SIEMENS

NERLITE® LT430 BL 50x200 LED Backlight Series

Description: NERLITE LT430 Backlight Series (patent pending) provide sharp contrast to outline a part's shape, find edges and view openings such as drilled holes, allowing for various vision operations. High intensity and uniformity are packed into a low-profile industrial package providing optimal thermal management to the LED's. Edge to Edge lighting provides the unique ability to mate multiple lights to provide larger illuminated areas.
NERLITE LT430 Backlights are available in various wavelengths for strobe or continuous duty-cycles, all using industry standard M12 connectors.

Applications: Back lighting: to outline a parts shape, find edges, or detect openings (e.g. drilled holes).

Part #	Description
6GF3910-0AD08-4AA0	NERLITE LT430 BL 50x200, R LED-D, 24V-C
6GF3910-0AD00-4AA0	NERLITE LT430 BL 50x200, R LED-D, CC
6GF3910-0AD08-4AB0	NERLITE LT430 BL 50x200, W LED-D, 24V-C
6GF3910-0AD00-4AB0	NERLITE LT430 BL 50x200, W LED-D, CC
6GF3910-0AD08-4AC0	NERLITE LT430 BL 50x200, B LED-D, 24V-C
6GF3910-0AD00-4AC0	NERLITE LT430 BL 50x200, B LED-D, CC
6GF3910-0AD08-4AD0	NERLITE LT430 BL 50x200, G LED-D, 24V-C
6GF3910-0AD00-4AD0	NERLITE LT430 BL 50x200, G LED-D, CC
6GF3910-0AD08-4AE0	NERLITE LT430 BL 50x200, I LED-D, 24V-C
6GF3910-0AD00-4AE0	NERLITE LT430 BL 50x200, I LED-D, CC

Description Key Example

BL 00x00, R LED-D, 24V-C

- Family Designation: BL - Backlight
- Backlight Size (mm - approx.)
- Color: R - Red, W - White, B - Blue, G - Green, I - Infrared
- Source: LED - Light Emitting Diode
- Delivery: D - Diffused
- Power: xxV-C - DC Volts Continuous, CC - Constant Current

Illumination & Electrical:

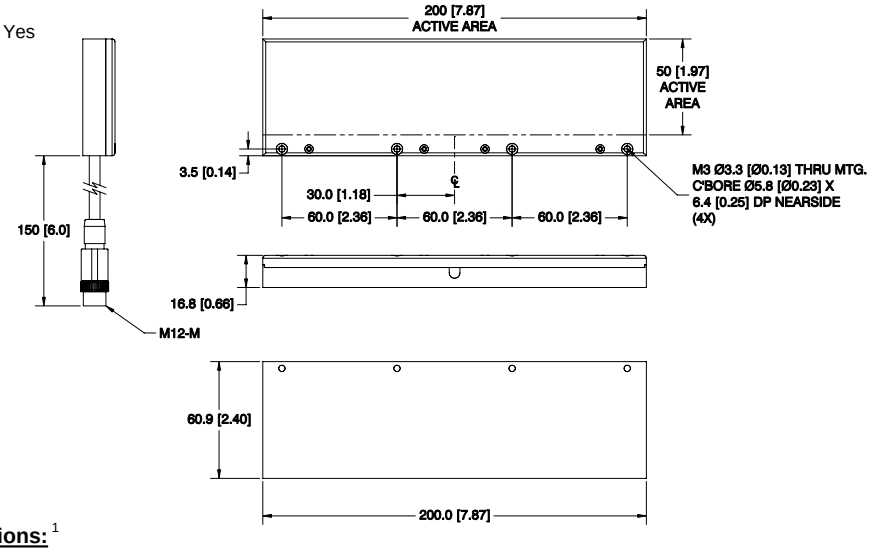
Lighting Technique: Diffuse Backlight
Active Area: 200 mm x 50 mm (7.87 in. x 1.97 in.)

Light Characteristics:

			CC (Strobe Mode) [1, 2, 3, 4]			24V-C [6]
Source	Color (nm)	Exp. Life	Max. Current	Max. Vf [5]	Min. Vf [5]	Max. Current
LED	Red (640)	50k hrs.	4.99 A peak	20.8 V	13.9 V	155 mA
LED	Blue (470)	50k hrs.	9.98 A peak	17.5 V	13.8 V	320 mA
LED	Green (528)	50k hrs.	9.02 A peak	17.5 V	12.8 V	320 mA
LED	IR (880)	50k hrs.	7.99 A peak	16.6 V	10.4 V	250 mA
LED	White - 6500 Kelvin	50k hrs.	9.98 A peak	16.3 V	13.4 V	350 mA

[1] CAUTION: Do not connect "CC" (Constant Current) lights directly to 24 volts; a CC Controller is required.
[2] 24VDC +/- 3% is the recommended input to the PP6xx controllers.
[3] Maximum pulse width = 1ms, maximum frequency = 60Hz
[4] Exceeding max. current, pulse width or frequency voids product warranty.
[5] Vf = Forward Voltage in Volts DC; used in calculating heat dissipation in multi light CC-Strobe applications.
[6] 24VDC +/- 1% is the recommended input to 24V-C configurations.

CE Conformity: Yes



Mechanical:

L x W x H (mm/in.): 200.0 mm x 60.9 mm x 16.8 mm (7.87 in. x 2.40 in. x 0.66 in.)
Mounting: (2) M3 Counter Bores
Housing Material: Black Anodized Aluminum
Weight: 0.23 kgs. (0.50 lbs.)

Environmental:

Max. Operating Humidity: 85% non-condensing
Operating Temp.: 40˚C (104˚F)
Storage Temp.: 50˚C (122˚F)

Cables/Connectors:

Cable Length: 150mm (6.0 in.)
Connector Type: M12 "A" Code Male, 4 Pos:
Pin # 1 = +
Pin # 2 = nc
Pin # 3 = -
Pin # 4 = nc
Connector Nut = Shield

Installation Options: [1]

Part #	Description	Used on Models
6GF3910-1BA10-0AS0	PP600, 2 Chnl. CC Cntrl, 24VDC, Push Button [2, 3]	LT430 CC-Strobe
6GF3910-1BA10-0AT0	PP610, 2 Chnl. CC Cntrl, 24VDC, PB/RS232 [2, 3]	LT430 CC-Strobe
6GF3910-1BA00-0AA0	DSP60, 24V, 2.5A, DIN Mount Power Supply	LT430 24V-C & PP6xx
6GF3910-1BA00-0AB0	DSP100, 24V, 4.2A DIN Mount Power Supply	LT430 24V-C & PP6xx
6GF3910-1DA00-0AB0	AC Power Cord, US, 1.8 M (6.0 ft.)	DIN Mount PS
6GF3910-1DA00-0AC0	AC Power Cord, EU, 2.5 M (8.2 ft.)	DIN Mount PS
6GF3910-1DA00-0AD0	AC Power Cord, UK, 2.0 M (6.6 ft.)	DIN Mount PS
6GF3910-1DA00-0AA0	Power Cable, Flying Leads - M12F, 3.0 M (9.8 ft.)	LT430 (all)

[1] Constant Current (CC) controller required for CC powered lights, not required for 24V-C lights.
[2] CC controllers require a DC power supply; choose one from above.
[3] Refer to PP600 Heat Dissipation application note when configuring multi light CC-Strobe applications.

For further product family information see:
http://www.nerlite.com

Illumination uniformity graphs are available at...
http://www.nerlite.com/pdfs/lt430-uniformity.pdf

WARNINGS: For safe use of this product, observe the following warnings:

Handling: Surfaces hot during and after operation, avoid contact.

Service: No user serviceable parts inside, contact supplier for service.

Eye Safety: Products containing LEDs fall under the IEC standard for laser product safety (IEC 60825-1). Please refer to the IEC classifications and categorization of NERLITE products below for safe operation.

IEC Laser Safety Class Definitions pertinent to NERLITE LED products:

IEC Class Code	Definition
1	Considered as safe to eye and skin under all reasonably foreseeable conditions of operation.
1M	Considered as safe to eye and skin under all reasonably foreseeable conditions of operation, provided they are not viewed with magnifying optics of any kind.
2	Will not cause permanent eye damage under all reasonably foreseeable conditions of operation, provided that any exposure may be terminated by the blink reflex of the eye. Since this assumes the eye can detect this radiation, the wavelength range is limited to visible light (400nm to 700nm).

IEC Laser Safety Class Codes of NERLITE LED Machine Vision Illuminators

IEC Class Code	NERLITE Products (Refer to Model Descriptions)
1	R LED, W LED, G LED, I LED
1M	U LED
2	B LED, B1 LED, B3 LED, R1 LED, R3 LED, W1 LED, W3 LED, G1 LED, G3 LED, I1 LED, DUAL AXIS LIGHTS containing I LED

Training: Customers are encouraged to document their unique application and instruct employees on procedures to limit exposure to LED radiation. The documentation and instruction should include but not necessarily be limited to:

- Operational overview of equipment including LED lighting.
- Need for personal protection (e.g. protective eyewear, UV protective eyewear)
- Understanding hazard controls (e.g. warning signs)
- Bio-effects of LED radiation upon the eyes and skin (refer to http://www.icnirp.de/documents/led.pdf for the International Commission on Non-Ionizing Radiation Protection's statement on "LEDS and Laser Diodes: Implications for Hazard Assessment")

General LED Precautions:

These devices contain visible and non-visible LEDs – Light Emitting Diodes.

WARNING – <u>RISK OF DISCOMFORT</u>:

Observation of the Class 1 and 2 code definitions are substantial for eye protection.

Flashing LED Precautions:

This device contains LEDs – Light Emitting Diodes – that are flashing (aka strobing or pulsing) during operation.

WARNING – <u>RISK OF DISCOMFORT</u>:

Flashing (aka strobing or pulsing) lights have been known to cause discomfort in people; you can prevent this by taking precautions during use.

Ultra Violet (UV) LED Precautions:

This device contains UV Light LEDs – Ultra Violet Light Emitting Diodes. The LED during operation radiates intense UV light.

WARNING – <u>RISK OF CORNEA AND LENS DAMAGE</u>:

Viewing the LED output with certain optical instruments (for example: eye loupes, magnifiers and microscopes) within a distance of 100 mm may pose an eye hazard.

During operation, these LEDs radiate UV light, requiring that precautions must be taken to prevent looking directly at the UV light with unprotected eyes.

Do not look directly, or through an optical system, into the UV light. When there is a possibility to receive a reflection of light, protect your eyes by using UV light protective glasses so that light will not reach eyes directly.

Blue LED Precautions:

This device contains Blue LEDs – Blue Light Emitting Diodes.

WARNING – <u>RISK OF RETINAL DAMAGE</u>:

During operation, these LEDs radiate Blue light, requiring that precautions must be taken to prevent looking directly at the Blue light with unprotected eyes.

Eye protection from visible "blue light" LED radiation can be provided by normal aversion responses (e.g. looking away from light source, blink reflex).

Infra Red (IR) LED Precautions:

This device contains IR LEDs – IR Light Emitting Diodes.

WARNING – <u>THERMAL HAZARD: RISK OF LENS DAMAGE</u>:

During operation, these LEDs radiate non-visible thermal energy. Eye hazards are dependent upon brightness of the source and since IR LED output is non-visible, precautions must be taken to prevent looking toward the output of the LED assembly.