

LASER BENCH QP

LASER DIODE CONTROLLER



Description

The Laser Bench QP is a universal compact desktop laser diode controller for driving low-power laser diodes. It contains laser diode power supply and thermoelectric module controller.

The Laser Bench QP is plastic housed desktop device with LCD display and manual controls.

The Laser Diode powering channel delivers a constant current up to 2 A at a voltage up to 9 V for driving laser diode.

The Thermoelectric Module channel is completed a bidirectional proportional-integral-derivative (PID) thermoelectric cooler controller (TEC) with current capability of 4 A and voltage capability of 5 V.

Applications

The Laser Bench QP has external output connector type DB9 for connecting to the 14-pin DIL laser diode mount QM14DIL or 14-pin butterfly laser diode mount QM14BTF.



QM14DIL



QM14BTF

Package set

- Laser Diode Controller – 1 pcs
- Power cord – 1 pcs
- 9-pin d-sub cable assembly
- Interlock and CAN-interface connectors – 2 pcs
- Operating Manual – 1 pcs

Also the Laser Diode Controller can be connected to the corresponding laser diode drivers by CAN interface.

Specifications

Parameter	Min.	Typ.	Max.	Units
POWER SUPPLY				
Line Voltage	90	-	285	VAC
Frequency	50	-	60	Hz
Power Consumption	-	-	30	W
LD OUTPUT				
Power *	-	-	10	W
Compliance voltage *	1	-	9	V
Current set range *	0	-	2000	mA
Current set step	-	0.1	-	mA
Current ripple amplitude	-	40	60	mA
Current ripple frequency	-	425	-	kHz
Current set accuracy	-	-	1	%
Soft start rise time	10	13	50	mS
Soft stop fall time	10	15	50	mS
TEC OUTPUT				
Power	-	-	20	W
Compliance voltage	-5	-	+5	V
Current range	-4	-	+4	A
Temperature set range	10	25	50	°C
Temperature step	-	0.1	-	°C
Temperature accuracy	-	-	0.1	°C
TEMPERATURE				
Operating	+10	-	+40	°C
Storage	-20	-	+60	°C
Humidity, Non-Condensing	-	-	95	%
CONNECTIONS				
Power	Power Entry Connector Receptacle, Male Pins IEC 320-C8, Non-Polarized			
Output	9 Position D-Sub Receptacle, Female Sockets Connector			
CAN interface Interlock	2 Position Terminal Block Header, Male Pins			
MECHANICAL				
Size	206 × 198 × 68 mm			
Weight, not more	620 g			

Note:

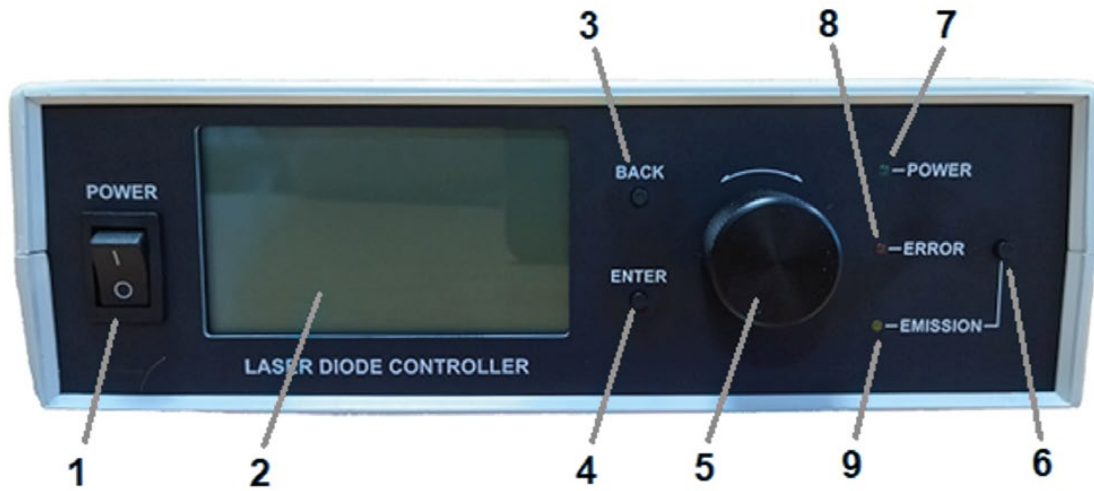
* maximum output power is limited by 10 W.

The maximum output current 2000 mA can be achieved at 5 V output voltage.

Output current 1100 mA can be achieved at 9 V output voltage.

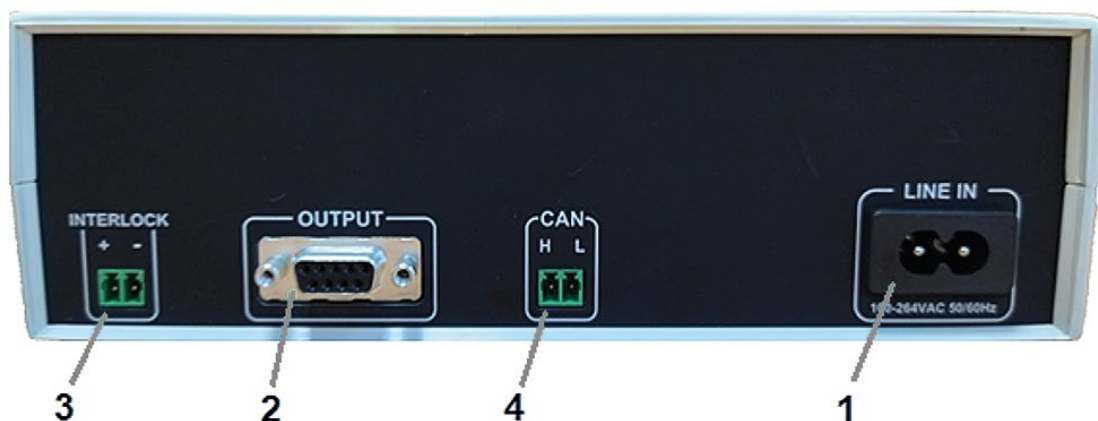
Controls

Front panel



Nº	Component	Sign	Descriptions
1	Rocker switch	POWER	Turn on / turn off the AC Line power to the unit
2	LCD	-	Display operating parameters and settings
3	Button	BACK	Back step at menu settings
4	Button	ENTER	Enter step at menu settings
5	Rotary Knob		Parameters selection at menu settings
6	Button	EMISSION	Turns the laser output ON / OFF with retention
7	LED	POWER	Power indicator
8	LED	ERROR	Error state indicator
9	LED	EMISSION	Turning ON / OFF indicator

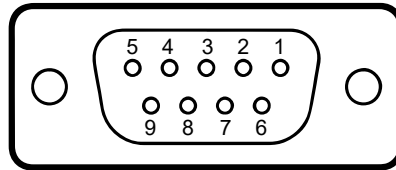
Rear panel



Nº	Component	Sign	Descriptions
1	Power entry connector	LINE IN	AC line power connector
2	9-pin d-sub connector	OUTPUT	To load output connector
3	Terminal block	INTERLOCK	Interlock connector
4	Terminal block	CAN H L	CAN interface connector

Output connection

WARNING! Connect laser diode mount only with device power off!



Pin	Connection	Descriptions
1	LD Cathode (-)	Laser diode cathode output
2	LD Anode (+)	Laser diode anode output
3	TEC-	Thermoelectric module negative output
4	TEC+	Thermoelectric module positive output
5	NC	No connected
6	PD Anode (-)	Photodiode anode input
7	Thermistor	Thermistor input
8	Thermistor	Thermistor input
9	PD Cathode (+)	Photodiode cathode input

Mechanical dimensions

All dimensions are in millimeters

