



QUAD SERIES

Model Number: P4002

PREMIUM WATERPROOF LED

GSB | CHANNEL LETTERS

Providing Brighter Solutions



Key Features



Direct **12V DC**
constant voltage



160° wide beam
angle for even
light distribution



IP65 - IP68
Dustproof &
Water resistant



High brightness
320LM/Module



3W Low power
consumption



Long service life
up to **30,000-
50,000 hours**



5 Years
Warranty



Compact &
Modular design



Strong **heat**
dissipation

Available Colors



10000K



4000K



3000K

*Other CCT and colors available on request.

Applications

Backlit Signage • Channel Letters, Acrylic Signs and Light Boxes

Architectural Lighting • For Accent Lighting in facades, monuments or interior decoration

Retail Displays • For product visibility in display cabinets or shelves

Exhibition and Event Stalls • For booths and panels for bright & attention-grabbing visuals

Advertising Boards • For Indoor and Outdoor Advertising

Automotive and Decorative Lighting • For custom vehicle lighting and decorative projects

QUAD DC • Technical Specifications

Electrical Specifications	
Module Name	BNZ QUAD Series
Model No.	P4002
Input Voltage	12V DC Constant Voltage
Power Consumption	4W / Module
LED Quantity	4 LEDs
Working Temperature	-20°C to +60°C
Storage Temperature	-30°C to +80°C
Standard Run	20 PCS
Maximum Series Run	20 PCS
Mechanical & Optical Specifications	
Module Dimensions	60 x 55 x 8 mm
Luminous Flux	320LM / Module
Beam Angle	160°
Color Rendering Index (Ra)	80+
Luminous Flux (LUX)	262LM / PCS
Color Temperature (CCT)	10000K, 4000K, 3000K
Mounting Type	Adhesive Tapes / Screws

Installations

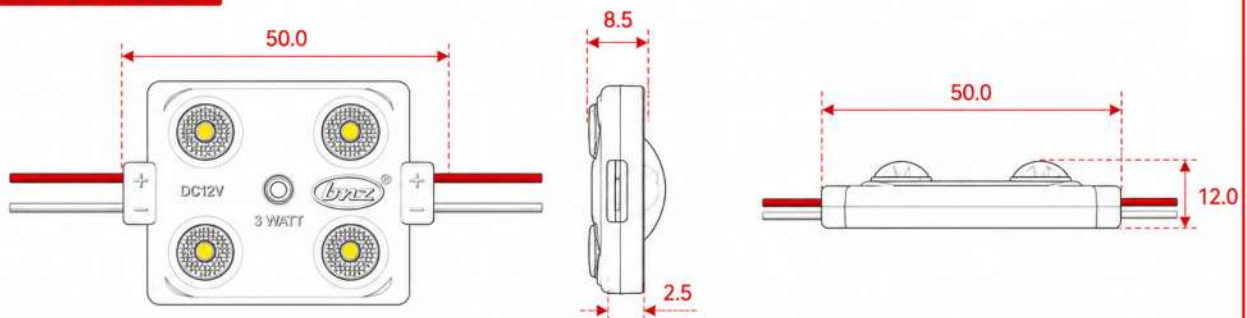
Fix by,
Adhesive tapes or screws.

Certifications & Compliance

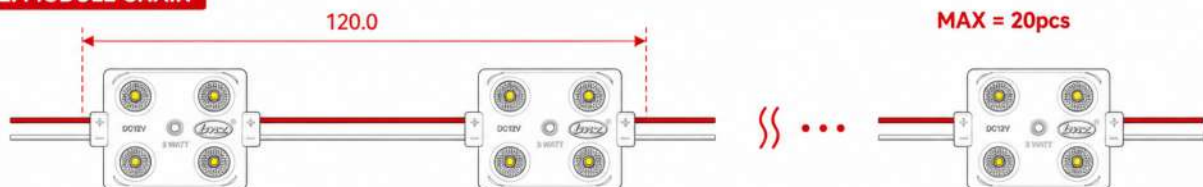


Profile Drawings

1. SINGLE MODULE



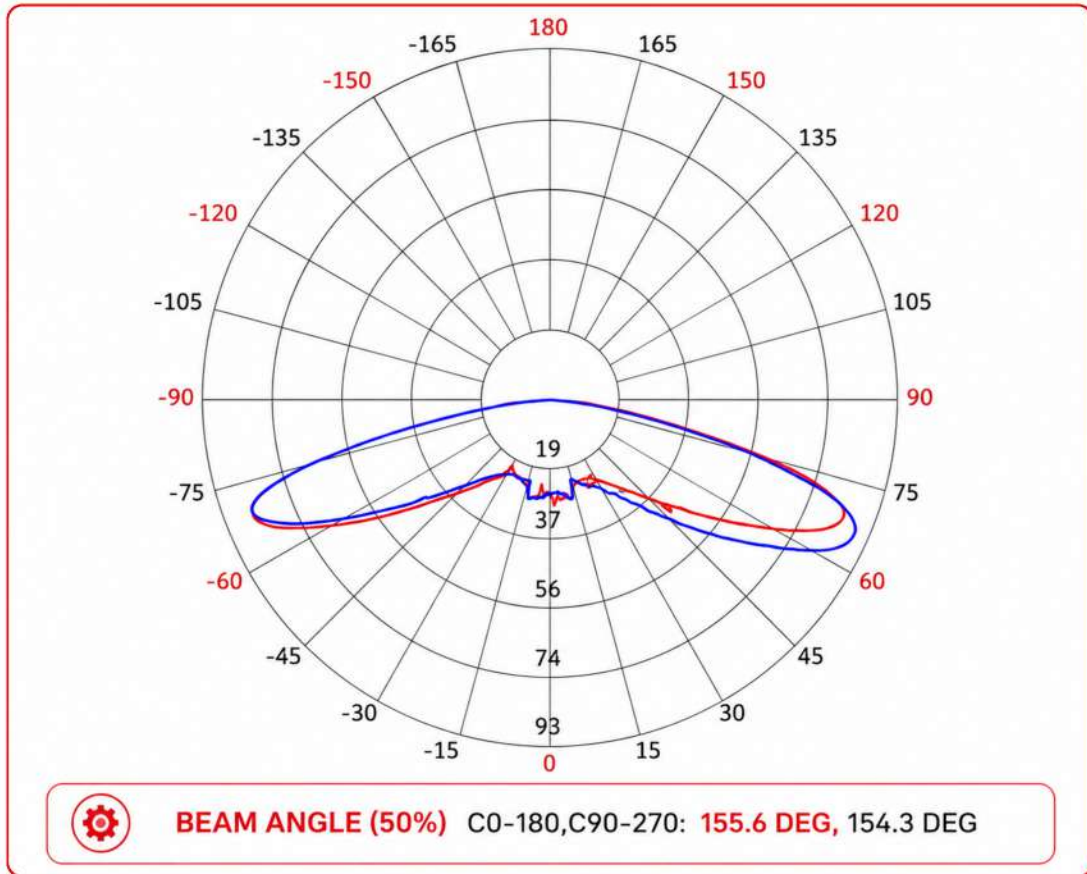
2. MODULE CHAIN



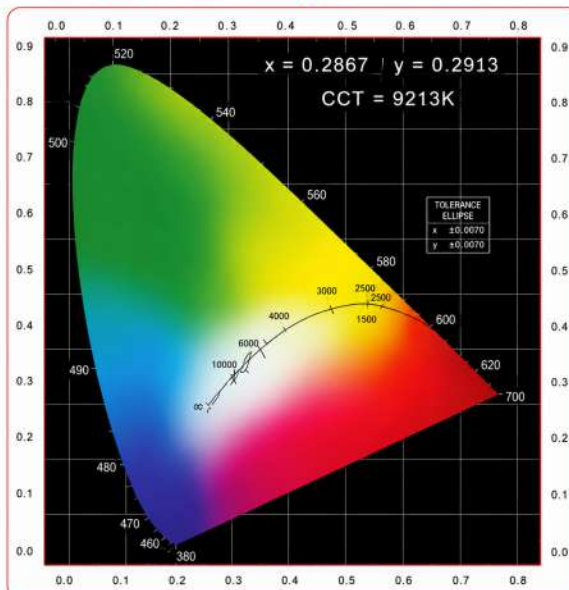
Note:

Dimension tolerance: length $\pm$ 0.2mm[0.008inch],
width $\pm$ 0.2mm[0.008inch],thickness $\pm$ 0.2mm[0.008inch];

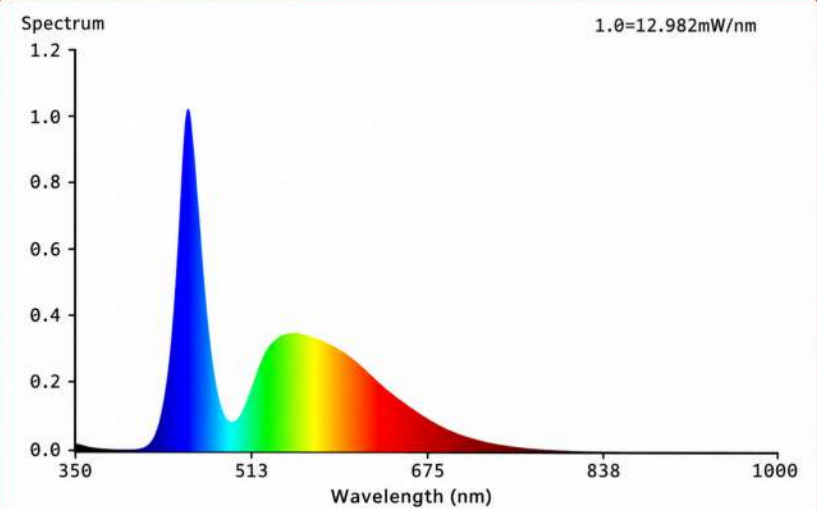
Luminous Intensity Distribution Analysis



CIE1931 EVERFINE®



SPECTRUM DISTRIBUTION



Peak Wavelength
513nm

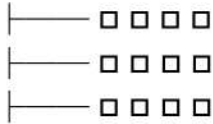


Spectrum Range
350-1000nm



Light Type
White LED Spectrum

Recommended Wiring Layout

Connection Method
Modules connected in parallels
Direct 220V AC Input
No external driver or SMPS required
Typical Wiring Layout [220V AC SUPPLY]

Best Practices
Maintain uniform spacing and proper earthing
Use waterproof joints / connectors
Installation must be carried out by qualified personnel
Avoid direct wire exposure in outdoor environments

Power Consumption Reference

Power per module = **4W**

Example: **30 Modules**

$30 \times 4W = \mathbf{120W}$ (Direct AC Load)

No external power supply required.

Packaging Details

Packaging Type	Quantity
Master Box	1000 PCS
Product Type	Waterproof LED Module
Installation	Waterproof plug-in connector
Protection	IP66 Waterproof

Attention before installation

- Before installation, check that the product parameters are consistent with the requirements. (Seeing product specifications or product labels)
- Load voltage, current power and power supply should be matched with the product.
- Follow the instructions of wiring diagram (first connect the load and then the power supply) to avoid short circuit.
- Make sure the correct connection of positive and negative poles between products and power supply. Otherwise, the LEDs do not turn on.
- Make sure the power cord firmly screwed into the terminal and a should not be pulled out by hands.
- The terminal should have insulation waterproof and anti-corrosive treatment.
- After installation, the fabric light box must be covered with cloth within 48 hours.
- Please avoid leaving the light box idle for a long time.

Important Installation Notes

- Designed for 220V AC direct connection.
- Ensure proper insulation and earthing.
- Suitable for outdoor and indoor signage.
- Maintain recommended depth & spacing.
- Use proper waterproof cable management.
- Follow local electrical safety standards.

Warnings

- Do not disassemble or retrofit the light. Do not touch the surface of the light with a sharp object.
- Do not do live-line working during installation especially for high voltage product.
- Do not use any organic chemical solvents Use neutral glass adhesive to fix this product and it needs to be dried 24 hours in the open environment after operation.
- Treat the ends and the circuit connection points that are not connected to the main line with insulation, waterproof, and anti-corrosion in the installation.
- Use 18AWG (0.75mm² cross-sectional area) or thicker core wire to avoid adverse consequences caused by overheating, if the power cable need to lengthen.
- Make sure the input voltage meets the requirements and lines are connected correctly before lighting on.
- This product is for signage, and do not use as general lighting.
- Series connection within the maximum run.
- The length of the power cable between the power supply and the led strip should not exceed 2m. Otherwise, large circuit loss will lead to inconsistent brightness.
- Installation, maintenance and repair should be operated by a qualified technician.

Statements

- Repair should be operated by a qualified technician, if the external circuit or main line of this product is damaged.
- The parameters given in this manual are typical values and for reference only.
- All illustrations and drawings in this manual are for reference.
- This product is subject to change without notice.

Recycling

- LED lighting products belongs to electronic products, please do recycling treatment according to the relevant WEEE directives.

Common Faults and Troubleshoot

Quick Guide		
Problems	Reasons	Solutions
All LEDs can not light ON	No electric supply	Fix the short circuit problem
	Automatic power protection from the open or short circuit in output of the power supply	
	Wrong connection of power supply	
LEDs can not light on partly	Some switching mode power supplies are not powered	Correctly connection
	Power supply line error	
	Mistaken wire connection of some of products	
Brightness of LED is inconsistent or insufficient	Power overloaded	Replace with more powerful power
	Power supply circuit excessive consumption	Make sure the working voltage of the product within 25% of standard voltage, or keep balance by circuit power consumption
	Excessive quantities in series connection of the product	Reduce the quantities of the product in series connection to meet requirement
LED flicker	Connection point fault	Remove bad connection point
	Switching power supply failure	Replace a new power supply
	Wrong Installation or use of products	Please follow the instructions



For more information

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