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Laser Diode Driver with TEC Control

The diode laser power supply YTH is a continuous adjustable current-constant power supply in which latest international advanced diode laser power solution and high quality components are used. it has advantages like low output noise, great constant current characteristic, current stability, anti-interference and etc. It also has protection circuit for voltage and current to prevent overshoot, kickback and surge to ensure stability of laser operation and life. LCD on power supply can display various parameters and their status. With overvoltage, over current, water temperature and water pressure alarm function it is truly an ideal power source for diode pump laser. It is compatible with the module made by DILAS, LIMO, nNight, Coherent and Focuslight, and it is also an ideal power for ultraviolet and green DPSS lasers.

Features

- 4 ways TEC drivers (1 way provides temperature control for built-in LD).
- High precision and high sensitivity NTC imported from Japan, full digital PID control, adjustable parameters.
- Temperature control accuracy: ±0.1°C. Support TEC hot side temperature detection and fan control.
- 1 way built-in digital LD driver: 60A@5V, efficiency>75%, current ripple<30mA, voltage ripple<15mV. Include voltage clamp with over current & overvoltage protection, provided overheat protection. Also include under voltage protection and fuse protection for over current.
- Built in PWM with adjustable frequency range from 5000Hz-100 kHz and stepping at 1000Hz.
- Adjustable pulse width1us~30us.
- Included red light indicator
- Exchangeable laser control between internal and external control
- Support Q-drive alarm detection
- Alarm for abnormal temperature detection

System		
4 ways chilling system	High precision and high sensitivity NTC imported from Japan， Temperature control accuracy：±0.1°C Support 2-way TEC control, able to heat up or cool down	
	CHAN0	Used for built-in temperature control laser module. 2-direction 12V/10A
	CHAN1	2-direction 12V/10A
	CHAN2	2-direction 12V/10A
	CHAN3	2-direction 12V/10A
Laser Driver	60A@5V, efficiency>75%, current ripple<30mA, voltage ripple<15mV。	

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	Include voltage clamp with over current & overvoltage protection, provided overheat protection. Include under voltage protection and fuse protection for over current. Support external enabling control，external current control.
Q-Controller	Internal PWM, adjustable frequency range from 1000Hz-65KHz, stepping at 1000Hz. Exchangeable laser control between internal and external control Support Q-drive alarm detection Alarm for abnormal temperature detection
Additional part	RS232 Serial port. (Optional)

Applications：

● Power supply for End-pumped marking machines

● Power supply for diode lasers

● Constant current source

● TEC temperature control

Specifications

Model	YTH0320-X	YTH0340-X	YTH0350-X	YTH0360-X	YTH0380-X
Input Voltage (VAC)	220±15%	220±15%	220±15%	220±15%	220±15%
Chilling ways	1~4 Selection	1~4 Selection	1~4 Selection	1~4 Selection	1~4 Selection
Temp. Control precision	±0.1°C /±0.01°C				
Temp. Control range	5°C ~40°C				
Thermistor	NTC（25°C-10K）				
Current	20A	40A	50A	60A	80A
AO Controller	15V/24V	15V/24V	15V/24V	15V/24V	15V/24V
PWM Frequency	5K~100KHz	5K~100KHz	5K~100KHz	5K~100KHz	5K~100KHz
Dimension	W×L×H＝450×130×400mm				
Remote Port	RS232、485 (option)				

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LDD Series "3 in 1" Laser Diode Drivers
(diode driver + Q-switch driver + DC power supply of marking head)

In a diode pumped Nd:YAG laser marker, a diode driver, a Q-switch driver and a DC power supply are needed. They are individual with large size and then the size of the laser marker is also large. It is not convenient to move the laser marker due to large size. We have developed a "3 in 1" laser power supply and the above power supplies are integrated into one unit with compact size.

Features:
- Compact in size and light in weight.
- Modular design for convenient maintenance.
- Excellent performance.
- Portable for easy moving.

Specifications:
Model: LDD-AAVV-RFxx-3in1
    LDD-laser diode driver
    AA-maximum output current (A). The output current is continuously adjustable.
    VV-maximum output voltage (V). The output voltage is determined by current & diode's resistance.
    RFxx-RF output power, xx is 50W or 75W.
    3in1: 3in1 laser diode driver

Model		LDD-AAVV-RF
Diode driver	Output current	0-30A adjustable
	Output voltage	Max. 24V automatically adjustable
	Ripple	<80mV
	Alarm and protection	Over load, over temperature, over current and no load
	External current adjusting	0 -10V corresponding 0 – max. current
Q-switch driver	Output RF power	50W/75W
	RF frequency	27.125MHz
	Modulation frequency	0.45-50KHz adjustable
	First pulse suppression	50us-5ms adjustable
	Modulation input	TTL level
	Load impedance	50Ω
	VSWR	≤1.2
	Alarm and protection	Over load, over temperature, over current and no load
Power supply for marking head	Output	±25V/150W (or others up request)
Environment	Electric input	220VAC/8A, 50Hz
	Storage temperature	-20ºC - +85ºC
	Operation temperature	+10ºC - +55ºC
Weight & dimension	Weight	16kg
	Dimension	452x422x134mm (panel 483x134mm)

If "3 in 1" laser power is used in a laser marker, the marker will be simple and it consists a laser head with a marking head and a power supply as shown as follows. The marker will be portable.

marking head

laser head

"3 in 1" laser driver

"2 in 1" laser power is also available. It includes a diode driver and a Q-switch driver (RF driver).

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LDD Series Laser Diode Drivers

The laser diode driver LDD-AAVV is a high current-constant laser diode driver without TEC control. Current control, transient suppression, short circuit protection, and over current limit are provided. A digital meter shows the output current and output voltage.

Features:
- Compact in size and light in weight.
- Modular design for convenient maintenance.
- Excellent performance.
- Portable for easy moving.

Specifications:
Model: LDD-AAVV-xx
  LDD-laser diode driver
  AA-maximum output current (A). The output current is continuously adjustable.
  VV-maximum output voltage (V). The output voltage is determined by current & diode's resistance.
  xx- remarks

Output current	0-30A adjustable
Output voltage	Max. 24V automatically adjustable
Ripple	<80mV
Alarm and protection	Over load, over temperature, over current and no load
External current adjusting	0 -10V corresponding 0 – max. current
Input voltage	220VAC, 50Hz/60Hz, +/-15%
Dimension	482×88x260mm
Net weight	6.5kg

Remark:
To select a driver, you may finalise the output voltage first and then finalise maximum output power. The maximum output current will be the maximum power divided by the output voltage.

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LDD Series OEM Laser Diode Drivers

The LDD series is a new family of OEM laser diode drivers designed for the emerging high power laser diode industry. The LDD series is ideal for high power applications where economy is important and performance cannot be compromised.

Compact size is possible due to the low-loss Zero Voltage Switching inverter and incorporation of planar magnetics. The LDD is virtually wire free.

Power factor is greater than 0.99 and conducted emissions meet stringent European regulations. No additional line filter is required to meet EN 55011 emission requirements.

The LDD family has been designed with the knowledge that a high power laser diode is an expensive device. Rise and fall times are strictly controlled to reduce high voltage transients which could damage the laser diode.

ADVANTAGES
- Ideal for OEM applications Safe turn-on/turn-off Compact design
- Power factor correction
- Auxiliary +15V/-15V/+5V
- Low conducted emissions, low leakage
- ROHS Compliant

AVAILABLE POWER OUTPUTS ARE:
- 50W
- 100W
- 150W
- 250W
- 600W
- 1000W
- 1500W
- 3000W
- Output current up to 150A

Model	Poutmax	Ioutmax	Input Voltage	Size (L x W x H)
LDD-50-AA-VVOEM	50W	Up to 15A	90-264VAC	6.75" x 3.63" x 3.25" 17.1 x 9.2 x 8.26 cm
LDD-100-AA-VVOEM	100W	5A to 50A	90-264VAC	7.5" x 5.8 x 2.6" 19 x 14.7 x 6.6 cm
LDD-150-AA-VVOEM	150W	10A to 60A	90-264VAC	
LDD-250-AA-VVOEM	250W	10A to 80A	90-264VAC	
LDD-600-AA-VVOEM	600W	10A to 100A	90-264VAC	9.9" x 7.3" x 2.6" 25.1 x 18.5 x 6.6 cm
LDD-1000-AA-VVOEM	1000W	10A to 100A	90-264VAC	
LDD-1500-AA-VVOEM*	1500W	10A to 100A	180-264VAC	
LDD-3000-AA-VVOEM*	3000W	Up to 150A	180-264VAC	17" x 16.6" x 3.4" 43.2 x 42.2 x 8.6 cm

Auxiliary Outputs   +5V @ 0.25A**
                       +15V @ 0.25A**
                       -15V @ 0.25A**
                       **(no auxiliary outputs available on LDD-50.)

AA = Maximum rated output current   VV = Maximum compliance voltage
AA*VV cannot exceed Poutmax
*LDD-1500 and LDD-3000 require AC input voltage between 180-264VAC
RS-232 Option available
Other outputs available upon request

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INPUT
- Voltage: See table above
- Power Factor: >.98

INTERFACE
- Connector: 15 Pin "D" Sub Female
- Current Program: 0-10V for 0-Max Current
- Current Monitor: 0-10V for 0-Max Current
- Voltage Monitor: 0-10V for 0-Max Voltage

PERFORMANCE
- Rise/Fall Time: <1msec standard (10% to 90% Full Current) (<350usec available upon request)
- Current Regulation: <0.5% of Maximum output current
- Current Ripple: <0.5% of maximum output current
- Current Overshoot: <1% of maximum output

current
- Power Limit: Limited to maximum power with power fold-back circuit

ENVIRONMENT
- Operating Temp: 0 to 40°C
- Storage: -20 to 85°C
- Humidity: 0 to 90% non-condensing
- Cooling: Forced air

REGULATORY
- Safety: LDD-150/250: UL60950
- LDD-600/1000/1500: UL60950 (Industrial), UL60601-1 (medical)
- Emissions/Immunity: FCC 47 CFR Class A Emissions, EN55011:1998 Group 1 Class A Emissions,
- EN61000-3-2, EN61000-3-3, EN60601-1-2:2001

LDD Interface

CONNECTOR TYPE: 15 PIN D-SUB FEMALE (Refer to Figure 2, LDD Interface Schematic)

Pin #	Pin Name	Functional Voltage Level	Description
1	Enable (input)	High=RUN=+5V to +15V Low = OFF = 0V	The Enable function turns the output section of the power supply ON and OFF. When the power supply is enabled, current is delivered to load as programmed via Iprogram(+), Pin 7. Rise times resulting from Enable are approximately 25msec.
3	Interlock (input)	Open = OFF Connect to GND = RUN	The Interlock function can be connected to external interlock switches such as door or overtemp switches.
4	GND		Interface return.
5	*Vout Monitor: (output)	0-10V = 0-Voutmax	The output voltage of the supply can be monitored by Vout Monitor. See note below
6	Iout Monitor (output)	0-10V = 0-Ioutmax	The output current of the supply can be monitored by Iout Monitor.
7	Iprogram(+): (input)	0-10V = 0-Ioutmax	The power supply output current is set by applying a 0-10V analog signal to Iprogram(+).
8	Pulse Control (input) (LDD-3000 only)	TTL High = On TTL Low = OFF Default = On (LDD-3000 only)	The output of the LDD-3000 may be pulsed by applying a TTL signal to Pulse Control, pin 8. The amplitude of the output current pulse is determined by the current level programmed via Pin 7, Iprogram(+). Rise fall times of <1msec are typical. Contact Lumina Power for faster rise and fall times. If left unconnected, the default will be ON for CW operation.
9	GND		Interface return.
10,11	+5V @ 0.25A		Auxiliary +5V power supply for user. Up to 0.25A output current capability. (not available on LDD-50)
	(output)		
12	-15V @0.25A (output)		Auxiliary -15V power supply for user. Up to 0.25A output current available. (not available on LDD-50)
13,14	+15V @0.25A (output)		Auxiliary +15V power supply for user. Up to 0.25A output current available. (not available on LDD-50)
15	GND		Interface return.

* If maximum compliance voltage is less than 10V, Vout Monitor will read output voltage directly. If maximum compliance voltage is greater than 10V, then Vout Monitor will be scaled such that 0-10V = 0-Voutmax.

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LDD2 Series OEM Laser Diode Drivers

LDD2 is a series of laser diode drivers intended for single laser diode driving as well as for laser diode arrays driving. Maximal output power ranges from 50W to 1500W, and maximal output current ranges from 5A to100A. These drivers may be used for industrial and medical applications.
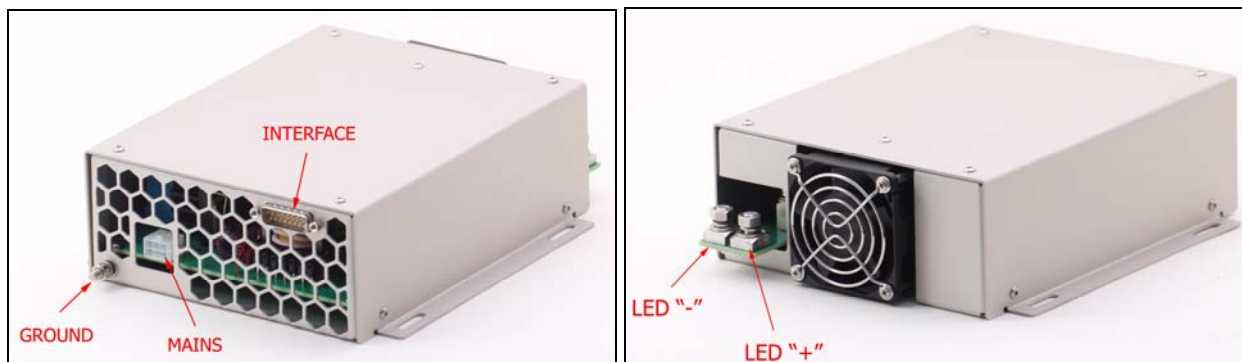
Part number: **LDD2-xx-AA**

        LDD2: LDD2 series OEM diode drivers
        xx :   Maximum output power
        AA: maximum output current

The maximum output voltage is maximum output power divided by output current. Current is adjustable in range 10-100% of Imax. Imax is selected by customer. Vmax is calculated as Vmax = Power / Imax. Voltage is adjusted automatically in dependence on load, but voltage cannot exceed Vmax.

NAME	MAX POWER	CURRENT	INPUT VOLTAGE	CASE
LDD2-50-AA*	50 W	5-25 A	110/230 VAC	A
LDD2-150-AA	150 W	5-75 A	110/230 VAC	B
LDD2-250-AA	250 W	10-100 A	110/230 VAC	B
LDD2-400-AA	400 W	10-100 A	230 VAC	B
LDD2-600-AA	600 W	10-100 A	110/230 VAC	C
LDD2-1000-AA	1000 W	10-100 A	110/230 VAC	C
LDD2-1500-AA	1500 W	10-100 A	230 VAC	C

* Additional information about LDD-50 model is available on request.
Examples: LDD2-150-70 or LDD-1500-50
Maximal output voltage in these examples is 2.1V and 30V, respectively.

Specifications:

OUTPUT	
Efficiency	more than 80%
Rise/fall time	< 1 ms (10% to 90% full current) < 500 us on request
Current regulation accuracy	< 1% of I_{MAX}
Current value error	< 1% of I_{MAX}
Current overshoot	< 1% of I_{MAX}
INTERFACE	
Connector	15 Pin "D"-Sub Female
Current program	analog, 0-10 V
Current monitor	analog, 0-10 V
Voltage monitor	analog, 0-10 V
SAFETY	
PFC value	> 0.98 (active)
Leakage current	< 150 μA
Input/output isolation voltage	4000 VAC
Safety approval	IEC60950, IEC60601-1
EMC approval	EN55011 (Class A)
Cooling	No external cooling is required
ENVIRONMENT	

Operation temperature	0 … +40 °C
Storage temperature	-20 … +60 °C
Humidity	90%, non-condensing

Interface

PIN (color)	DESIGNATION	DESCRIPTION
1 (green)	Enable	Apply +5V DC on this pin to enable work of LDD. While 0V are applied to this pin or pin is unconnected module is disabled. Once *Fault* has occurred module is blocked till you eliminate fault cause, then d*isable* module and *enable* it again.
2 (orange)	Fault *	If module is *enabled* and some trouble has occurred, module automatically stops operations and sets *Fault* status (*Fault* loop is "closed"). In case of normal operations *Fault* loop is "opened". Maximal allowed current in *Fault* loop is 50mA.
3 (transparent)	Interlock	When *Interlock* loop is "opened" output is inhibited. You should "close" this loop to start operations (electrical resistance of "closed" loop should be below 100 Ohm level). Once *Interlock* has occurred module is blocked till you "close" *Interlock* loop, then d*isable* module and *enable* it again.
4, 9, 15 (black)	Interface Return	Return of all interface circuits. This pin is connected to the GROUND stud.
5 (yellow)	V OUT monitor	The voltage at this pin is a monitor signal proportional to the measured value of voltage on load. 0V at *PIN5* corresponds to 0V at load. Voltage at *PIN5* corresponds either to voltage at load (V_{MAX} < 10V) or to one-half of this voltage (V_{MAX} > 10V).
6 (purple)	I OUT monitor	The voltage at this pin is a monitor signal proportional to the measured value of output current. 0V at *PIN6* corresponds to 0A. 10V at *PIN6* corresponds to $I_{MAX.}$
7 (blue)	I program	Voltage applied to this pin sets output current. 0-10V DC are linear with 0-I_{MAX}.
8 (white)	Pulse	Apply +5V DC on this pin to allow the output. While 0V are applied to this pin or pin is unconnected output is inhibited.
10-12	–	Not used
13, 14 (red)	+15V OUT	Auxiliary 15 VDC output. Maximal current – 100mA.

Fault

Module sets Fault state in the following cases:
- overheating (temperature of the module exceeds 70+/–2 °C level).
  To remove Fault status module must be cooled below 65+/–1 °C temperature.
- overvoltage (voltage on the load exceeds 110% of V_{MAX} level).
  Most popular causes of such fault are load type mismatch and load absence.
- overcurrent (output current exceeds 1.05 I_{MAX} level)
- incorrect I Program (input voltage exceeds 10.5V level)
  Once Fault has occurred you should eliminate Fault cause, then "reboot" module (DISABLE module and ENABLE it again).

LDD2-2U Series OEM Laser Diode Drivers

LDD2-2U laser diode controller consists of LDD2-series laser diode driver, none/one/two temperature controllers, user interface and 19-inch rack mounted coverage case.

Module's input is 110VAC or 230VAC mains, module's outputs are laser diode connections and Peltiers connections. User interface is dual (front panel interface and RS-232 interface). Module is designed for CW operations. In the spite of this the low speed modulation of the output is available (parameters of modulation are set via RS-232 interface).

Features:
- Modular size 2-in-1
- Compact design
- RS-232 integrated

Applications:
- Diode driver
- TEC cooler driver

Specifications

INPUT	
Voltage	110VAC or 110/230VAC, 50/60 Hz (depends on the output power and if DI option is selected)
LASER DIODE DRIVER SPECIFICATIONS	
Max. output current (I_{MAX})	selectable in range 10A-100A range
Max. output voltage (V_{MAX})	selectable in range 2V-150V range
Max. output power	$I_{MAX} * V_{MAX}$; cannot exceed 1500W
Output current adjustment range	10%-100% of I_{MAX}
Efficiency	more than 80%
Rise/fall time	< 1 ms (10% to 90% full current) ,< 500 us on request
Current regulation accuracy	< 1% of I_{MAX}
Current value error	< 1% of I_{MAX}
Current overshoot	< 1% of I_{MAX}
TEC CONTROLLERS SPECIFICATIONS	
Type	bidirectional
Max. output current	up to 10A
Max. output voltage	up to 20V
Max. output power	cannot exceed 150W
Feedback loop	10 kOhm NTC (other on request)
Temperature set points	10-40 ºC (other on request)
Temperature set points accuracy and stability	0.1 ºC
PROTECTIONS	
Module's overheating	70 ºC
Overheating in TEC channels	T_{MAX} + 10 ºC (other on request)
Diode overcurrent protection	+
SAFETY	
PFC value	> 0.98 (active)
Leakage current	< 500 µA
Input/output isolation voltage	4000 VAC
Safety approval	IEC60950, IEC60601-1
EMC approval	EN55011 (Class A)
COOLING	Forced air cooling with embedded fans
DIMENSIONS	19'' width; 2U height; 250mm depth
ENVIRONMENT	
Operation temperature	0 … +40 °C
Storage temperature	-20 … +60 °C
Humidity	90%, non-condensing

Typical output
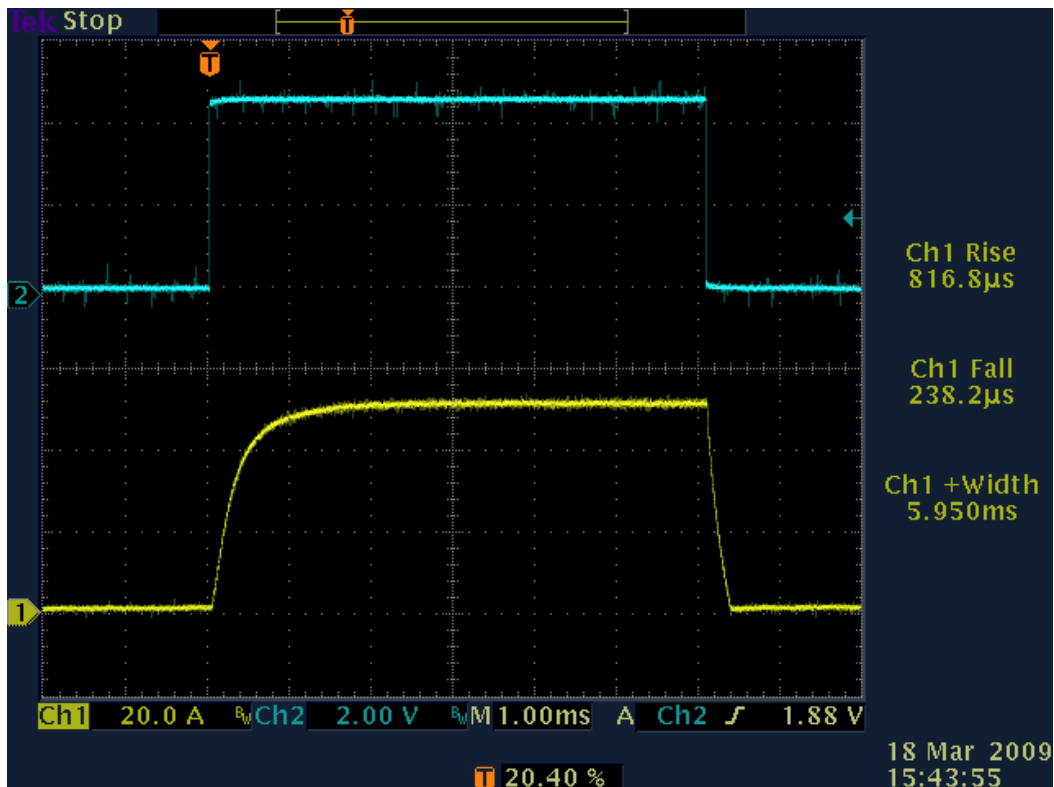
Yellow curve depicts some arbitrary output current pulse. Timescale is 1 ms/div.

Ordering information:
LDD2-2U-XXXA/YYV-MMMA/NNV
XXX: Diode current
YY: Diode voltage
MMM: TEC current
NN: TEC voltage

Examples:
• LDD2-2U-100A/2V-8A/15V – current source with 100A maximal output current, 2V compliance voltage; one temperature controller with 8A maximal output current and 15V maximal output voltage

• LDD2-2U-100A/20V-8A/15V – wrong part number, please see notes:
1) 100A * 20V exceed 1500W maximal possible output power and
2) Peltier cooling isn't recommended there

• LDD2-2U-40A/4V-5A/10V-25kOhmNTC-2A/2V-DI – current source with 40A maximal output current, 4V compliance voltage; two temperature controllers; one with 5A maximal output current and 10V maximal output voltage with the feedback from 25kOhm NTC thermistor; the other has 2A, 2V parameters, feedback loop is a standard one; dual input option

Notes:
1. Diode driver: Maximal output current (I_{MAX}) is selected by the customer in range 10-100A. Module's output current can never exceed this I_{MAX} value.
2. Diode driver: Compliance voltage (V_{MAX}) is selected by the customer in range 2-150V. Module's output voltage can never exceed V_{MAX} value.
3. Diode driver: Maximal output power of the module (W_{MAX}) is defined as a product of I_{MAX} and V_{MAX} and can never exceed 1500W
4. TEC driver limitations: $I_{MAX}(TEC) < 10A$, $V_{MAX}(TEC) < 20V$, $W_{MAX}(TEC) < 150W$
5. TEC driver: Standardly our TEC controllers are designed to get feedback from 10kOhm NTC thermistors.

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OEM TEC Temperature Controller

TEC module is designed for regulating the temperature of the objects and the stabilizing its temperature at the certain level. The target temperature is set with an analog input voltage. Voltage output is provided to monitor temperature of the object.
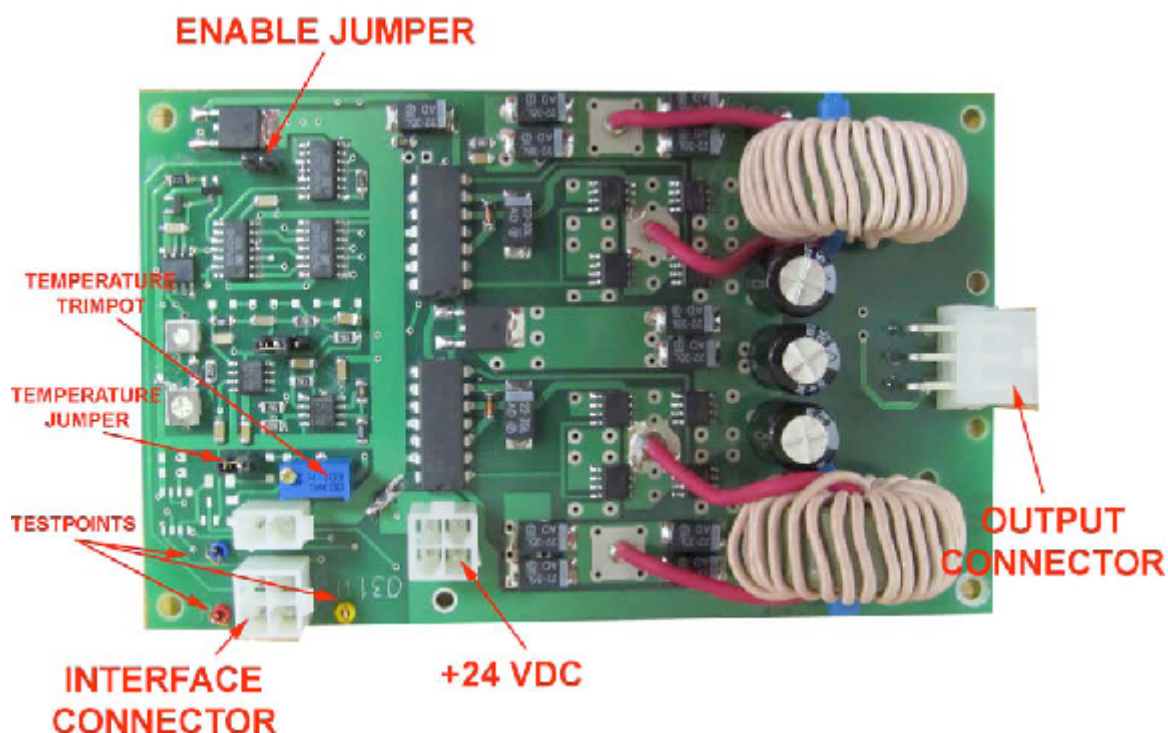
Specifications:

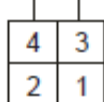| Input voltage	+24VDC
Output voltage	–20..+20 V
Output current	up to 10A
Output power	up to 150W
Feedback loop	10kOhm NTC termistor
Output temperature range	10..40 ºC (other on request)
Temperature accuracy	0.1 ºC
Cooling	forced air cooling is needed at >7A operations
Dimensions	130x80x30mm
Weigth	300g

Calibration table
This table is valid only if the module is used with 10kOhm NTC supplied

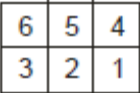| Temperature, ºC	Resistance, kOhm	Voltage, V
10.0	19.9	0.075
20.0	12.5	0.975
25.0	10.0	1.55
30.0	8.06	2.21
40.0	5.33	3.83

Electrical interface
+24VDC

Port	PIN (color)	DESIGNATION	DESCRIPTION
	1, 2 (red)	+24VDC	+24VDC; power supply positive
	3, 4 (black)	RETURN	+24VDC; power supply return

Control interface

Port	PIN (color)	DESIGNATION	DESCRIPTION
4 3 / 2 1	1 (violet)	TPROGRAM	Temperature program voltage (sets the desired load temperature; 0-4V corresponds to 10-40ºC; see also Calibration table section)
	2 (white)	TMONITOR	Temperature monitor (measures the real load temperature; 0-4V corresponds to 10-40ºC; see also Calibration table section)
	3 (green)	ENABLE	Turns TEC on (+5VDC applied to this pin enables the output; 0V or unconnected pin lead to no actions)
	4 (black)	RETURN	Return of all INTERFACE signals

OUTPUT

Port	PIN (color)	DESIGNATION	DESCRIPTION
6 5 4 / 3 2 1	1,2 (red)	TEC +	Peltier positive
	3,4 (blue)	NTC	NTC termistor connections
	5,6 (black)	TEC –	Peltier negative

ENABLE JUMPER – in the case of stand-alone operations can be used instead of ENABLE signal of INTERFACE connector;
Please do not use ENABLE JUMPER and ENABLE signal at the same time
TEMPERATURE JUMPER – if this jumper is set on TEMPERATURE
TRIMPOT can be used instead of TPROGRAM signal of INTERFACE connector;
Please do not use TEMPERATURE JUMPER and TPROGRAM signal at the same time
TEMPERATURE TRIMPOT – sets output temperature in the case of stand-alone operations (i.e. when TEMPERATURE JUMPER is set on);
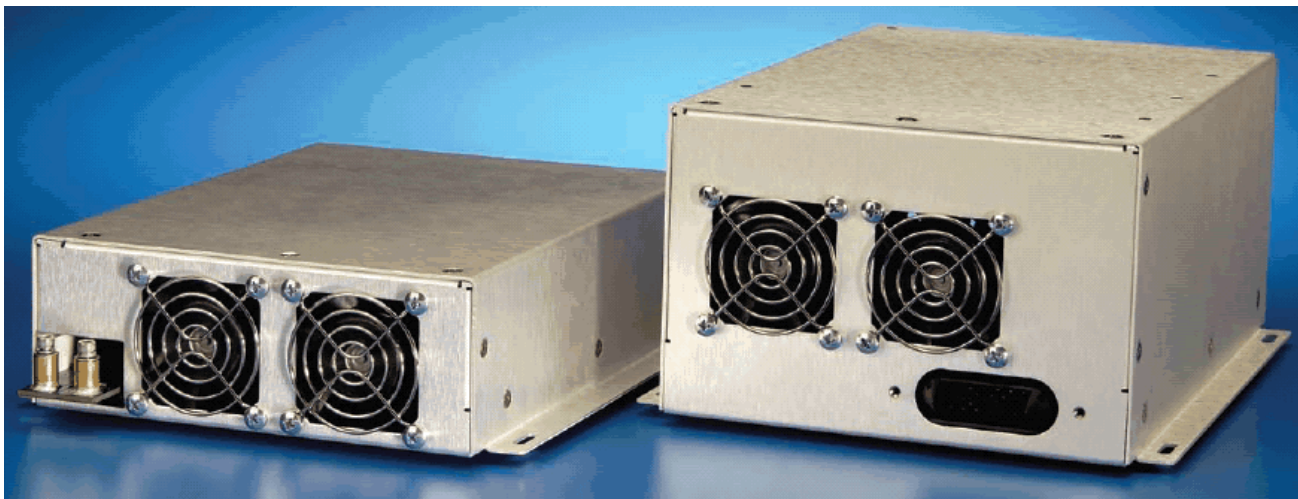Clockwise rotation increases temperature set point

TESTPOINTS:
red – temperature set point voltage
blue – ground (return)
yellow – temperature monitor voltage

LDQCW Series OEM Diode Laser Drivers

The LDQCW series is a new family of OEM diode laser pulsars designed for the emerging high power diode laser industry.

Lumina Power LDQCW diode drivers can be configured for compliance voltage requirements up to 100V.
Maximum efficiency is realized with circuitry that minimizes losses across the output pulsing circuit. Compact size is possible due to the low-loss Zero Voltage Switching inverter and incorporation of planar magnetics.

Leakage current is less than 250uA, power factor is greater than 0.99 and conducted emissions meet stringent European regulations. No additional line filter is required to meet EN 55011 emission requirements.

ADVANTAGES
- <25uSec rise/fall times
- 200A pulsing capability
- Power factor correction
- Auxiliary +/-15V outputs
- Compliance voltage capability up to 100V
- Ideal for OEM applications
- ROHS Compliant

AVAILABLE POWER OUTPUTS ARE:
- LDQCW-50: 50Wavg
- LDQCW-250: 250Wavg
- LDQCW-600: 600Wavg
- Pulsed output current up to 200A

Model	Poutmax	Ioutmax	Input Voltage	Size (L x W x H)
LDQCW-50-AA-VV-ZZ	50W	120Amax	90-264VAC	9.9" x 7.3" x 2.6" 25.2 x 18.6 x 6.6 cm
LDQCW-250-AA-VV-ZZ	250W	200Amax	90-264VAC	10.9" x 7.3" x 4.81"
LDQCW-600-AA-VV-ZZ	600W	200Amax	90-264VAC	27.2 x 18.5 x 12.2 cm

AA = Maximum pulsed output current
VV = Required compliance voltage (unit will drive a load between 75% and 100% of this voltage)
ZZ = Maximum pulse width at maximum pulsed output current -specified by customer
Note 1: Average power must not exceed Poutavg
Note 2: Output current and voltage compliance can be configured for individual requirements
Auxiliary Outputs: +/-15V @ 0.25A (Auxiliary output on LDQCW-50: +12V @50mA)
Other configurations available upon request

INPUT
- Voltage: See table above
- Power Factor: >.98

OUTPUT
- Poutavg See table above
- Ipulsemax 200Apeak
- Iavgmax 80A
- Vcompliancemax Configurable up to 100V

INTERFACE
- Interface Connector: 15 Pin "D" Sub Female
- Pulse Enable: +5V TTL to +15V CMOS
- Current Program: 0-10V for 0-Ioutmax
- Current Monitor: 0-10V for 0-Ioutmax
- Voltage Monitor: 0-10V for 0-Voutmax

PERFORMANCE
- Pulse Width Range: 50usec to 2msec
- Max Rep Rate: 10kHz
- Rise/Fall Time: <25uSec
- Current Regulation: 1.0% of Maximum output current
- Current Ripple: <0.5% of maximum output current
- Current Overshoot: <5% of maximum output current
- Power Limit: Limited to maximum average power
- with power fold-back circuit

ENVIRONMENT
- Operating Temp: 0 to 40°C
- Storage: -20 to 85°C
- Humidity: to 90% non-condensing
- Cooling: Forced air

REGULATORY
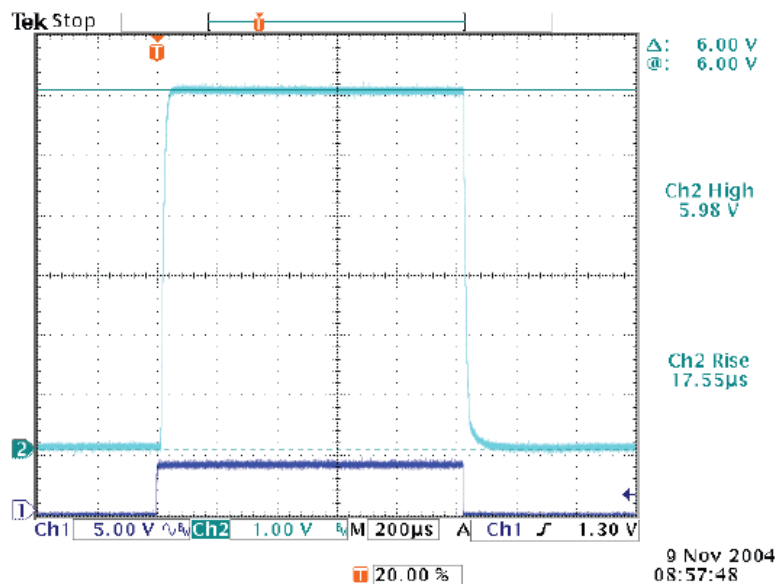- Safety: Compliant with UL60950

MECHANICAL
- Dimensions: See table above
- Input Power Connector: Phoenix DMKDS 2,5
- Terminal Block
- Output Connector: Ampower Wavecrimp
- Connector #765608-1
- (Strip Line system)

LDQCW Interface

LQCW-250/600-AA-VV-ZZ INTERFACE	
Connector Type: 15 pin D-sub Female	
Pin	**#Pin Name**
1	Pulse Control
2,3,8	GND
4	Temp Fault
5	Iout Monitor
6	Iprogram (+)
7	Poor Load Match
11	+15V @0.25A
12	Ready Status
13	N/C
14	Enable
15	-15V @0.25A

LDQCW-50-AA-VV-ZZ INTERFACE	
Connector Type: 15 pin D-sub Female	
Pin	**#Pin Name**
1	Enable
3	Interlock
4,9	GND
5	Vout Monitor:
6	Iout Monitor
7	Iprogram(+):
8	Pulse Control
10,11,12	N/C
13,14	+12V @50mA

Tek Stop

Δ: 6.00 V
@: 6.00 V

Ch2 High
5.98 V

Ch2 Rise
17.55µs

Ch1 5.00 V Ch2 1.00 V M 200µs A Ch1 1.30 V

9 Nov 2004
08:57:48

T 20.00 %

TYPICAL PULSING CHARACTERISTICS
CH: 1 - PULSE CONTROL
CH: 2 - IOUT 20A/DIV

AC INPUT
PHOENIX
DMKDS2.5

.25
1.31   4.98   7.54

SLOT, .19W x .69L
4x

7.07

LDQCW-50

6.57

AIRFLOW

5.94

V OUT 8-32 TAP

INTERFACE
15P D-SUB F

.56   6.48

Output + -

2.61

AC INPUT
PHOENIX
DMKDS2.5

.25
1.31   8.37   10.93

SLOT, .19W x .69L
4x

8.42

LDQCW-250/600

7.92

AIRFLOW

7.29

INTERFACE
15P D-SUB F

.56   9.87

OUTPUT
TYCO/AMP
AMPOWER
WAVE CRIMP
766587-1

4.81

Sintec Optronics
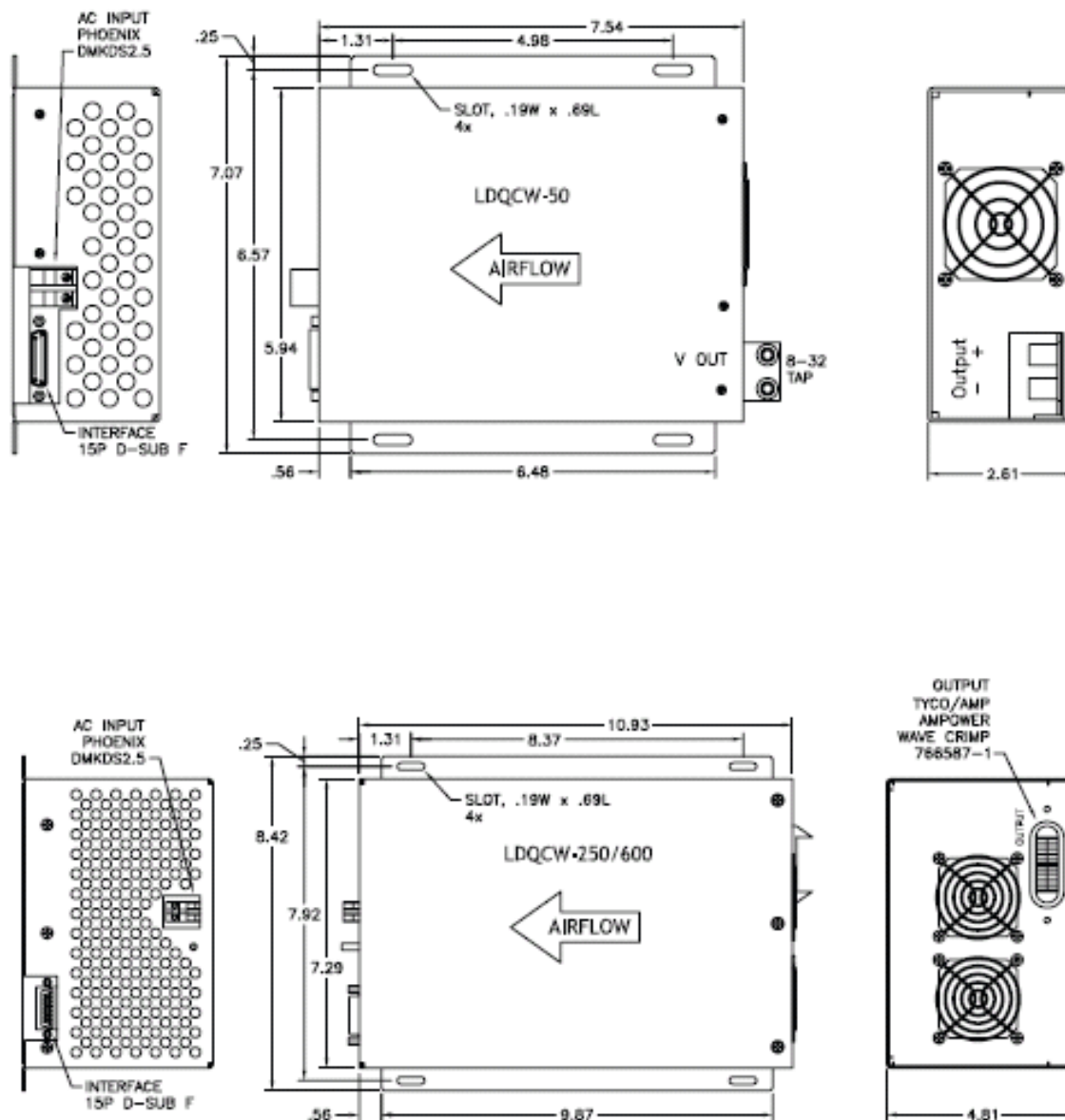
ST-GN720 LASER POWER SUPPLY

ST-GN720 series laser power supply, which is widely used to drive laser diode and laser diode array, is a high efficient power supply to allow you get stable current output for diode pumped solid state laser with acousto-optical modulated configuration.

ST-GN720 series laser power supply is commonly used in the laser system for marking, welding, trimming, cutting, micro machining, precision drilling systems. It can be controlled internally or externally, providing a good control synchronization for customer's external devices.

ST-GN720 series laser power supply has interlocks to protect the power supply and laser systems from over-temperature, low water flow, over voltage and over current.

Technical specifications:

1	Power input	220VAC±15%
2	Output voltage	0～24V (self-adaptation)
3	Output current	< 2A～30A±0.5A (adjustable)
4	Voltage noise	< 0.1% p-p
5	Current noise	≤ 30mA
6	Temperature drift (30mins after startup)	< 100ppm
7	Stability (30mins after startup)	< 0.1%
8	Current startup rising time	> 10S
9	Current stop falling time	> 10S
10	Current adjustment range	23A~30A
11	dimension	Standard 19" box