

# 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

Mightex 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 Mightex'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, override 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		$\mu s$
# of Data Points for Waveform Definition	2		
Trigger Pulse Width	100 (Minimum)		$\mu s$
Max Trigger Delay	25		$\mu s$

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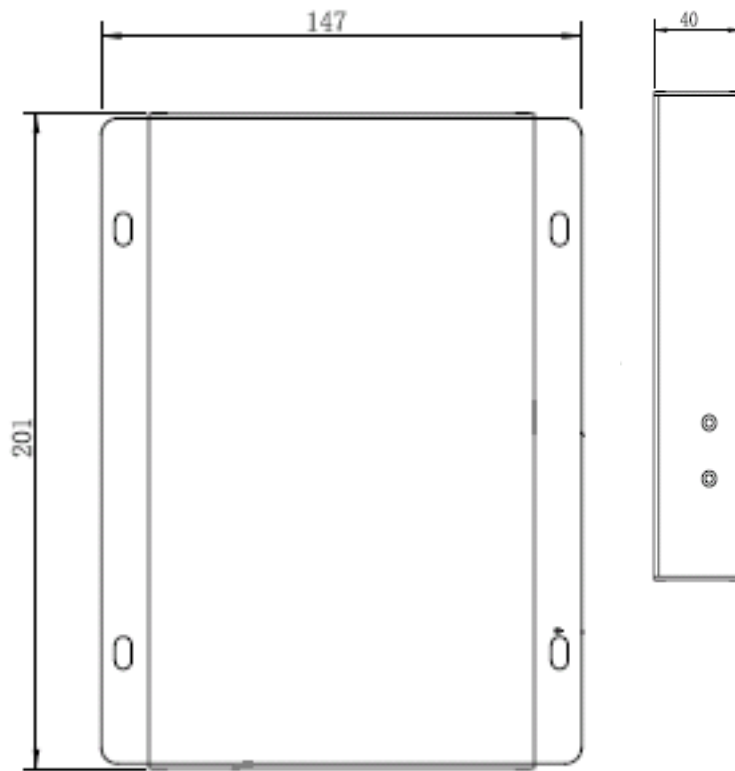
## OPERATION CONDITION

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

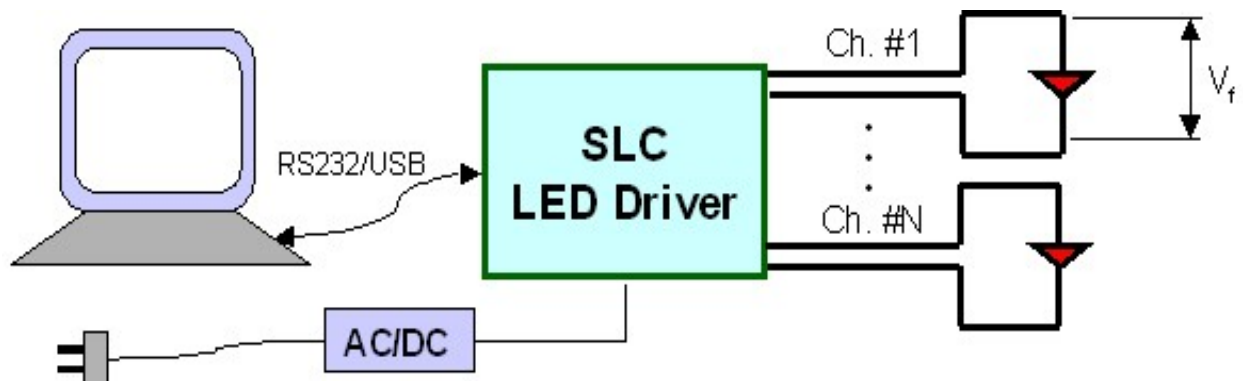
## DIMENSION AND WEIGHT

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

## INSTALLATION DRAWING



## APPLICATION DIAGRAM

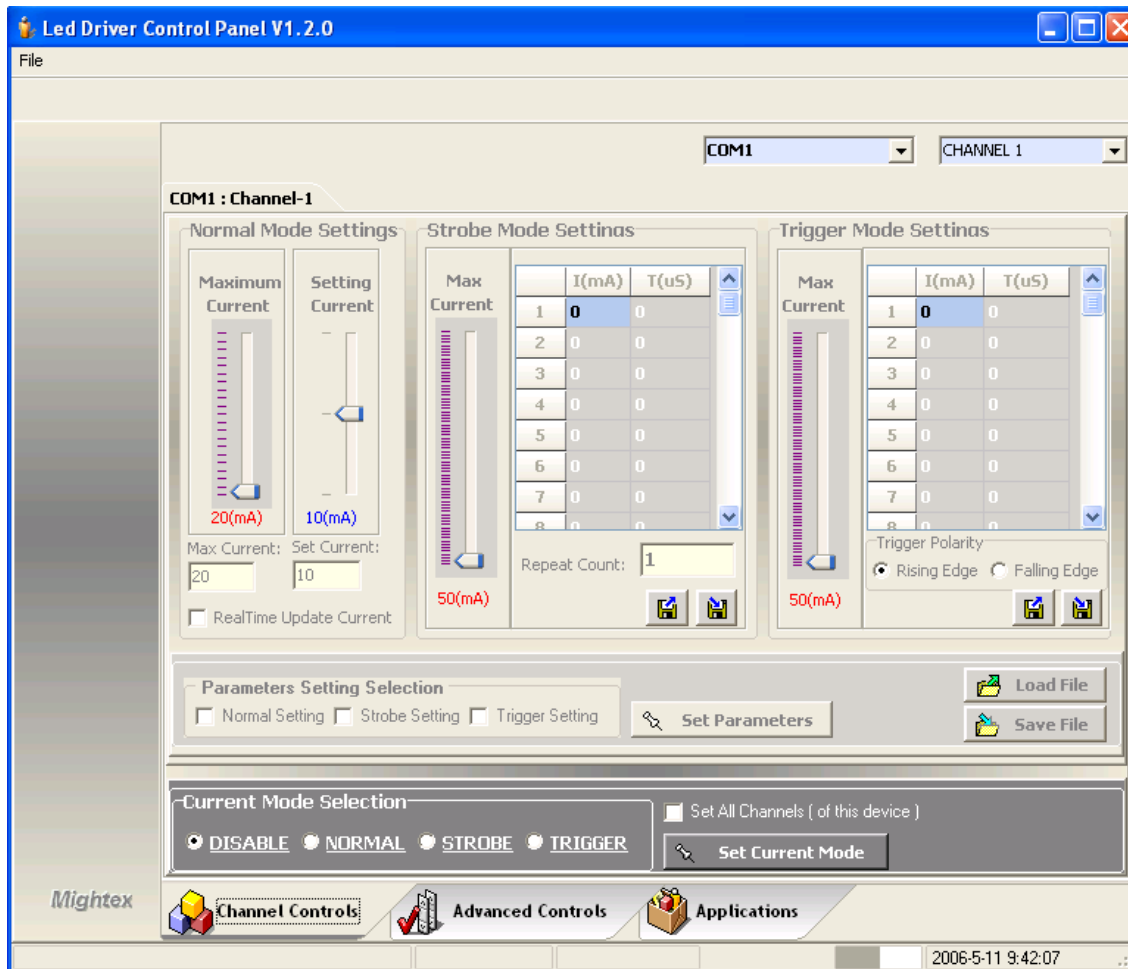


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## EXAMPLE OF GRAPHICAL USER INTERFACE

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



With a world-class OEM design team, Mightex offers a broad range of customized solutions in order to meet individual customer's unique requirements. Please call 1-416-840 4991 or email [sales@mightex.com](mailto:sales@mightex.com) for details.