

## DATA SHEET



### mH-RGB

LED RGB controller  
of the F&Home system

**F&Home**

RGB module is designed to control low-voltage (12 V) LED light sources by setting the brightness and color of the lighting. Multicolored RGB sources (such as stripes, RGB hoses) should be connected to the module, then the brightness and color of light can be adjusted. In the case of RGB light sources, sources with a constant positive of the power supply (control by the negative of the power supply) should be used. The module has two local inputs: one to connect a button operating in the same way as in dimmers (short press switches on/off, longer press dims/brightens) and the other, a service one, to change the color of light without the use of a touch panel. Using the touch panel it is possible to fully control brightness, color and the times of brightening and dimming. The module requires connecting an independent 12 V DC power supply with a power matched to the connected LED load. The correct polarity of a power supply is very important. A reverse connection may damage the connected light source (the module is protected). There are two types of RGB modules: the older model from 2012 and a newer model from 2013. A newer model has an additional relay that switches on the 12 V power supply. The general principle of operation is based on the fact that RGB lighting is not switched on permanently and there is no reason for the 12 V power supply to be permanently switched on. The module is powered by a 24 V system power supply and the 12 V power supply is only switched on if required.

### **Inputs / outputs**

The mH-RGB module is available for different levels, thus enabling the expansion of the I/O network connected to the F&Home system. First, install the module from level 1, then from level 2, etc. The module in each level has two inputs (switch on/switch off/brightening/dimming and color change) and three outputs (R, G, B) for controlling individual channels of RGB LED strips.

### **Power supply**

The mH-RGB module is supplied with 24 V DC voltage. In addition, a separate 12 V DC power supply must be used to supply the receivers (LED RGB powered with 12 V).

### **CAN**

Two RJ-45 sockets on the module front panel are used to connect the CAN communication network cables, which must be connected to adjacent modules using the CAN cables provided with the system.

## Operating principle

Receivers connected to the mH-RGB controller module are controlled using the buttons connected to its inputs and CAN network. If the dimmers are triggered by the buttons, a short press of the button S1 will cause the light source to be fully switched on/off. In case the S1 button is pressed for a longer time, the brightness of the lighting changes in the brightening loop from full brightness - dimming up to switching off - brightening to full brightness. When the module controls the receiver (supplies power to the LEDs), pressing the S2 button changes the color according to the order set on the touch panel. If the dimmer is triggered from the touch panel, the panel determines the brightness and switching on of the light source.

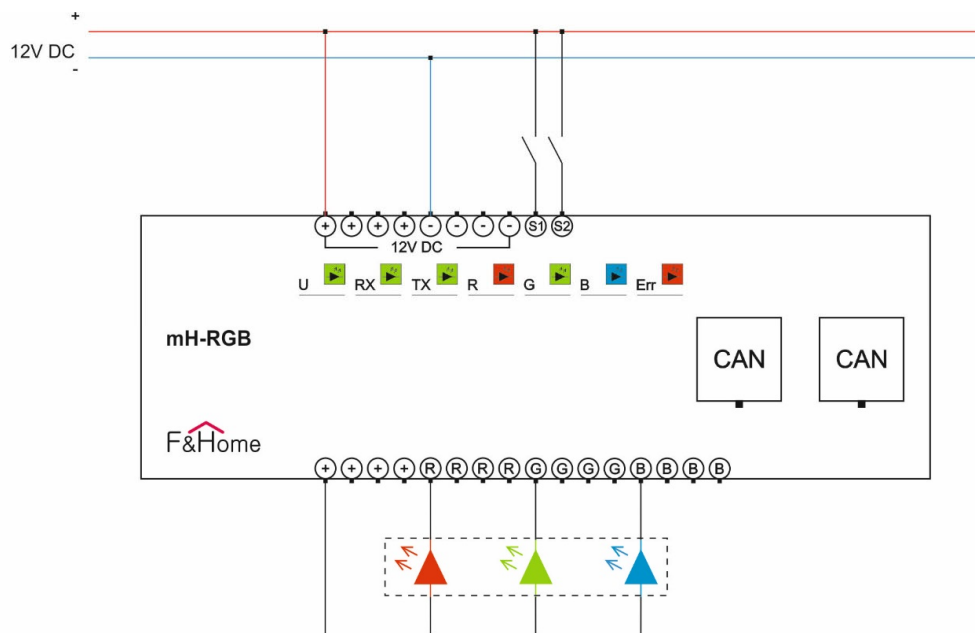


Diagram Connection of RGB module version 2012



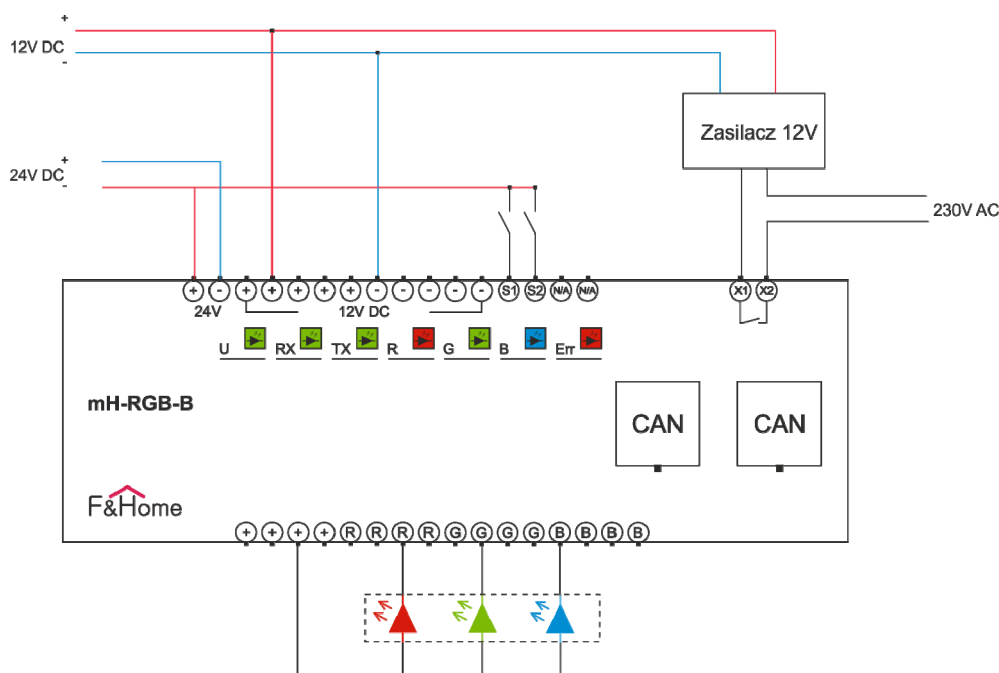


Diagram Connection of RGB module version 2013

## Zasilacz 12 V - 12 V power supply

### Operation signaling

The operation of the mH-RGB module is indicated by seven LEDs on the front of the module. The meaning of the individual controls is as follows:

<b>U</b>	The blinking of the U diode means that the device is connected to the power supply and is working properly. The constantly lighted U diode indicates an error or malfunction of the module.
<b>RX</b>	Indicates that the module is in the process of receiving data through the CAN network.
<b>TX</b>	Indicates that the module is in the process of sending data through the CAN network.
<b>Err</b>	Indicates that there is no communication between the mH-RGB module and the host computer (possible power outage/damage to the host computer or damage to the communication cables).
<b>R</b>	Channel R (red) switched on
<b>G</b>	Channel G (green) switched on
<b>B</b>	Channel B (blue) switched on

## Technical data table

Module type	actuator – 1 channel RGB
Rated supply voltage	24 V DC
Power supply voltage tolerance	-20%, +10%
LED power supply voltage (actuator part)	12 V DC
Maximum current (per channel)	8 A
Output voltage	12 – 24 V DC
Maximum output current	10 mA
Storage temperature	-20°C to +50°C
Operating temperature	0°C, +45°C
Humidity	<=85% (without condensation or aggressive gases)
Dimensions	87.5 x 65 x 90 mm (5 modules)
Dimensions of the packaging	105 x 104 x 75 mm
Ingress protection	IP20
Operating position	any
Enclosure type	for DIN rail
Net weight	175 g
Gross weight (including packaging)	238 g

**WARNING**

The method of connection is specified in this manual. Installation, connection, and adjustment should be carried out by authorized electricians who are familiar with the operating instructions and the functions of the module.

The correct operation is affected by the way the module is transported, stored and used. Installation of the module is not recommended in the following cases: missing components, damage to the module or its deformation.

In case of malfunction, please contact the manufacturer.