

5 Channel Multifunctional PWM Controller

HomLiCon LCH5

Application:

- Control of groups LED and LED strips
- Control of relays, small motors, fans, etc.
- Control models

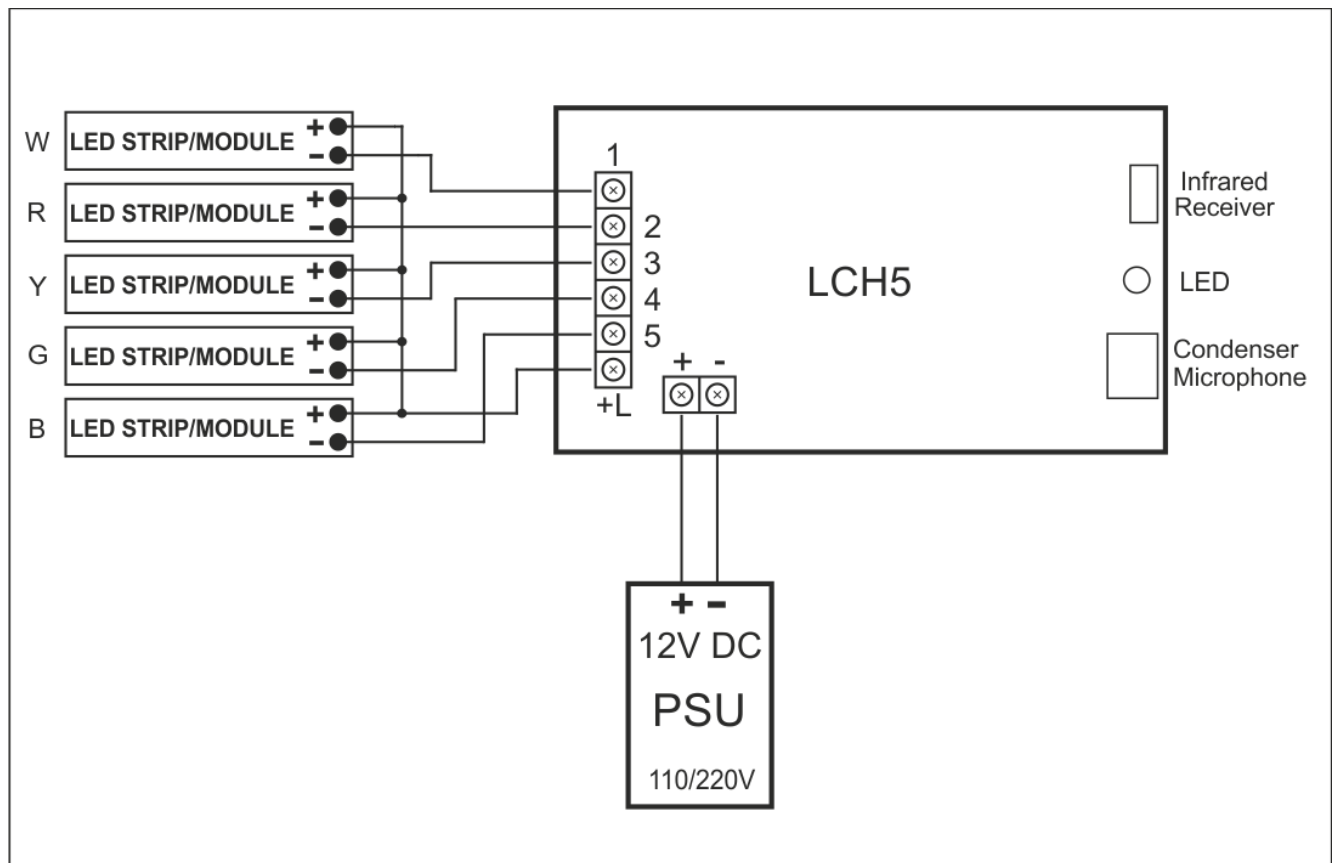
Main features:

Number of Channels:	5
Color organ number of channels:	4
Supply voltage:	8 ÷ 16V DC
Maximum output current per channel:	2A
Maximum total output current:	10A
PWM steps for each channel:	110
Number of stored levels and settings:	10
Ambient temperature:	5 ÷ 40°C

- ✓ Ability to set PWM control for each channel or ON/OFF option.
- ✓ Managing all settings and functions with remote control included in the kit.
- ✓ Gradual increase or decrease the intensity of the light when you turn on or off each PWM channel.
- ✓ Easy switching between the previously user saved 10 groups, different levels for all channels and general settings.
- ✓ Gradual increase or decrease of the intensity of light for all channels to reach the preset level when selecting one of the ten preset functions.
- ✓ Ability to choose if the channels are off or a saved function is activated when the supply voltage is applied.
- ✓ Activation of light show controlled by sound from the build-in microphone or unsynchronized
- ✓ Fully automatic color organ with digital division of the bandwidth in 4 range:
LF 50 - 180Hz , MLF 230Hz - 1kHz , MHF 1 - 7kHz, HF 7 - 12kHz.
- ✓ Automatic or manual switching between different programs of light show
- ✓ LED on each one of the channels connected to the microcontroller pins for indication and diagnostics.

Wiring diagram and description:

The supply voltage (8 - 16V standing and filtered) is connected to the terminal blocks marked + and - . All + LED Strip / Module are connected together to the terminal blocks marked + L , and all - LED Strip / Module, respectively to terminals 1, 2, 3, 4, 5.



Warning:

Outputs do **NOT** have protection from short circuit, overload or reverse voltage. Improper connection will lead to a damaged controller.

LED must be connected by a series resistor limiting the current to nominal (in LED strips embedded).

Settings and operation:

All settings are performed by the included remote control. It is possible to use another remote control with NEC protocol.

The system used for regulating through a single button for each channel consists of the following:

- I. By pressing and releasing the button for specified channel starts increasing light's intensity.
- II. After the next pressing and releasing it is fixed on the current level.
- III. After pressing and releasing again - starts reducing the light's intensity.
- IV. After the next pressing and releasing it is fixed on the current level.

By repeating steps I - IV or part of them the required level can be reached. For more precise adjustment can be used the **+** and **-** buttons. They regulate the last channel that was used, or the selected one by pressing and releasing the button **OK** and button on specified channel.

Buttons **1, 2, 3, 4** and **5** are used for managing the relevant channels or as part of the ten buttons for stored functions. Switching is performed with the button **MODE**. When they are used for channel management, STATUS LED flashes with short pulse (0.01s) and a long pause (2s).

You can rapidly switch between the different saved light levels and settings with the use of the buttons **0, 1, 2, ..., 9**, and the levels will change smoothly until the new values are reached. You can save the instantaneous values and settings in the non-volatile memory by pressing and releasing the buttons **MENU** and one of **0, 1, 2, ..., 9**.

You can switch certain channels in PWM or ON/OFF by turning on the necessary channels for ON/OFF mode and consistently press and release the **MENU**, **MODE**, **1**. With this combination, the turned ON channels are stored in non-volatile memory with function ON/OFF, and the turned OFF channels with PWM. After such a change it is recommended the stored values and settings for **0, 1, ..., 9** to be made again.

For indication of the received infrared pulses and the current state of some features is used STATUS LED. When the buttons **1, 2, 3, 4** and **5** are used for the management of specific channel, STATUS LED flashes with short pulse (0.01s) and a long pause (2s). In case of attempt of activating a function that is prohibited due to other settings (example: lighting effects with the channel ON / OFF mode), it activates the STATUS LED for 2 seconds (ON / OFF in 0.2 sec). After pressing the button **MENU** the status LED is activated for 2 seconds (on/off in 0.1 sec.) as indication for waiting for the next button to be pressed.

Description of the remote control buttons:



– Turns off all channels / turns on the saved functions for button **9**.

MODE

– You can choose between using the buttons **1, 2, 3, 4** and **5** to control the respective channels, or as a part of the ten key stored functions. When the buttons 1 ÷ 5 are used for control of the respective channels, STATUS LED flashes with short pulse (0.01s) and a long pause (2s).



– ON/OFF the synchronization of sound and lighting effects (running lights or color organ).



– ON/OFF lighting effects.



– Switching between lighting effects in the following order:

AUTO, PWM, Color organ PWM, Color organ, EF4, EF5, EF6, EF7, EF8 - with sound.

AUTO, PWM, EF2, EF3, EF4, EF5, EF6, EF7, EF8 - without sound (chaser).

OK

– Selecting a particular channel to be precisely adjusted. Consecutively pressing and releasing **OK** and one of **1, 2, ..., 5**.



– Regulating the last used channel or the selected one when the light effects are turned off. When the light effects are turned ON and the PWM effect is active these buttons change the speed of the regulation of the channels and the PWM light effect. When the light effects are on without synchronization with sound (chaser) these buttons regulate their speed.



– Turns all channels ON.

MENU

– To save the new settings of the channels, effects or settings for particular button **0, 1, 2, ..., 9** consecutively press and release **MENU** and one of **0, 1, 2, ..., 9**. This way the current settings will be saved in the non-volatile memory.

1, 2, 3, 4, 5 – regulate or turns ON/OFF particular channel.

0, 1, ..., 9 – stored values of channels, effects and settings for the particular button.

More settings changes can be made by repeatedly pressing and releasing the following buttons:

MENU , MODE , 1 - Switching certain channels of PWM or ON / OFF can be made by turning on the necessary channels for ON / OFF mode and consistently push and release the **MENU, MODE, 1**. With this combination, the turned ON channels are stored in non-volatile memory with function ON/OFF, and the turned OFF channels with PWM. After such a change it is advisable the stored values and settings **0, 1, ..., 9** to be set again.

MENU , MODE , 7 - After applying the supply voltage, the channels are OFF.

MENU , MODE , 8 - After applying the supply voltage, turns on the saved functions for button **9**.

MENU , MODE , 0 - Reset the user settings and return the original (factory) or just reboot. It activates STATUS LED - ON/OFF in 0.1 seconds, while awaiting confirmation with button **+** to return to initial (factory) settings, **-** button for RESET or another button to exit.

MENU , ►| , 0 - Prohibition of lighting effects.

MENU , ►| , 3 - 3 channel lighting effects - used channels 3, 4 and 5.

MENU , ►| , 4 - 4 channel lighting effects - used channels 2, 3, 4 and 5.

MENU , ►| , 5 - Prohibit the use of inverse channel.

MENU , ►| , 6 - Allow the use of channel 1 for inverse channel. When the channels 2, 3, 4 and 5 are off, channel 1 is switched smoothly to half-maximal level. It works only for effects with 4 channels and synchronization with sound.

MENU , ►| , 7 - The range of low frequencies for color organ 50 - 180Hz [DEFAULT].

MENU , ►| , 8 - The range of low frequencies for color organ 50 - 250Hz. It is recommended when using speakers that do not reproduce low frequencies well.

Arrangement of the buttons on the remote control:

