High Power
Laser Control System

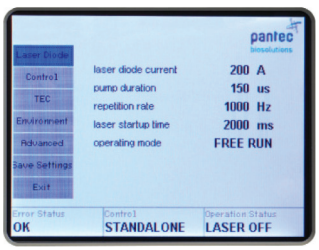
3mikron™
Innovative Laser Systems

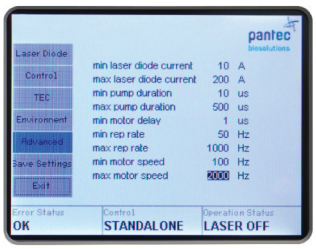
LCS-9000

- **Fully Integrated Laser Controller**
- **Up to 1000 W Average Output Power**
- **Up to 450 A Pulsed Output Current**
- **Intuitive 5,7” Colour HMI with Touch**
- **Built in Power Supply**
- **Ethernet Interface**
- **Optional TEC Controller**

Product Description

The LCS-9000 is a fully integrated, easy to use laser control system which can offer both laser diode current and temperature control in a single device. The integrated diode driver can supply currents up to 450 A at a maximum diode voltage of 20 V. The device features a 5,7” colour touchscreen and a jog dial for a fast and easy operation. In addition, remote control via Ethernet is possible. In order to protect the laser diode, several safety features are integrated, such as a crowbar, an overload, open-circuit, short-circuit protection and a general 24 V safety circiut. Furthermore, hardware interlock and over-temperature protection is implemented. An optional TEC controller is available, driving thermoelectric modules up to 500 W.





Applications

- Laser Marking
- Plastic and Metal Welding
- Soldering
- Laser Cutting
- Laser-Assisted Machining
- Surface Treatment
- Medical Industry

LCS-9000

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Specifications

Laser Diode Output	
Output Current	Up to 450 A
Maximum Average Output Power	1000 W
Pulse Width	10 to 1000 µs
Rise Time (10 - 90 %)	≤ 2 µs
Inputs / Outputs	Chiller, Trigger, Safety
Power Fluctuation (rms)	< 0,5 %
Environmental Conditions	
Humidity	max 80 % RH, non Condensing
Operation Temperature	0 to 40 °C
Storage Temperature	- 20 to 60 °C
Interfaces	
	Temperature Sensors: 4x PT100 [2], 2x LM35
	Digital I/O: 2x Out (5 V TTL Isolated)
	Humidity Sensor: Sensirion SHT7x
	Emergency Stop and Interlock
	Ethernet
Protective Features	
	Emergency Stop and Interlock
	Integrated Crowbar
	Software Programmable Limits
	Over-Temperature (Controller and Laser Diode)
	Short Circuit
User Interface	
	5,7" Colour TFT Touchscreen
	Jog Dial for Multiple Settings
Mains	
Mains Voltage	100 to 240 VAC (Autosensing)
Mains Frequency	50 to 60 Hz
AC Input Current	max 16 A (110 VAC) / max 7 A (230 VAC) [3]
Power Consumption	1500 / 2000 W [1]
[1] TEC Controller (Optional)	
Maximum Output Voltage	36 VDC
Maximum Output Current	28 A
Maximum Total Output Power	500 W
Temperature Resolution	0,1 °C
Control Stability	± 0,1 °C

[2] One PT100 is reserved for the TEC Controller
[3] Without TEC Option

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