

# 12- and 16- Channel Computer-Controlled Universal LED Controllers with 5mA Current Resolution

(Part Numbers: SLC-CA12-U, SLC-CA12-S, SLC-CA16-U and SLC-CA16-S)

## PRODUCT DESCRIPTION

### FEATURES

- ◆ Computer controlled
- ◆ Dual control modes: DC or Strobe
- ◆ Universal - suitable for any LED
- ◆ User friendly application software with GUI
- ◆ Capable of driving variable loads
- ◆ Full-featured SDK
- ◆ Up to 1,000mA output current
- ◆ 5mA current resolution

### APPLICATIONS

- ◆ Microscopy
- ◆ Lighting
- ◆ Machine vision
- ◆ Displays
- ◆ Semiconductor equipment
- ◆ Test instruments
- ◆ Medical instruments

Mightex's 12- and 16- Channel Computer-Controlled Universal LED Drivers are designed to drive a broad range of LED light sources. Each unit comes with a powerful PC-based software with a user-friendly GUI, which enables users to drive LEDs without the need to write any code. In addition, a full-featured SDK is provided, in order for users to write their own software and to integrate Mightex's LED drivers into their own systems. Furthermore, the drivers have a built-in protection feature, allowing users to limit LED driving current and voltage.



Each channel can be individually configured to work under one of the following two modes:

- **Normal Mode (or DC Mode):** The output current is a constant, which can be adjusted (using software) from 0 mA to 1,000 mA, through the USB interface;
- **Strobe Mode:** A Pulse-Width-Modulated (or PWM) periodic strobe pattern is output from the channel, which can be turned on by a software trigger. The strobe pattern may last indefinitely or for a preset number of cycles. The frequency of the PWM strobe can be up to 500Hz.

In addition, each channel can be individually **DISABLED** and **ENABLED**. No voltage or current is output from a DISABLED channel.

### ELECTRICAL SPECIFICATIONS

Parameters	SLC-CA12-U-S	SLC-CA16-U-S	Unit
Number of Channels	12	16	
Power Supply Input Voltage ( $V_{dc}$ )	9 ~ 24		V
Maximum Output Voltage ( $V_{max}$ ) <sup>1</sup>	<21		V
Maximum Per Channel Output Current ( $I_{max}$ )	1,000		mA
Maximum Per Channel Output Power ( $P_{max}$ ) <sup>2</sup>	10		W
Output Current Resolution	5		mA
Output Current Accuracy	±10 mA or ±2.0%, whichever is larger		mA
Output Current Repeatability	±5 mA or ±1%, whichever is larger		mA
PWM Timing Resolution <sup>3</sup>	100		µs
PWM Timing Minimum Step Size <sup>3</sup>	1,000		µs
Interface	USB (-U) or RS232 (-S)		

1. Maximum Output Voltage is 3V less than the Power Supply Input Voltage, i.e.  $V_{max} = V_{dc} - 3V$ . For instance, with a Power Supply Input Voltage of  $V_{dc}=24V$ , the Maximum Output Voltage  $V_{max}$  would be  $(V_{dc}-3V)=21V$ ;

2. If the channel output voltage is  $V_d$  and the output current is  $I_d$ , they must simultaneously satisfy: (1)  $V_d \leq V_{max}$ ; (2)  $I_d \leq I_{max}$ ; and (3)  $V_d * I_d \leq P_{max}$ ; and

3. Each period of a PWM square wave comprises of ON time and OFF time, i.e. two (2) 'steps'. The minimum value for each step is 1000µs, and the minimum increment is 100µs.

### CHANNEL I/O PIN DEFINITION

Each Channel has two pins, defined as following:

Label	LED+	LED-
Description	LED Anode	LED Cathode

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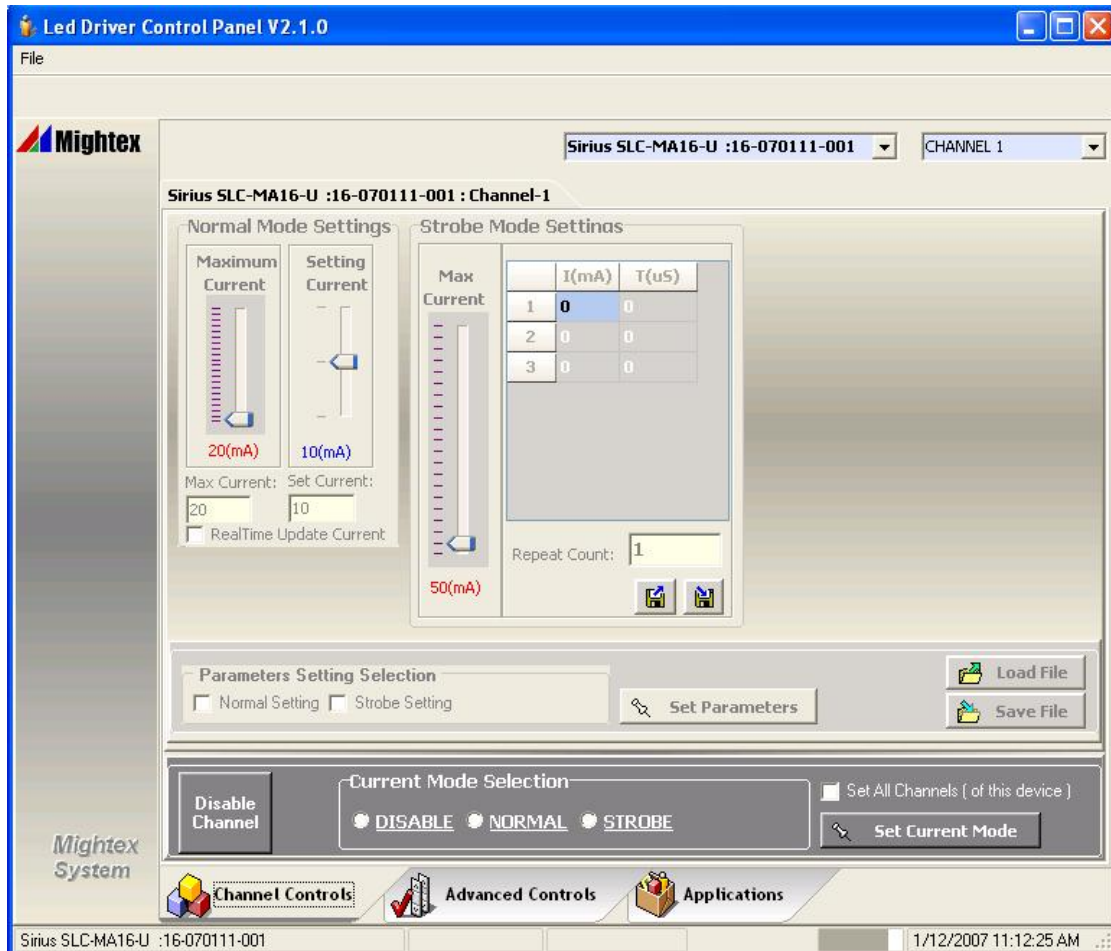
## OPERATION CONDITION

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

## DIMENSION AND WEIGHT

Dimension: 180.5mm(L) x 180mm (W) x 34.5mm (H)  
Weight: 400g

## EXAMPLE OF GRAPHICAL USER INTERFACE



For customized solutions, please call 1-416-840 4991 or email [sales@mightex.com](mailto:sales@mightex.com).