

### Technical characteristics

Number of channels in one controller, piece	16
Supply voltage of direct current, Volt	+4 ... 24
Maximum admissible current on one channel, Ampere	10
Total maximum current, Ampere	50
Loadings power, at 12 V, no more, than, Watt	600
Number of cycles of programming, time	100 000
Number of gradation of brightness	256
Internal memory, Kbyte	512
Duration of one shot, second	0,008... 2
The supported class of USB	USB 2.0
Overall dimensions, mm	195x105x55
Weight, no more, than, g	370
Protection class	IP65
Temperature range, °C	from - 40 up to + 40

### Manufacturer's guarantee

The manufacturer provides guarantee certificates for a product within 12 months from the date of sale.

Guarantee repair is not made in the cases of:

1. Expiration of product guarantee period;
2. Controller failure as a result of misconnection;
3. Damages caused by ingress of moisture;
4. Excess of the maximum electric parameters;
5. In the presence of scratches of mechanical influences;
6. In the cases of independent repair, controller upgrading.

Serial number \_\_\_\_\_

Date of manufacturing \_\_\_\_\_

Sale date \_\_\_\_\_



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The logo for MAKS BRIGHT, featuring the letters 'M' and 'B' in a stylized, overlapping red and white font, with the full name 'MAKS BRIGHT' in a bold, black, sans-serif font below it.

PROFESSIONAL LED SOLUTIONS

## USER MANUAL

# Sigma Element Plus

## PROGRAMMABLE LED CONTROLLER

Made in Russia  
[www.maksbright.com](http://www.maksbright.com)

### Short description

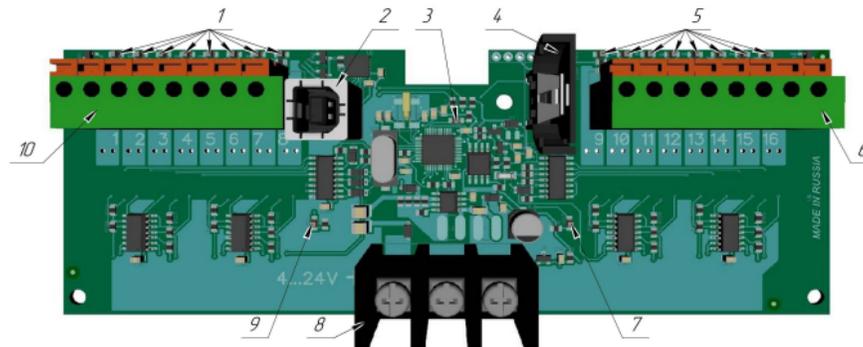
The controller (Sigma Element Plus) represents the device for management of the light equipment, such as light-emitting diode modules, strips, other light sources similar to them or other devices on their basis. The controller operates the light equipment according to pre-prepared scenario. The scenario allows changing the brightness of luminescence dynamically and timing of luminescence of light - emitting diode modules, strips, etc. The operation scenario for the controller can be formed by the user by means of the special software set on personal computer.

The software and documentation are presented on [www.maksbright.com](http://www.maksbright.com).

### Delivery set

light-emitting diode controller	1 piece
passport	1 piece
USB cable	1 piece
sealant	1 piece
fixing screws	4 pieces
packing container	1 piece

### Purpose of controlling elements and indications



- 1, 5 - indicators of channels operation;
- 2 - USB-connector for controller programming;
- 3 - indication of microcontroller operation;
- 4 - section for a battery 2032 (the battery is necessary for work of timer);
- 6, 10 - connection plug of light-emitting diode loading;
- 7 - the indicator of short circuit in one of channels till 9 to 16;
- 8 - plug of connection of the power unit;
- 9 - the indicator of short circuit in one of channels from 1 up to 8.

### Installation and connection of controller

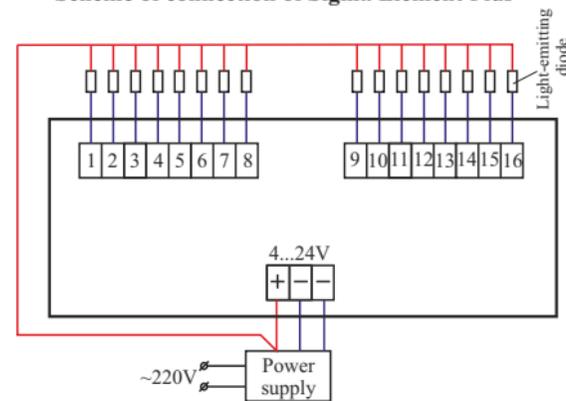
Remove the top cover carefully.

Put the controller on level surface with cable inputs down and fix it by means of four self-driving screws.

Pass the wires through the cable input and connect them to plugs according to the connection scheme; observing polarity of connection, and fix them reliably. At light-emitting diode lines (modules) the general wire is positive and it is a supply voltage.

Negative wires are to be connected to the plugs of the respective channels. At currents more than 5 Ampere it is necessary to connect two wires to the power unit to the negative plug. Recommended section of wires is 2,5 mm<sup>2</sup>.

### Scheme of connection of Sigma Element Plus



**ATTENTION! Not to connect the controller to 220 Volts circuit.**