

Advantages:

- high efficiency power LED Xlamp XP of CREE Lighting
- high quality aluminium-ceramic substrate (MCPCB)
- optional connector for quick installation of wires without soldering and wire stripping
- module adapted to circular and square lenses
- classic circular shape (diameter 80,6 mm)
- constant voltage supply 24V DC
- wide range of available CCTs and power of luminous flux

Applications:

- universal module for general illumination
- lighting fittings of different type
- down-light fittings
- architectural fittings

Technical data¹⁾

LED Module	Colour	Number of LED	Supply voltage	Power		Viewing angle ²⁾	CTT	Luminous flux	Luminous flux
			[V]	[W]	[W]				
			typ.	typ.	max		typ.	typ. (P = 10W)	typ. (P = 15W)
LUMO 6XP-E ALU CW1	Cool white	6	24	10	15	115	6500	887	1124
LUMO 6XP-E ALU CW2	Cool white	6	24	10	15	115	6500	761	987
LUMO 6XP-E ALU NW	Neutral white	6	24	10	15	115	4300	761	987
LUMO 6XP-E ALU WW	Warm white	6	24	10	15	115	3000	656	850

¹⁾ All data concern particular module. Values of the parameters in the table are average and can differ in particular copies of modules. Information about luminous flux is given on the basis of LED manufacturer data and do not take into consideration thermal and optical losses that normally occurs inside the lighting fixture.

²⁾ An angle at which LED intensity is 50% of maximum intensity at mechanical axis of LED.

Qualities

- size suitable for lenses of different focus angles (maximum lenses dimension: 22x22mm)
- diodes XP are resistant up to 85 % humidity (a gel lens protects the chip),
- aluminium-ceramic substrate (MCPCB) with high thermal conductivity of the ceramic layer: 1,3 W/m·K,
- modules optimised to switching power supply of stabilised voltage 24 VDC,
- a built in thermal protection to reduce power of module when temperature rises to high, temperature of LED junction is reduced to level that provide minimum 50 000 hours lifetime,
- optional possibility of brightness control in the range of 0-100 % with external signal 1-10 V, or PWM signal,
- optional possibility of supplying with constant current switching power supply,
- optional connector for quick installation of wires without soldering or wire stripping,
- optional white XP-G, XP-C or colour XP-E, XP-C LEDs.

Absolute maximum ratings¹⁾

LED Module	Operating temperature [°C]		Power [W]	Supply voltage [V]	Junction temperature [°C]
	min	max	max	max	max
LUMO 6XP-E ALU CW1	-40	85	15,0	30	145
LUMO 6XP-E ALU CW2	-40	85	15,0	30	145
LUMO 6XP-E ALU NW	-40	85	15,0	30	145
LUMO 6XP-E ALU WW	-40	85	15,0	30	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

Size: diameter 80,6mm, substrate thickness 1,2mm

Max height: 5,6mm

Maximum dimension of lenses is 22x22mm.

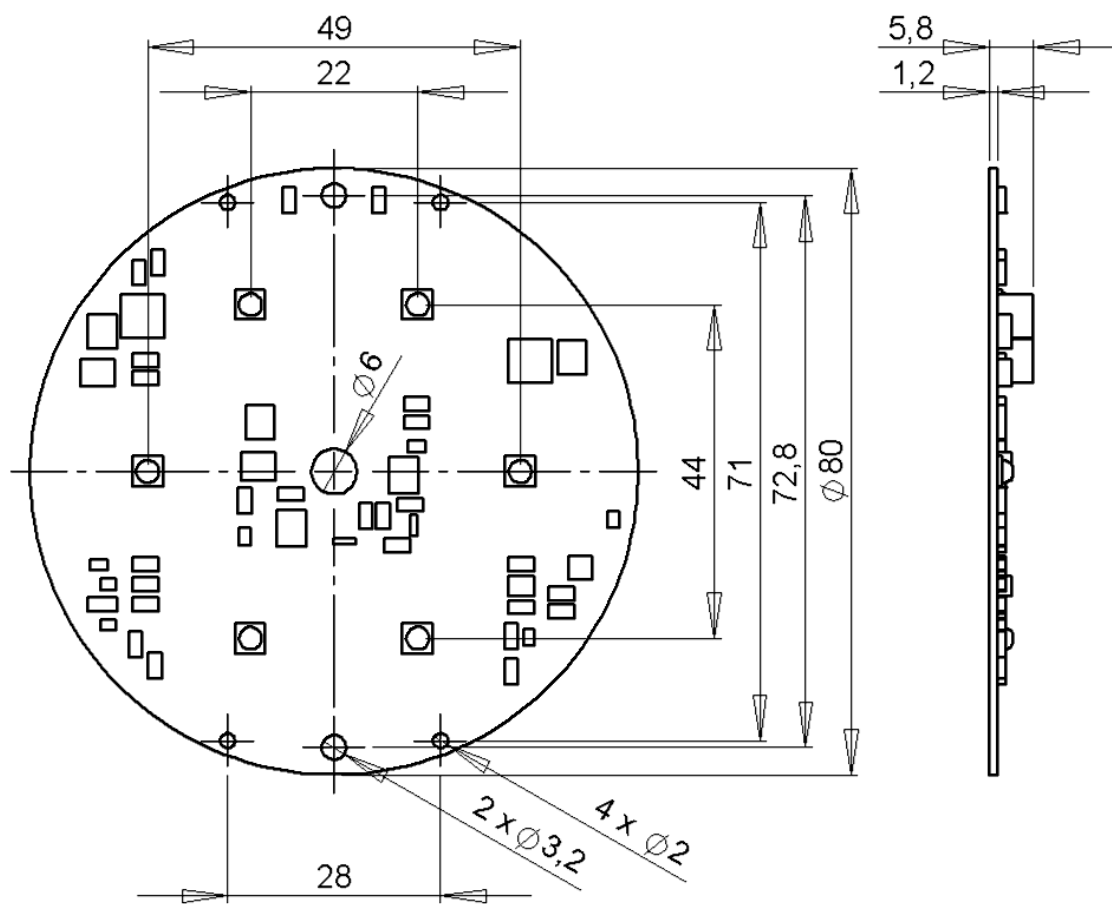


Fig. 1. Technical drawing of LUMO 6XP ALU module (in mm).

Safety information

1. Modules must not be weight mechanically to work safe.
2. Montage elements must not destroy LEDs or paths on the board.
3. Installation of modules (with driving circuits) must be done according to all valid electric and safe standards.
4. It is important to take into consideration the bad influence of electrostatic charge on LED diodes. Before installation charges on your skin should be neutralised by touching metal parts of grounded elements (e.g. copper pipe, tap, etc.).
5. It is recommended to keep LED die temperature below 85°C. In order to draw heat away from LED junction external heat sinks can be used. Parameters and dimensions of heat sink can be calculated using proper formulas. Each application, depending on number of LEDs, power, montage and many other parameters, needs to be considered separately.
6. The LED module may consist of elements that are not corrosion resistant. A user should provide safe work conditions of the circuit. LEDIKO products can not be subject to complaint on the basis of damage caused by humidity or chemical conditions.
7. LEDIKO modules are not appropriate to be used outdoor or in conditions that may cause damage to electric parts (e.g. low or high temperature, humidity, inappropriate chemical conditions). In such applications it is necessary to use a special fixture with proper IP rating.
8. The fixture should fulfil the following requirements:
 - optical transparency from the light emitted side,
 - UV protection (in case of exposure to sunlight),
 - drawing heat away, to keep safe work environment of the circuit,
 - resistance to the heat produced by LEDs,
 - low permeability in all climate conditions.

Montage information

1. LED modules must be connected to power supply according to all valid electric and safe standards. Before switching power on it is required to check all electric connections and make sure that power supply has proper electric parameters.
2. It is very important to mount the module to an element which helps to draw heat away (e.g. aluminium plate, heat sink). If using screws in order to montage, a separator, such as silicone, mica, silicone paste or other material that conducts heat, is required between heat sink and the substrate of the module. Such a separator needs to be used, because it helps to transfer heat from the substrate to the heat sink and improves LED work conditions. The module can also be mounted to the heat sink using special thermally conductive glue or tape.
3. Depending on the power of supply it is important to use a heat sink with proper thermal resistance. When power supply is 10W, the heat sink should have maximum thermal resistance at a level of 4,5 K/W, which corresponds to e.g. aluminium sheet, 2 mm thickness and 225cm² area (e.g. 15 cm side square).
4. There are examples of LUMO 6XP ALU connections on the following page. It is recommended to supply modules using special voltage switching power supplies of output voltage 24V. It is important that the power rating of a power supply is equal to at least a sum of power of all connected modules. There are more possibilities of proper supplying LED modules than shown in the picture.
5. The LED module has an optional brightness regulation circuit with 1-10V signal. External driving signal should be connected between connectors “-” and “DIM” according to the picture. Using the brightness regulation circuit is optional.

Typical connections (examples)

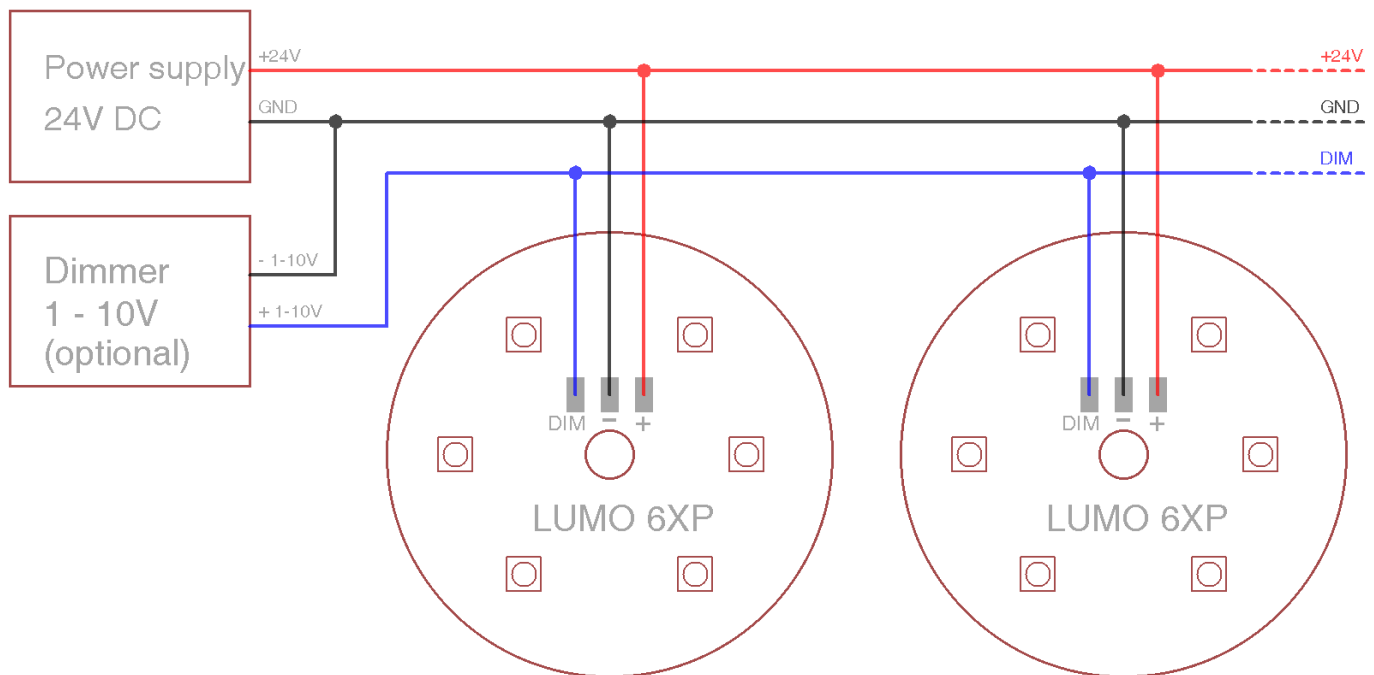


Fig. 2. Connecting of modules with a stabilised voltage power supply (24V DC)

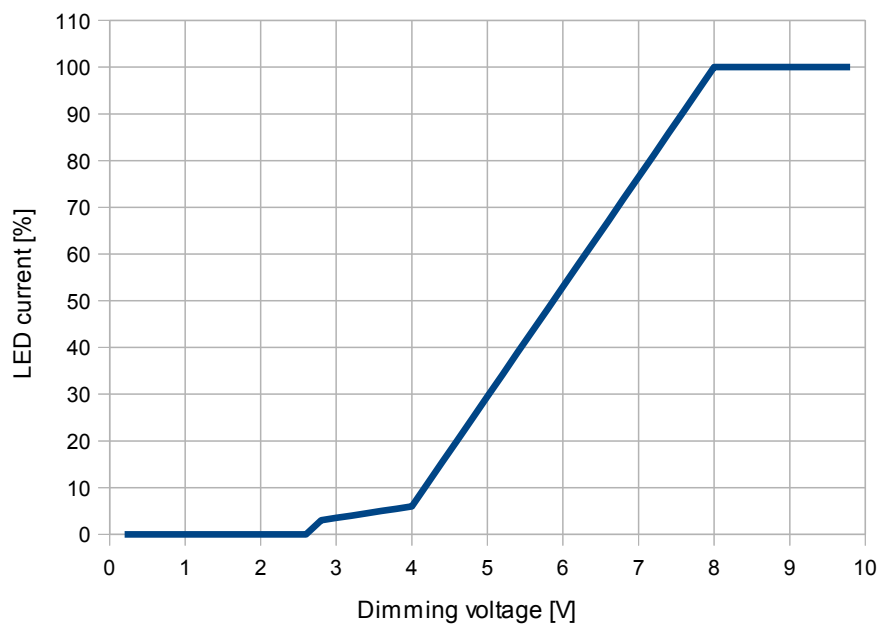


Fig. 3. Characteristics of LUMO 6XP ALU dimming.

Order details

LED Module	Colour	CCT	Power (typ.)	Min. luminous flux
LUMO 6XP-E ALU CW1	Cool white	6500 K	10W	887 lm
LUMO 6XP-E ALU CW2	Cool white	6500 K	10W	761 lm
LUMO 6XP-E ALU NW	Neutral white	4300 K	10W	761 lm
LUMO 6XP-E ALU WW	Warm white	3000 K	10W	656 lm

Optional white XP-G, XP-C or colour XP-E, XP-C LEDs for request.

When placing an order please state:

- 1) Name and surname,
- 2) Company name,
- 3) Company Tax Identification Number,
- 4) Address of the 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 different from the company address).

We encourage you to contact us and place orders.

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