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

(Part number: SLC-FA02-US, SLC-FA04-US, SLC-FV02-US, SLC-FV04-US, SLC-XA02-US, SLC-XA04-US, SLC-XV02-US, SLC-XV04-US)

FEATURES

- Driving current up to 100mA in DC mode and up to 350mA in pulse mode, with over current protection
- Current resolution 0.1mA
- Computer controllable
- USB and RS232 interfaces
- 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 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

PRODUCT DESCRIPTION

Goptica 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 Goptica'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.

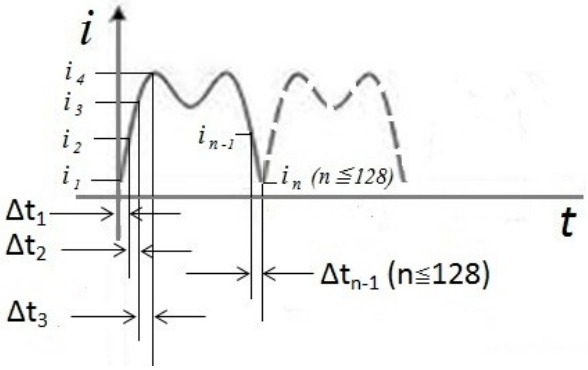
This datasheet covers four (4) product series (i.e. FA, FV, XA and XV series) of High-Precision Universal 2- and 4-Channel LED Controllers with External Triggers and 0.1mA Current Resolution, which currently include 8 models in total. All FA/FV/XA/XV LED controllers have 0.1mA current resolution, and a maximum current of 100mA in DC mode and 350mA in pulse mode.

P/N	# of Channels	Control Mode(1)			Arbitrary Waveform(2)	Interface	Forward Voltage Monitoring
		NORMAL	STROBE	TRIGGER			
SLC-FA02-US	2	•	•	•		USB & RS232	
SLC-FA04-US	4	•	•	•		USB & RS232	
SLC-FV02-US	2	•	•	•		USB & RS232	•
SLC-FV04-US	4	•	•	•		USB & RS232	•
SLC-XA02-US	2	•	•	•	•	USB & RS232	
SLC-XA04-US	4	•	•	•	•	USB & RS232	
SLC-XV02-US	2	•	•	•	•	USB & RS232	•
SLC-XV04-US	4	•	•	•	•	USB & RS232	•

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.

(2)Arbitrary Waveform. Using the included application software or SDK or RS232 command set, user may define any arbitrary waveform using 128 data points



	I(mA)	T(μS)
1	i_1	Δt_1
2	i_2	Δt_2
3	i_3	Δt_3
4	i_4	Δt_4
	...	...
n-1	i_{n-1}	Δt_{n-1}
n	i_n	Δt_n
	0	0

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(Part number: SLC-FA02-US, SLC-FA04-US, SLC-FV02-US, SLC-FV04-US, SLC-XA02-US, SLC-XA04-US, SLC-XV02-US, SLC-XV04-US)

ELECTRICAL SPECIFICATION

Parameters	SLC-XAxx-xx	SLC-XVxx-xx	SLC-FAxx-xx	SLC-FVxx-xx	Unit
Power Supply Input Voltage V(dc)	9 ~ 24				V
Power Supply Input Current	< 4,000				mA
Per Channel Driving Voltage (max) [1]	< 23.5				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	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} = 24V, the Maximum Output Voltage V_{max} would be V_{dc} - 0.5V = 23.5V.

TIMING SPECIFICATION

Parameters	SLC-XAxx-x	SLC-XVxx-x	SLC-FAxx-x	SLC-FVxx-x	Unit
Timing Resolution	20				μs
# of Data Points for Waveform Definition	128		2		
Trigger Pulse Width	100 (Minimum)				μs
Max Trigger Delay	25				μs

OPERATION CONDITION

Operating Temperature Range: 0℃ ~ 45℃

Storage Temperature Range: -25℃ ~ 85℃

Relative Humidity, Non-condensing: 5% ~ 95%

DIMENSION AND WEIGHT

Dimension: 201mm(L) x 147mm (W) x 40mm (H)

Weight: 600g

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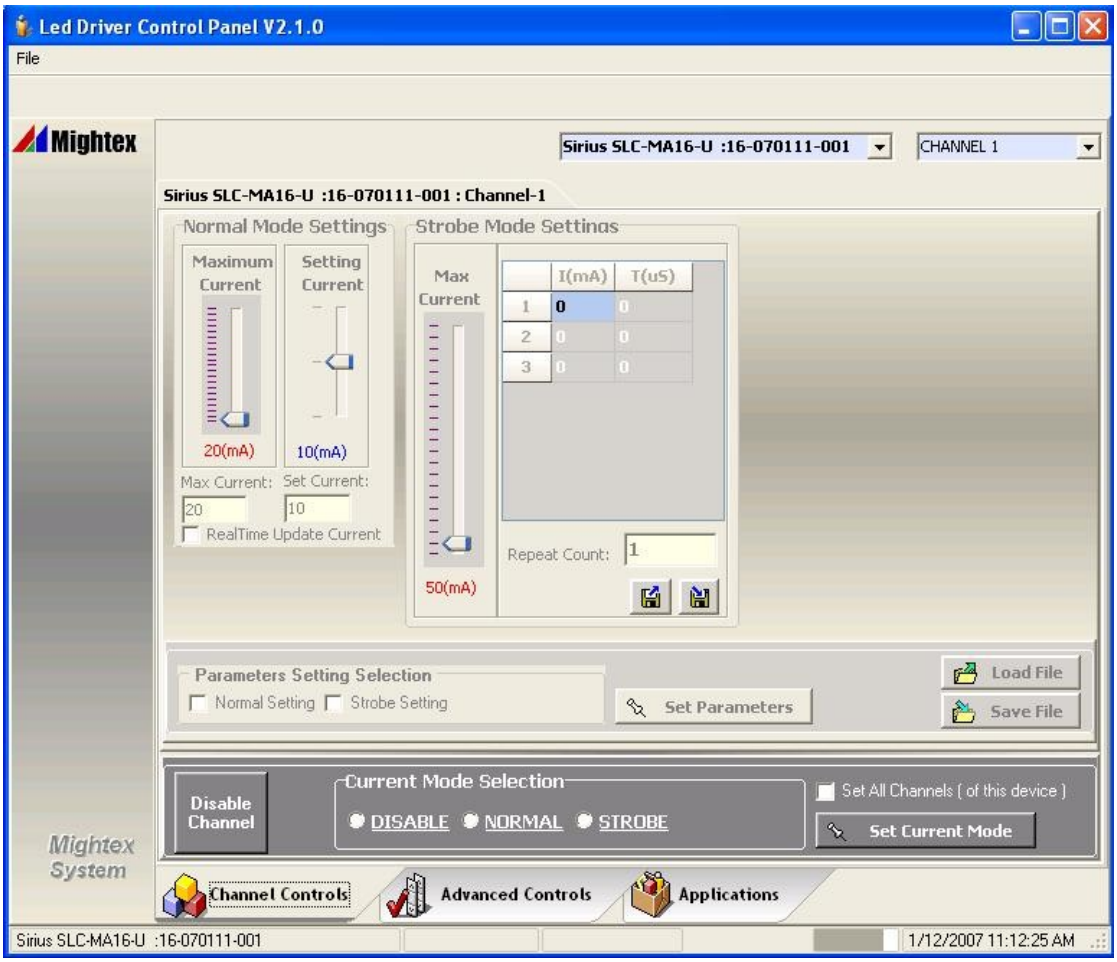
EXAMPLE OF GRAPHICAL USER INTERFACE



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 +86 -150-0085-3620or email sales@goptica.com for details.

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