

# Technical data

**CODE:**

531321

**PRODUCT:**

LED MODULE D165-1

**NOTE:**

TECHNICAL DATA

**IMAGE:****LAST UPDATE:**

8/2021



CATEGORY

**LED TECHNOLOGY**

# LED MODULE D165-1

|    |      |          |       |                |        |       |         |
|----|------|----------|-------|----------------|--------|-------|---------|
| CE | RoHS | 2835 SMD | 1 LED | Injection Lens | DC 12V | IP 65 | 5 years |
|----|------|----------|-------|----------------|--------|-------|---------|

## Model D165-1

1 pce 2835 SMD LED, 35 x 16 x 6 mm, white shell equipped with optical devices, injection series, 12 V DC, constant current, LED module

## Features:

- Unique hard-edged shape, high-end and elegant
- 2835 SMD LED with low attenuation and long life
- Standard cascading qty up to 50 pcs
- Beam angle 160°
- Can be cut between every unit
- CE, RoHS compliant

## Applications

Optimal for 3 - 8 cm depth channel letter

## Warranty

5 years or 22 000 hours, whichever comes first

| Model                           | D165-1       |
|---------------------------------|--------------|
| LED color                       | Pure white   |
| CCT (K)                         | 7000 K       |
| CRI                             | ≥ 75         |
| SDCM                            | -            |
| Beam angle                      | 160°         |
| Luminous flux                   | 42 lm        |
| Luminous efficacy               | 117 lm/W     |
| Working voltage                 | 12 VDC       |
| Working current                 | 30 mA        |
| Power                           | 0,36 W/pcs   |
| IP grade                        | IP65         |
| Operating temperature °C        | -25 ~ +60°C  |
| Operating temperature °F        | -13 ~ +140°F |
| Storage temperature °C          | -25 ~ +70°C  |
| Storage temperature °F          | -13 ~ +158°F |
| Standard cascading qty          | 50 pcs       |
| Single-ended max. cascading qty | 50 pcs       |
| Double-ended max. cascading qty | 100 pcs      |
| Weight (g/piece)                | 4,84 g/pcs   |
| Weight (lb/piece)               | 0,011 lb/pcs |

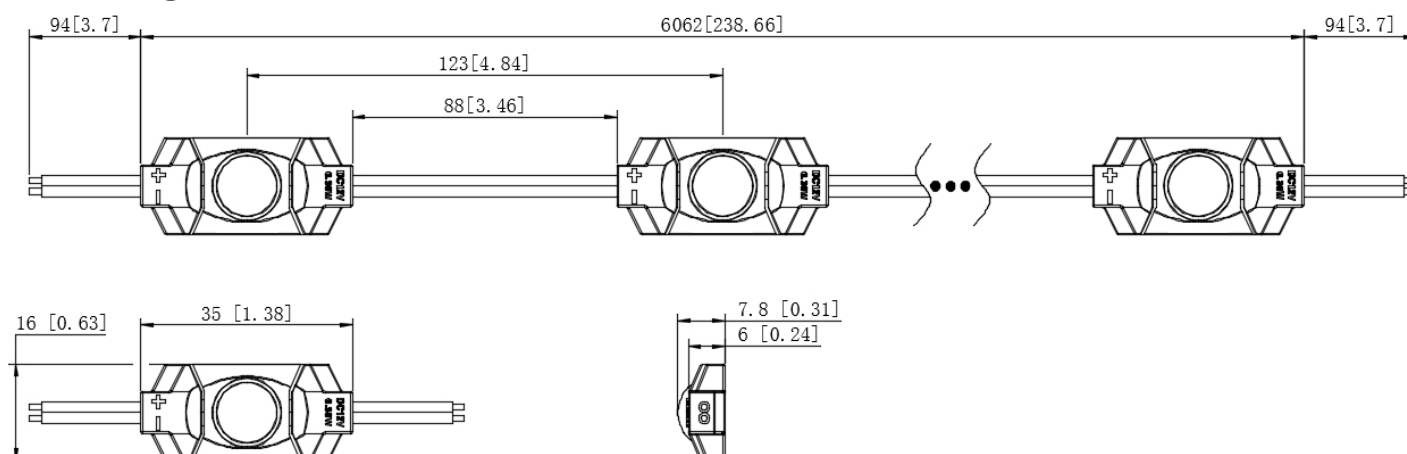
## Notes:

(1) Testing environment temperature: 25±2°C (77±3,6°F)

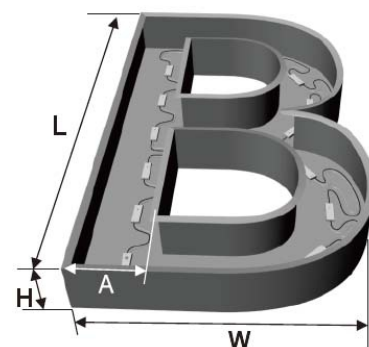
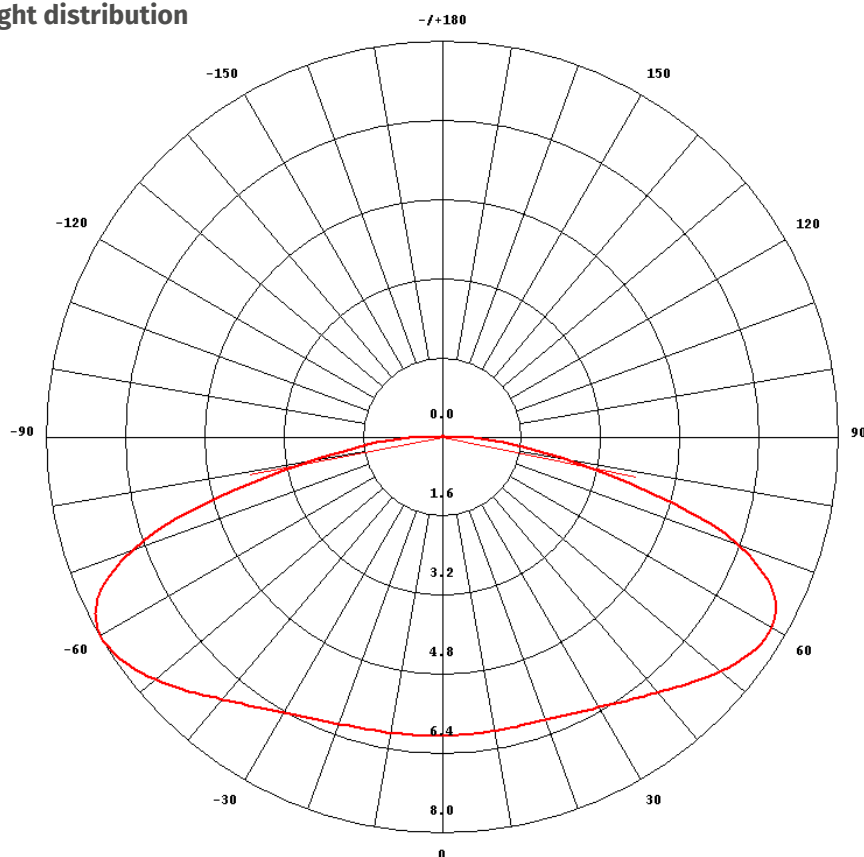
(2) The actual data of each single product may differ from above typical data witch are subject to change without prior notice

(3) The above „--“ means the parameters are not required temporarily

## Profile drawings



## Light distribution



## Layout data

| Channel letter    |                       |               |                        | LED Module                    |                 |  | Surface illuminance range (lux) |
|-------------------|-----------------------|---------------|------------------------|-------------------------------|-----------------|--|---------------------------------|
| Main width A (mm) | Main thickness H (mm) | Size L*W (mm) | Area (m <sup>2</sup> ) | Max. arrangement spacing (mm) | Total qty (pcs) | Installing density (pcs/m <sup>2</sup> ) |                                 |
| 85                | 80                    | 650 x 320     | 0,14                   | 85                            | 18              | 129                                      | 2 200 - 2 600                   |

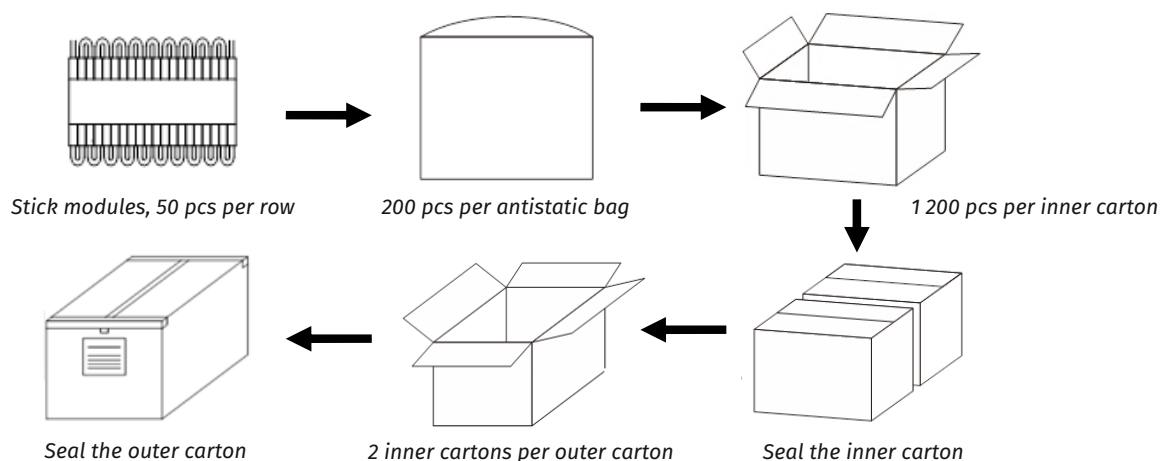
## Notes

- (1) The above data is tested from the modules with color temperature of 6 500 K
- (2) The above light box uses acrylic white board with 3 mm depth and 54,4% light transmittance
- (3) The above illuminance is the minimum value tested on the even surface
- (4) The above data is for reference only

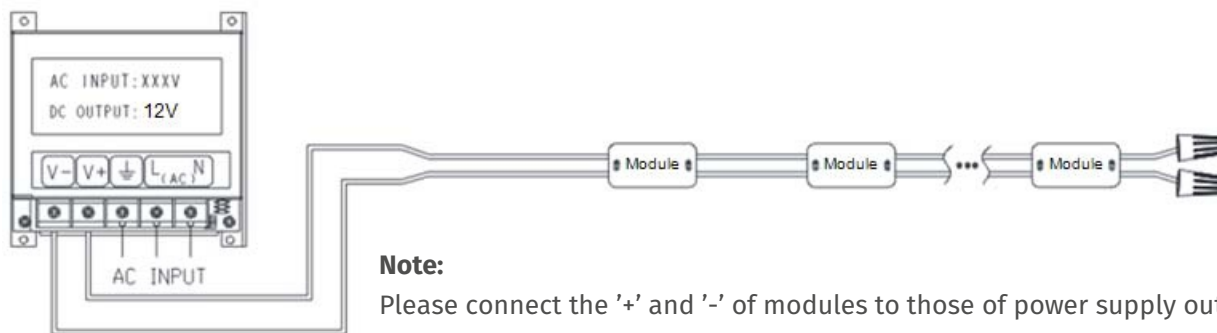
## Packaging information

| P/N    | Qty (pcs/ bag) | Qty (bag/ carton) | Total qty (pcs) | Total weight |       | Length |       | Outer carton Width |      | Height |      |
|--------|----------------|-------------------|-----------------|--------------|-------|--------|-------|--------------------|------|--------|------|
|        |                |                   |                 | kg           | lb    | mm     | inch  | mm                 | inch | mm     | inch |
| D165-1 | 200            | 12                | 2 400           | 13,4         | 29,48 | 528    | 20,78 | 376                | 14,8 | 272    | 10,7 |

## Packaging diagram



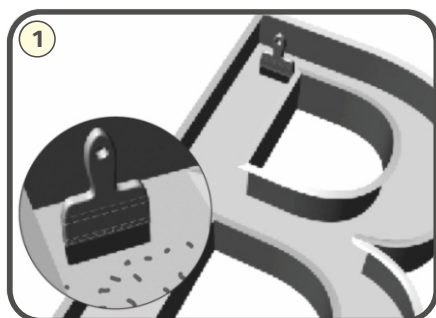
## Connection instruction



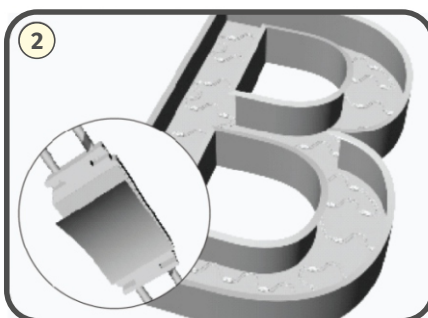
### Note:

Please connect the '+' and '-' of modules to those of power supply output correctly.

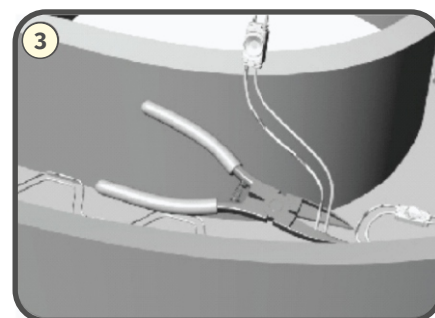
## Installation steps



Clean the mounting surface

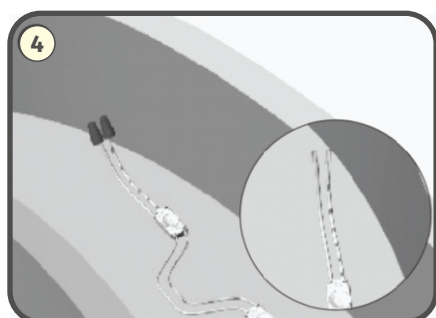


Peel off the release paper of double-sided adhesive tapes, then, stick modules on the installing surface for preliminary mounting

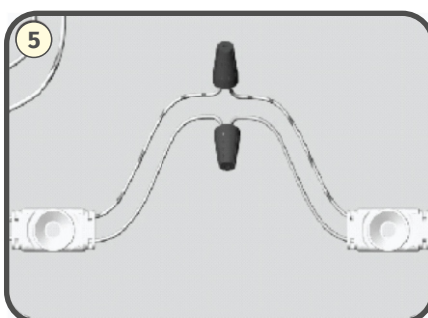


Cut off the modules to the desired qty, and peel off the insulation skin of wires about 10 mm

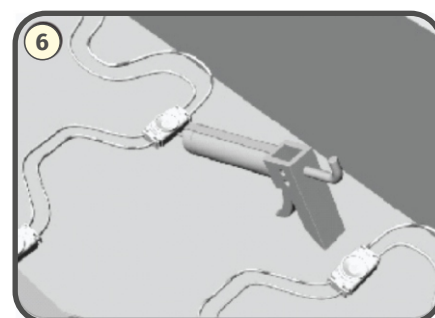
**Note:** Please cut from the middle of wires between modules



When the wires exposed on the last module, please peel off the insulation skin of wires about 10 mm each, then, screw in terminals respectively, and dispose with waterproof, insulation protection

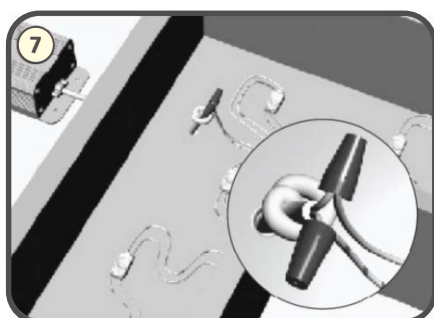


When connect the modules in series, peel off the insulation skin of wires of '+' and '-' about 10 mm each, then, screw in terminals respectively, and dispose with waterproof, insulation, anti-corrosion protection and short-circuit prevention



Adjust the modules to the best position, press the double-sided tape tightly and then fix by neutral glass glue

**Note:** The surface of modules, especially the position of LED, can't be covered by the neutral glass glue to avoid affecting product's performance



Please ensure that the '+' and '-' of the wires of modules are connected with those of power supply correctly, and dispose with waterproof, insulation, anti-circuit and anti-corrosion protection.

## Troubleshooting

| MALFUNCTIONS                         | POSSIBLE CAUSES  | SOLUTIONS   |
|--------------------------------------|--|---|
| All LEDs don't work                  | 1. The power supply did not connect to power grid  | Power on  |
|                                      | 2. The electricity due to short-circuit of external power supply                                     | Remove the malfunction caused by short-circuit, power on again  |
|                                      | 3. The wires of module connect to power supply output reversely                                      | Check the connecting and ensure the wires are connected correctly   |
| Part of LEDs don't work              | 1. Part of power supplies do not have output   | Check the power supply system   |
|                                      | 2. Part of module wires have malfunction   |   |
|                                      | 3. Particular module connected reversely   | Correct connection  |
| Brightness of LEDs is weak or uneven | 1. Overloaded power supply   | Replace it with higher power supply   |
|                                      | 2. The power loss of power circuit is huge or the power loss of each circuit existing big difference | Ensure working voltage of is within $\pm 5\%V$ of rated voltage<br>1. Shorten the length of wires between the first module and power supply or replaced with wires with bigger diameter; 2. Ensure the cascading qty of string is less than or equal to the allowed maximum cascading qty, and each module cascading qty is well-balanced |
|                                      | 3. Exceed in qty of modules in series  | Lessen the cascading qty for module and ensure the qty for each electrical circuit is within the maximum cascading qty.   |
| Brightness of LEDs is weak or uneven | 1. Poor contacted in the joints  | Find out and tackle malfunction immediately   |
|                                      | 2. Failures in power supply  | Replace power supply  |

## Declaration

- If the external flexible cable of light box is damaged, please replace it by its manufacturer or its service agent or qualified person to avoid a hazard.
- The specific installation and cautions please refer to the user manual.
- The given data in this specification is based on our standard product. There may be existed slight difference compared with actual products.
- All Illustrations in this specification are for reference only.
- This product is subject to change or modify without prior notice.
- DENCOP reserves the right of final explanation for this specification.