

# M-CON-KNX-s configuration guide

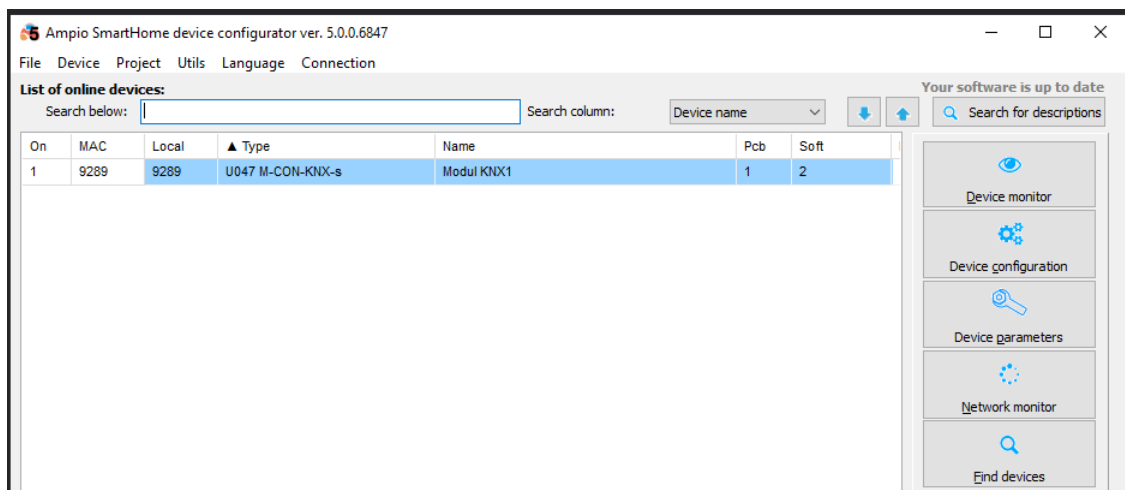
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## Introduction

The M-CON-KNX-s module enables the integration of the Ampio bus with some elements of the KNX bus. The module has outputs both, for the CAN bus and KNX bus. It must be borne in mind that the KNX bus has to have an independent power supply and should be programmed according to the KNX standards. Physical and group addresses on the KNX side can be assigned e.g. with the use of the ETS application.

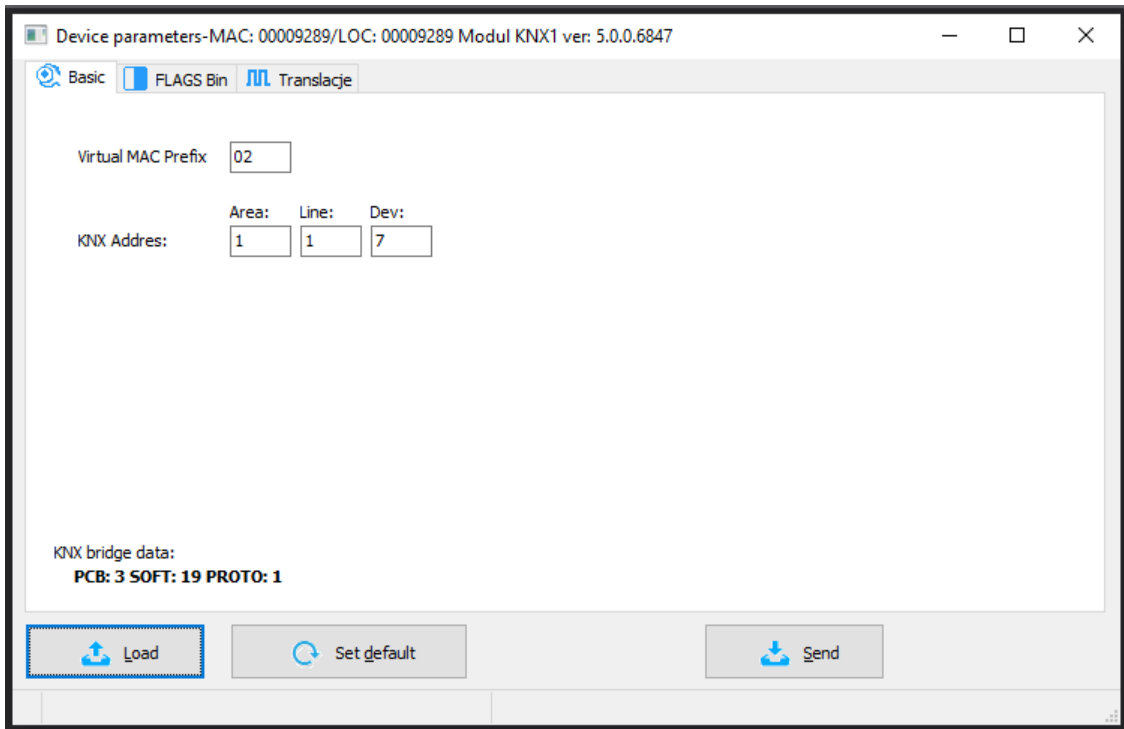
## Configuration in the Smart Home Configurator

Configuring parameters and single conversions is performed in the Ampio Smart Home configurator (version min. 5.0.0.6822). The first step is to launch the application, wait for the list of devices to load, select M-CON-KNX-s from the list and open *Device parameters*.



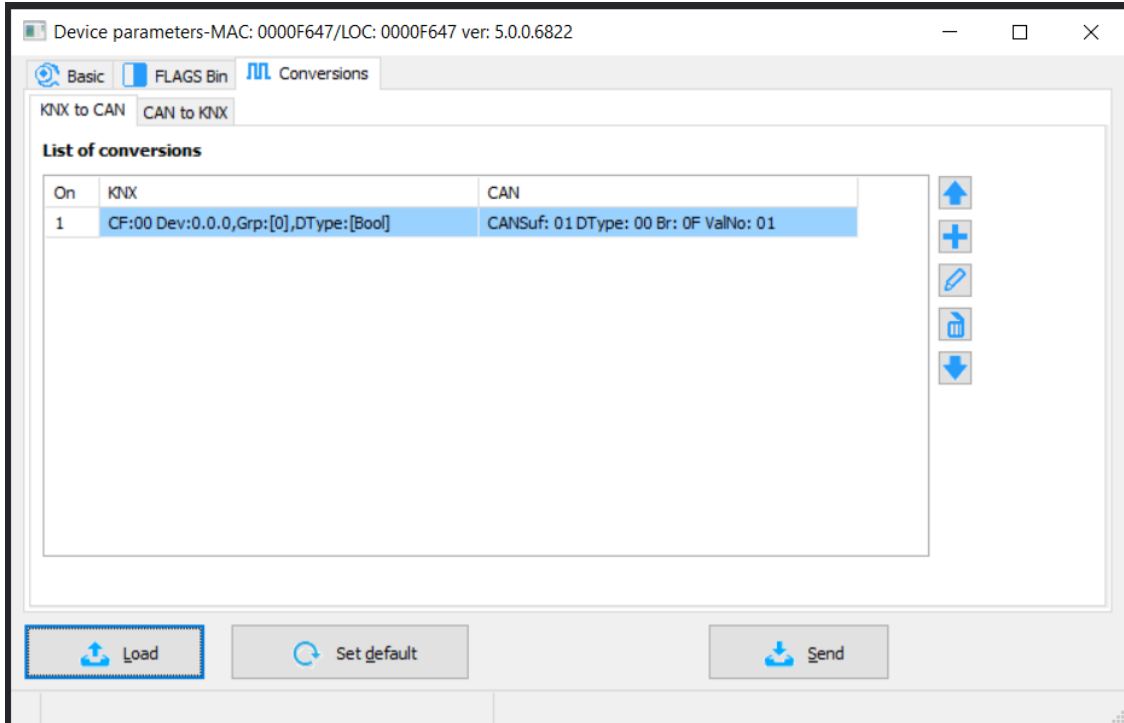
## Changing the main parameters of the bridge

Devices from the KNX bus will be shown in the CAN bus as virtual devices. Their address will be displayed in the 1100PPAA format, where PP stands for the address prefix, and AA stands for an editable part of the address. In the *Basic* tab you can change the mentioned prefix and edit the physical address that the M-CON-KNX-s bridge uses to send data into the KNX bus. Visible are also the PCB version, protocol and software version of the subprocessor.



## Conversions from the KNX bus to CAN bus

In the *Conversions* window, there are two tabs, in which you can configure information conversion between buses.



Using the right buttons, you can add, edit, or remove conversions from the list. After adding a conversion, you will see a window with its settings.

*Control field* should be left at default, addresses copied from the KNX project and the right *Data type* should be selected. Next, determine how data should be transmitted to the CAN bus. Change the editable part of the address (suffix) and configure the *Data type*, *Information type* and *Value number* (one device in the CAN bus can send e.g. 3 temperature values in one frame), and confirm. When you are done, remember to send the new lists to the device.

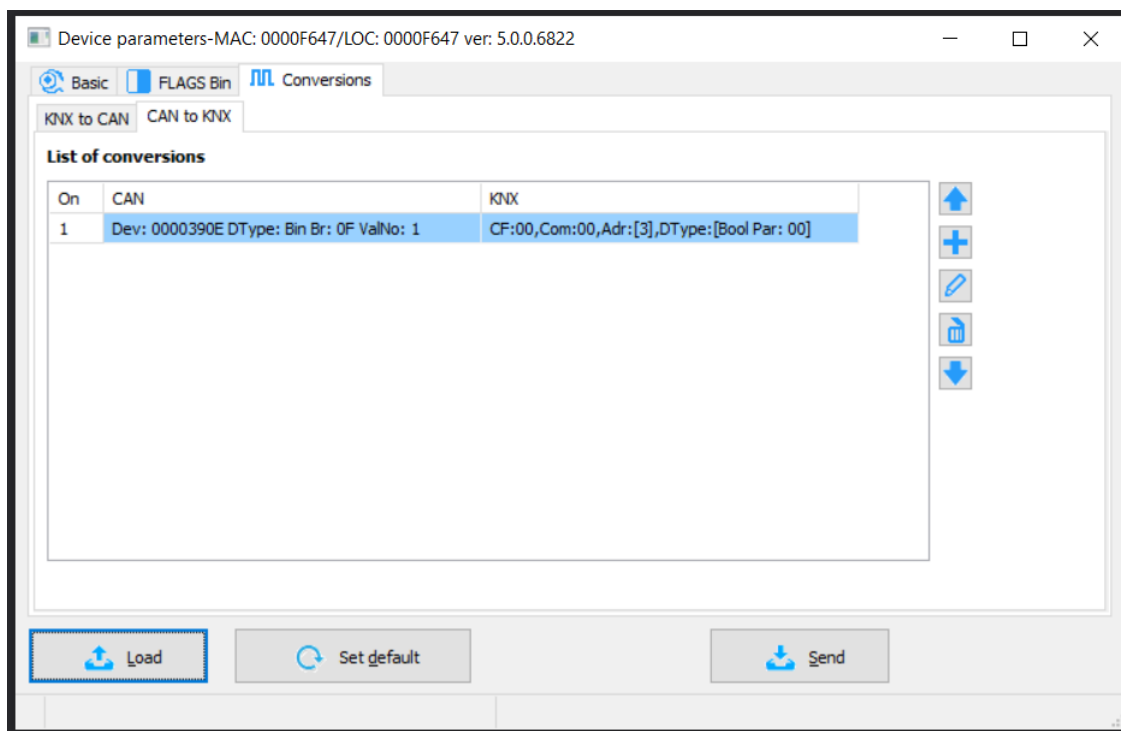
In order to create conditions for KNX devices, you must add a virtual device in the configurator (with an address in the following format: 1100PPAA, where PP is a prefix from *Device parameters*, and AA is a suffix from particular translations; the exact address can also be viewed in the *Network monitor*). The process of adding such a device is described in the [Virtual devices](#) guide. Having added such a device, you can create conditions from the virtual device, which will transmit information from the KNX bus. To achieve this, enter the *Device configurator* of the target module, select the virtual device from the next list and click *Add condition from device*.

Configuration window of actuating device

If you want the virtual device to be visible on the list on the next launch of the configurator, save the project by going to the *Project* tab and click *Save project*. You will then open the saved project with the next launch of the application.

## Conversions from the CAN bus to KNX

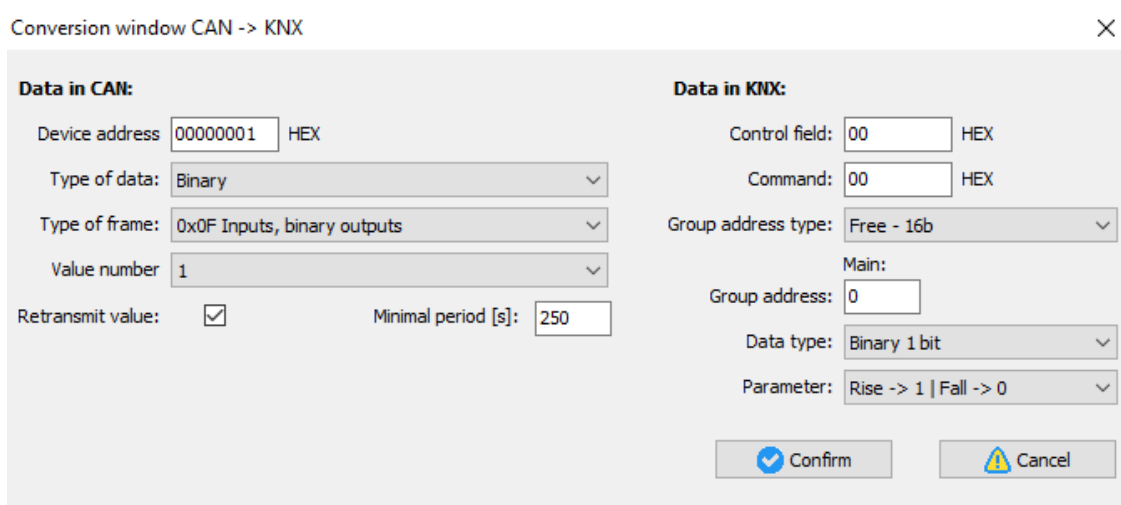
In the second tab, you can configure conversions from the CAN bus to the KNX bus.



Add a new conversion, set its parameters, and add a full CAN Device address. Then choose what Data type, Information type and Value number you want to transmit. On the KNX side leave Control field and Command at default. Then select the address with which data will be sent to the bus, determine the Data type and Parameter if needed.

For binary inputs/outputs there is a possibility of configuring reactions to the signal slope (from subprocessor software no. 13). In accordance with descriptions, you can define reactions to an increasing slope and a decreasing slope. The reactions can be as follows: sending 1, sending 0, or no reaction (marked as -).

Some of the data types are sent from the CAN bus in multiple frames (selected in the Type of frame field). Because of that, if you want to e.g. select the temperature sensor no. 4 from an Ampio module, you must set the Type of data as Exact temperature, Type of frame as 0x07 2-byte temperature, and Value number as 1.



From now on, data from the CAN bus will be visible in the KNX bus. If you would like to check how everything is working, you can use e.g. nie ETS application and the *Diagnostics* tab.

From the configurator version 5.0.0.7291, there is a possibility of regular transmission of data from the CAN to the KNX bus, even if values have not changed. For the function to work properly, the secondary processor must be of at least version 31 (info displayed in the *Basic* tab). Time that can be set for the module ranges from 10 to 250 seconds.

In order to add a condition from binary **outputs** in the CAN system, you should select “Binary” *Data type*, “0x0F Inputs, binary outputs” in the *Type of data* and add 24 to the output’s value (max. number of inputs). For example, for output no. 1, select type 0x0F, value number 25, and for output no. 2, select type 0x0F and value number 26, etc.