

LC2-PWM20



The LC2-PWM20 is a dual channel, pulsewidth modulated LED intensity controller. It outputs 12V PWM from 0-100% at 100kHz to drive LED loads with series limiting resistors. The maximum output is 20W per channel and 30W combined for two channels. Power is limited by the 24V power supply.

WARNING

Operation of loads with incorrect voltage or without series limiting resistors may result in damage to the device, the LED load or both.

For Safe Usage

General Precautions

- Verify that the device is functioning normally before the start of work and when operating the device.
- Implement safety measures as necessary to protect against possible damage that may result in product failure.
- Proceed with care when modifying or disassembling this device or when using it in a manner that falls outside the scope of this specification. Metaphase is unable to guarantee device functionality or performance in such situations.
- Use this product in conjunction with other devices only after careful consideration, since the LC2-PWM20 may fail to satisfy its functionality and performance capabilities because of the conditions and environment in which it is used.

WARNING

Turn off the device immediately in any of the following conditions. Continuing to operate the device despite such a condition may result in fire, electrical shock or device failure.

- When there is a foreign object or liquid inside the device.
- When the device has been subjected to excessive mechanical shock or when the case has been damaged.
- When the device emits smoke, an unusual smell or a strange noise.

Operating Precautions

- **Power**

⚠ WARNING

Do not use this device with anything other than a 24VDC power supply. Doing so may result in fire, electrical shock or device failure.

- **Handling**

⚠ WARNING

- Do not operate the device after disassembling or modifying it. Doing so may result in fire, electrical shock or device failure.
- Do not look directly at the connected LED assembly for extended periods of time. Doing so may cause harm to your eyes.

⚠ CAUTION

- When connecting and disconnecting cables, always switch off power to the device and any other devices connected to it. Failure to do so may result in damage to the device or to connected hardware.
- If the device becomes excessively dirty, apply a weak neutral detergent to a cloth and wipe away the dirt. Do not use benzene, thinners or alcohol to clean the device. Doing so may result in the discoloration or deformation of the device case.

- **Installation**

The LC2-PWM20 is designed to be attached to a DIN rail.

⚠ CAUTION

Avoid the following locations when installing the LC2-PWM20:

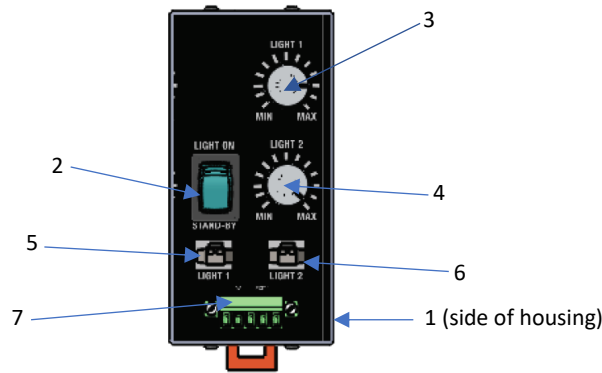
- Locations where the device is exposed to direct sunlight
- Locations where the ambient temperature range exceeds 0 to 45°C
- Locations prone to rapid temperature changes
- Locations with poor ventilation
- Locations that exceed 85% RH
- Locations subject to condensation
- Locations where corrosive or flammable gases are present
- Locations where there is excessive dust, salt or iron powder
- Locations where the device is exposed to splashes of water, oil or chemical agents
- Locations where the device is subject to excessive vibrations or mechanical shocks
- Locations where the device may be influenced by radiation noise or static electricity

Note: Separate the device's cables as-far-as possible from high-voltage lines and power lines. Interference from such lines may result in non-standard operation or device failure.

⚠ CAUTION

- Extension of the interface cable between the LED illuminator and the LC2-PWM20 may result in decreased light intensity because of voltage drop.
- Do not use this device with a non-KEYENCE LED illumination device. Doing so may result in device failure.
- Leave a minimum of 20mm of space on all sides of the LC2-PWM20 and use caution when installing it next to any other heat generating device that will cause the ambient temperature to exceed 45°C.

LC2-PWM20 Functions / Controls



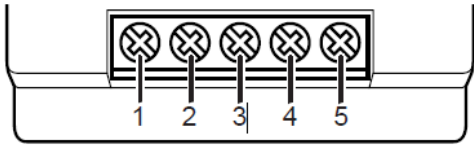
1	Power Limiter Switch (default setting is NORM) <ul style="list-style-type: none"> • NORM – Limits light adjustment range to 0 to 60% to protect LED element. Always use the NORM setting when operating the device with continuous lighting by pushing the switch away from the face panel. • FULL – Allows an intensity adjustment range of 0 to 100% by pulling the switch towards the face panel.
2	Standby Switch
3	Channel 1 intensity adjustment
4	Channel 2 intensity adjustment
5	Channel 1 output connector
6	Channel 2 output connector
7	Input Terminals

⚠ CAUTION

LED elements are subject to limited service life. Since high temperatures lead to degraded performance or damage, always adjust the intensity level to the lowest level required for the application. Take precautions to avoid heat build-up by using a cooling fan, installation using metal brackets, and intermittent LED activation by means of an external control input.

Note: The amount of light generated is unstable when the intensity adjustment is set near 0%. This is normal and does not indicate a problem with the LC2-PWM20. When using the device in continuous lighting mode, delay use after turning on the LC2-PWM20 until the lights' intensity stabilizes (approximately 30 minutes).

• Input Terminals

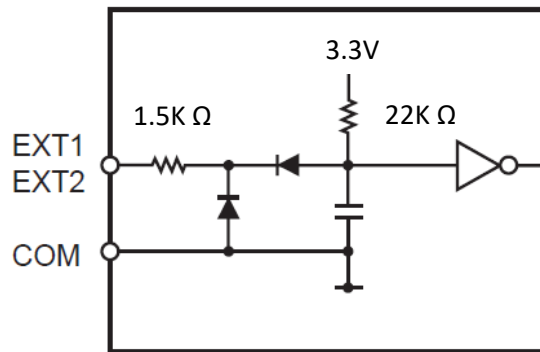


Compatible cables: AWG #14 to #22

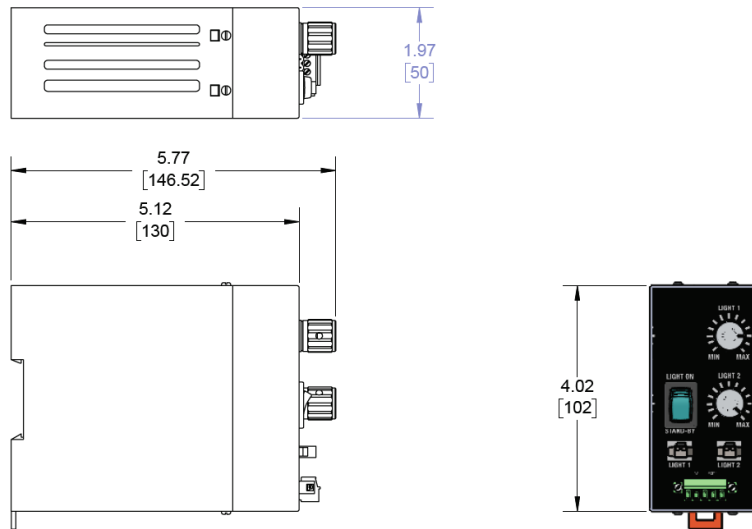
Terminal	Label	Description / Note
1	24 VDC	Power supply should be limited to 1.8A max
2	0V	Power Supply 24V RTN
3	COM	External control Common terminal
4	EXT 1	External control input channel 1 (0-24V) • Deactivates channel 1 when shorted to COM
5	EXT 2	External control input channel 2 (0-24V) • Deactivates channel 2 when shorted to COM

• Circuit Diagram

Input Terminals: EXT1, EXT2
Disable Output: 1.0V and less
Enable Output: 1.25V and higher or float



Dimensions



Specifications

LC2-PWM20		
OUTPUT	Intensity Control	Pulse Width Modulation @ 100kHz
	Connections	2 channels
	Voltage	12VDC PWM (not constant-current)
	Max LED Load	20W per channel, 30W combined total
INPUT	Power Supply	24VDC ±10% limited to 1.8A to protect Controller and LED load
ENVIRONMENTAL CONDITIONS	Temperature	0 to 45°C
	Humidity	0 to 85% RH (non-condensing)
	Weight	210 grams