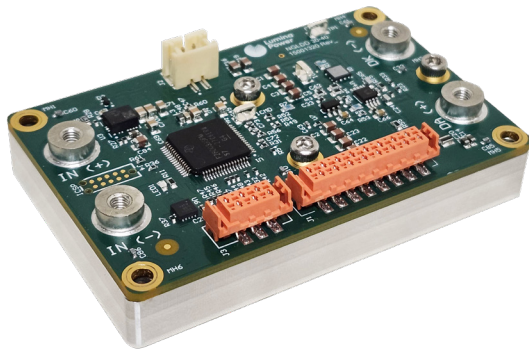


NGLDD-1200

Pulsed/ CW Laser Diode Driver Module



Description

The NGLDD-1200 Pulsed/ CW Laser Diode Driver combines high power and performance in a compact, cold-plate-cooled package. The NGLDD accepts DC input voltages between 12 to 56 V and delivers up to 30 A output current at voltages up to 47 V, making it suitable for powering multiple laser diode emitters or laser bars. Multiple modules can be paralleled for higher-power applications.

With power delivery capability up to 1,200 W and efficiency approaching 99%, the NGLDD delivers high power density within a compact 5-square-inch package. In pulsed operation, the driver provides programmable rise and fall times as fast as 15/20 μ s, and pulse widths from 50 μ s to CW enabling precise control for demanding laser applications.

The NGLDD supports both RS-485 and analog control interfaces, with programmable output parameters for flexible system integration. Built-in laser diode protection features include over-current protection, fast turn-off, and an output crowbar for enhanced protection of connected laser diodes. Contact Lumina Power today to discuss your requirements.

Features

- Output current up to 30 A
- Compliance voltages up to 47 V
- Typical 15/20 μ s rise/fall time
- RS-485 and analog control
- Laser diode protection
- 1,200 W average power
- Efficiency >98%
- User configurable GPIO

Advantages

- RS-485 Configurable I/O
- Parallelable
- Fast turn-off OC protection
- Output crowbar protected
- No air cooling required
- Low current ripple/ noise

Applications

- Medical
- Industrial
- Scientific
- Directed Energy

NGLDD-1200

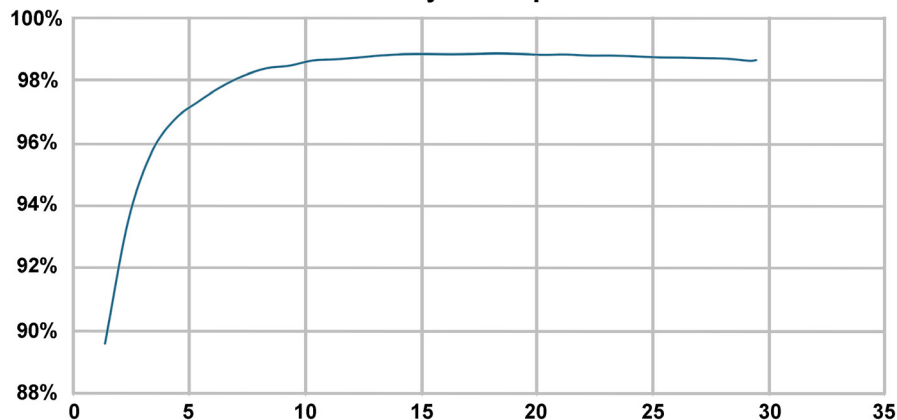
Pulsed/ CW Laser Diode Driver Module

Specifications

PARAMETER	Min.	Typical	Max.	Units
INPUT				
Voltage	12	-	56	V
Current control scaling (10a/v)	0.1	-	3	V
RS-485 Control	-	-	1	MHz (Bd rate)
Current control resolution	-	9		mA
GPIO 1,2,3 and digital IO input voltage	0		3.3	V
External Laser diode temperature monitor	-	10	-	kΩ (NGLDD reads thermistor through the RS-485 interface)
Aux input	10	12	24	V
OUTPUT*				
Current	1	-	30	A
Compliance Voltage	$V_{in} \cdot .1$	-	$V_{in} \cdot .85$	V
Pulse Width	50	-	CW	μs
Duty cycle	0	-	100%	% (1,200 W_{avg})
Modulation BW 2 A-30 A swing	-	23	-	kHz
Rise time 1-30 A load dependent	-	15	-	μs
Current stability 8hrs 25C	-	-	+/-0.2	μ%
Ripple current	-	0.2	-	%RMS (48Vin, 24 Vout 30 A)
GPIO 1,2,3 and digital io output voltage	0	-	3.3	V
Efficiency	>98%			% (see chart)
Operating temperature (baseplate temp)	-20	-	50	deg C
Storage temp	-20	-	85	deg C
Protection	Open circuit, short circuit, crowbar, adjustable current limit overtemperature warning, overtemperature shutdown.			
Paralellable for higher current				
Cooling	Mount the aluminum heatsink to a coldplate or heatsink that can maintain the baseplate at 50C or lower. No airflow required.			

*Actual results may vary depending on load conditions.

Efficiency vs Output Current



NGLDD-1200

Pulsed/ CW Laser Diode Driver Module

Specifications

User Interface

Notes

Analog Interface	
RS-485/ MODBUS Digital Interface	
USB & EtherCAT	Contact factory
GUI Control Software	

Protection

Soft-start Ramp	Current
Over-current Protection	Fast shut-down
Over Temp thermal	Warning and shut-down
Reverse Current Protection	
Disable input/ interlock	
Over-voltage protection	
Output crowbar	
NTC Thermistor Input/ Diode	Input & Laser Diode

Size and Weight

Size (L x W x H)	2.8" x 1.8" x 0.7" 71 x 45.7 x 17.67 mm
Weight	3.57 oz 101.2 g

Ordering Information

Laser Diode Driver

Model #	NGLDD-1200-30-40
Part #	15001321
Warranty	2 Year factory warranty

Development Kit

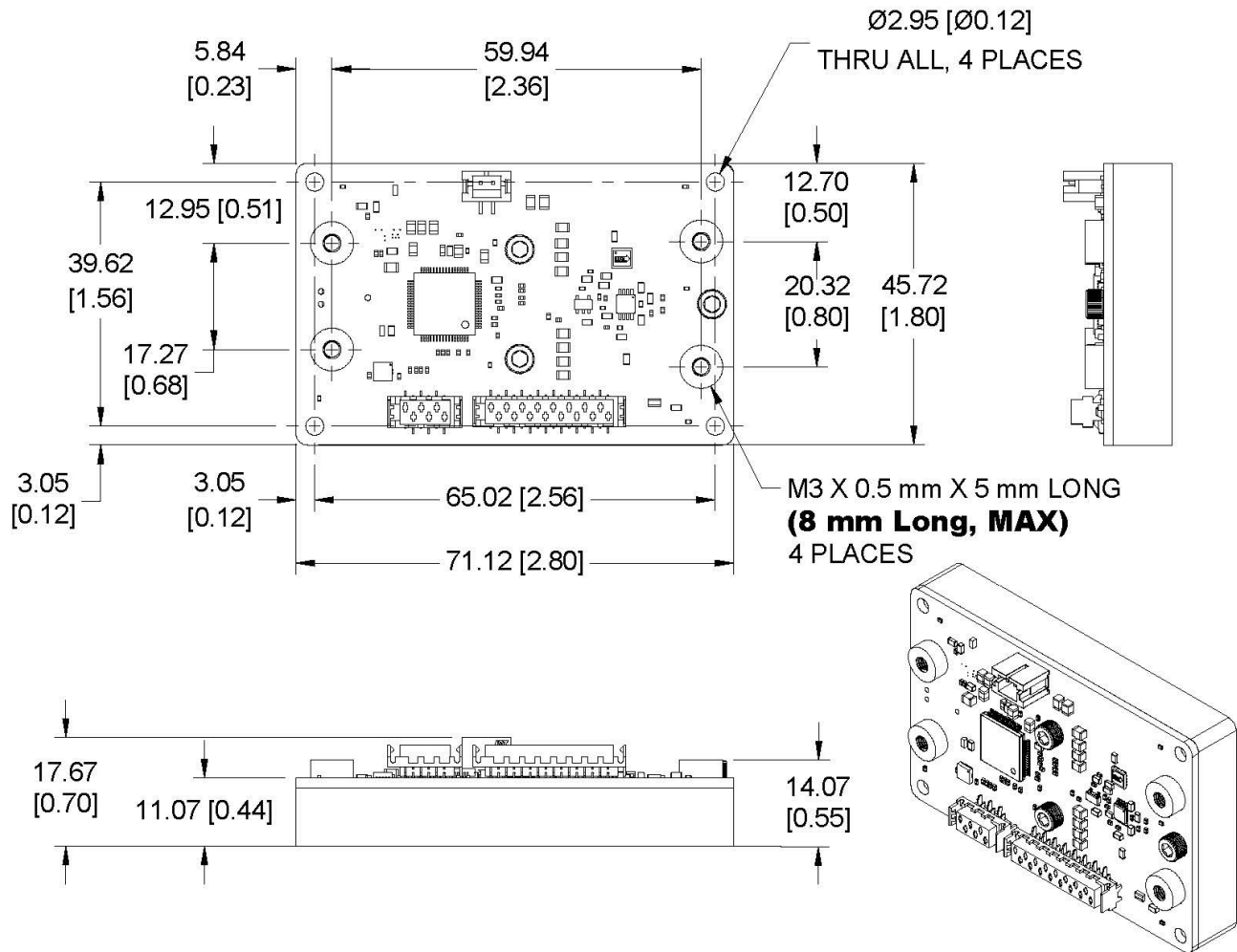
Model #	NGLDD-1200-KIT
Part#	11001568

Includes: NGLDD, RS-485 adapter, 8 & 14 pin, 20" long ribbon cables

NGLDD-1200

Pulsed/ CW Laser Diode Driver Module

Outline Drawings



CONNECTIONS

Input	M3 terminals
Output	M3 terminals
Control interface	MicroMatch 8-338069-6, 7-338069-6
Thermistor (optional)	JST B2B-PH-SM4-TB