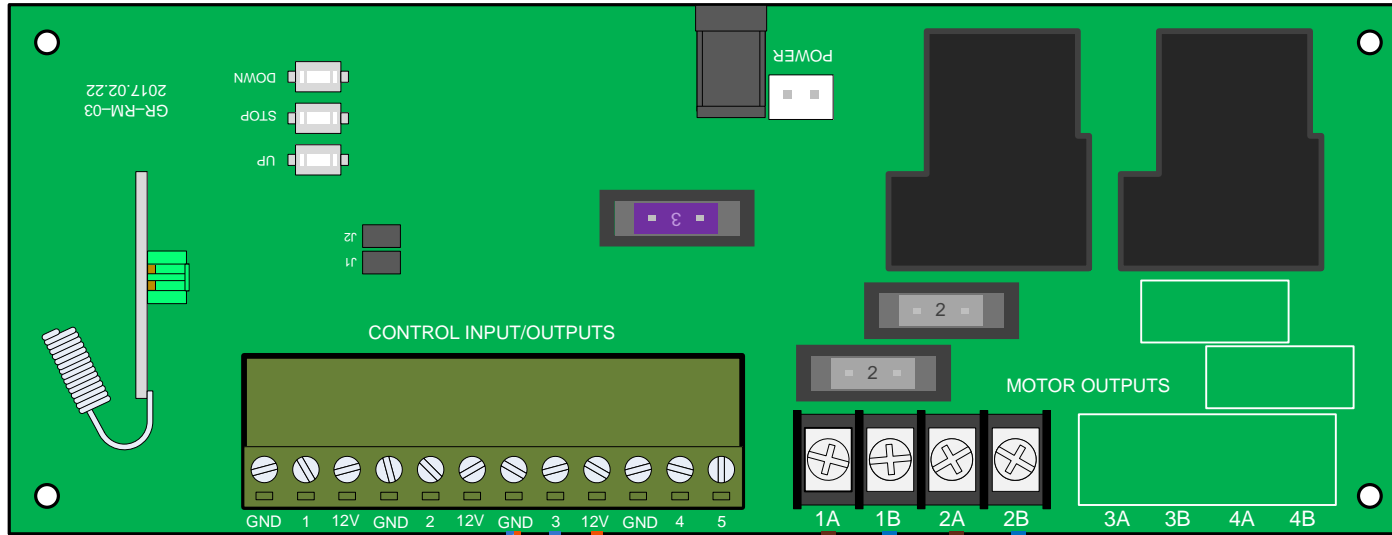


GR-RM-03 24V DC Actuator Power and Control Module – Connection Instructions

Each device has a number of control input/output options. After connecting the module to a mains (120-240V AC) supply via the included lead (with C13 connector) it should be immediately possible to operate the device using the included remote controls, these may then be supplemented with inputs for an on/off switch (or sensor to cause the device output to switch off), a thermostat or rain sensor (to automatically operate actuators) and also wired switches (such as a wall switch or to interface with home automation systems). Please check the key and descriptions below for more information.

Control modes

Jumper labelled **J1** sets the control mode of the remote input.
 Jumper labelled **J2** sets the control mode of the wired switch input (connections 11 and 12).
 A jumper bridging the pins (in place) means momentary control mode, jumper not bridging means latching control mode.



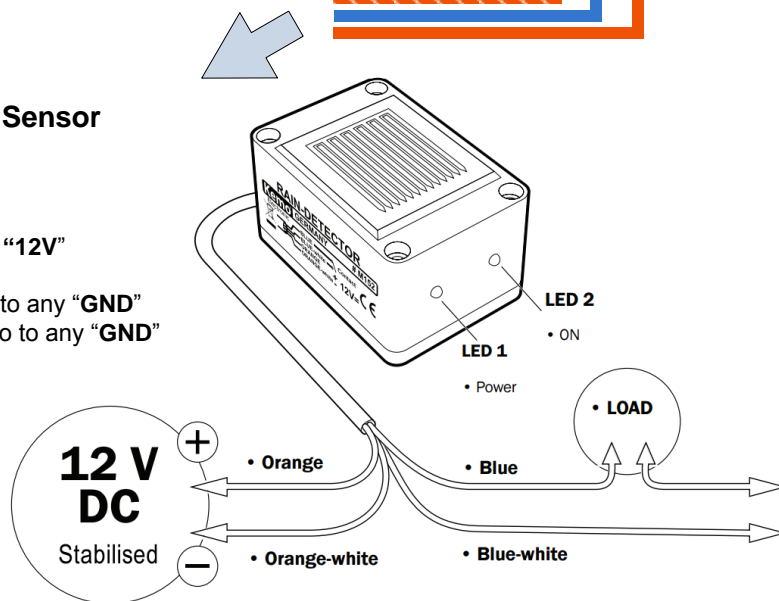
Fuses

Each board is supplied with two 2A fuses on the two active outputs 1 and 2, and one 3A fuse on the input power side (these are slow-blow automotive type fuses). Replace with blade fuses of type: 'low-profile mini', 'micro', 'APS' or 'ATT'.

Kemo Rain Sensor

Connect:

- Orange** to any "12V"
- Blue** to "3"
- Orange-white** to any "GND"
- Blue-white** also to any "GND"



Control Input/Outputs Key

- GND: Ground (-ve)**
- 12V: +12V DC regulated supply**
- 1: Safety Switch Signal Input**
Connect to any ground, GND, to stop/switch off the output
- 2: Thermostat Signal Input**
Connect to any ground, GND, to switch output to 'down'
- 3: Rain Sensor Signal Input**
Connect to any ground, GND, to switch output to 'down'
- 4: Control up**
Connect via switch any ground, GND, to switch output to 'UP'
- 5: Control down**
Connect via switch any ground, GND, to switch output to 'DOWN'

Programming remotes

To learn new remotes use the small white buttons on the board labelled 'UP', 'STOP', 'DOWN'. First press one of these then the corresponding button on the remote you wish to learn, do this in sequence until all have been learnt (the on-board LED should flash for each button). To erase remote memory long-press one of these buttons until red LED flashes. Only *Gimson Robotics* rolling-code 433MHz remotes are compatible.

Outputs to actuator(s). If only using one actuator then either of the output pairs 1A and 1B or 2A and 2B can be used. Each numbered output is individually fused and is capable of supplying up to 2.1A continuous at 24V DC. The polarity at each output inverts when swapping between 'up' and 'down'. Outputs 3 and 4 are not used.

WARNING

Ensure that the combined load at the three "12V" output terminals does not exceed 1A. A single Kemo rain sensor should consume less than 0.2A, so if using a rain sensor there should be a further 0.8A available at 12V DC (~9W) to also operate thermostats, safety sensor switches and similar devices.

DO NOT connect any 12V directly to any GND, or any of 1, 2, 3, 4, 5 to any 12V