

Basler SLP Strobe Controller

The Basler SLP Strobe Controller allows you to use any light (0–40 V, max. 2 A) in your environment and to control it via a Basler ace U or ace L camera and the pylon software.

Good lighting is an essential aspect of any vision system. The Basler SLP Strobe Controller gives you the freedom to use a light device of your choice and makes controlling it really easy with the new [Light Control](#) [light-control-feature-set.html] feature set.

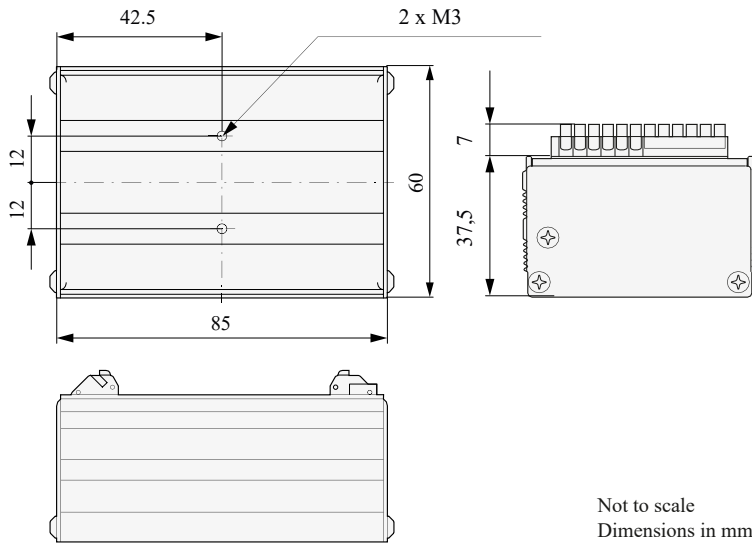
Specifications

General Specifications

Specification	Basler SLP Strobe Controller
Lighting Modes	Continuous Strobe (incl. Overdrive mode)
Drive Method	Current-controlled
Number of Channels	1 (daisy-chaining with up to 4 devices)
Output Current	Continuous: 0.05 A–2 A Overdrive mode: 10 A @ 200 µs pulse width
Output Voltage	1.5–40 V
Max. Output Power	Continuous: 40 W Overdrive mode: 400 W
Pulse Width	

Specification	Basler SLP Strobe Controller 50 μ s–5 ms (automatic strobe mode) 100 μ s–5 ms (manual strobe mode)
Pulse Step Size	10 μ s
Max. Frequency	200 Hz
Size (L x W x H)	85 mm x 60 mm x 37.5 mm
Weight (typical)	200 g
Connectors	6-pin Lighting 6-pin Camera 12-pin Power & I/O
Applicable Cameras	ace U, ace L
Conformity	CE (includes RoHS), FCC Certificates for your camera model [https://www.baslerweb.com/en/sales-support/downloads/document-downloads#type=certificates;model=aca128060gc] More information is available in the Compliance [https://www.baslerweb.com/en/company/quality/compliance/] section of the Basler website.
Software	Basler pylon Camera Software Suite [https://www.baslerweb.com/en/products/software/] (version 4.0 or higher) Available for Windows, Linux x86, Linux ARM, and macOS
Accessories	SLP cables

Mechanical Specifications



Requirements

Environmental Requirements

Temperature and Humidity

Factor	Value
Housing temperature during operation	0–50 °C (32–122 °F)
Humidity during operation	20–80 %, relative, non-condensing
Storage temperature	-20–80 °C (-4–176 °F)
Storage humidity	20–80 %, relative, non-condensing

Electrical Requirements

Power must be supplied to the controller via the 12-pin terminal block connector labeled **Power & I/O**. For information about the connector pin assignments, see the [circuit diagram](#) [#circuit-diagram].

Voltage Requirements

24 VDC ($\pm 5\%$) @ 4 A

Max. Power Consumption

100 W @ 24 VDC

Info

The actual power consumption of the Basler SLP Strobe Controller depends largely on the light you're using. Therefore, Basler recommends powering the controller via a standard power supply unit or an appropriate 24 VDC connector in a control cabinet. This allows you to adapt the components to the power consumption actually required in your application.

 **NOTICE – The controller produces high-energy pulses which may damage the controller if there is no protection against short circuits.** 

- Connect the outputs correctly.
- When switched off, energy remains stored in the controller for about 15 seconds.

Cable Requirements

Camera-to-Controller Cable

Info

For optimum performance and ease-of-use, Basler recommends using the following cable with ace U and L camera models: Basler SLP Cable HRS 6p/TBL-L, 3m (2200000327)
If you're using your own cables, they must be shielded, and the shield must be connected to the Hirose plug and the **Camera GND** pin of the controller.

Controller-to-Light Cable

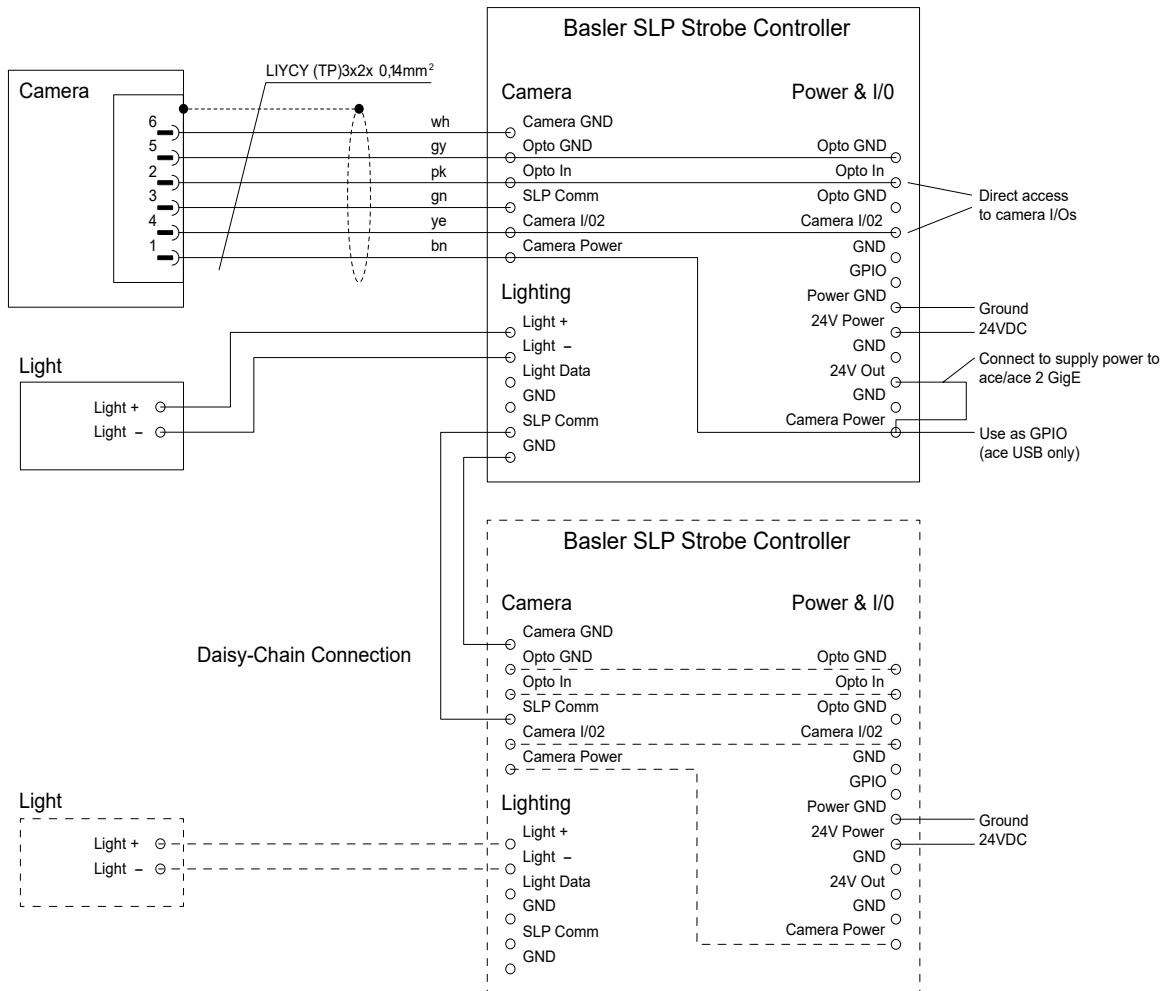
The maximum cable length is 3 m.

Trigger Cable

The maximum cable length is 3 m.

Physical Interface

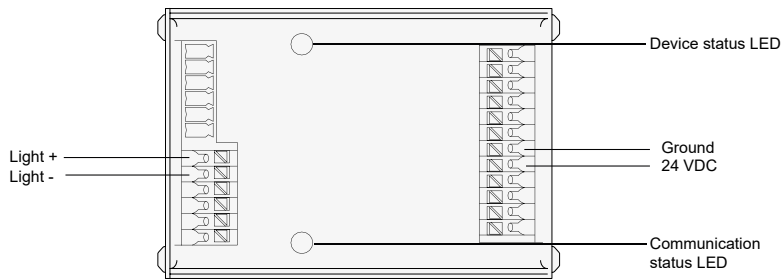
Circuit Diagram



i Info

The **24 V Out** pin must only be used to supply power to a camera. Don't connect another controller to it as it may get damaged. The maximum current allowed through this pin is 500 mA. If you want to connect another controller, use the daisy-chain option shown in the diagram above.

Connectors and Status LEDs



Device Status LED

LED State	Meaning
Off	The controller isn't connected to power.
Green	Static: The controller is connected to power and fully operational. Flashing: Indicates trigger action. Flashes with a frequency of 1 Hz.
Yellow	Static: Indicates an error state. Possible causes are a hardware error in the light unit or the controller not being able to supply the current specified by the <code>BsLightDeviceMaxCurrent</code> parameter. To find out what kind of error it is, check the <code>BsLightDeviceLastError</code> parameter. If it's the Insufficient Current error, try lowering the maximum current until the flashing stops. Flashing: Indicates trigger action. Flashes with a frequency of 1 Hz.
Red	Static: The controller detected a short circuit. For more information, see Troubleshooting [#troubleshooting]. Flashing: Indicates trigger action. Flashes with a frequency of 1 Hz.

Communication Status LED

LED State	Meaning
Off	The controller hasn't detected a heartbeat signal from the camera yet.
Green	Static: The controller has detected the heartbeat signal from the camera. Flashing: This indicates data transmission.

LED State	Meaning
Red	Indicates a communication error. The LED lights up once in that case.

Precautions

DANGER – Electric Shock Hazard

Unapproved power supplies may cause electric shock. Serious injury or death may occur. You must use power supplies that meet the Safety Extra Low Voltage (SELV) and Limited Power Source (LPS) requirements.

WARNING – Fire Hazard

Unapproved power supplies may cause fire and burns.

In case of electrical malfunction, you have to ensure that the current doesn't exceed the value admissible for the cable's diameter.

To avoid this, take the following measures:

- You must use power supplies that meet the Limited Power Source (LPS) requirements.
- Power supply cabling to the controller must be rated to at least 4 A.
- The DC power supply to the controller must be externally fused to 4 A using a slow-blow fuse (T4AH, 50V).

CAUTION – Burn Injury Hazard

The controller housing can reach temperatures above 65 °C during operation at maximum ratings. This is sufficient to cause burn injuries.

- Place the controller so that staff can't accidentally touch it.
- Ensure that there is free air circulation around the controller.

Installation

The Basler SLP Controller is supplied with a DIN rail mounting kit. If you don't want to use the DIN rail, you can also mount the controller via the mounting holes at the base of the

controller using two M3 screws. Note that the mounting screws should not protrude more than 5 mm beyond the surface to which the controller is to be attached. The controller's dimensions are shown in the [diagram](#) [#mechanical-specifications] above.

Connecting the Controller and the Camera

⚠ NOTICE – Leaving the power source turned on while setting up the controller or connecting/disconnecting any cables may lead to the controller malfunctioning. ^

Always turn the power source off, when setting up the controller or connecting/disconnecting any cables.

Refer to the [circuit diagram](#) [#circuit-diagram] above when connecting the devices.

1. Connect the open end of the light cable using the **Light +** and **Light -** pins of the 6-pin **Lighting** connector.
2. Connect the camera to the controller via the green 6-pin **Camera** connector. The I/O connector on the camera-side depends on the camera model.
3. Connect the open end of your power supply cable using the **24 V Power** and **Power GND** pins of the 12-pin **Power & I/O** connector.

i Info

Pin Assignment Differs Between ace and ace 2 The **Camera I/O 2** pin of the controller's **Camera** connector connects to an opto-coupled line in ace camera models. This means that you have to use the **Opto GND** pin of the **Power & I/O** connector. In ace 2 camera models, the pin connects to a GPIO line. This means that you have to use the standard **GND** pin of the **Power & I/O** connector.

For detailed information about using the controller, see the [Light Control Feature Set](#) [light-control-feature-set.html] topic.

Troubleshooting

Short Circuit

If the [device status LED](#) [#device-status-led] indicates a short circuit, you need to power-cycle the controller. If you're using more than one controller, the other controllers need to be power-cycled as well even if they haven't experienced any faults.

Power-Cycling the Controller

After power-cycling the controller, it can take up to five minutes for the controller to become available again. This is normal behavior.