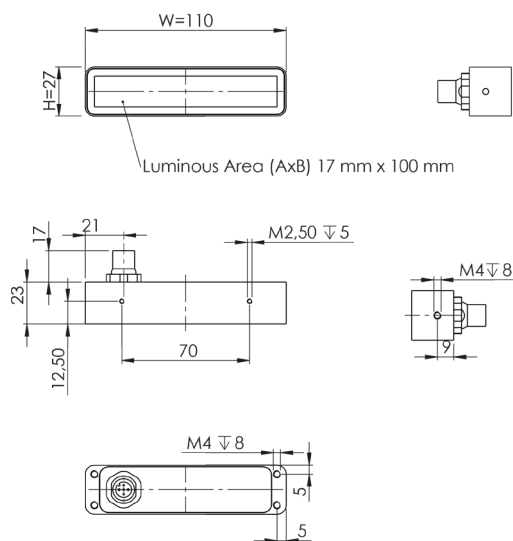


Mechanical Integration

The light is equipped with M4/M5 threaded holes which can be used to fix the lighting to the specified position. In addition M2.5 threaded holes are provided at the two long sides of the barlights to mount the foil and filter holder set. Filterholder are also available for ringlights. To secure a long live time additional heat transfer measurements at the holding positions are highly recommended.

Example: Model UV High Power MBL-0210

More 2D and 3D drawings can be found online: www.mbj-imaging.com



Specification	UV High Power Series
Operating temperature	10°C to 30°C / 45°C ¹⁾
Certifications	CE, RoHS
Degree of protection	IP54 / IP67 ²⁾
Humidity	30% to 70%

- 1) Max. of 30°C is recommended for steady light operation w/o additional heat transfer measurements, for max. 45°C a thermal connection is mandatory. Max. of 45°C is also permissible for flash light operation with a max. 10% duty cycle.
- 2) MBJ LED lights are protected against the ingress of solids and water in accordance with the selected protection class and applicable standards. Permanent protection against liquids containing solvents, such as cleaning agents, machine emulsions or other lubricants, cannot be guaranteed. IP is only valid with a connected cable (MBJ cable recommended)."

Safety Notes

Before working with this unit, read the warning and application instructions carefully and completely before operating the device. Have the illuminators commissioned only in compliance with the specified protective measures. It is essential that you comply with the permissible ambient conditions.



1. The device is designed for indoor use only.
2. **Light** – Due to the risk of flash burn of the eyes it is not recommended to look directly into the light source. The lighting must be switched off before installation and/or maintenance. The device must not be used when a failure may cause a personal injury.
3. **UV radiation** – Always use suitable UV protective goggles when operating the device. The light is classified in risk group 3 (RG3) according to DIN EN 62471 "Photobiological safety of lamps and lamp systems". For protection, do not look into the LED and do not expose skin to UV radiation permanently.
4. **Heat** – In case of insufficient heat dissipation or when running the light in flash mode with a too high duty cycle, the surface temperature may exceed 60 °C. Keep off flammable materials at any time.
5. **Electricity** – The housing is electrically isolated from the ground of the power supply. Exceeding the permissible input voltage U_{in} or $U_{LED(+)}$ can lead to the destruction of the device or to a significant shortening of the lifetime of the LEDs in the device.
6. **Usage** – Please prevent mechanical stress to the light surface during operation. This will lead to an inhomogeneous light emission.
7. **Cleaning** – The light emission surface has to be cleaned with a standard glass cleaner and a soft cleaning cloth. Do not use other material for cleaning as it will damage the device.
8. **Installation** – The service life of the LED can be maximized by avoiding heat build-up. To achieve this, the lighting should be installed with a good thermal connection. Please screw the cables hand-tight, do not overtighten.

04161.00 Manual MBJ UV High Power Series, Februar 2024

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UV High Power Series



Models and Sizes in Series

The light is available in the following models and sizes ¹⁾		
UV High Power MBL-0210	UV High Power MBL-0220	UV High Power MBL-0230
UV High Power WBL-0410	UV High Power SRL-10	UV High Power SRL-12

1) Size definition: High Power MBL-0220 refers to a barlight with a luminous area of 17 mm x 200 mm.

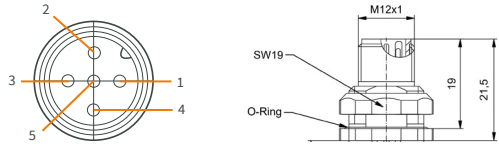
Possible LED Colors

LED	Abbr. ¹⁾	Peak Wavelength ²⁾
Ultraviolett 365 nm	-UV365	near 365 nm
Ultraviolett 395 nm	-UV395	near 395 nm

- 1) Color option will be added to the model name after the size information. High Power UV MBL-0220-UV395 refers to a barlight with 395 nm ultraviolet emitting light.
- 2) This is an approximated value. The exact value also depends on LED temperature and LED current."

Electrical Connection

The lighting is equipped with an 5 pin M12x1 connector.



Pin	Color ¹⁾	Standard (-s)	Direct (-x) ²⁾
1	brown	24 VDC	LED (+)
2	white	Dim	LED (+)
3	blue	Trigger	LED (-)
4	black	Ground	LED (-)
5	green- yellow	not used	not used

- 1) Wire color of MBJ lighting cable. For the connection it is recommended to use the MBJ lighting cable with a maximum length of 10m.
- 2) Connection to 24VDC without external LED controller may destroy the unit

Integrated Controller (-s)

Supported operation modes with the integrated LED controller

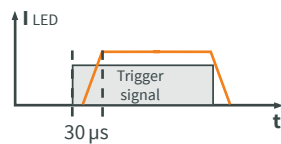
Pin	Steady light	Brightness control	Triggered Light	Flash light
1	24VDC	24VDC	24VDC	24VDC
2	24VDC	1...10V	24VDC	GND
3	24VDC	24VDC	Trigger	Trigger
4	GND			
5	not used			

1. Steady light



• Current is fixed depending on the respective lighting model.

3. Trigger



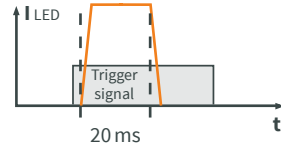
Trigger (Pin3) it is a high resistance current sink with 0.2 mA for 5 V and 5 mA for 24 V
 High = 5...24 V=ON
 Low = 0...1 V=OFF

2. Brightness control



DIM (Pin2) is used as brightness control and operation mode switch. It's a high resistance current sink with 0.2 mA for 5 V and 1 mA for 24 V.
 PWM frequency: 3.8 kHz
 Min. exposure time: 5 ms

4. Flash light



Triggered flash light with overdrive current and time-out for LED protection.
 Max. flash time: 20 ms
 Min. flash time: 100µs
 Latency (trigger -> LED ON): max 30µs
 Max. clock speed: 1 kHz
 Max. duty cycle: 25 %

Specification	UV HP MBL-0210	UV HP MBL-0220	UV HP MBL-0230	UV HP WBL-0410	UV HP SRL-10	UV HP SRL-12
Optical parameter						
Luminous area (AxB) or (ID - OD)	17 mm x 100 mm	17 mm x 200 mm	17 mm x 300 mm	45 mm x 100 mm	67 mm - 101 mm	87 mm - 121 mm
Light emission	Rectangular or ring shaped light field with direct emitting LED and 45° focussing beam					
Recommended use	commonly used as incident light for inspection of fluorescent properties or small details as soldering points					
Risk Group ¹⁾	Risk Group 3: UV radiation emitted from this light. Hazardous even for momentary exposure. Avoid eye and skin exposure to unshielded product.					
Recommended light working distance	50 mm - 300 mm	50 mm - 350 mm	50 mm - 400 mm	50 mm - 400 mm	100 mm - 400 mm	100 mm - 500 mm
Electrical parameter						
Available interfaces	-s with integrated LED Controller and 4 operation modes; -x with direct LED access (external LED control is required)					
Uin for -s Version	24 VDC +/- 5 %					
ULed(+) range for -x version ²⁾	UV: 9...12 VDC					
Typical Power (-s version)						
Steady light operation ¹⁾	6 W	11 W	17 W	17 W	17 W	20 W
During ON time at flashed light operation ³⁾	15 W	31 W	34 W	34 W	34 W	40 W
Recommended LED current (-x version)						
Steady light (100 % duty cycle)	540 mA	900 mA	1350 mA	1350 mA	1350 mA	1600 mA
Flash light (50 % duty cycle, <500 ms pulse)	900 mA	1800 mA	2700 mA	2700 mA	2700 mA	3200 mA
Flash light (25 % duty cycle, <50 ms pulse)	1350 mA	2700 mA	4050 mA	4050 mA	4050 mA	4800 mA
Flash light (10 % duty cycle, <5 ms pulse)	1800 mA	3600 mA	5400 mA	5400 mA	5400 mA	6400 mA
General parameter						
Dimension (H x W x D)	27 mm x 110 mm x 23 mm	27 mm x 210 mm x 23 mm	27 mm x 310 mm x 23 mm	54 mm x 110 mm x 23 mm	110mm x 121mm x 14 mm	130 mm x 141 mm x 14 mm
Weight	125 g	250 g	375 g	450 g	225 g	350 g
Material	Anodized aluminum housing with PMMA light cover					
Connector	M12x1 socket, 5 pin, male (For pinning details please refer to "electrical connection")					
Accessories	For cable, foil holder brackets, light manipulation foils and external LED controller: please check www.mbj-imaging.com					

- 1) According to DIN EN 62471 "Photobiological safety of lamps and lamp systems"
- 2) Lower voltage value refers to steady light, higher voltage value refers to flash light, please see max. allowed current in the rows below.
- 3) Triggered flash light with max. 20 ms and up to 100 % more light intensity"

Application Samples for (-s) controller

