

DAE-20050

Driver for High Power Laser Diodes

Compact design

Output current: $\leq 200A$

QCW or CW operation mode

USB communication

Water cooling circuit included

Up to 45V compliance Voltage

No extra supply voltage required

Differential current input signal available

Laser temp sensor & PHD input signals

Reverse current protected.



Technical data

Specifications

Output current	$\leq 200 A$
Max. compliance voltage	45 V
Min. compliance voltage	10 V
Supply voltage ¹	$\leq 50 V$
Max. output power ²	9000 W
Max. power dissipation allowed ⁴	250W
Rise time ³	< 22 us
Fall time ³	< 22 us
Max. pulse width ⁴	CW

Output signals

Current monitor	10 mV/A
Trigger out	TTL 5V
Trigger out delayed	TTL 5V
Laser on out	TTL 5V

Input signals

Trigger input	TTL 5V
External current input signal ⁵	TBD
Emergency stop	TTL 5V
Laser on external	TTL 5V
Interlock	TTL 5V
Flow meter ⁵	I2C / TTL
Connectivity	USB 2.0 / RS485 ⁵
Laser temperature sensor	NTC, 10k Ω @25°C

Mechanics

Input water cooling tube ⁶	4 x 6 mm
Water cooling temp	> 14 °C
Weight	500 g
Dimensions	130x75x35 mm
Operating temperature ⁷	15 to 60°C

1. Aprox. 6V above the compliance voltage. The minimum feeding voltage is 14V.

2. Instant Power. Maintaining the Heat Sink temperature below 45°C.

3. Test conditions: VLD=6V, I=200A. Lower rise and fall time available. Please, contact us.

4. The CW operation is allowed $\leq 60A$, VLD- $\leq 4V$, with 21° water refrigeration.

5. Under development.

6. Internal x external tube diameter.

7. Temperature measured by internal sensor.

Description

The DAE-20050 is a compact and powerful laser diode driver. Current waveforms can be CW, modulated or pulsed up to 200A.

This driver includes a 32bit μC with an USB 2.0 communication port. Commands allow the full control of the driver features (pulse generation, current level, temperature limits, pulse's counter...) while keeping a great amount of information thanks to all the signals available (current level, voltage, photodiode, temperatures, delayed trigger for syncs...).

The DAE-20050 has been designed thinking in high power applications. An internal water circuit is embedded in the bases for high demanding applications.

Block diagram

