

Applications

- Diode-pumped solid-state lasers
- Spectroscopy
- Bioinstrumentation
- Sensing

Features

- Integrated diode & TEC control
- 3A diode drive current
- 2 TEC controllers
- WinVue user interface software
- Developer Kit or PCB-only options



The Vue-DPSS controller integrates a laser diode current driver with two TEC controllers, an ideal configuration for many small solid-state laser systems. With a drive current of 3A at a compliance voltage of 3.4 V, RMS current noise levels are extremely low. The Vue-DPSS controller has a constant-power mode or “light loop,” which can be used to stabilize the laser light output directly.

Two TEC drivers provide precision control of two separate temperatures. Measurement is accomplished by means of thermistors, which can be user-calibrated for optimal accuracy. A firmware algorithm monitors the temperature and varies the TEC drive to maintain the set point within better than 0.02°C. A sophisticated setup routine is included in our WinVue user interface. This routine measures the thermal characteristics of the system and uses an advanced modeling technique to calculate the optimal control coefficients. Using this method, setup of the temperature servos can typically be accomplished in only a few minutes.

Using WinVue, all the features of the controller can be accessed and monitored turning the controller into a powerful and versatile laboratory instrument.

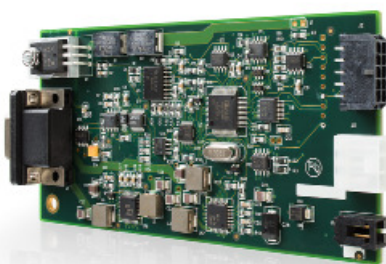
The Vue-DPSS communicates with a host computer via RS-232. An extensive library of commands is available for custom control programs, making the Vue-DPSS ideal for use as a component inside a larger system. All of our controllers have a feature called “Autostart,” which enables them to run stand-alone without any external serial connection. In this mode the Vue-DPSS can function as the complete hands-off control solution for an entire solid-state laser system.

The most convenient choice for a single user is the Developer Kit, which combines a controller, a power supply, connectors, and the WinVue User Interface software program.

For OEM system integrators we offer the Vue-DPSS controller as a PCB only option with an extensive library of serial commands.

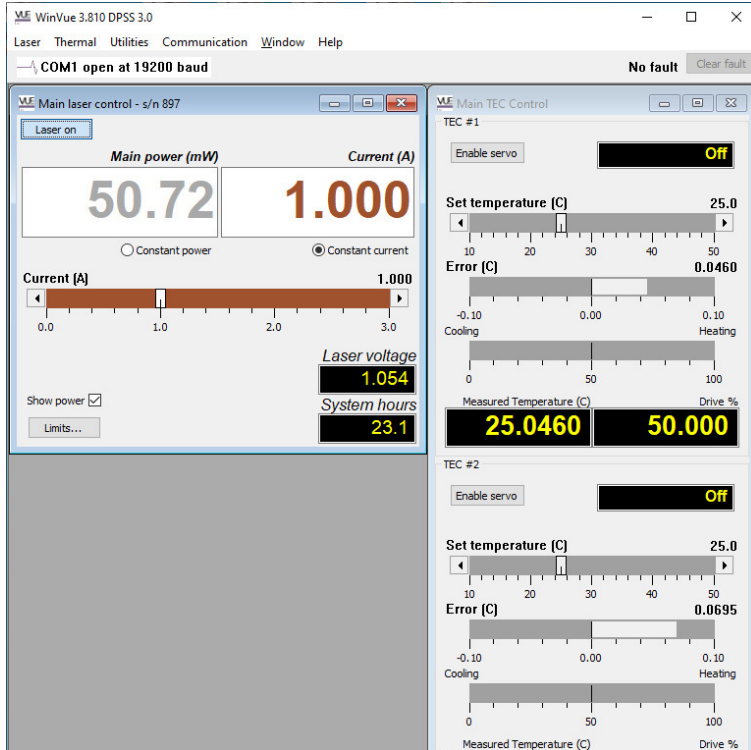


Developer Kit option

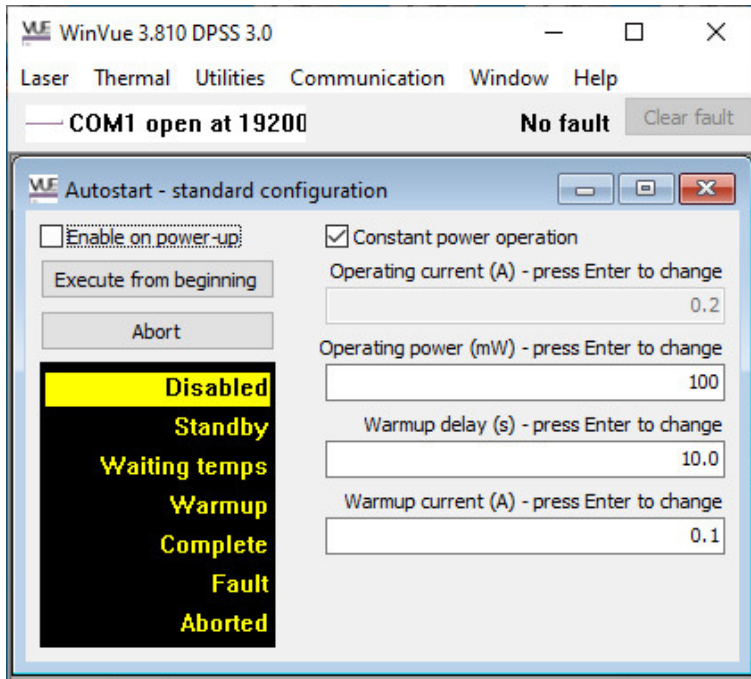


PCB only option

SPECIFICATIONS	DPSS-3.0	Notes
Laser Diode		
Diode Drive Current	0.08 - 3.00A	
Diode Current Set Point Resolution	1 mA	
Diode Current Set Point Accuracy	1%	
Compliance Voltage @ Max. Current	3.4V	
Noise/ripple (2MHz bandwidth)	20 μ A RMS	Typical
Light Loop Input Requirements	20 μ A - 2 mA	Full scale with automatic gain adjustment
TEC Controllers		
Number of TEC Controllers	2	
TEC Controller #1 Current Range	\pm 2.5A	
TEC Controller #1 Voltage Range	\pm 4.0V	
TEC Controller #2 Current Range	\pm 2.5A	
TEC Controller #2 Voltage Range	\pm 4.0V	
Temperature Measurement Accuracy	\pm 0.3°C	With recommended thermistor
Temperature Stability	\pm 0.01°C	
Temperature Range	15 - 45°C	Operation outside this range at reduced accuracy
Recommended thermistor	NTC 10k Ω	
General		
Laser Output Connector	HD DB15	
Data Connector	Molex 43045-1002	
Power Connector	Molex 39-30-3035	
Interlock Connector	Molex "C-Grid" 2-pin	
Operating Temperature	+10 to +40°C	Mounting surface temperature not to exceed 60
Storage Temperature	-30 to +60°C	
Operating Temperature	0°C to 40°C, non-condensing	
Computer Requirements for Optional WinVue	Windows XP or later	
Input Power Requirements	5.0 \pm 0.25V, 7.5A peak	Power supply included with Developer Kit
Dimensions (LxWxH) - Developer Kit	6.0" x 2.7" x 1.0"	
Dimensions (LxWxH) - PCB only	5.3" x 2.5" x 0.6"	
<i>Krona Electronics is continually improving the performance of its products. Specifications are subject to change without notice.</i>		



WinVue user interface software
Main control window for laser & TECs



WinVue user interface software
Autostart window