

# High-Precision Universal 2- and 4-Channel LED Controllers with External Triggers and 0.1mA Current Resolution

(Part Numbers: SLC-FA02-U, SLC-FA04-U, SLC-FV02-U, and SLC-FV04-U)

## PRODUCT DESCRIPTION

### FEATURES

- ◆ Current resolution 0.1mA
- ◆ Computer controllable
- ◆ Universal - suitable for any LED
- ◆ Capable of driving variable loads
- ◆ User friendly application software with GUI
- ◆ SDK for custom applications
- ◆ Normal, Strobe and Trigger mode for every channel
- ◆ Programmable constant current, pulse-width modulation and/or arbitrary waveform
- ◆ Driving current up to 100mA in DC mode and up to 3500mA in pulse mode, with over current protection
- ◆ Up to 23.5V 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

Mightex has developed a series of computer-controllable, multi-channel, universal LED drivers, 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 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 security feature, allowing users to limit LED driving current and voltage.



This datasheet covers two (2) product series (i.e. FA and FV series) of High-Precision Universal 2- and 4-Channel LED Controllers with External Triggers and 0.1mA Current Resolution, which currently include 4 models in total. The following table, which can also be used as a product selection guide, compares the key features of the 4 product models.

P/N	# of Channels	Control Mode <sup>(1)</sup>			Arbitrary Waveform <sup>(2)</sup>	Interface	Forward Voltage Monitoring
		NORMAL	STROBE	TRIGGER			
SLC-FA02-U	2	•	•	•		USB	
SLC-FA04-U	4	•	•	•		USB	
SLC-FV02-U	2	•	•	•		USB	•
SLC-FV04-U	4	•	•	•		USB	•

Notes: (1) 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 100mA with 0.1mA 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.

## 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

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## PERFORMANCE SPECIFICATIONS

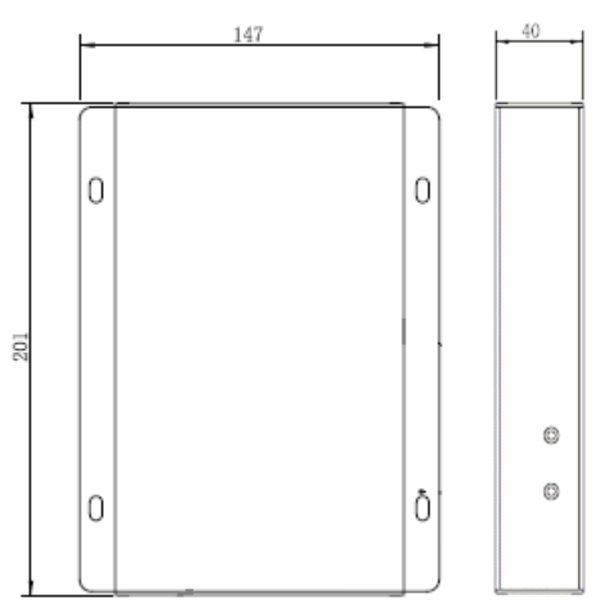
### ELECTRICAL SPECIFICATION:

Parameters	SLC-FAxx-x	SLC-FVxx-x	Unit
Power Supply Input Voltage, V(dc)	9 ~ 24		V
Power Supply Input Current	< 4000		mA
Per Channel Driving Voltage (max)	11.5V (with a 12V DC input) or 23.5V (with a 24V DC input)		V
Per Channel Driving Current	0 ~ 100 ("NORMAL" MODE)		mA
	0 ~ 350 ("STROBE" or "TRIGGER" MODE)		mA
Output Current Resolution	0.1		mA
Output Current Linearity	+/-0.4 (or +/-0.5%)		mA
Output Current Repeatability	+/-0.1 (or +/-0.2%)		mA
Trigger Input High Level	4.5 ~ 10.0		V
Trigger Input Low Level	0.8 (Max.)		V
Forward Voltage Monitoring Accuracy	N/A	+/-10	mV

### TIMING SPECIFICATION:

Parameters	SLC-FAxx-x	SLC-FVxx-x	Unit
Timing Resolution	20		µs
Trigger Pulse Width	100 (Minimum)		µs
Max Trigger Delay	25		µs

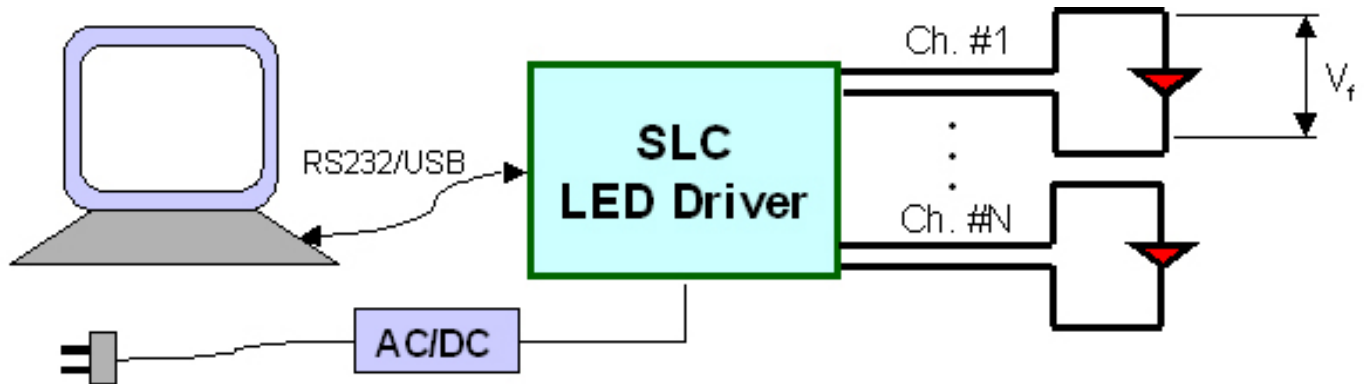
## INSTALLATION DRAWING



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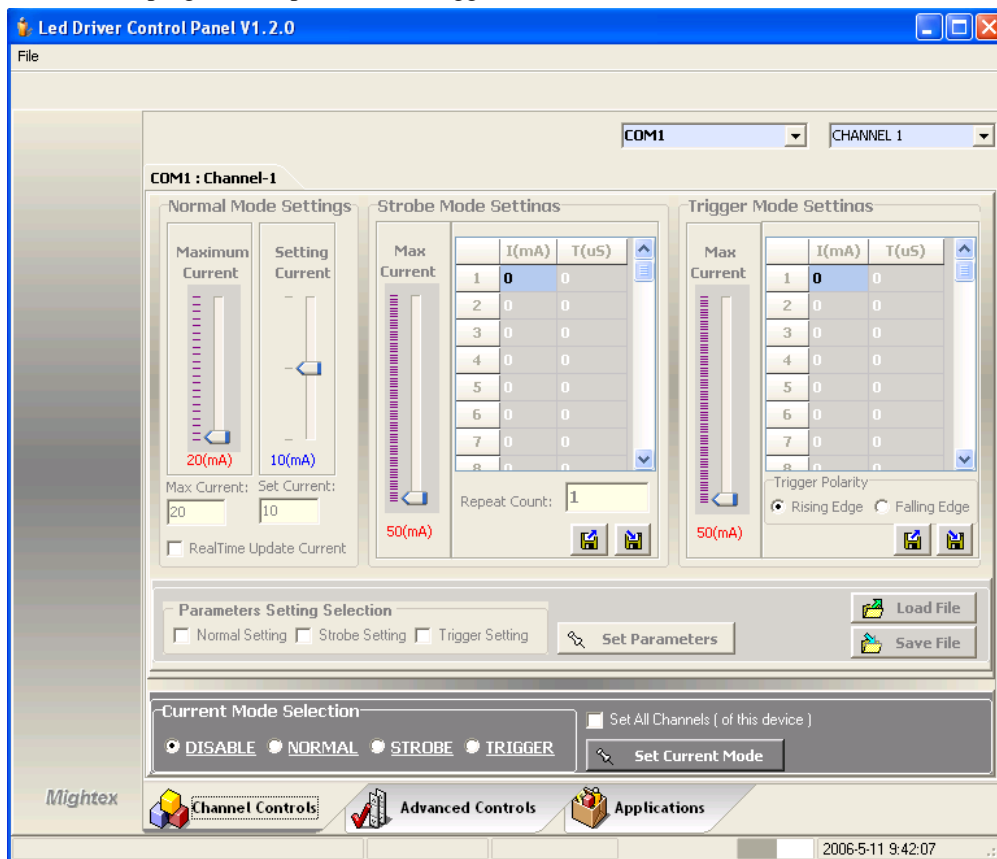
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## APPLICATION DIAGRAM



## EXAMPLE OF GRAPHICAL USER INTERFACE

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



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