



BNZ Z20 DC SERIES

EDGE-LIT OPTICAL LENS

GSB | CHANNEL LETTERS

Providing Better Solutions



Key Features



Efficacy up to
93LM/W



Low-voltage
12V DC systems



Single module
cuttable,
supports
customization



Edge-lit optical lens
12*30° designed for
providing uniform light



Aluminum
Substrate
provides efficient
heat dissipation



Flux value
502LM/pcs



3030 Chipset
high-efficiency



3 Years
Warranty



Injection
molding for
waterproof
construction

Application

Suitable for 10-18cm depth
double-sided light box.

Installation

Fix by,
Adhesive tapes or screws.

Available Colors



6500K | Daylight White

*Other CCT and colors available on request.

Certifications



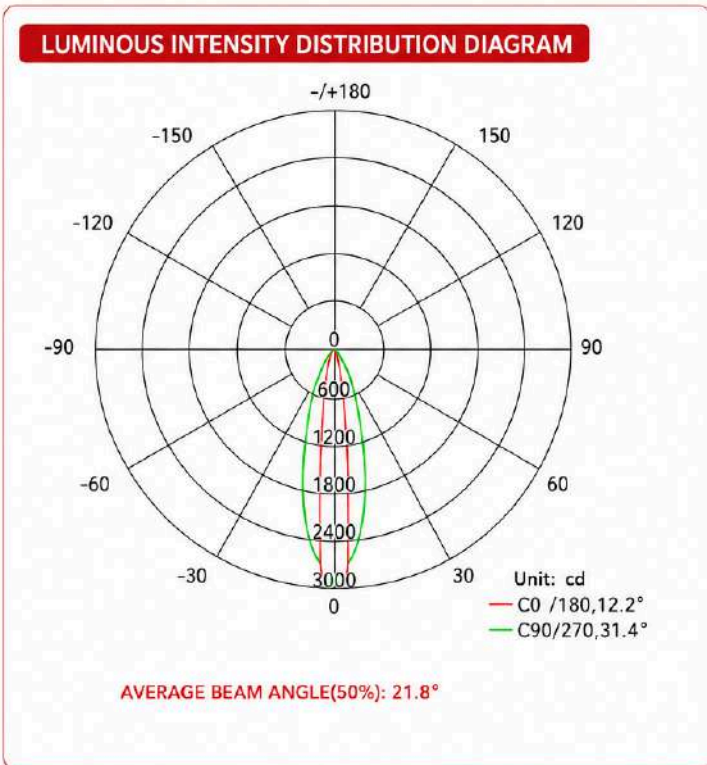
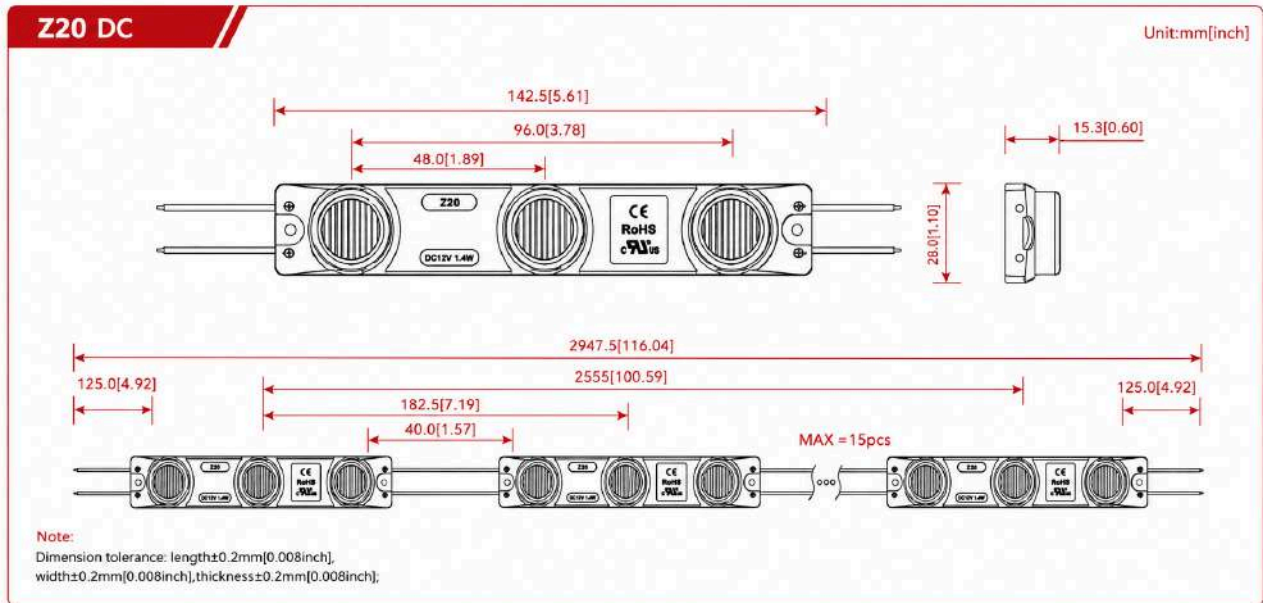
Z20 DC • Technical Specifications

Optical Specifications	
Light Color	White (W)
Color Temperature (CCT)	6500K
Typical Luminous Flux	502LM / PCS
Luminous Efficiency	93LM / W
Color Rendering Index (Ra)	80+
Beam Angle	12*30°
Electrical Specifications	
Input Voltage	DC 12V
Power Consumption	5.4W / PCS
LED Quantity	1 LED / Module
Other Specifications	
Product Size	142.5 x 28 x 153 mm (LxWxH)
Standard Run	15 PCS
Maximum Run	15 PCS
Working Temperature	-20~+60°C
Storage Temperature	-20~+70°C

Note:

1. Test environment temperature: 25±2°C.
2. Figures above are typical figures. Actual figures could be different with typical figures, and the data is subject to change without notice.
3. Different color temperature will make luminous flux different.
4. Power tolerance within ±10%.
5. The "LED Quantity" above means the LED quantity of single module.
6. Maximum run is in single feed.

Luminous Distribution Analysis



AVERAGE ILLUMINATION CCT=6000-7000K

Flux Out: 98.81lm

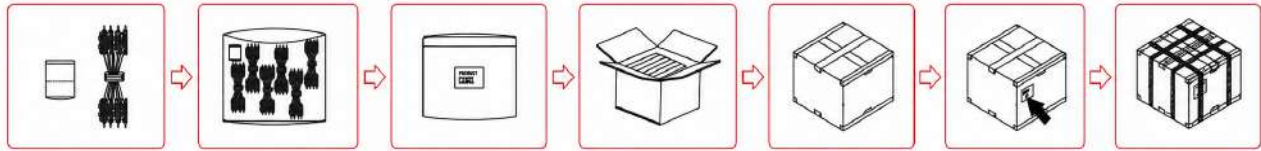
Height	Eavg , Emax	Beam Angle:12.24°	Diameter
0.20m	5215847,6825261lx		0.43cm
0.40m	1303962,1706315lx		0.86cm
0.60m	579539,758362lx		1.29cm
0.80m	325990,426579lx		1.72cm
1.00m	208634,273010lx		2.14cm
1.20m	144885,189591lx		2.57cm
1.40m	106446,139291lx		3.00cm
1.60m	81498,106645lx		3.43cm
1.80m	64393,84262lx		3.86cm
2.00m	52158,68253lx		4.29cm

Note: the above data is based on Z20 at 6000-7000K. For other data, please consult sales rep.

Reliability Test

ENVIRONMENTAL TEST AT BLUEVIEW STANDARD		
Test Name	Conditions	Result
PTC Test	TH=-40/60°C/15 min TH=-40/60°C/45 min Cycle every 2 hours Light on for 5min, Light off for 5min	PASS
Temperature Cycling Test	TA=85°C/RH=85% Continue power on 1000Hrs	PASS
High Temperature Resistance Test	TH=60/80°C Continue power on 1000Hrs	PASS
UV Resistance and Water Spray Test	UV wavelength: 315-400nm Radiation intensity 0.83W/m ² Irradiated at 50°C for 5 hours Spray water for 1 hour afterwards Continuous cycle 1000 Hrs	PASS
Room Temperature Aging Test	Ta=25°C Continue power on 1350Hrs	PASS
Waterproof Test	IP66: water outlet diameter Φ 12.5mm The sample is 3m away from the water outlet	IP66
Flame Retardant Test	Placed the sample vertically in the needle flame tester, where the flame lasted for 10s & the self-extinguishing time of the sample was then observed.	PASS

Packaging Process



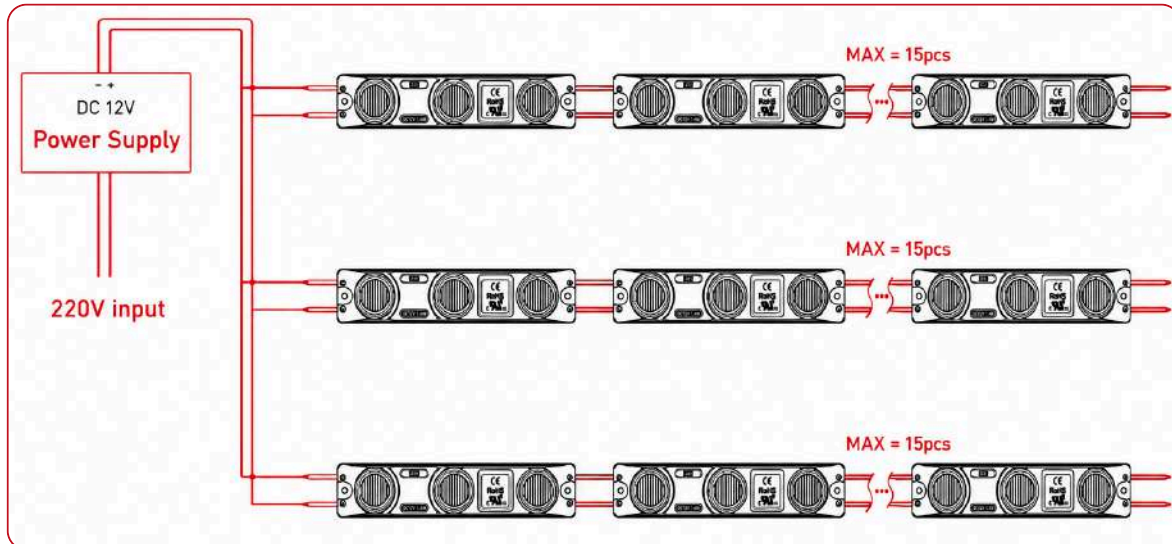
1. Prepare the desiccant and bind the product.
2. Put the product and desiccant into static shielding bag.
3. Seal and label the static shielding bag.
4. Put the static shielding bag by side into carton box.
5. Seal the box.
6. Label the box.
7. Use packing belt to pack after adding the edge protectors.

Packaging Information

Model no.	Z20
Product Size (mm)	142.5 X 28 X 15.3 mm (L X W X H)
Carton Size	390 X 390 X 325 mm
String / Bag	15
Bag / Carton Box	25
Net Weight	18.65(1±10%)
Gross Weight	19.35(1±10%)

Note: The above quantity and weight are only for the illustrated packing method. There will be differences in the quantity and weight with other packaging methods.

Installation



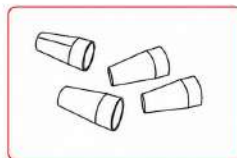
Accessories & Tools



LED power supply

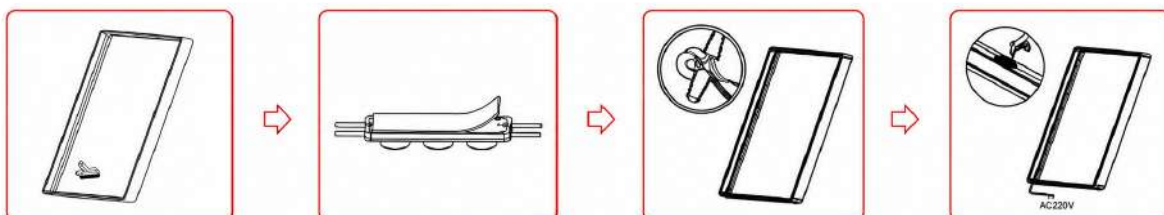


Diagonal pliers



Connection terminal

Installation Steps

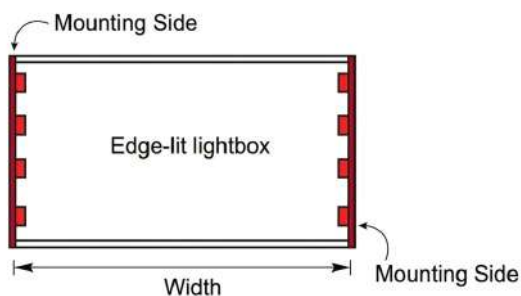


1. Clean the mounting surface free of dust and debris.
2. Peel away the self adhesive tape on the back of product and mount it onto the lightbox bottom.
3. Prefix the product and make sure it is flat and evenly arranged in light box.
4. Fix the product with screws and check and ensure correct wiring, then power on for self-test.

Installation Reference

Model no.	Z20					
Surface material	White Pearl Cloth					
Reach Distance (m)	Depth (cm)	Illumination (LUX)	Evenness	Density (PCS/2m)	Spacing (X) cm	Power Density (W/m ²)
1.0 m	8 cm	2720-330	0.82	2*6	16.6 cm	60
1.5 m	8 cm	1654-26200	0.63	2*6	16.6 cm	40
1.0 m	10 cm	2700-3100	0.87	2*6	16.6 cm	60
1.5 m	10 cm	1879-2570	0.73	2*6	16.6 cm	40
1.8 m	10 cm	1481-2490	0.59	2*6	16.6 cm	34
2.0 m	10 cm	1266-2330	0.57	2*6	16.6 cm	30
Visual Effects	OK					

Note: The above quantity and weight are only for the illustrated packing method. There will be differences in the quantity and weight with other packaging methods.



Note: The density refers to the quantity of products installed on the mounting sides, and "2×6" refers to 2 mounting sides with 6 pcs on each side.

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.

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.

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

Important Installation Notes

- Use only 12V DC constant voltage power supply.
- Ensure correct polarity before powering on.
- Do not exceed maximum run length.
- Maintain recommended depth & spacing.
- Keep wiring connections insulated and waterproof.
- Ensure proper ventilation in enclosed boxes.
- Installation should be performed by qualified technicians.

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.

Version	Content	Date
A1.0	First release	2023/12/01