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Cree® LMD300, LMD400 & LMD600 LED Module Drivers

PRODUCT DESCRIPTION

Cree LED modules provide lighting designers and manufacturers with simple, easy-to-adopt LED lighting solutions that reduce luminaire development time and speed time-to-market. Cree LMD300, LMD400 and LMD600 LED module drivers are specifically designed to work with the Cree LMH2 2000-, 3000-, 4000- and 6000-lumen light sources to jump-start the design process for recessed downlights, wall sconces or pendant lights in demanding end markets such as retail, museums, hospitality and restaurants.

FEATURES

- Input voltage options: 100-240 V, 100-277 V, 120-277 V & 220-240 V
- 0/1-10 V dimming support for 100-240 V, 100-277 V, 120-277 V & 220-240 V options
- DALI + Touch dimming support for 220-240 V option
- Optimized for Cree LMH2 2000-, 3000- 4000- and 6000-lm light sources
- LMD400 enables California Title 24 compliance

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CHARACTERISTICS - LMD300 220- TO 240-V DALI + TOUCH DIMMING DRIVER

Order Code: LMD300-0040-C900-2020000

Characteristics	Unit	Minimum	Typical	Maximum
Input voltage range	VAC	207	230	264
Input power	W			40
Output current	mA		900	
Output voltage	V			39
Driver efficiency (@ 55 °C) - with LMH2 2000-lm light source	%		81	
Driver efficiency (@ 55 °C) - with LMH2 3000-lm light source	%		85	
Power factor - with LMH2 2000-lm light source			0.95	
Power factor - with LMH2 3000-lm light source			0.95	
LED driver case temperature	°C	0		70

- 3-D models (.STEP files) for the LMD300 LED module drivers are available on the Cree website by selecting the Documentation tab on the LMH2 product page.

CHARACTERISTICS - LMD400 120- TO 277-V 0/1-10 V DIMMING DRIVER

Order Code: LMD400-0048-C940-7030000

Characteristics	Unit	Minimum	Typical	Maximum
Input voltage range	VAC	108		305
Input power	W			48
Output current	mA		940	
Output voltage	V			22-44
Driver efficiency (@ 55 °C) - with LMH2 2000-lm light source	%		85	
Driver efficiency (@ 55 °C) - with LMH2 3000-lm light source	%		86	
Driver efficiency (@ 55 °C) - with LMH2 4000-lm light source	%		87	
Power factor - with LMH2 2000-lm light source			0.95	
Power factor - with LMH2 3000-lm light source			0.95	
Power factor - with LMH2 4000-lm light source			0.95	
Dimming current @ 120 V	mA			2.3
Dimming current @ 277 V	mA			2.3
LED driver case temperature	°C	0		90

- 3-D models (.STEP files) for the LMD400 LED module driver are available on the Cree website by selecting the Documentation tab on the LMH2 product page.

DIMMING

The LMH2 2000-, 3000- and 4000-lm light sources can use the LMD300 LED module driver with either DALI + Touch dimming or 0/1-10 V dimming and use the LMD400 LED module driver with 0/1-10 V dimming. The LMH2 6000-lm light source can use the LMD600 LED module driver with 0/1-10 V dimming.

Driver	Input Voltage	Dimming	Lowest Light Level
LMD300-0040-C900-8030000	100-240 V	0/1-10 V	10%
LMD300-0040-C900-7030000	120-277 V	0/1-10 V	10%
LMD300-0040-C900-2030000	220-240 V	0/1-10 V	10%
LMD300-0040-C900-2020000	220-240 V	DALI + Touch	10%
LMD400-0048-C940-7030000	120-277 V	0/1-10 V	10%
LMD600-0100-C1A7-7030000	100-277 V	0/1-10 V	1%

The LMH2 2000, 3000- and 4000-lm light sources combined with the LMD300 DALI + Touch driver is a DALI-certified device for use with DALI-compliant dimmers.

Caution - DALI dimming and Touch dimming should not be used on the same luminaire.

Setting Up the LMD300 DALI + Touch Driver in Touch Control Mode

The LMD300 DALI + Touch driver can be used in touch control mode in installations where DALI control is not installed. To set up touch control mode, wire the driver DALI terminals to 220- to 240-VAC mains power through a pushbutton (a momentary switch rated for 220 to 240 VAC and 0.5 A) as shown in the Wiring Diagrams section of this data sheet. Multiple LMH2 modules can be connected together to be controlled by the same pushbutton.

To activate touch control mode, turn on power to the LMH2 LED module without pressing the pushbutton, i.e., the switch is open. After one (1) second, the driver automatically enters touch control mode and the pushbutton can then be used to control the LMH2.

Touch Control Mode Operation

In touch control mode, a single pushbutton turns the LMH2 LED module on and off and changes its brightness. To turn the module on or off, press and release the pushbutton quickly (in less than 300 ms). When the module is on, change its brightness by pressing and holding the pushbutton. The brightness alternately increases or decreases each time the pushbutton is pressed and held. When the desired brightness is reached, release the pushbutton. The module will remain at this brightness level until the pushbutton is pressed and held again, even if it is turned off and back on.

Two methods can be used to quickly reach maximum and minimum brightness. For maximum brightness instantly, double-click the pushbutton when the LMH2 LED module is on. Double-clicking means quickly pressing and releasing the pushbutton twice in succession (with less than 300 ms between presses). For minimum brightness, press and hold the pushbutton when the LMH2 is off. The LMH2 LED module turns on at minimum brightness and increases in brightness until the pushbutton is released.

If multiple LMH2 LED modules are controlled by the same pushbutton, the modules can lose synchronization and not all perform the same action in response to the pushbutton. To synchronize all the modules connected to one pushbutton, press and hold the pushbutton

for at least one (1) second and release it, then double-click the pushbutton. All connected modules will then be on at maximum brightness, regardless of their previous states.

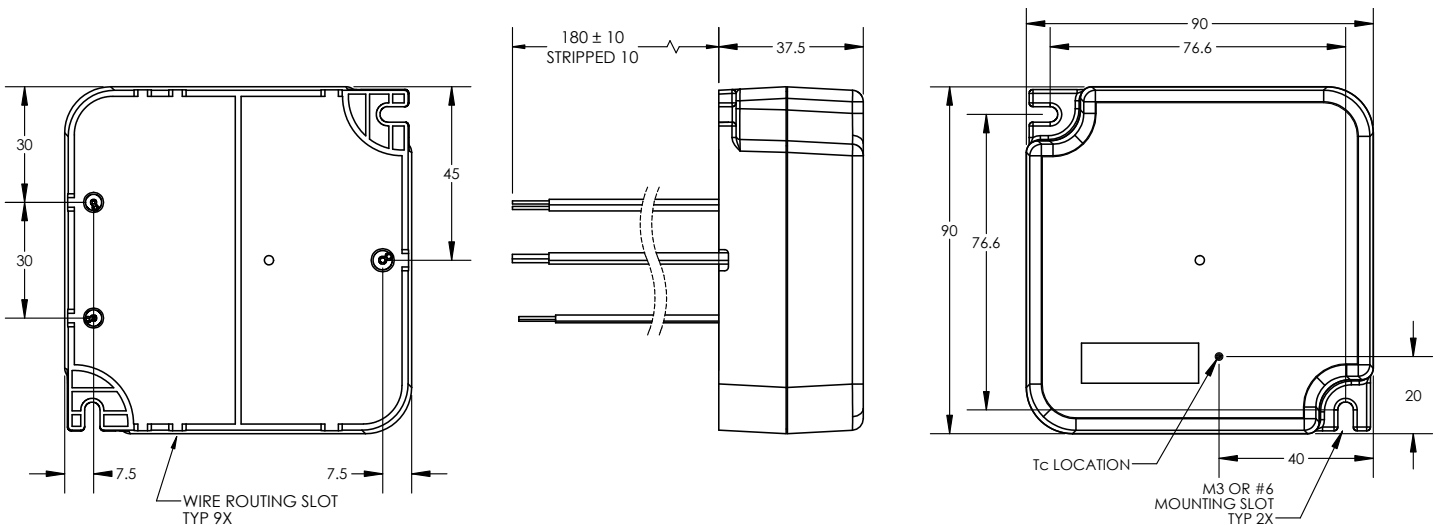Touch control mode operation is summarized in the following table.

Pushbutton Operation	Module Operation in Touch Mode	
	Module On	Module Off
Click	All off	All on at previous brightness
Press and hold	Brightness increases or decreases opposite of previous press and hold	All on at minimum brightness, increasing brightness while pushbutton held
Double-click	All on at maximum brightness	

MECHANICAL DIMENSIONS

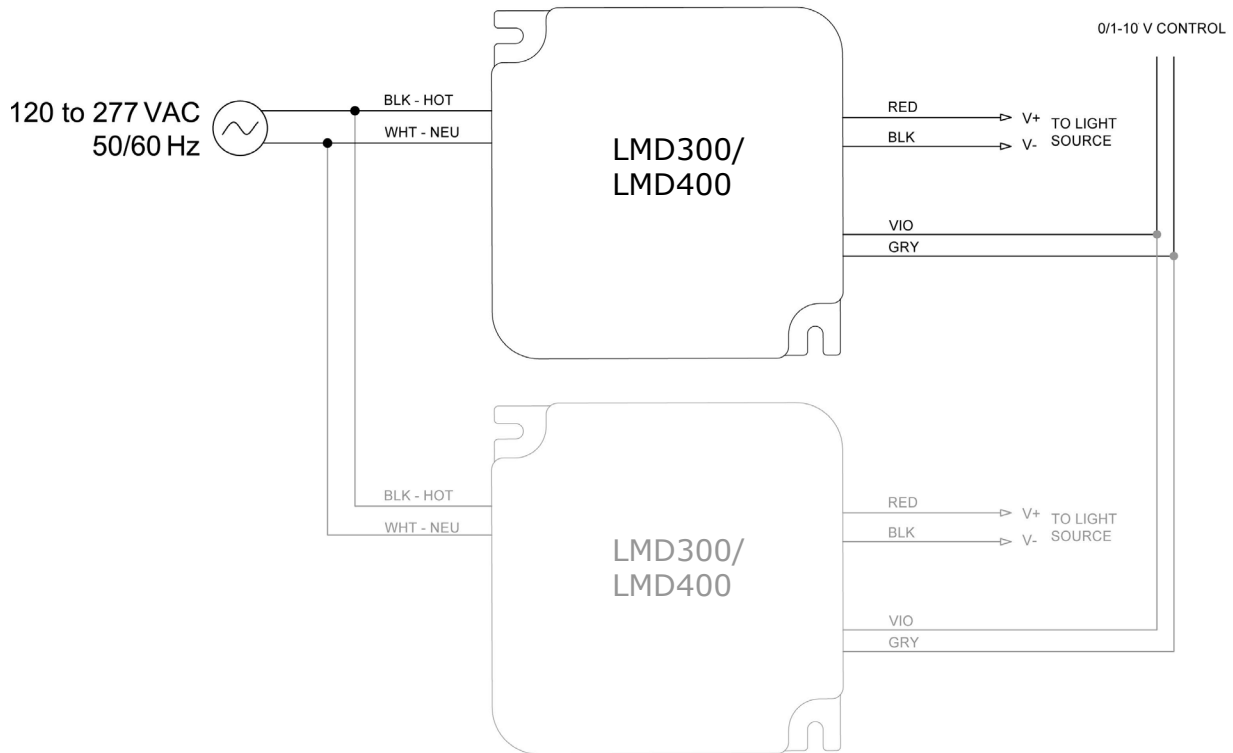### Physical Characteristics of the LMD300, LMD400 & LMD600 Drivers

Physical Characteristic	LMD300 100- to 240-V Driver	LMD300 120- to 277-V Driver	LMD300 220- to 240-V Drivers	LMD400 120- to 277-V Driver	LMD600 100- to 277-V Driver
Weight (g)	195	195	264	280	440
Maximum height (mm)	37.5	37.5	35	37.5	47
Maximum length (mm)	90	90	205	90	160
Maximum width (mm)	90	90	80	90	63

LMD300 100- to 240-V and LMD300 & LMD400 120- to 277-V Drivers[1]

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1 Dimensions for all the diagrams are in mm and are for reference only. For exact dimensions and tolerances, refer to the 3-D models (.STEP files) for the LMD300, LMD400 and LMD600 drivers available by selecting the Documentation tab on the LMH2 product page.

LMD300 & LMD400 120- to 277-V Drivers

LMD300 220- to 240-V 0/1 - 10 V and DALI + Touch Dimming Drivers - Touch Operation Not Required

MULTIPLE UNITS MAY BE DAISYCHAINED