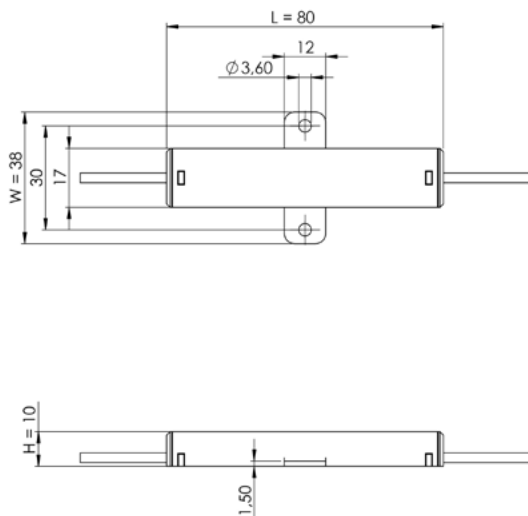


Mechanical Integration

Cable Controller



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

Safety Notes

Before working with this unit, read the warning and application instructions carefully and completely before operating the device.



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. **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.
4. **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.
5. **Usage** - Please prevent mechanical stress to the light surface during operation. This will lead to an inhomogenous light emission.
6. **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.

Manual Cable Controller: Revision 04 - 07 January 2021. INDD File Rev07.

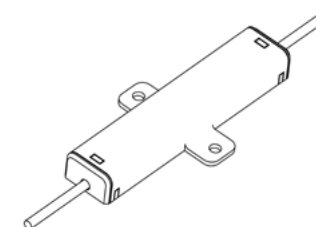
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Operating Manual Technical Data

Cable Controller



Model Sizes in Series

The cable controller is available with the following LED currents

Model	Typical Power consumption ¹⁾
Standard LED Controller 150mA	3W
Standard LED Controller 250mA	5W
Standard LED Controller 300mA	6W
Standard LED Controller 450mA	8W
Standard LED Controller 600mA	11W
Standard LED Controller 750mA	14W
Standard LED Controller 900mA	16W
Standard LED Controller 1200mA	22W
Standard LED Controller 1500mA	28W

1) Steady light

Electrical Connection

The controller is equipped with an 4 pin M8x1 connector.
M8 connector to MBJ lighting, open wire for external connection.

Color ¹⁾	Function
brown	24 VDC
white	Dim
blue	Trigger
black	Ground

1) wire color of MBJ lighting cable

Additional Information

Trigger is an 'active high' input signal with 5...24V = ON and 0...1V = OFF, it is a high resistance current sink with 0.2mA for 5V and 5mA for 24V.

DIM is used as brightness control and operation mode switch, it is a high resistance current sink with 0.2mA for 5V and 1mA for 24V.

Cable Controller Supported operation modes

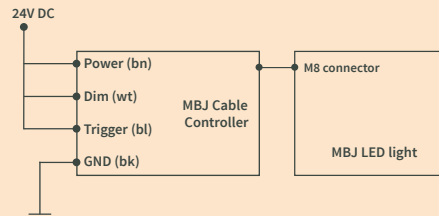
Wire Dim (White)	Operation mode
24V	steady light ¹⁾
1...10V	steady light with brightness control ²⁾
24V	triggered light
GND	triggered flash light with max. 20ms and up-to 100% more light intensity ³⁾

- Pin 3 (Trigger) needs permanent 24V to activate steady light mode
- PWM with 3.8kHz clock is used, recommended minimal camera exposure is 5ms
- latency between trigger and LED light ON is about 20...30µs, the maximum recommended clock speed is 1 kHz, the maximum recommended duty cycle is 25% and the minimum recommended flash time is 100µs

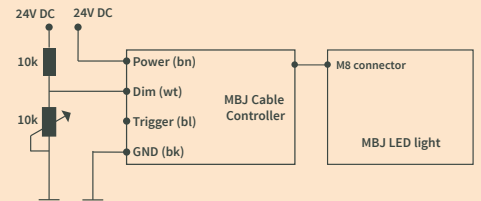
Specification	Standard Cable Controller
Electrical parameter	
Available interfaces	integrated LED Controller and 4 operation modes
U_{in}	24V DC +/- 5%
I_{in}	between 150mA and 1200mA
$U_{Led(v)}$ range for	3 ... 21 VDC
Mechanical parameter	
Dimension (H x W x D)	38mm x 80mm x 10mm
Weight	300g
Material	The controller is placed in between an M8 cable with approx 50cm distance to the lighting connector an 150cm distance to the open wire
Connector	M8x1 socket, 4 pin, male (pinning details on the next page) and open wire
Operating temperature	10°C to 30°C
Certifications	CE, RoHS
Degree of protection	IP54
Humidity	30% to 70%

Application Samples

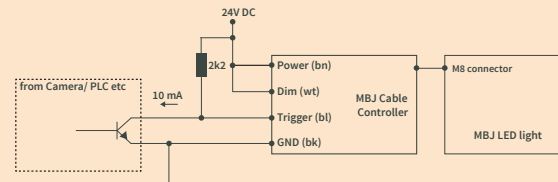
Steady light



Steady light with brightness control



Triggered light with NPN sinking output (inverted strobe signal, open collector)



Flashed light with PNP sourcing

