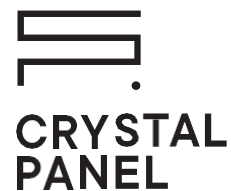


TECHNICAL DATA SHEET

CRYSTAL PANEL LED Double



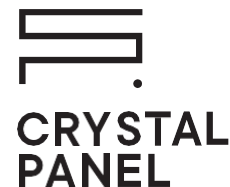
- 01 / CONFIGURATION OF THE LIGHT**
- 02 / ELECTRICAL PARAMETERS**
- 03 / TECHNOLOGY, MATERIALS TO BE APPLIED AND DISTANCES**
- 04 / INSTRUCTIONS CONCERNING INSTALLATION**
- 05 / DURABILITY AND LIMITATIONS OF APPLICATION**
- 06 / LIGHT DIFFUSING MATERIALS**
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- 08 / INFORMATION CONCERNING THE USAGE AND WARNINGS**
- 09 / FINAL REMARKS**

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CRYSTAL PANEL LED Double



01 / CONFIGURATION OF THE LIGHT

a. Illuminated edges:

- Depending on the expected light effect and panel size: one (UNO), two (DUO) or four (QUATTRO) illuminated edges.
- UNO backlighting can be implemented up to a maximum length of 500 mm light path

b. Standard colour temperature:

- 3 000K, 4 000K, 5 000K, 6 500K
- RGB
- There is no technical possibility of using LED strips: RGBW and Multi White
- Other colour temperature values are available upon request

c. Standard for 12V installations: a flexible LED strip with an output power of 17W/running meter, SMD 2835 LEDs, 102 crystals/running meter, and module length of 29.6 mm

d. For 24V installations, we are using: a flexible LED strip with an output power of 21W/running meter, SMD 2835 LEDs, 100 crystals/running meter, and module length of 59.2 mm

e. On Upon the Customer's request we can provide strips with other parameters.

02 / ELECTRICAL PARAMETERS

a. Voltage supply:

- Standard: 12/24V

b. Power supply type: we recommend MeanWell impulse power supply

c. Temperature of panel during work measured on the radiator:

- 38-40° C - may vary depending on when the product is placed and the method of installation

d. Current consumption:

- 12V: 1.4A/running meter of LED strip
- 24V: 0.9A/running meter of LED strip
- RGB 12V: 2.4A/running meter of LED strip
- RGB 24V: 1.2A/running meter of LED strip

e. Power Consumption:

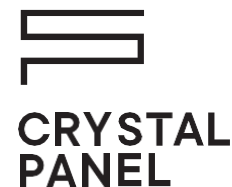
- 12V: 17W/running meter of LED strip
- 24V: 21W/running meter of LED strip
- RGB 12V: 28.8W/running meter of LED strip
- RGB 24V: 28.8W/running meter of LED strip

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CRYSTAL PANEL LED Double



f. CRI/RA:

- Standard: >85
- Upon the Customer's request: >90 and >97 possible

g. Controllers:

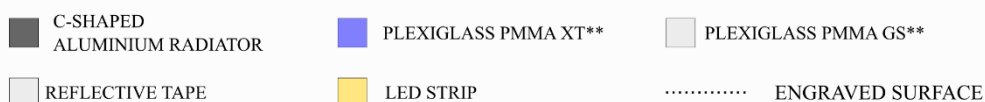
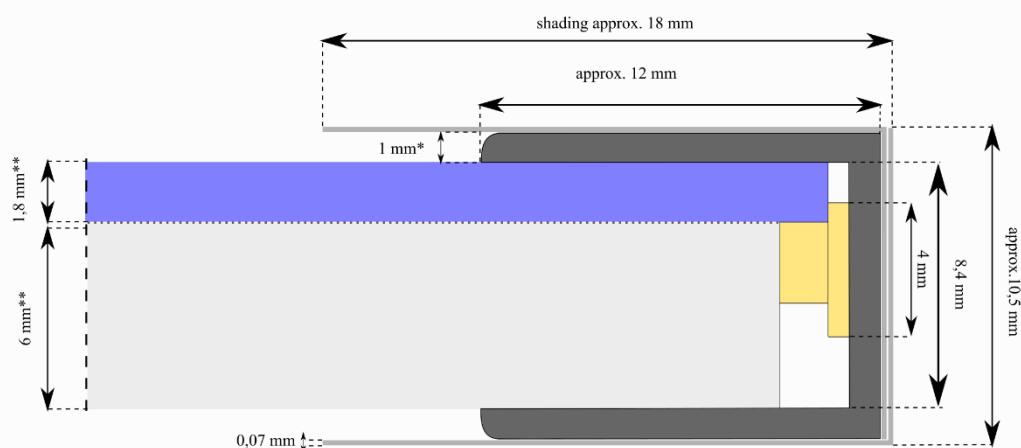
Dimmers, interrupters and other diode controllers suitable for constant voltage supply of 12 and 24V respectively.

03 / TECHNOLOGY, MATERIALS AND DISTANCES

a. CPL Double components:

- Engraved Plexiglas PMMA GS
- PMMA XT
- Adhesive reflective tape – PP on aluminium base, acrylic adhesive
- Radiator - anodized C-shaped aluminum profile
- Flexible, constant voltage LED strip

TECHNICAL CROSS SECTION DIAGRAM CPL DOUBLE



* Profile thickness tolerance +/- 10%

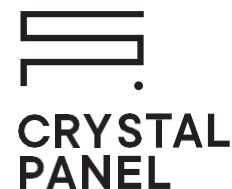
** Material tolerance +/-20%

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TECHNICAL DATA SHEET

CRYSTAL PANEL LED Double



b. Plexiglass thickness:

- PMMA GS: 6 mm
- PMMA XT: 1.8 mm

c. **Applied materials:** PMMA, aluminium, polypropylene, high-impact polystyrene

d. **Engraving patterns:** dots

e. **Weight:** 9.84 kg/m² +/- 20% (PMMA material tolerance)

f. **Possible overall dimensions of the panel:**

- Max. size: 1200 x 800 mm

g. **LED module length:**

- LED 12V: 29.6 mm
- LED 24 V: 59.2 mm
- RGB 12V: 25 mm
- RGB 24V: 50 mm

h. **Length of the illuminated edge:**

In order for the surface to be evenly illuminated, the total length of the illuminated consists of multiplication of the LED module length and the tolerance for making the solder connection (5 mm)

i. **The required distance between the panel and the light diffusing material**

- CPL Double - without distance

j. **Shapes available:**

- The recommended shape of the panel is a rectangle or a square, which is optimal due to the appropriate configuration of the illuminated edges and uniformity of surface illumination

k. **It is not possible to install the LED strip in the milling cutter.**

l. **As a standard, a power cord or cords are routed out of each Crystal Panel product, depending on the design provided by the customer or the need for an additional power supply (conditions specified in the manufacturing standard). All power cords must be connected directly to a power supply or an installation of a power supply adapted to the project requirements.**

m. **Length of the power cord:**

- In case of standard orders: we use SMYp 2x0.35 cords, 1500 mm long.
- Upon the Customer's request: Other lengths of power cord are available (above the standard for an additional fee) and after agreement with the Consultant, considering the voltage drops.

n. **External dimension tolerance:**

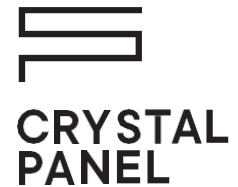
- Panel size up to 0.5 m² ≈ -1 mm from the nominal size
- Size greater than 0.5 m² ≈ -2 mm from the nominal size

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TECHNICAL DATA SHEET

CRYSTAL PANEL LED Double



o. Thickness tolerance of matrix/panel /opal:

- +/- 20% (PMMA manufacturing tolerance)

p. Radiator thickness tolerance:

- +/- 10%

04 / INSTRUCTIONS CONCERNING INSTALLATION

a. Recommended method of installation

- Directly in a properly shaped piece of furniture or other structure
- Using other support or shaped brackets

b. Non-standard installation method:

- By screws through drilled or laser cut holes (subject to additional charge)
- In wooden frames
- In a relaxed state

c. Thermal expandability of plexiglass: 0.065 mm / m / ° C (in all directions)

The aforementioned methods or other non-standard methods of installation have to be determined with our Consultant as they can affect the selection of materials to be used, the production process or the method of securing particular elements of the product.

05 / DURABILITY AND LIMITATIONS OF APPLICATION

a. Expected diode life span:

- Minimum 50.000h (with a proper power supply and at optimum operating temperature)

b. Optimum working temperature range:

- 10 to 25 °C (in a condensation-free environment)

c. Protection class: IP40

LED panel cannot be exposed to direct contact with water. Indoor use only.

06 / LIGHT DIFFUSING MATERIALS

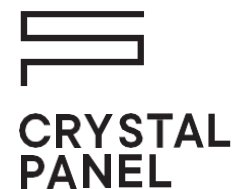
a. The panel, as a lighting component, is not intended for direct display. Due to the possibility of scratching the surface, which significantly affects the quality and esthetics of illumination, the panel should always be placed under a suitable light-diffusing material.

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TECHNICAL DATA SHEET

CRYSTAL PANEL LED Double



b. Standard backlight materials (diffusing light):

- backlit film,
- polyester fabric

c. Opal:

- min. 3 mm thick
- with an appropriate angle of light diffusing index

d. Stone:

- with appropriate thickness and angle of light diffusion
- before finalizing the order, we recommend carrying out a light diffusion test using our sample product or prototype

e. Other materials intended for translucent illumination:

- before finalizing the order, we recommend carrying out a light diffusion test using our sample product or prototype

07 / BEFORE PLACING THE ORDER

a. Measurements:

- During the measurement of a place where the panel is to be installed, please pay attention to angular deviations. Always use the appropriate tolerance for possible thermal expansion of the panel.
- Remember that the outer dimensions of the panel are not the same as the dimensions of the illuminated surface! Your design should include shaded areas (please refer to the CPL Standard of Production.
- Depending on the dimensions of the luminous space, make sure there is proper distance to diffuse the light
- The thermal expandability of plexiglass should be also taken into consideration when you design the location and size of the fixing holes

b. Placement of the power supply:

- Find the proper place to install the power supply to provide its proper cooling and availability in case of malfunction
- The cord length from the power supply to the panel should not exceed 2.5 m due to voltage drops. In special cases, when the cord will have to be longer, please contact the Consultant - he will find the right solution in each case!

08 / INFORMATION CONCERNING THE USAGE AND WARNINGS

a. It is recommended to:

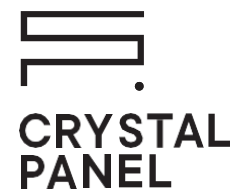
- Transport the panel in the original packaging, possibly in vertical position, carry it like the sheet of glass

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CRYSTAL PANEL LED Double



- Store and transport vertically, avoid unnecessary loads on the illuminated edges (especially heat and impact loads), pay special attention to the places where the cords exit.
- Remove the protective foil from the panel ONLY during the final stage of installation
- Clean the panel using a window cleaner with low alcohol content (such as Clin Anti-Fog) and with a soft cloth or paper towel
- Protect the edges with LEDs from accidental damage or ripping off the power cord
- Pay particular attention to the power supply voltage, make sure that the power cord of the panel is not connected to 230V mains

b. It is not allowed to:

- Stick the graphics, adhesive tapes, foils and other materials directly on the panel surface
- Overload the panel
- Pull by the cord
- Place the panel in water
- Bend the panel in a manner not covered by the project. Any planned bending of the panel should be discussed in advance with the Consultant.
- Mount the frame by gluing its back surface to the substrate (wall)
- **cut additional supply wires or modify the power supply system in any way without the authorisation of the manufacturer**

09 / FINAL REMARKS

- a. Any modifications made without the written consent of the Producer will void the warranty.
- b. **Please note that any changes made to the power supply, incorrect connections, or interference with the product's structure will void the warranty. This is unless the manufacturer has been informed and given consent**
- c. The warranty does not apply to small scratches, structural defects, microdamage, or contamination (e.g., adhesive residues of the protective film that cannot be completely removed) occurring on any surface that do not affect the proper diffusing of light through the 3 mm Opal Duo Satin Plexiglas placed on that surface.
- d. In special and mutually agreed-upon cases where the panel is intended for direct display (not recommended and at the customer's express request), scratches, structural errors, or other contamination or microdamage that are not clearly visible to the naked eye from a distance of arm's length are not covered by the warranty. However, the need for direct exposure of the panels must be reported at the time of preparing a quotation and when placing an order.
- e. In case of any doubts concerning the application of our products, we encourage you to contact Crystal Panel Consultants.

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