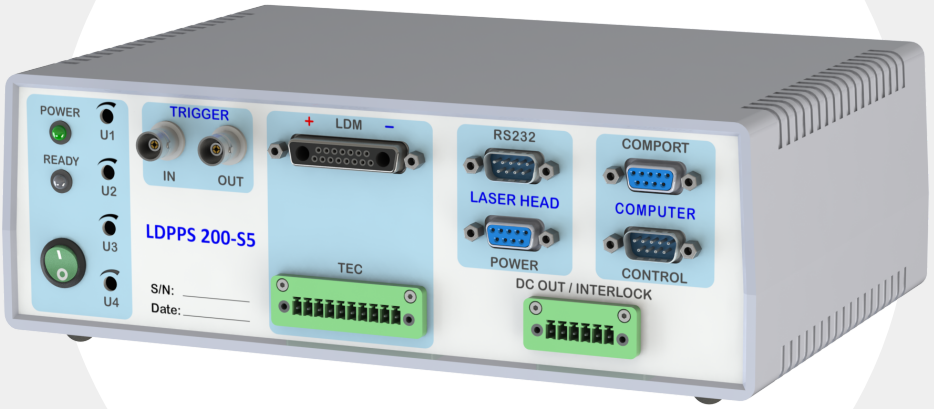
teo Leading the Light



LDPPS

High power laser diodes driver and TEC controller

High Power Laser Diodes Pump Power Supply of LDPPS series is combined laser diode driver and 2 independent thermoelectric controllers. It is designed to provide pulsed and continuous modes of operation for laser diode modules.

Features

- Provides up to 400 A LD current and up to 200 V LD voltage[1] (up to 400 V in OEM version);
- Precisely set LD voltage via VLC software;
- Control of the of LD current pulses timing in a wide range of parameters;
- Input and output connectors for synchronization with external devices;
- 2 independent thermoelectric controllers (TEC1, TEC2) and one additional temperature sensor (Ths3);
- Power supply for additional low-power pilot laser;
- Measurement of external photodiode signal;
- 3 external interlocks;
- Controlled from computer via COM port connector.

Specifications

LDM

Peak LDM current	400 A
Max bias current	50 A
Max LDM voltage	200 V [1]
LDM average power	≤ 600 W
LDM working pulse length	40 ÷ 100 000 µs
Repetition rate	0.1 Hz ÷ 10 kHz
Instability of the current amplitude	≤ 1 %

TEC1 & TEC2 (Peltier elements)

Range of the temperature control	– 50 ÷ 120 °C
Discreteness of the temperature control	± 0.1 °C
Max voltage	22 V
Max current	2 × 8 A
Additional Temperature Interlock Ths3	– 50 ÷ 120 °C

1 Table 1 – typical available configurations for LD power supply. Other optimized power supply configurations can be provided for specific LD parameters.

LD voltage, V	2-25	2-50	50-100	100-150	150-200	up to 400**
Max average LD current, A	18 / 25*	9 / 12*	3 / 6*	3	3*	**

* In this configuration TEC1 and TEC2 are unavailable.
** OEM version. Max LD current depends on specific LD and mode of operation.

EXTERNAL TRIGGER

Pulse amplitude U_{trig_in} (Impedance = 1 kΩ)	5 V ± 20 %
Pulse duration	> 2 µs

OUTPUT TRIGGER

Pulse amplitude U_{trig_out} (Impedance ≥ 1 kΩ [2])	5 V ± 20 %
Pulse duration	5 µs
Adjustable range of output trigger delay	0 ÷ 3900 µs

BUILT-IN POWER SUPPLY OF PILOT LASER

Voltage	5 V
Max current	200 mA

EXTERNAL PHOTO DETECTOR

Linear range of the photocurrent measurements	0.01 ÷ 160 µA

EXTERNAL POWER SUPPLY

Voltage	100 ÷ 260 VAC
Frequency	47 ÷ 63 Hz

GENERAL

Dimensions	260 × 180 × 92 mm^3
Weight	2200 g
Operating temperature	+ 5 ÷ + 45 °C

2 50 Ω under special request.

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