# High-Current Universal 2-Channel LED Controllers with External Triggers and up to 2,000mA (CW) & 3,500mA (PWM) Output Current

(Part Number: SLC-HA02-US, SLC-HV02-US)

## FEATURES

- Driving current up to 2A in DC mode and up to 3.5A in pulse mode, with over current protection
- Computer controllable
- Universal - suitable for any LED
- Capable of driving variable loads
- User friendly application software with GUI
- SDK and Rich RS232 command set included for custom applications
- Normal, Strobe and Trigger mode for every channel
- Programmable constant current, pulse-width modulation and/or arbitrary waveform
- Up to 11.5V output voltage for each channel
- Programmable rising or falling edge external trigger
- Built-in non-volatile memory, can be used without a PC

## APPLICATIONS

- Machine vision
- Displays
- Microscopy
- Semiconductor equipment
- Testing instruments
- Medical instruments
- Lighting

## PRODUCT DESCRIPTION

Goptica has developed a series of computer-controllable, multi-channel, universal LED controllers, which can be used to drive any type of LED in any of the three (3) modes: 'NORMAL' (or 'constant current'), 'STROBE', and/or external 'TRIGGER' mode. Each unit comes with PC-based software with a user-friendly GUI, which enables users to drive LEDs without the need to write any code. In addition, a powerful SDK and a rich RS232 command set are provided, in order for users to write their own software and to integrate Goptica's LED controllers into their own systems. Furthermore, the LED controllers have a built-in security feature, allowing users to limit LED driving current and voltage.


This datasheet covers two (2) product series (i.e. HA and HV series) of High-Precision Universal 2-Channel LED Controllers with External Triggers and up to 2,000mA (CW) & 3,500mA (PWM) Output Current.

## ELECTRICAL SPECIFICATION

| Parameters | SLC-HA02-US | SLC-HV02-US | Unit |
|---|---|---|---|
| Power Supply Input Voltage $V_{dc}$ | 9 ~ 12 | | V |
| Power Supply Input Current | < 4,000 | | mA |
| Per Channel Driving Voltage (max) | $V_{dc}$ - 0.5 | | V |
| Per Channel Driving Current | 2,000 ("NORMAL" Mode) | | mA |
| | 3,500 ("STROBE" or "TRIGGER" Mode) | | mA |
| Output Current Resolution | 1 | | mA |
| Output Current Linearity | +/-4 (or +/-0.5%) | | mA |
| Output Current Repeatability | +/-1 (or +/-0.2%) | | mA |
| Trigger Input High Level | 3.3 ~ 10.0 | | V |
| Trigger Input Low Level | 0.8(Max) | | V |
| Forward Voltage Monitoring Accuracy | N.A. | +/-10 | mV |

Notes: 1. Maximum Output Voltage is 0.5V less than the Power Supply Input Voltage. For instance, with a Power Supply Input Voltage of $V_{dc}$=12V, the Maximum Output Voltage $V_{max}$ would be $V_{dc}$ - 0.5V = 11.5V.
2. Each output channel can be individually configured to work in one of the following three (3) modes, controlled through a PC-based software with GUI. In all three modes, overdrive current limit can be set:
**Normal:** Constant current output at any value from 0mA to 2,000mA with 1mA resolution.
**Trigger:** External trigger signal could be used to turn on each individual channel, generating driving current with any user-defined waveform. Alternatively, each output channel can work under the "FOLLOWER" mode, in which the current output follows the waveform of the trigger input; and
**Strobe:** Internal Strobe Generator generates frequencies as high as 25KHz. The strobe signal (i.e. current levels, duty cycle and strobe frequency) can be set through software.

## TIMING SPECIFICATION

| Parameters | SLC-HA02-US | SLC-HV02-US | Unit |
|---|---|---|---|
| Timing Resolution | 20 | | µs |
| # of Data Points for Waveform Definition | 2 | | |
| Trigger Pulse Width | 100 (Minimum) | | µs |
| Max Trigger Delay | 25 | | µs |

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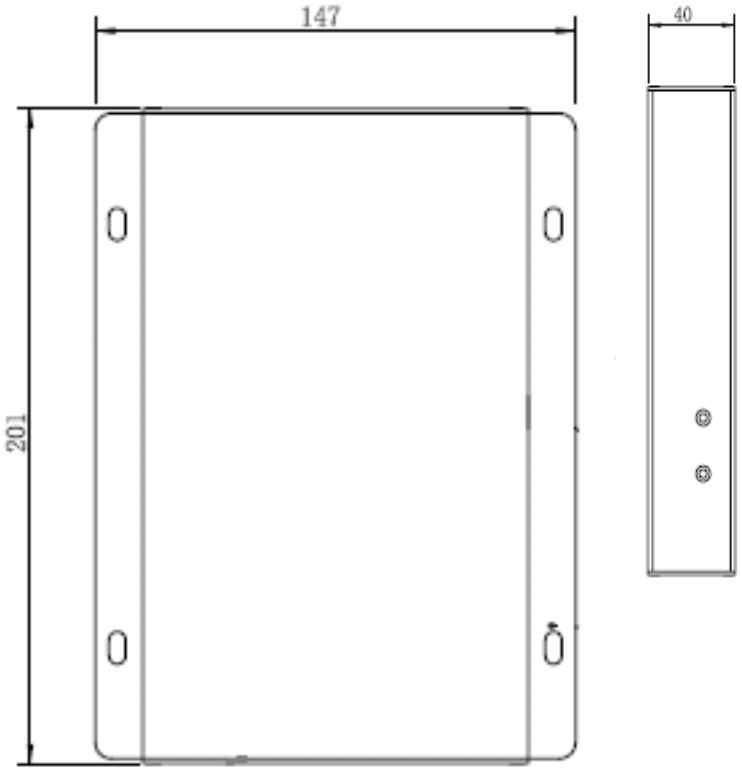
## OPERATION CONDITION

| | |
|---|---|
| **Operating Temperature Range** | 0°C ~ 45°C |
| **Storage Temperature Range** | -25°C ~ 85°C |
| **Relative Humidity, Non-condensing** | 5% ~ 95% |

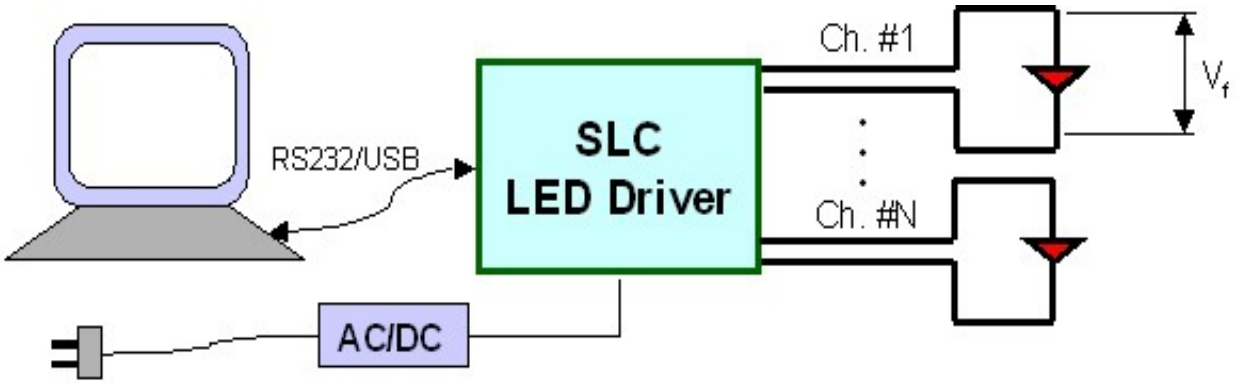
## DIMENSION AND WEIGHT

| | |
|---|---|
| **Dimension** | 201mm(L) x 147mm (W) x 40mm (H) |
| **Weight** | 600g |

## INSTALLATION DRAWING




## APPLICATION DIAGRAM

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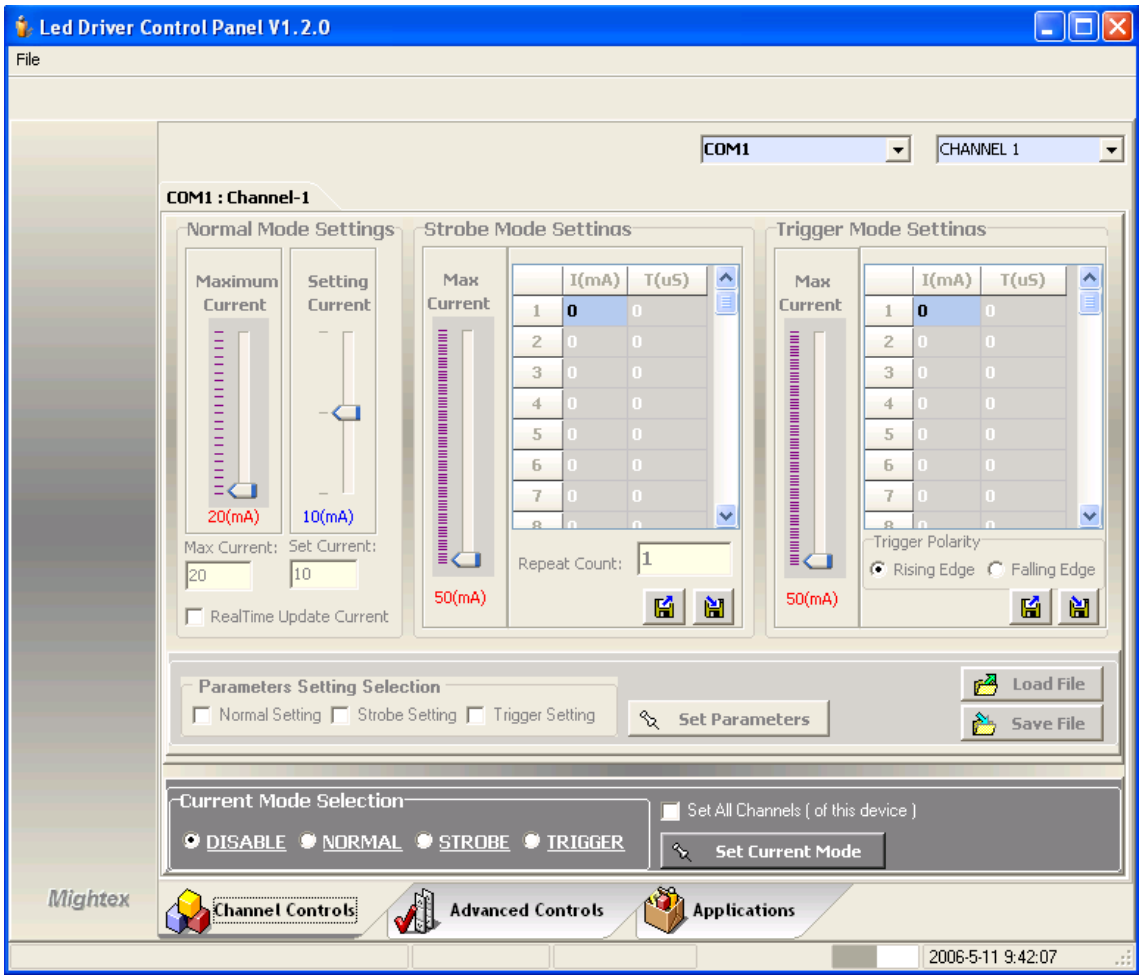
## EXAMPLE OF GRAPHICAL USER INTERFACE

- GUI application for manual channel control
- Pre-programmed patterns for Trigger and Strobe mode

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