

*LED Illuminators
BL2 Series*

Revision IT2602

2026



**INNOVATIVE
SOLUTIONS
PROVIDER**

BL2 SERIES

Industrial LED Backlights with integrated drivers

Luminous Homogeneity: A high-density LED matrix provides exceptional light uniformity, essential for high-precision sub-pixel edge detection and measurements.

Thermal Management: Proprietary HTTM technology facilitates superior heat dissipation, extending component lifespan and ensuring stable intensity during continuous operation.

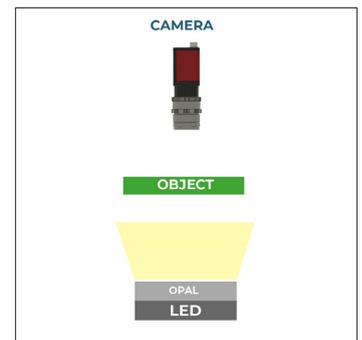
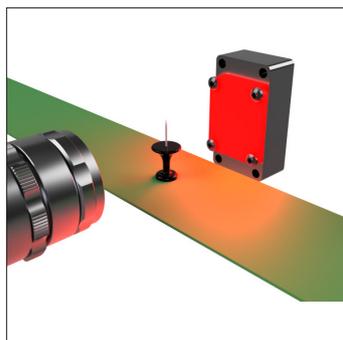
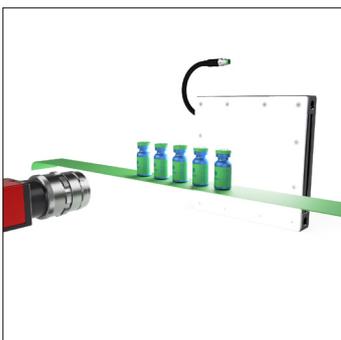
Mechanical Integration: The anodized aluminum housing features a flush top surface and bottom mounting to minimize the overall installation footprint.

Integrated Power Regulation: Internal drivers stabilize LED output and support PWM modulation for precise brightness control via standard 24 Vdc signals.

Industrial Connectivity: An M8 connector on a 100mm flexible pigtail allows for secure, vibration-resistant installation even in constrained spaces.

Key Features

- High-intensity LED matrix providing superior homogeneity for industrial backlighting applications.
- Advanced HTTM technology for efficient thermal dissipation and long-term performance stability.
- Compact anodized aluminum housing with flush top surface and bottom mounting points.
- Integrated driver supporting 24 Vdc input and precise PWM brightness modulation.
- Robust M8 3-pin connector featuring a vibration-resistant locking ring mechanism.
- Industrial 24 Vdc remote control compatibility for seamless automated system integration.
- Rigorous 48-hour operational burn-in testing to ensure maximum field reliability.

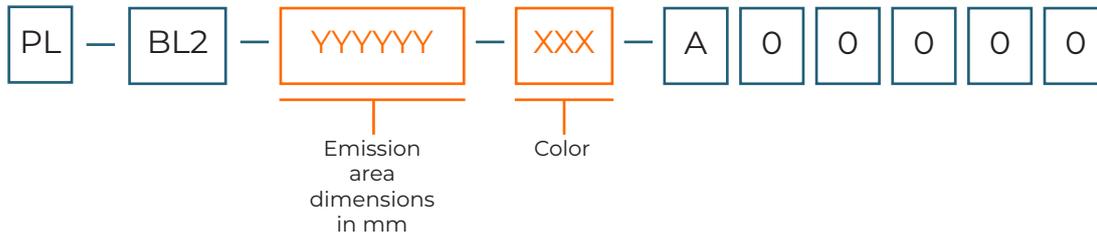


Applications

- High-precision dimensional measurement.
- Profile and shape detection.
- Sub-pixel edge analysis.
- Clear container fill-level monitoring.
- High-speed object counting.
- Surface defect detection.
- Automated optical inspection (AOI).
- Label and marking verification.
- Robot-guided pick and place.
- Pharmaceutical packaging quality control.

Composition of the product identification code

The code in orange are to be filled in according to the desired configuration



Emission area

Highlighted models are from normal production - Others are on request and may have longer production times

Length emissione area - mm (order code)					
50 x 50 (050050)	50 x 100 (050100)	50 x 150 (050150)	50 x 200 (050200)	50 x 250 (050250)	50 x 300 (050300)
100 x 100 (100100)	100 x 150 (100150)	100 x 200 (100200)	100 x 250 (100250)	100 x 300 (100300)	
150 x 150 (150150)	150 x 200 (150200)	150 x 250 (150250)	150 x 300 (150300)		
200 x 200 (200200)	200 x 250 (200250)	200 x 300 (200300)			
250 x 250 (250250)	250 x 300 (250300)				
300 x 300 (300300)					

Color

Other LED models on request

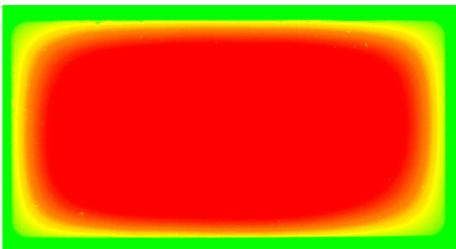
WHI : Neutral White 5000K

BLU : Standard Blue

RED : Red

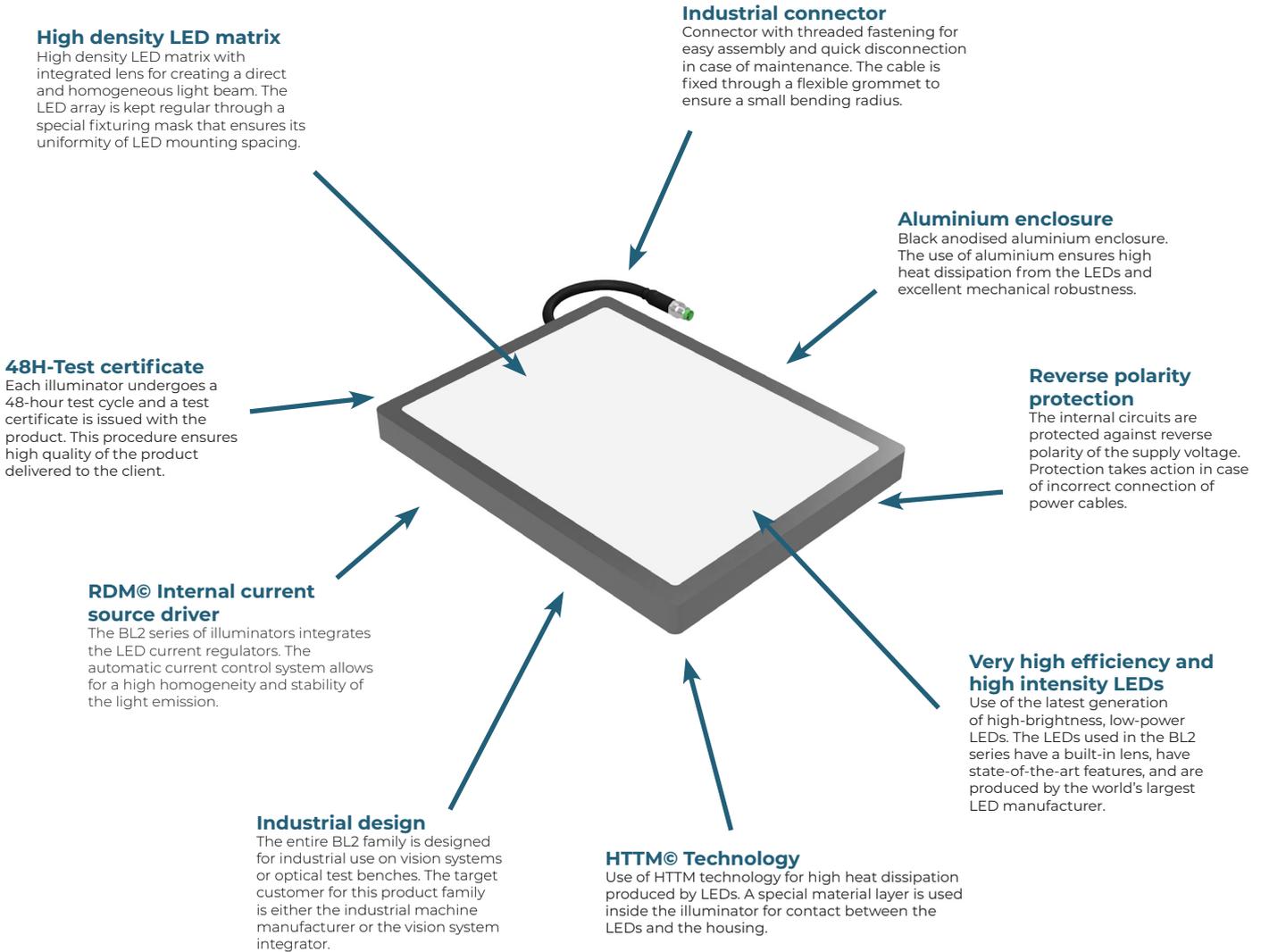
INF : Infrared

LED emission



Reference 80 x 40 LED backlight

Why choose a RODER BL2 series illuminator ?



Main features common to the BL2 family

Features	Value
Supply voltage	24 Vdc +/- 5%
IP rating	IP40
Temperature range	0° - 50° C
Electrical connection	M8 3-pin connector with threaded ring nut
Certifications	CE

The BL2 series illuminators are designed to be easily integrated into various vision systems and to offer a low-cost, highly customizable lighting solution.

High brightness in a small space : the BL2 series consists of a matrix of high-density, high-brightness LEDs. The BL2 series illuminators are used in confined spaces, where direct, high-intensity illumination is required. The BL2 series is designed for system integrators and OEMs who need to integrate the illuminator into a machine or custom devices.

RMD© Technology : The BL2 series of illuminators integrates the RMD© technology (RODER Multi Driver). The automatic current control system allows for a high homogeneity and stability of the light emission

HTTM© Technology : use of HTTM© technology (High Thermal Transmission Material) to dissipate the heat generated by LEDs. Proper heat dissipation enables the light sources and control electronics to maintain optimum working conditions. A special material layer is used inside the illuminator for contact between the LEDs and the housing. In this way, the temperature of the LEDs is kept constant, the brightness is stable over time, and the LED has a longer service life.

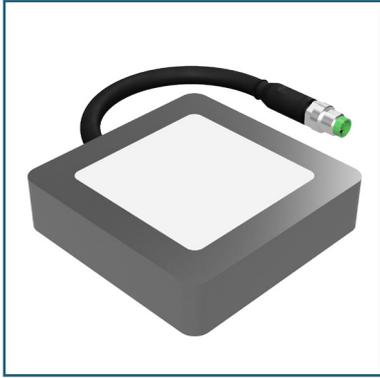
Typical configuration



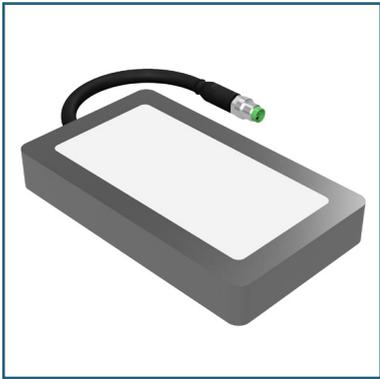
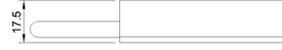
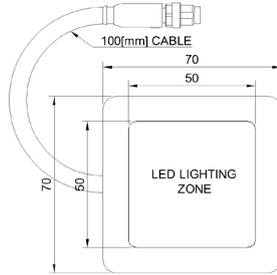
Backlight

The BL2 series of illuminators can be used to design backlights applications

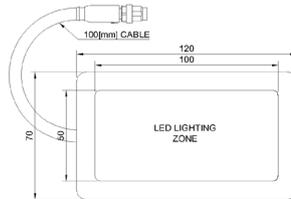
BL2 series - standard models



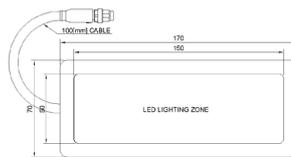
BL2 50 x 50



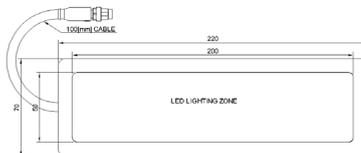
BL2 50 x 100



BL2 50 x 150



BL2 50 x 200



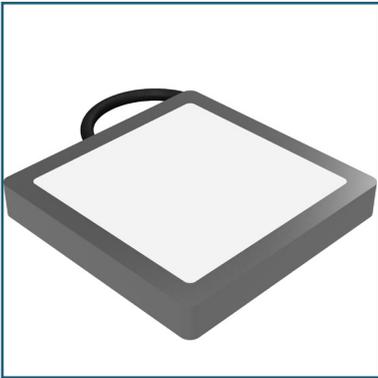
BL2 series - standard models



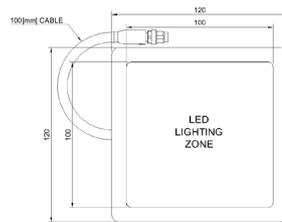
BL2 50 x 250



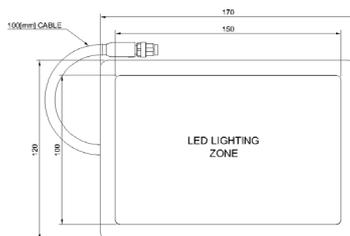
BL2 50 x 300



BL2 100 x 100



BL2 100 x 150



BL2 series - standard models



BL2 100 x 200



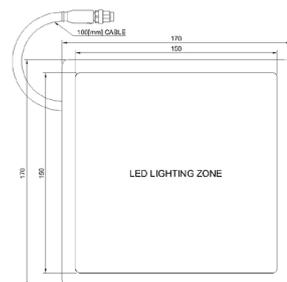
BL2 100 x 250



BL2 100 x 300



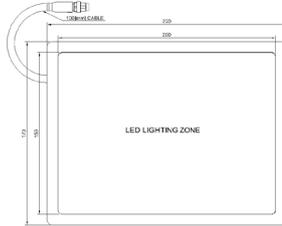
BL2 150 x 150



BL2 series - standard models



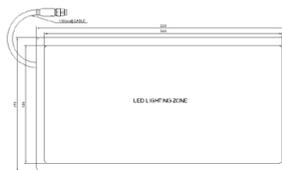
BL2 150 x 200



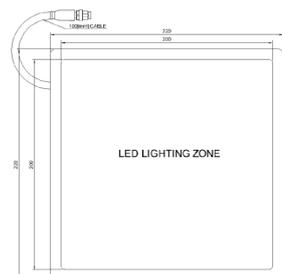
BL2 150 x 250



BL2 150 x 300



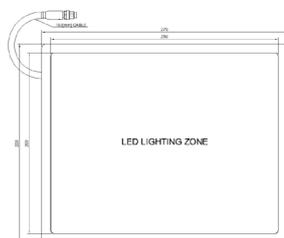
BL2 200 x 200



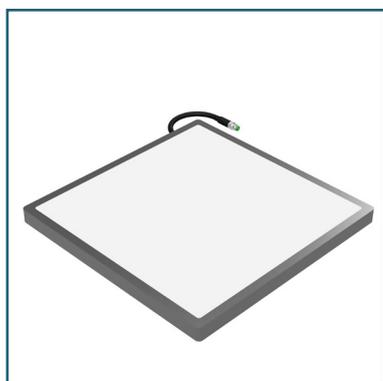
BL2 series - standard models



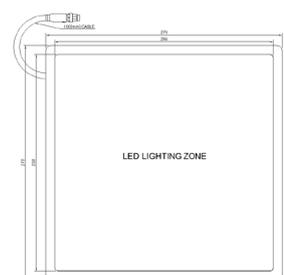
BL2 200 x 250



BL2 200 x 300



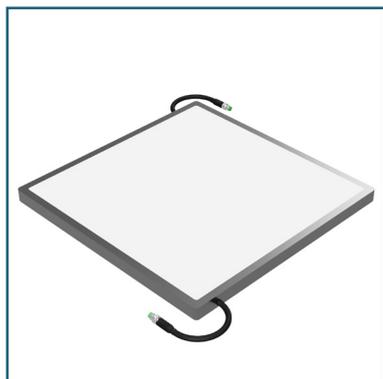
BL2 250 x 250



BL2 250 x 300



BL2 series - standard models



BL2 300 x 300



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