



BNZ

ALPHA PRO SERIES

Model Number: 7020

20 LEDs LIGHTING CHAIN

GSB | CHANNEL LETTERS

Providing Brighter Solutions



Product Overview

BNZ Alpha Pro Series LED Lighting Chain is a high-performance signage lighting solution designed for channel letters, light boxes, and architectural illumination. Engineered with high-brightness LEDs and a wide **175°** beam angle, the module provides excellent light spread, uniform illumination, and reduced shadow areas.

With optimized **120 mm** wire spacing between modules, the Alpha Pro Series ensures easy installation, efficient coverage, and reliable long-term performance for professional signage applications.

Available in convenient **20 PCS** chain set packaging for efficient installation and inventory handling.

Key Features



High brightness LED design up to **185LM/Module**



Low heat generation with stable performance



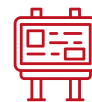
Wide **175°** beam angle for uniform illumination



Strong and durable module construction



Energy efficient 12V DC operation



Suitable for **indoor & outdoor signage** applications



3 Years Warranty



Easy installation with adhesive backing



Optimized **120 mm** wire spacing

Available Colors



10000K



6500K



Red

*Other CCT and colors available on request.

Technical Specifications

Electrical Specifications	
Model Name	BNZ Alpha Pro Series
Model No.	7020
Input Voltage	12V DC
Power Consumption	2W / Module
Power Type	Constant Voltage
LED Type	High Brightness SMD LED
Operating Mode	Continuous
Recommended PSU	12V DC Constant Voltage
Optical Specifications	
Beam Angle	175°
Luminous Flux	185 LM / Module
Light Output	High brightness uniform illumination
Light Distribution	Wide spread lighting
Available CCT	10000K, 3000K, Red
Mechanical Specifications	
Module Construction	Injection Molded Body
Mounting Type	3M Adhesive Backing
Protection Type	Suitable for signage applications
Installation Type	Surface Mount

Best Practices for Spot-Free Illumination

- Use opal / milky acrylic for better light diffusion.
- Maintain equal spacing between modules.
- Avoid placing modules too close to the acrylic face.
- Use reflective backing inside signage for improved uniformity.
- For shallow depth letters, reduce module spacing accordingly.
- Ensure proper power distribution to avoid brightness variation.

Installation Guidelines



Install on clean and dry surface for maximum adhesion.



Ensure proper polarity (+ / -) during wiring connection.



Use recommended 12V DC constant voltage power supply.



Avoid excessive bending or tension on wires.



Distribute modules evenly for uniform illumination.



Do not exceed recommended loading per power supply.

Applications

GSB, Signage Boards & Light Boxes

Acrylic Letter Lighting & Channel Letters

Decorative Signage Lighting

Retail & Commercial Signage

Architectural Accent Lighting

Recommended Installation Depth

BNZ Alpha Pro Series modules are designed with a wide 175° beam angle to achieve smooth & uniform illumination while minimizing LED hotspot visibility (“black spots”) in signage applications.

GSB Boards & Channel Letters

Recommended Depth for Uniform Illumination		
Application	Recommended Depth	Result
Channel Letters	30 mm	Uniform illumination with minimal spotting
Glow Sign Boards	50-120 mm	Smooth light spread without visible black spots
Premium Acrylic Signs	180 mm	Dot-free appearance
Large Light Boxes	120-180 mm	Even brightness distribution

Recommended Module Spacing

Installation Type	Spacing (C/C)
Channel Letters	100-140 mm
Glow Sign Boards (GSB)	120-160 mm

Certifications



Power Supply Recommendation (20% Safety Margin)

Formula:

Total Modules x 2W x 1.2 = Required PSU Wattage

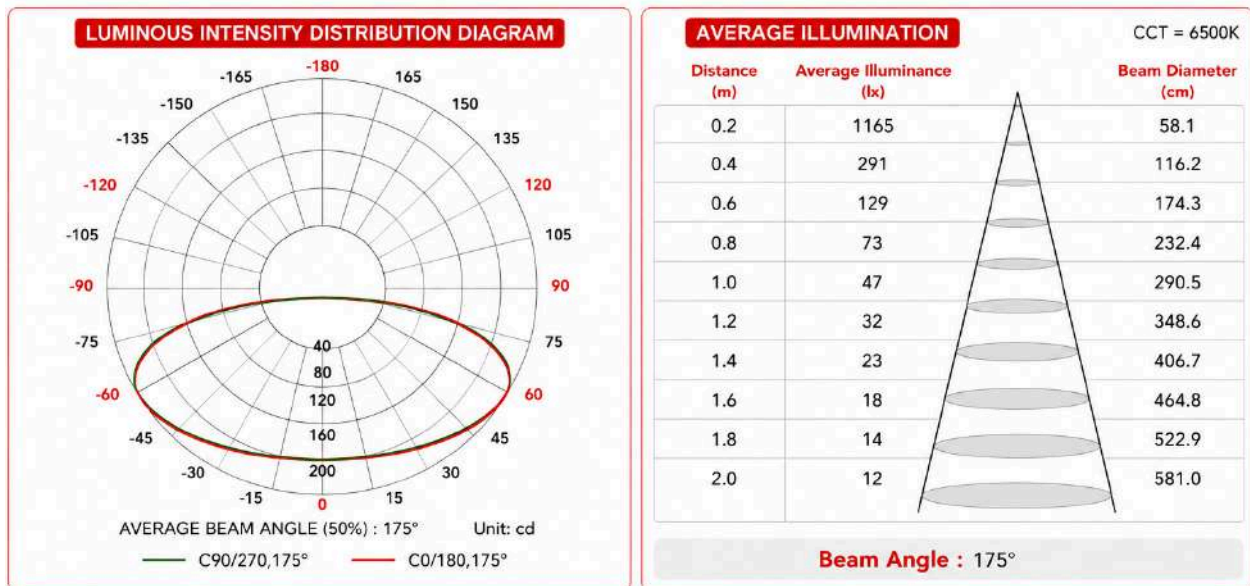
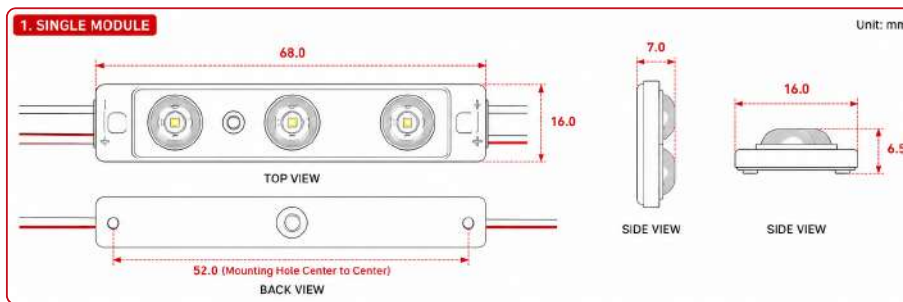
Example: If **200 Modules** are used:

$$200 \times 2W = \mathbf{400W}$$

$$400 \times 1.2 = \mathbf{48W}$$

Use minimum **60W 12V DC** power supply.

Luminous Intensity Distribution Analysis



Wattage
2W / Module



Beam Angle
175°



Luminous Output
185 lm / Module

Note: The above data is tested based on BNZ Alpha Pro Series (12V DC – 2W) at 6500K.
Actual performance may vary depending on installation conditions.

Packaging Details

Packaging Type	Quantity
Packaging Form	Chain Set
Chain per Set	20 Modules
Inner Box	200 Modules
Outer Box	2000 Modules
Protection Type	Anti-Static Safe Packaging

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

- Use only 12V DC constant voltage power supply.
- Ensure proper ventilation for long life performance.
- Avoid overloading power supplies.
- Suitable for professional signage lighting applications.
- Specifications subject to improvement without prior notice.

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



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