

# Technical data

**CODE:** UNIVERZAL, 551931 NEW GENERATION

**PRODUCT:** LED MODULE PB-1 - NEW GENERATION

**NOTE:** TECHNICAL DATA

**IMAGE:**



**LAST UPDATE:**

9/2021



CATEGORY

LED TECHNOLOGY

**DENCOP**  
LIGHT & BUILDING

# LED MODULE PB-1



## Model PB-1

9 x 6,8 x 4,8 - 1 LED, High efficiency 2835 SMD LED, transparent cover, injection series, 12 V DC; 0,13W; constant voltage, waterproof module

### Features:

- 2835 SMD LED with low attenuation and long lifespan
- Standard cascade to 100 pcs
- Beam angle 120°
- Can be cut between every unit
- UL, CE, RoHS approved

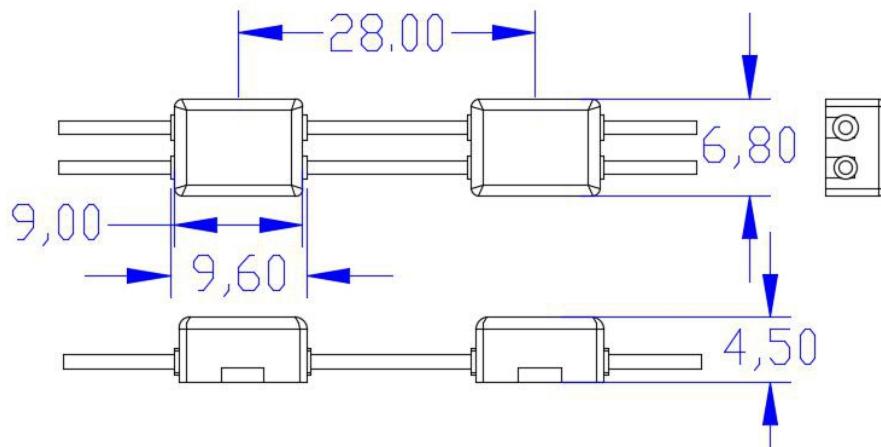
### Applications

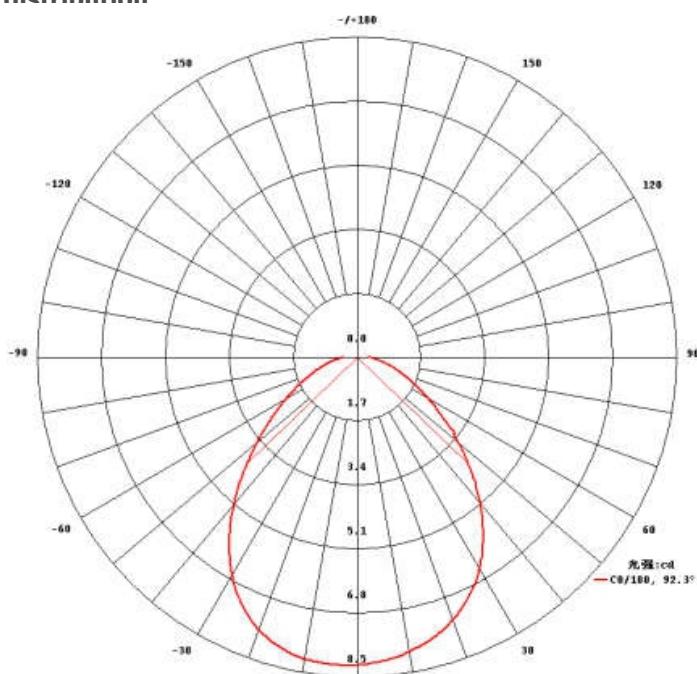
Suitable for 3-10 cm depth letter  
Resin letter, mini letter, small letter

### Warranty

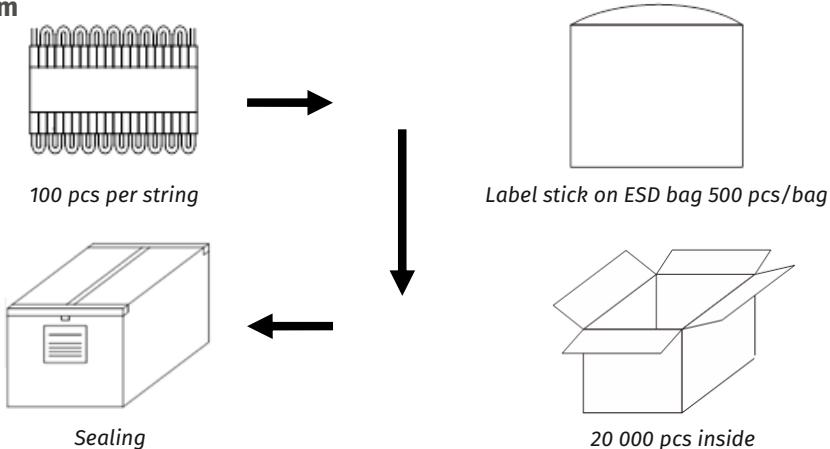
| Model                           | PB-1           | PB-1 (551931) | Notes: |
|---------------------------------|----------------|---------------|--------|
| LED color                       | White          | White         |        |
| CCT (K)                         | 2700 - 12000 K | 6800 K        |        |
| CRI                             | ≥ 75           | ≥ 75          |        |
| Beam angle                      | ≥ 120°         | ≥ 120°        |        |
| Luminous flux                   | 22 - 25 lm     | 24 lm         |        |
| Luminous efficacy               | 150 lm/W       | 150 lm/W      |        |
| Working voltage                 | 12 VDC         | 12 VDC        |        |
| Power                           | 0,13 W/pcs     | 0,13 W/pcs    |        |
| IP grade                        | IP67           | IP67          |        |
| Operating temperature °C        | -25 ~ +60°C    | -25 ~ +60°C   |        |
| Storage temperature °C          | -25 ~ +70°C    | -25 ~ +70°C   |        |
| Standard cascading qty          | 100 pcs        | 100 pcs       |        |
| Single-ended max. cascading qty | 100 pcs        | 100 pcs       |        |
| Double-ended max. cascading qty | 200 pcs        | 200 pcs       |        |
| Weight (g/piece)                | 0,5 g/pcs      | 0,5 g/pcs     |        |

### Dimension



**Light distribution****Packaging information**

| P/N  | Qty (pcs / bag) | Qty (bag / carton) | Total qty (pcs) | Total weight kg | Length mm | Outer carton Width mm | Height mm |
|------|-----------------|--------------------|-----------------|-----------------|-----------|-----------------------|-----------|
| PB-1 | 500             | 40                 | 20 000          | 10,5            | 520       | 300                   | 280       |

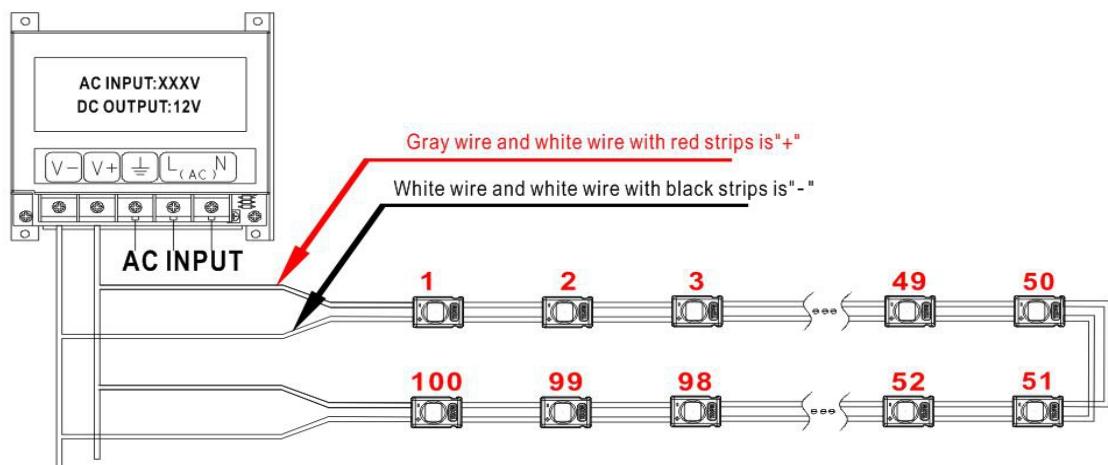
**Packaging diagram**

**Remark:** The above packing quantity and weight only refer to the packing method as shown in the diagram. When other packing methods are adopted, there will be differences in the packing quantity and weight. Please subject to the actual product.

**1. Installation**

Wiring instructions (connection 1, double-sided power connection, the longest cascade is 100 pcs) as shown in the figure below:

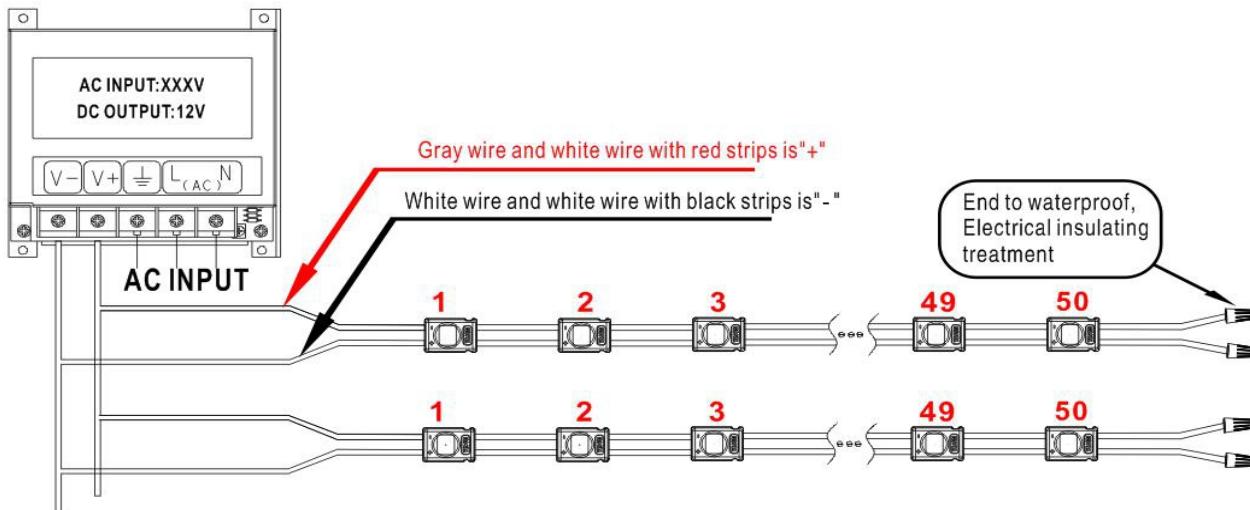
**Remark:** The positive and negative wire need to correctly connect to the positive and negative terminals of the power supply output.



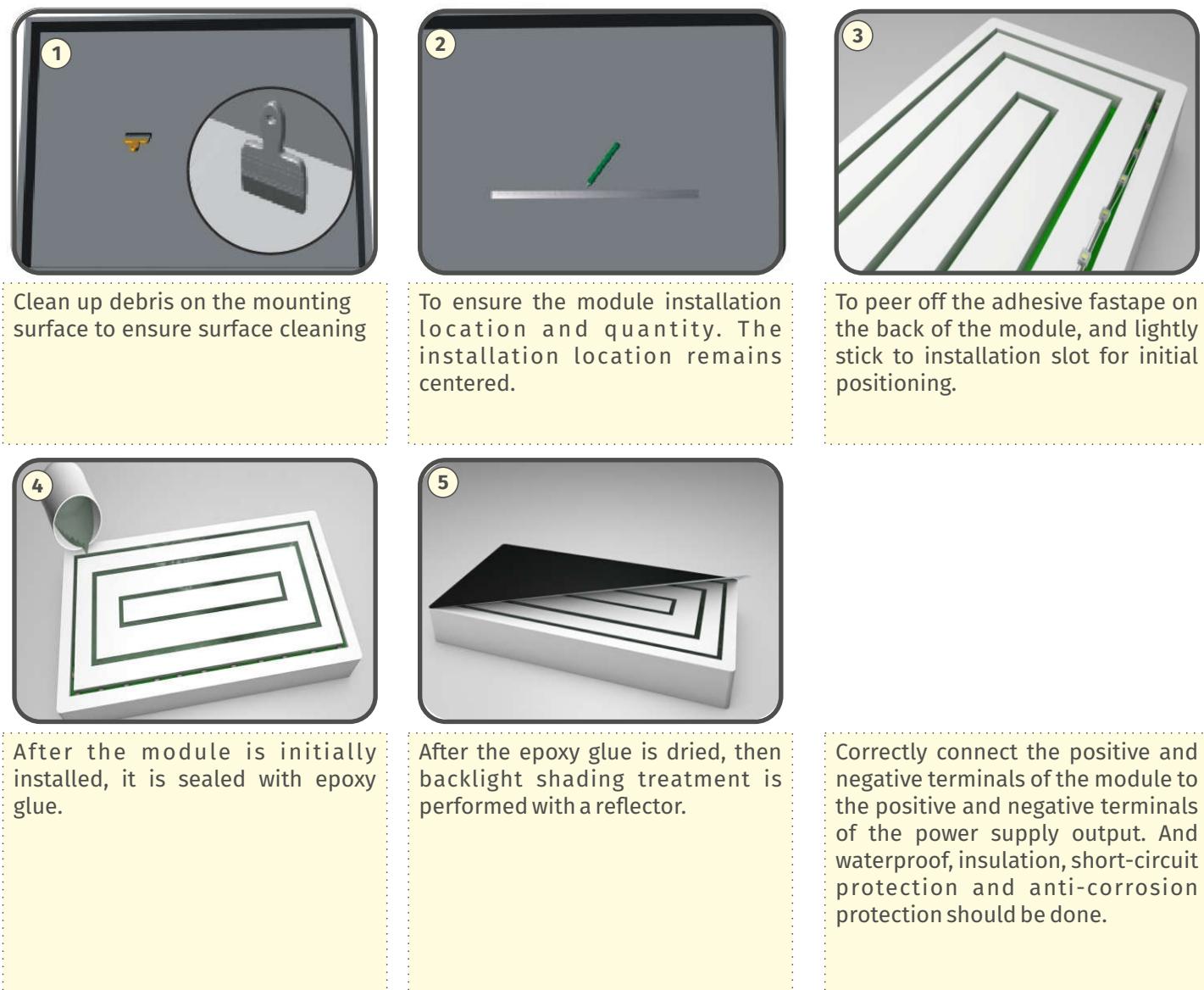
## 1. Installation

Wiring instructions (connection 2, single-sided power connection, maximum cascading is 50 pcs) as shown in the figure below:

**Note:** When the module power is 0,13W, single-sided power supply (connection2) is 100 pcs, double-sided power supply (connection 1) is 200 pcs.



### Installation steps



## Common faults of products and troubleshooting methods:

| FAUL PHENOMENON  | POTENTIAL CAUSES   | SOLUTIONS  |
|--|--|--|
| All LEDs are off   | <ul style="list-style-type: none"> <li>▶ 1. The power si off</li> <li>▶ 2. Automatic protection of the power supply after the output of the switching power supply is open or shorted.</li> <li>▶ 3. LED strip with power supply terminal polarity reverse.</li> </ul> | <ul style="list-style-type: none"> <li>▶ Power transmission</li> <li>▶ Trouble shooting and recovering the power supply</li> <li>▶ Check the wire connection to ensure correct connection and positive and negative wire</li> </ul>  |
| Same of LEDs are off   | <ul style="list-style-type: none"> <li>▶ 1. Part of the switching power supply isn't powered</li> <li>▶ 2. Part of the electricity supply line error</li> <li>▶ 3. Partial led strips with reverse polarity connection</li> </ul>                                      | <ul style="list-style-type: none"> <li>▶ Check the power supply system and troubleshoot</li> <li>▶</li> <li>▶ Correct connection</li> </ul>  |
| LED brightness is not the same or the brightness is not enough | <ul style="list-style-type: none"> <li>▶ 1. Power overload</li> <li>▶ 2. Switching power supply line or circuit loss is too large</li> <li>▶ 3. Over ocnnction of LED strips</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Replace it with higher power supply</li> <li>▶ Ensure that the operating voltage of the led strips is within ±5% of the rated voltage. <b>1.</b> Cut the length of the wire between the strip and the power cord or use wires with larger diameter; <b>2.</b> Ensure that the number of each led strip is less than or equal to the maximum allowable cascade; And make each strip with a similar connection</li> <li>▶ Adjust the number of strips for each power supply and to meet the maximum connection requirements for each power supply.</li> </ul> |
| LED flashing   | <ul style="list-style-type: none"> <li>▶ 1. Poor contact at the wiring point</li> <li>▶ 2. Switching power supply failure</li> </ul>   | <ul style="list-style-type: none"> <li>▶ Find out the bad points and troubleshoot</li> <li>▶ Replace the switching power supply</li> </ul>   |

### Statement

- If the external cord of the product is damaged, it should be replaced by the manufacturer or its service agent or a similarly qualified person to avoid danger.
- For the specific installation and precautions of the product, please refer to the product manual.
- The data above in this specification is based on standard products. Actual shipments may be a little difference. Please refer to the actual product.
- All product drawings in this specification are schematic diagrams, and actual shipments may be a little difference. Please refer to the actual product.
- This product is subject to change without notice.

## Precaution

- Primarily designed for illuminated 3D plexiglass blocks and for outdoor installation it is necessary to pour gel (Wepuran) in the groove of the led modules.
- The modules are not designed for humid or wet environments.
- When the module is fixed, glue (silica gel, glass glue, hot melt glue) will be needed, but acid glass glue cannot be used.
- Due to the small size of the module, the injection part of the module cable and the module shell is only 1-1.5mm, so the module cable cannot be bent forcefully.
- The outlets at both ends of the module should be waterproofed, and electrostatic touch and live work are strictly prohibited.
- It is recommended to use a qualified switching power supply (with short-circuit overvoltage, overload protection, and safety certification).
- The switching power supply generally only uses 80% to 90% of the power. The power supply and the controller must work in a ventilated, dry environment.
- Please connect according to the positive and negative poles marked on the shell, the gray wire is connected to the positive pole of the power supply, and the white wire is connected to the negative pole of the power supply.