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# MSA-810

## KNX Master Switch Actuator 8x10A Quick Start Guide


### 1. DESCRIPTION

The Universal KNX Actuator System is a fully modular actuator system where extension modules can be plugged-in to extend the number of channels as needed. Up to 72 channels can be combined for switching, shutter or blind, heating, dimming, analog 0-10V or LED drivers with various size and power.

Up to 8 extension modules can be added to the master actuator. Depending on the extension type, you are able to drive **up to 72 outputs** with the actuator system using a **single KNX interface**.

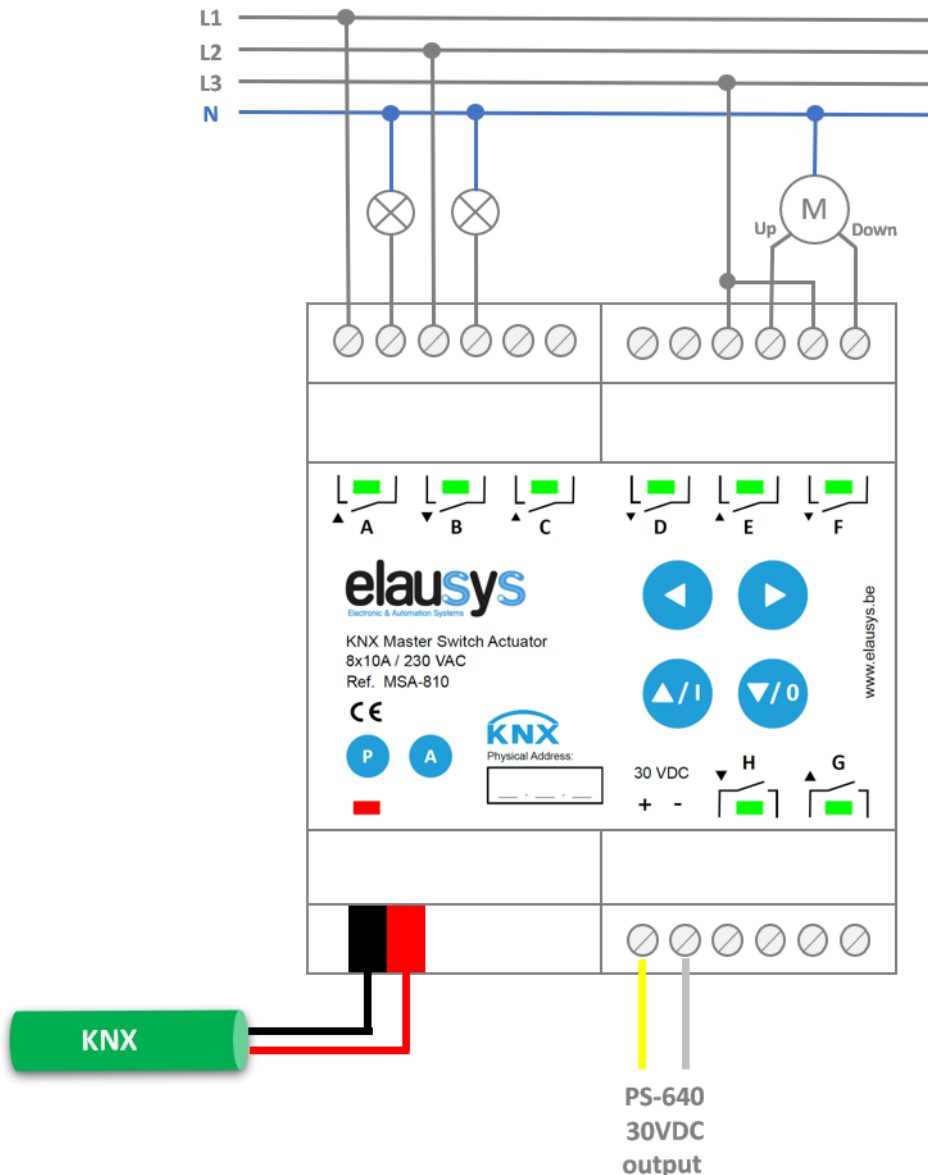
The master actuator has 8 channels (A to H) to drive 230 V AC electrical loads up to 10A. Each channel of the master actuator can be configured as a switching actuator or a shutter actuator.


The Master actuator is made for **mounting on DIN rail** and covers **4TE**.

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## 2. CONNECTION

- Place the master actuator on the left side of a DIN rail.
- If any extension is used together with the master, place the first extension just on the right of the master and slide the extension connector into the master by pushing the extension to the left.
- Repeat the same for each extension.
- Connect the KNX bus and auxiliary power supply to the master as on the schematic below.
- Refer to the datasheet of each module for loads connection.



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### 3. EXTENSIONS ADDRESSING

- Turn on the auxiliary power supply.
- The master actuator LEDs start blinking during the start-up period (approximately 10 s).
- When all LEDs of the master are off, press the “A” button on the master for 3s to start the addressing procedure. All LEDs of the master are blinking during addressing.
- Then press shortly on the “A” button of each extension, starting from the first one on the left until the last one on the right.
- Each extension blinks 3 times when it is successfully addressed.
- When each extension is addressed, press shortly the “A” button of the master to terminate the addressing procedure. All LEDs of the master stop blinking.
- The system is now ready to operate in manual using the push buttons of the master.

### 4. LIMITATIONS


- Extensions can only be used on a single row, foresee enough space on the right side of the master actuator for the extensions. Additional master modules can be used for each new row in the electrical enclosure.
- Switching outputs 10A are limited to maximum 40 channels on one master actuator. This includes the channels of the following modules:
  - MSA-810 (8 channels 10A)
  - SAE-410 (4 channels 10A)
  - SAE-810 (8 channels 10A)
  - SAE-1210 (12 channels 10A)
  - SAE-2410 (24 channels 10A)

Ex: 1 Master + 1 SAE-2410 + 1 SAE-810 = 40 channels 10A

All other types of extensions can be used in addition to a maximum of 8 extensions on a master.

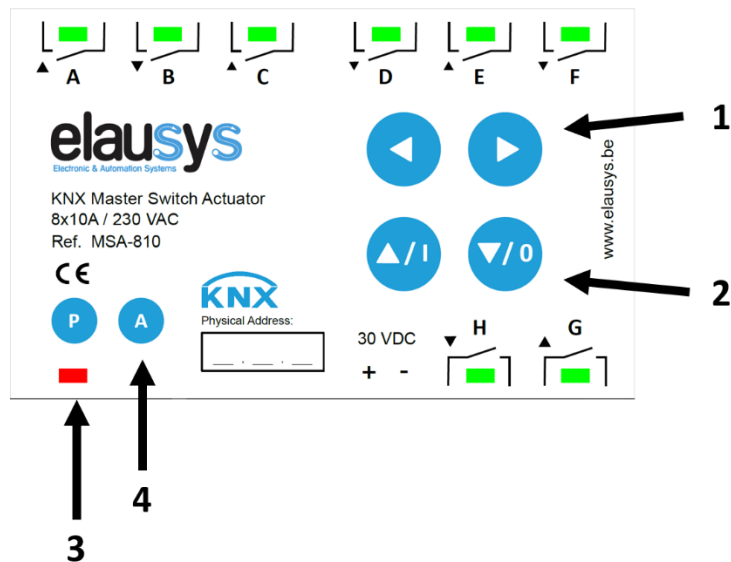
Additional switching channels 16A can be used on the same master without limitation.  
If additional channels 10A are required, a new master should be used.

- Switching extension SAE-2410 includes 24 channels 10A in a very compact housing, for this reason a few precautions must be taken. A single voltage must be used for all channels of the module (24 or 230VAC). On tri-phase distribution, the same phase must be used for all channels. Individual channels power is limited according to the datasheet (500W resistive).

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## 5. MANUAL OPERATION

Manual operation of each channel can be done using the four push-buttons on the master device. If necessary, manual operation can be disabled by setting the “manual control” to disabled in ETS.




The first two buttons on the top (1) are used to select a channel. When a channel is selected for manual operation, its LED blinks for 30s then returns to the current state of the channel. Each press on a button will move the selection to the next channel. When the last channel of a module is reached, an additional press will move the selection to the first channel of the next configured extension module. To quickly move the selection from one module to another, you can press the button longer (> 0,5s), after each long press, the selection moves to the first channel of the next module. The same applies to the previous channel using the left button, a short press will move the selection to the previous channel while a longer press will move the selection the previous module.

In case a channel is configured for shutter/blind operation using ETS, both channels (Up / Down) and blinking together.

Depending on the selected function, the channel can be turned ON/OFF manually (switching mode) or moved Up/Down (shutter/blind mode) using the two buttons below (2). For shutter/blind channels, a long press on one of these buttons will move the shutter/blind to the upper/lower position while a short press will stop an active channel or perform a step move in the upper/lower direction.



**When no application is loading in ETS (or if the KNX was not connected) all switching channels are set to switch mode by default. Therefore, it is possible to turn ON any channel manually. Make sure NOT to turn ON both channels of a shutter/blind simultaneously!**

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## 6. ETS APPLICATION

- Open the test project for MSA-810 in ETS and open the “Devices” view.
- Select the MSA-810 device, right click and copy.
- Open your own project and paste the MSA-810 device in your project
- The MSA-810 device and its extensions can now be configured for your project.

## 7. ETS DOWNLOAD

- Make sure the auxiliary power supply is on and the KNX bus is connected.
- Press the “P” button to switch the master in programming mode, the red LED turns ON.
- Download the application program from ETS
- The system is now ready to operate from KNX.