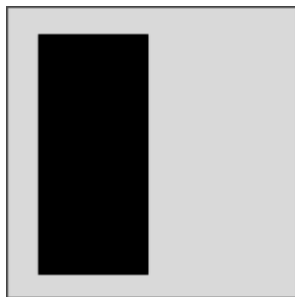


**4 BUTTONS
RIGHT SIDE
(EK-E20-4TD-PN,
EK-E2E-TP-4R)**

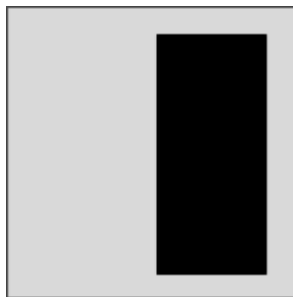


**8 BUTTONS
(EK-E20-8T-PN,
EK-E2E-TP-8)**

Available layouts for SIGNUM:



**LEFT DISPLAY
(EK-EV2-TP-L)**



**RIGHT DISPLAY
(EK-EV2-TP-R)**

The configuration of these settings determine the following available settings, therefore it is important to correctly fill them before proceeding.

The following specific settings are available only for SIGNUM:

THEME	Select the graphical skin on SIGNUM's display between the following: - Theme 1: minimal layout with no background - Theme 2: layout with gradient background				
STANDBY ENABLED	Enable the display automatic switch-off after a timeout If enabled set also the following: <table> <tr> <td>STANDBY TIMEOUT</td><td>Number of seconds for automatic display switch off</td></tr> <tr> <td>STANDBY HOMEPAGE</td><td> Default page on screen after recovery from standby. Choose among the following: - Thermostat page - Audio page - Buttons page 1 - Buttons page 2 - Buttons page 3 </td></tr> </table>	STANDBY TIMEOUT	Number of seconds for automatic display switch off	STANDBY HOMEPAGE	Default page on screen after recovery from standby. Choose among the following: - Thermostat page - Audio page - Buttons page 1 - Buttons page 2 - Buttons page 3
STANDBY TIMEOUT	Number of seconds for automatic display switch off				
STANDBY HOMEPAGE	Default page on screen after recovery from standby. Choose among the following: - Thermostat page - Audio page - Buttons page 1 - Buttons page 2 - Buttons page 3				
DISABLE GRAPHICS OVERRIDE	Set to TRUE to avoid overriding graphic settings when saving the configuration (e.g. because previously customized with EKINEX TOOL app)				

GENERAL CONFIGURATION

The following read-only fields contain information about the driver status when in EASY MODE:

DEVICE ID	Numeric identifier of the device (corresponding to the devices list in the KONNECT4 driver when in EASY MODE)
DEVICE STATUS	Synchronization status between the driver and KONNECT4
DRIVER_MODE	The working mode of driver, it can be ETS or EASY. This property is updated automatically based on how the driver is being added to the project

BUTTONS CONFIGURATION

Only for SIGNUM, the following general properties are available, to determine how many buttons will be displayed:

NUMBER OF PAGES	Enter the number of button pages to be displayed (minimum 1, maximum 3)
-----------------	---

NUMBER OF BUTTONS IN PAGE X	For each page, specify how many buttons to be displayed (1, 2 or 4)
--------------------------------	---

For each button, the following properties must be set:

MODE	Select one of the following options: <table> <tr> <td>INACTIVE</td><td>Not in use</td></tr> <tr> <td>PRESS/RELEASE ON/OFF</td><td>Press = ON (1) Release = OFF (0)</td></tr> <tr> <td>PRESS/RELEASE OFF/ON</td><td>Press = OFF (0) Release = ON (1)</td></tr> </table>	INACTIVE	Not in use	PRESS/RELEASE ON/OFF	Press = ON (1) Release = OFF (0)	PRESS/RELEASE OFF/ON	Press = OFF (0) Release = ON (1)
INACTIVE	Not in use						
PRESS/RELEASE ON/OFF	Press = ON (1) Release = OFF (0)						
PRESS/RELEASE OFF/ON	Press = OFF (0) Release = ON (1)						
NAME	Label assigned to the button. It is used also in the CONNECTIONS panel, and helps to understand which is the associated channel						
ENABLE SHORT / LONG PRESS	Select ENABLED to discriminate between short and long press. If enabled, the following sub-properties are shown: <table> <tr> <td>CLICK DELAY</td><td>Minimum time for long press</td></tr> </table>	CLICK DELAY	Minimum time for long press				
CLICK DELAY	Minimum time for long press						
COMMAND TYPE	The BUTTON_LINK connection can transport the following commands: DO_CLICK A toggle effect when you press & release the button typically used to switch ON/OFF a light DO_PUSH The press event on the button DO_RELEASE The release event on the button Not all the drivers support correctly the DO_CLICK event. If nothing happens on short-press of the button, change the COMMAND TYPE property from "CLICK" (default) to "PUSH" or "BOTH".						
LED	Select ENABLED to manage the LED associated to the button						
LED BEHAVIOR	Select one of the following options:						

	FOLLOW BUTTON STATE	The LED switches ON when the button is pressed, and OFF when released
	FOLLOW CONNECTION	The LED switches ON and OFF according to the value received on the RELAY connection
	PROGRAMMED	The LED can be controlled in PROGRAMMING section
RGB ON COLOR RGB OFF COLOR	Select the desired color for the LED when in ON and in OFF status Note: these settings are available only for EK-E20-TP models	
ENABLE RELAY CONNECTION	Select ENABLED to activate an additional CONNECTION of RELAY type to switch the LED ON and OFF from other drivers supporting this typology of connection	

Only for SIGNUM, the following additional properties are also available for each button:

APPEARANCE	Determines if the button must contain an ICON or a TEXT
TEXT LINE 1 TEXT LINE 2	In case of TEXT appearance, enter the label to be displayed, eventually on two rows. You can enter up to 14 characters in total.
ICON	Index of the symbol to be displayed. Scan the following QR code or open manually EKINEX TOOL app and select SIGNUM ICONS in the INFO area, to display the updated set of symbols:  List of symbols:



LIGHTING



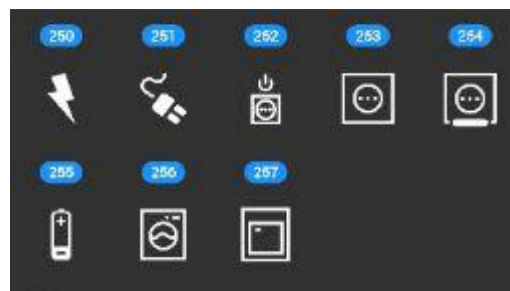
MULTIMEDIA



ASSISTANCE



HOTEL



ENERGY



HVAC



DOORS / GARAGE



SCENES



Not all the functionalities offered by SIGNUM when configured in ETS, are available in EASY MODE with KONNECT4.

In general, the following functionalities are not available in EASY MODE:

- Multimedia
- Air Conditioning
- Numeric values visualization
- Shift register

Also the buttons (up to 12) can be configured with KONNECT4 in PRESS / RELEASE / CLICK mode, without the possibility to show the picker for brightness, tunable white, and shading / shutter control. This is due to the fact the behaviour of each button, is later defined in Composer Pro with the connections.

THERMOSTAT CONFIGURATION

The following general settings for the integrated thermostat are available (only in EASY MODE):

THERMOSTAT ENABLED	Select ENABLED to activate the integrated thermostat
HOLD MODE ENABLED	Enables in the visualization the possibility for the user to keep the setpoint for a given amount of time
PRESETS ENABLED	Enables in the visualization the possibility for the user to create autonomously one or more setpoint and mode presets
TEMPERATURE OFFSET	Applies an offset to the temperature detected by the internal thermostat.
SETPOINT RESOLUTION	Select the granularity for the temperature setpoints
SEASON MODE	Determine if heating, cooling or both seasons have to be managed

THERMOSTAT CONFIGURATION - HEATING / COOLING

For the heating and cooling season (if activated) the following settings are available:

TYPE	Select the most appropriate typology of heating system controlled by the thermostat				
CONTROL TYPE	Select the desired control strategy used by the thermostat to reach the desired setpoint: <table border="1"> <tr> <td>2-POINTS HYSTERESIS</td><td> Heating is kept ON until temperature raises over the setpoint + hysteresis, and remains OFF until temperature falls under setpoint - hysteresis. Similar for cooling. </td></tr> <tr> <td>PWM</td><td> Pulse With Modulation Heating or cooling output switched ON/OFF alternatively with a frequency depending on how far is the setpoint from actual temperature </td></tr> </table>	2-POINTS HYSTERESIS	Heating is kept ON until temperature raises over the setpoint + hysteresis, and remains OFF until temperature falls under setpoint - hysteresis. Similar for cooling.	PWM	Pulse With Modulation Heating or cooling output switched ON/OFF alternatively with a frequency depending on how far is the setpoint from actual temperature
2-POINTS HYSTERESIS	Heating is kept ON until temperature raises over the setpoint + hysteresis, and remains OFF until temperature falls under setpoint - hysteresis. Similar for cooling.				
PWM	Pulse With Modulation Heating or cooling output switched ON/OFF alternatively with a frequency depending on how far is the setpoint from actual temperature				
HYSTERESIS HYSTERESIS POSITION	In case of "2 points hysteresis" control type, select the entity of the hysteresis and the positioning relative to the setpoint				
PROPORTIONAL BAND INTEGRAL TIME PWM CYCLE TIME MIN CONTROL TIME MAX CONTROL TIME	In the case of "PWM" these parameters define how the pulse with modulation controller must work. Please refer to the documentation of the keypad for more details about these parameters.				
SETPOINT MODES ENABLED	Determine if to use multiple setpoints (associated to the operating modes) or not (single setpoint)				
MODE TEMPERATURE RANGES	Min and max temperature ranges for the different operating modes Operating mode numeric legend: <table border="1"> <tr> <td>1</td><td>Comfort</td></tr> <tr> <td>2</td><td>Standby</td></tr> </table>	1	Comfort	2	Standby
1	Comfort				
2	Standby				

	3	Economy
	4	Protection
VENTILATION ENABLED	Determine if the ventilation management has to be activated or not	

FANCOIL CONFIGURATION

If the ventilation is enabled, the following properties are added to the list:

VENTILATION CONTROL TYPE	Select the preferred control strategy for the ventilation
VENTILATION THRESHOLD SPEED X	According to the number of speeds, select the numeric value in the range 0-100 associated to each speed
VENTILATION SPEED CONTROL HYSTERESIS	Select the entity of the hysteresis for the ventilation control logic

CONNECTIONS

The following general connections are made available for the KEYPAD driver:

NAME	TYPE	DESCRIPTION
KNX CONTROL	KNX_DEVICE	Must be associated to the KNX communication driver inserted in the project
KONNECT4 CONTROL	KONNECT4	Must be associated to the KONNECT4 driver

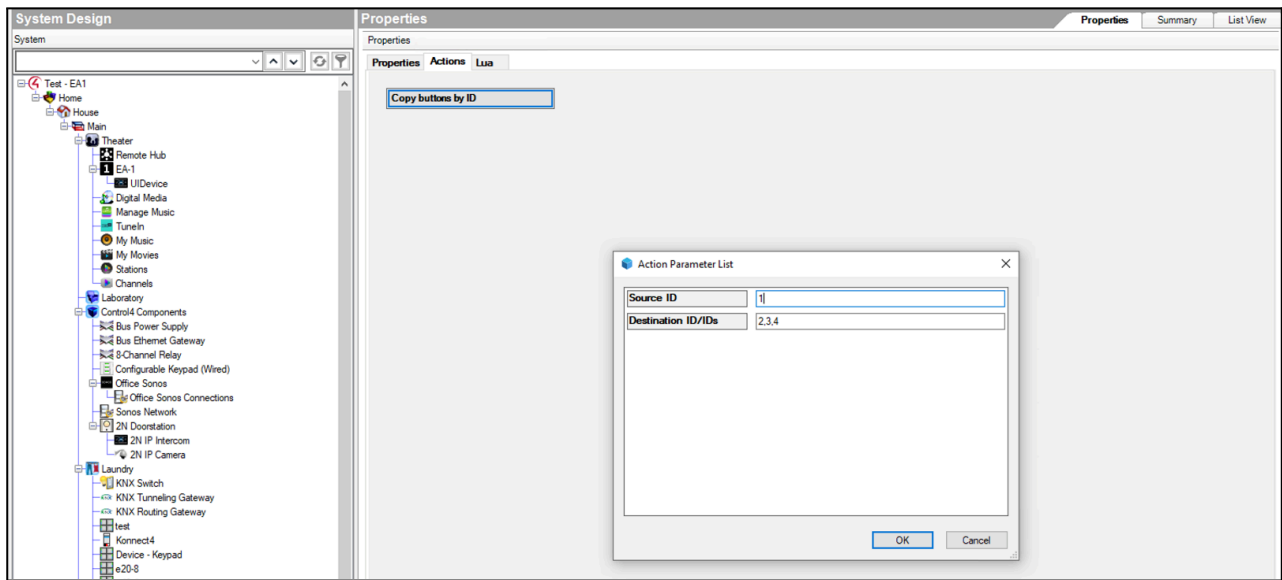
For each active channel, the following additional connections are available:

NAME	TYPE	DESCRIPTION
LINK	BUTTON_LINK	Use this connection to bind the pushbutton with another driver e.g. an actuator The behavior of BUTTON_LINK connections is the same as CONTROL4 keypads
RELAY	RELAY	Use this connection in combination with other drivers supporting the RELAY type, to

		command the LED
--	--	-----------------

ACTIONS

The COPY BUTTONS BY ID action allows the quick duplication of the settings from a channel to one or more channels, of the same drive:

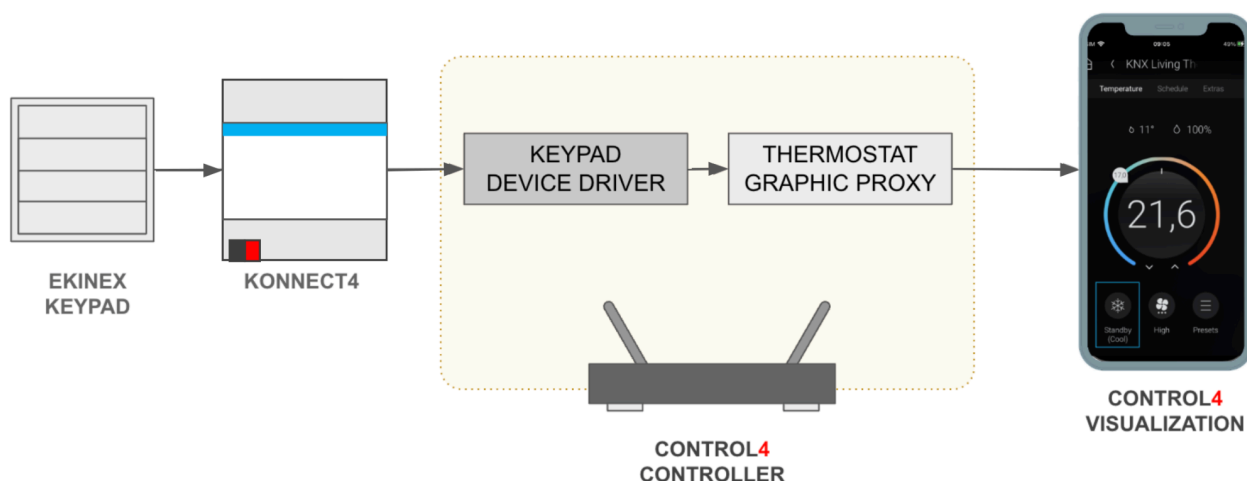


Fill the required fields in the popup as follows:

SOURCE ID	Number of the channel to be copied
DESTINATION ID / IDS	Number of the channel(s) that must receive the same configuration. In case of multiple channels, enter their number separated by comma

GRAPHIC PROXY

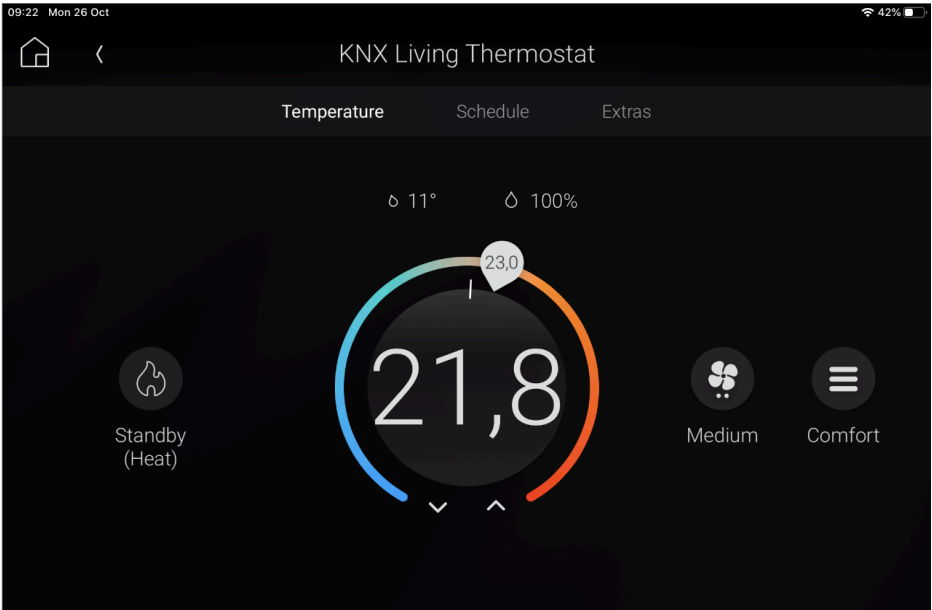
In EASY MODE, the KEYPAD DEVICE DRIVER takes control of the HVAC regulator integrated into the devices; in order to handle it in the visualization, the THERMOSTAT GRAPHIC PROXY driver must be added to the project, and connected with the DRIVER_CONNECTION:



The following screenshots give an example of visualization for the heating and cooling seasons, when navigating with a smartphone:



The following picture contains the corresponding visualization for tablets or touch panels:



MISCELLANEOUS

FULL FACTORY RESET

It is possible to restore the factory conditions by resetting the network configuration and clearing the project data. In such a case, please do the following steps:

- Open the front panel of the server KONNECT4 using a small slotted screwdriver, and exerting a slight leverage effect in one of the side slots
- Locate the RESET button on the back of the vertical card
- Press the RESET button for at least 10 seconds until the SERVICE LED on the front of the device starts flashing, then release the button.
- Within the next 5 seconds, press and hold the button for at least 10 seconds
- When the LED is solidly lit, release the button and wait for it to go out.
- When the LED goes off, remove and restore the power supply

Wait about one minute for the reset to be completed.

KONNECT4 WEB INTERFACE

KONNECT4 is intended to be used in conjunction with COMPOSER PRO, so there is no web interface suitable for the use by the final user.

OPEN SOURCE

KONNECT4 contains open source software, such as the Linux operating system and its kernel. These software components are subject to various open-source licenses, including:

- GNU General Public License (GPL), <https://www.gnu.org/licenses/gpl-2.0.html>
- GNU Lesser General Public License (LGPL), <https://www.gnu.org/licenses/lgpl-2.0.en.html>



If you are in possession of a product, for a period of 3 years from the last date of production, you can request from EKINEX the source code of the software components licensed under the GNU General Public License (GPL) or the GNU Lesser General Public License (LGPL), and use, distribute and modify them in accordance with their respective licenses.

EKINEX cannot be held liable in any way for the source code so distributed, which is provided without warranty.

EKINEX shall also not be liable for any damages or consequences resulting from modifications (additions / removals) made to such software by third parties, unless specifically authorized.

For further information, please contact the EKINEX technical support service.

REVISIONS

DATE	REF	NOTES
2021-04-30	EKINEX.KONNECT4.MANUAL.EN.001	First release of this document
2023-04-15	EKINEX.KONNECT4.MANUAL.EN.002	Revision for software release 2.0
2023-07-25	EKINEX.KONNECT4.MANUAL.EN.003	Adaptations of the manual for EASY MODE configuration
2023-10-24	EKINEX.KONNECT4.MANUAL.EN.004	Compatibility list for keypads in EASY MODE configuration
2023-11-02	EKINEX.KONNECT4.MANUAL.EN.004	Added details for SIGNUM specific settings
2023-11-15	EKINEX.KONNECT4.MANUAL.EN.005	Adjusted minimum supported firmware version info for devices
2024-02-29	EKINEX.KONNECT4.MANUAL.EN.006	Added support for ON/OFF actuators in EASY MODE (Konnect4 software v. 2.0.5) General revision.
2024-04-16	EKINEX.KONNECT4.MANUAL.EN.007	Minor modifications
2024-05-07	EKINEX.KONNECT4.MANUAL.EN.008	Various updates
2024-06-07	EKINEX.KONNECT4.MANUAL.EN.009	Konnect4 software v. 2.0.7
2024-10-14	EKINEX.KONNECT4.MANUAL.EN.010	Minor modifications
2024-11-18	EKINEX.KONNECT4.MANUAL.EN.011	Konnect4 software v. 2.0.8
2025-03-03	EKINEX.KONNECT4.MANUAL.EN.012	Konnect4 hardware update (4 DIN Rail Modules hardware) EASY MODE drivers available on the online catalogue