**Advantages:**

- three quality XLamp power LEDs of CREE lighting,
- integrated transformer design for different power supply values,
- low sensitivity to voltage shifting,
- module adapted to wide range of optics.

Applications:

- general illumination,
- mobile light sources (e.g. flash lights),
- traffic lights,
- stage illumination.

Technical data¹⁾

LED Module	Colour	Number of LEDs	Advisable power type	Operating voltage ³⁾ [V]		Operating current [mA] max	Power [W] max	Viewing angle ²⁾ [°]	Wavelength [nm] typ.	Luminous flux [lm] typ. (I = 350mA)	Luminous flux [lm] typ. (I = max)
				min	max						
LUMO 3XR ROY	Royal blue	3	Current	8	24	700	7,8	100	460	765 mW	1140 mW
LUMO 3XR BLU	Blue	3	Current	8	24	700	7,8	100	470	45	75
LUMO 3XR CYN	Cyan	3	Current	8	24	700	7,8	100	505	135	228
LUMO 3XR GRN	Green	3	Current	8	24	700	7,8	100	525	156	264
LUMO 3XR AMB	Amber	3	Current	8	24	350	2,7	100	590	126	126
LUMO 3XR RDO	Orange red	3	Current	8	24	700	5,1	100	615	147	332
LUMO 3XR RED	Red	3	Current	8	24	700	5,1	100	630	120	204

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.

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

³⁾ Details for power supplying are in "Module power supply" section.

Qualities:

- high light efficiency, thanks to three LEDs,
- integrated transformer design for different power supply values,
- module adapted to wide range of optics,
- great thermal flow thanks to innovative thermal vias technology,
- light is emitting orthogonally to plate surface.

Tolerated work parameters¹⁾

LED Module	Operating temperature [°C]		Voltage DC [V]	Reverse voltage [V]	Junction temperature [°C]
	min	max	max	max	max
LUMO 3XR ROY	-40	85	3,9	5	145
LUMO 3XR BLU	-40	85	3,9	5	145
LUMO 3XR CYN	-40	85	3,9	5	145
LUMO 3XR GRN	-40	85 </td <td>3,9</td> <td>5</td> <td>145</td>	3,9	5	145
LUMO 3XR AMB	-40	85	4	5	145
LUMO 3XR RDO	-40	85	4	5	145
LUMO 3XR RED	-40	85	4	5	145

¹⁾ 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 round
 Dimensions diameter 46mm; lens' diameter 50mm; substrate thickness 1mm
 Height 7mm whitout a lens; 22,5mm with lens

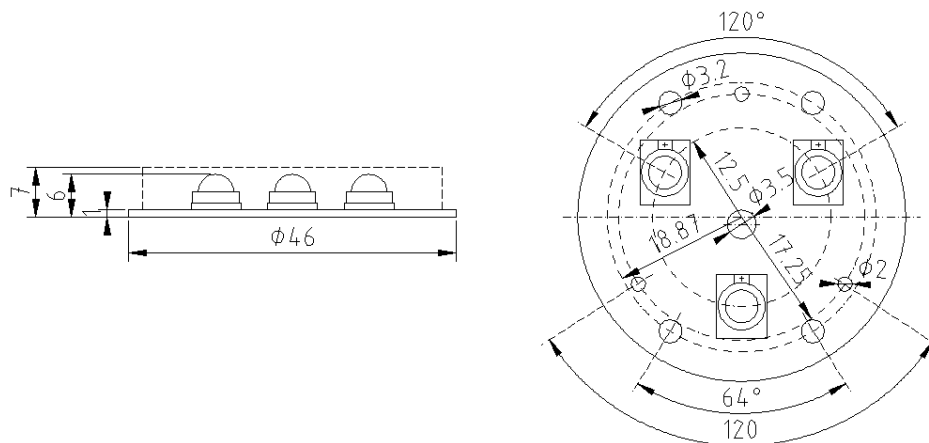


Fig. 1. LUMO 3XR module.

Holes:

4 x $\Phi 3,2$ mm mounting holes for M3 screws
 3 x $\Phi 2$ mm mounting holes for triple lens
 1 x $\Phi 3,5$ mm hole for power supply wire

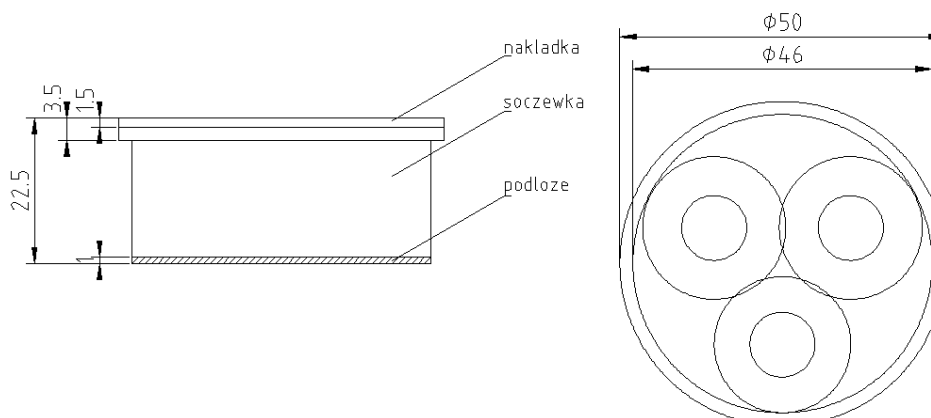


Fig. 2. LUMO 3XR module with triple lens on.

Safety information

1. Modules must not be weighed down mechanically to work safely.
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 processed 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.

Montage information

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 mounted 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 7K/W, it corresponds e.g. aluminium sheet, 2 mm thickness and 100cm² area (e.g. 10 cm side square).
4. LUMO 3XR LED module has 2 big electric pads. Each electrode '+' and '-' has two pads, where positive and negative voltage should be connected. To solder cables, standard soldering gun is needed. Power supply wire can be attached to the lower side of the module via 3,5mm diameter hole which is next to soldering pads. It is also necessary to take it into consideration when choosing a radiator.

Module power supply

The LUMO 3XR module can be driven in a various types of ways. It is possible to use an external current power supply or a voltage power supply with a matched resistor. Basic advantage of the module is that it can be driven from integrated transformer. Examples of supplying are in the table below. It is also possible to obtain an individual solution after consulting with our company.

Power connection	Connection type	Voltage DC [V]	Forward current [mA]	Power per LED [W]	Total power [W]
External current supply	serial	n.a.	350	1	3
			700	3	9
External voltage supply	serial	min. 10V	350	1	4,2
		min. 12V	700	3	8,4
Integrated transformer supply	serial	12 - 36	350	1	4
		18 - 36	700	3	11
Integrated transformer supply	parallel	6 - 15	350	1	4
		8 - 18	500	1,5	6

Order particulars

LED Module	Colour	CCT	Typ. luminous flux (350mA)
LUMO 3XR ROY	Royal blue	460 nm	765 mW
LUMO 3XR BLU	Blue	470 nm	45 lm
LUMO 3XR CYN	Cyan	505 nm	135 lm
LUMO 3XR GRN	Green	525 nm	156 lm
LUMO 3XR AMB	Amber	590 nm	126 lm
LUMO 3XR RDO	Orange red	615 nm	147 lm
LUMO 3XR RED	Red	630 nm	120 lm

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.

Phone: +48 71 79 85 785

www.lediko.com

Uwaga: "LEDIKO Walendowski i Wilanowski" Sp.J. zastrzega sobie prawo do zmian danych zawartych w niniejszej dokumentacji, bez powiadomienia.