

**Advantages:**

- three high quality XLamp power RGB LED of CREE Lighting,
- able to be driven separately,
- possibility of having different CCTs,
- possibility of having many colour effects,
- possibility of connecting modules in chains,
- drive by current up to 3x700 mA,
- safe low operating voltage,
- easy installation,
- small footprint (70 mm x 11 mm x 5,6 mm).

Applications:

- decorative illumination,
- dynamic light effects,
- traffic lights,
- stage lightning DMX.

Technical data¹⁾

LED Module	Colour	Number of LEDs	Advisable power type	Operating voltage		Typ. operating current	Power	Viewing angle ²⁾	Wavelength	Luminous flux
				[V]		[mA]	[W]	[°]	[nm]	[lm]
				min	max	max	max		typ.	typ. (I = max)
MEGA 3XR RGB	Red	1	Current	2,3	3,0	700	1,7	90	620	68
	Green	1	Current	3,4	4,0	700	2,6	90	525	88
	Blue	1	Current	3,4	4,0	700	2,6	90	470	25

¹⁾All data concern particular module. Values of each parameters are average values and in particular copy they can be differ than in the table above. Correlated colour temperature and wavelength have been defined by range, which contains this value.

²⁾ Maximum angle at which LED intensity value is 50% of maximum intensity, observed at mechanical axis of LED.

Qualities:

- available to connect in serial chains,
- possibility of separate anode and cathode module configuration,
- common cathode or anode for each LED,
- modules optimized to driving by impulse constant current power supplies,
- light is emitting orthogonally to plate surface.

Tolerated work parameters*

Product	Operating temperature [°C]		DC Voltage [V]	Reverse voltage [V]	Junction temperature [°C]
	min	max	max	max	max
MEGA 3XR RGB	-40	85	3 / 4 / 4	5 / 5 / 5	145

*) Table of physical work parameters, that must not be exceeded because of possibility of lifetime reduction or permanent damage of LED module.

Drawing and mechanical dimensions

Shape: rectangle

Dimensions: length 70mm, width 11mm, substrate thickness 1,2mm

Height: 5,6mm

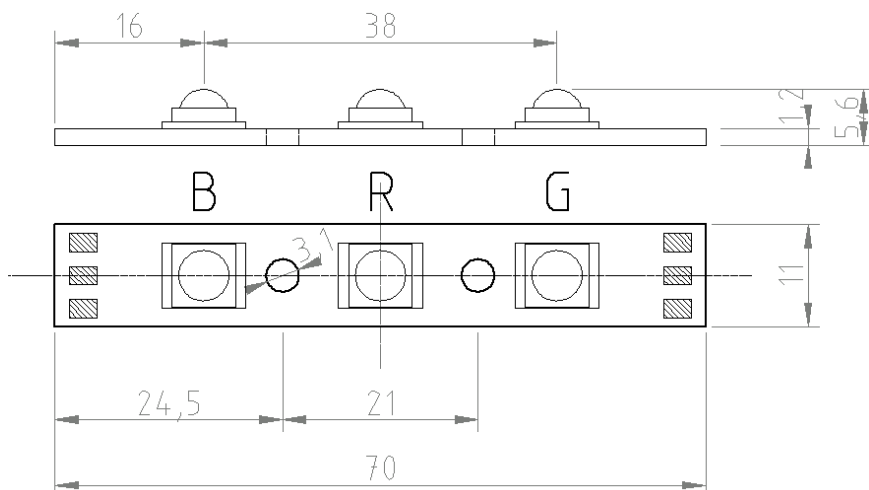


Fig. 1. MEGA 3XR RGB module – basic version.

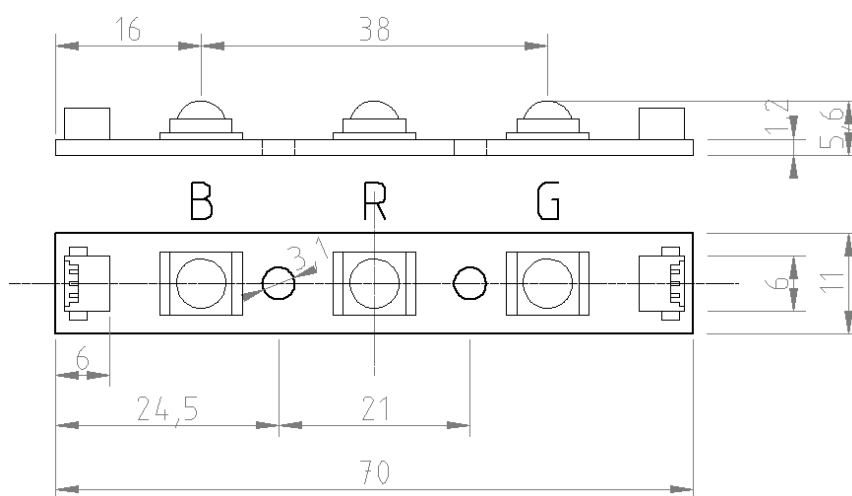


Fig. 2. MEGA 3XR RGB module – version with connectors.

Safety information

1. Modules must not be weigh down mechanically to work safe.
2. Montage elements must not destroy LEDs or paths on the plate.
3. Modules have no short circuit, overcharge and thermal protection.
It is absolutely necessary for LED power circuits to have such protections.
4. Modules installation (with driving circuits) must be in accordance with all electric and safe standards.
5. It is necessary to keep proper polarization of driving voltages. Wrong polarization could cause LED damage.
6. During installation it is important to remember about influence of electrostatic charge. Before installation charges should be neutralized by touching metal parts of grounded elements (e.g. copper pipe, tap, etc.).
7. It is recommended to keep chip temperature below 85°C. In order to draw heat away from LED junction external radiators can be used. Parameters and dimensions of radiator can be computed using proper equations. Each application, depending on number of LEDs, power, montage and many other parameters, need to be process separately. LEDIKO provides optimal solutions for each customer.
8. LEDs have not corrosion resistant elements. User should provide safe work conditions of circuit. LEDIKO products do not fall within complaint on the basis of damages caused by humidity and chemical conditions.
9. LEDIKO modules are not appropriate to use direct outdoor or in conditions that may damage electric parts (e.g. low or high temperature, humidity, chemical conditions). In such applications it is necessary to use special package.
10. Package should fulfil such requirements:
 - optical transparency from light emitted side,
 - UV protection (in case of sun light exposure),
 - drawing heat away, to keep safe work of circuit,
 - heat produced by LED resistance,
 - low transmission in all climate conditions.

Mounting directions

1. LED modules must be connected to power supply in accordance with all electric and safe standards. Before switching power on it is always required to check all the electric connections and make sure that power supply has proper electric parameters.
2. It is very important to mount module to the element which helps to draw heat away (e.g. aluminium plate, radiator). In case of montage using screws, some separators (silicone, mica, silicone paste or other material that conduct heat) are needed between radiator and substrate of the module. Such a separator needs to be used, because it helps to transfer heat from the substrate to the radiator and makes LED work conditions better. Module can also be mount to the radiator using special glue or tape, which conduct heat.
3. Depends on the power of power supply it is important to use radiator with proper thermal resistance. When power supply is 1W per LED, radiator should have maximum thermal resistance at a level of 2K/W, it corresponds e.g. aluminium sheet, 1-2 mm thickness and 25cm² area (e.g. 5cm side square). When power supply is 3W per LED, radiator should have maximum thermal resistance at a level of 5K/W, it corresponds e.g. aluminium sheet, 2 mm thickness and 144cm² area (e.g. 12cm side square).
4. Mount with two M3 screws (hole diameter \varnothing 3,1mm), head diameter up to 6 mm. Between plate with LEDs and surface where module is mounted should be effective thermal contact. Module can also be mount to the surfacer using special glue or tape, which conduct heat.
5. It is possible to connect MEGA 3XR RGB modules in series. The connection is made with three wires.

Connection details

MEGA MEGA 3XR RGB module is available in three different configurations depend on jumper placing, changing way of electrical connections on the board – Fig. 3.

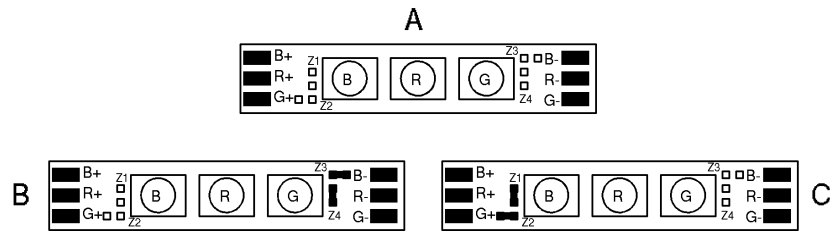


Fig. 3. Konfiguracje modułu MEGA 3XR RGB.

Typ A – no connections between anodes and catodes.

Typ B – common catode connection

Typ C – common anode connection

Order particulars

LED Module	LEDs	Wavelength	Typ. luminous flux (125mA)
MEGA 3XR RGB	Red, green, blue	625 / 525 / 470 nm	40 / 52 /19 lm

Order notices:

1. Jumpers are mounted following customer requirements.
2. Modules have aluminium or copper substrates. Copper substrate help to drawing heat away.
3. Standard module does not contains connectors. They are mounted following individual customer requiremets.
4. It is possible to mount other colours of LEDs.

When placing an order please write:

- 1) Name and surname of orderer,
- 2) Company name,
- 3) Company Tax Identification Number,
- 4) Address of company or private address for individual customers,
- 5) City and post code,
- 6) Index of elements: number of elements, product code,
- 7) Sending address (if differ from company address).

Welcome to contact us and place orders.
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