

# 4400-100-10 LaserSource 100A/10V/1000W, Bus Bar



The **4400-100-10 LaserSource** provides up to 100A of current at up to 10V compliance, with excellent noise and accuracy specs. The 4400-100-10 is an excellent choice for applications that demand very high currents, while also providing a higher compliance voltage to allow for series driving of more than one laser. It supports both CW and Quasi-CW (QCW) mode.

#### **Pilot Laser**

In addition to the primary laser output, the 4400 includes control of a secondary pilot (or pointing) laser that is often integrated into high power laser modules.

#### Simple User Interface

The user interface is remarkably simple... so easy to use, you'll have it up and running in no time. Unlike other instruments which rely on 7segment LED displays and a confusing array of indicators and buttons, the 4400 instead presents information on a high contrast VFD display in an easy-to-read format., and displays current, voltage, and photodiode current simultaneously... no need to toggle though the readings as you would on most instruments. Settings and error messages are in clear English, not cryptic codes and flashing status lights.

#### Quasi-CW (QCW) Mode

The 4400 includes QCW mode, as many applications require the low duty cycle, high current pulses that QCW offers to manage thermal loading on the device.

- 100A / 10V range
- Both CW and QCW operation
- 5mA resolution
- USB and RS-232 interfaces

#### **Standard Computer Interfaces**

The 4400 includes both USB and RS232 computer interfaces, allowing for quick and easy connection to a PC for remote operation. In addition, the LaserSource's command set is compatible with ILX and Newport controllers, allowing you to leverage any existing software you may have already developed.



### **Ground Loops Eliminated**

Like all LaserSources, the 4400 includes isolated inputs and outputs. In technical terms, this means that every input and output signal is electrically isolated, so that offset voltages, ground connections, and AC noise will not "bleed" into other parts of the electronics. Even the photodiode input is fully isolated from the laser output, ensuring full isolation of the laser output. In practical terms, this means it's impossible to create a ground loop through the LaserSource, a common problem in laboratory setups where several different instruments are used in the same test. No other driver on the market has this capability.

#### **Analog Modulation**

The 4400 supports analog modulation via a front panel BNC for arbitrary control of the current output using an external function generator or other voltage source.



## **Specifications**

CW Mode Specifications LASER CURRENT	
Range (A)	0 – 100
Resolution (A)	0.005
Accuracy (±[% set+A])	0.05% + 0.05
Stability (ppm, time)	< 10, 1 hour
Temperature Coeff (ppm/°C)	50
Noise/Ripple (mA rms, low BW)	< 50
Transients (mA)	< 200
Compliance Voltage (V)	10
	25 20000
Range (µA)	25 - 20000
Accuracy $(\pm 10^{\circ}, \text{ soft}, 10^{\circ})$	0.05% + 2
Stability (nom time)	< 200, 24 hours
Temperature Coeff (ppm/°C)	< 200
PD Bias (V)	0 to -5V. software programmable
LASER VOLTAGE	
Range (V)	0 – 10
Resolution (V)	0.001
Accuracy (±[% set+V])	0.05% + 0.005
EXTERNAL MODULATION	
Modulation Input Range	0 – 10V, 10kΩ
Modulation Bandwidth (kHz)	15
QCW Mode Specifications	
LASER CURRENT	
Range (A)	7.5 – 100
Resolution (A)	0.005
Setpoint Accuracy (±[% set+A])	0.1% + 0.100
Measurement Accuracy (±[% reading+A])	2.5% + 0.025
	10
Resolution (V)	0.01
Measurement Accuracy (+[% reading+\/])	2% + 0.4
PHOTODIODE CURRENT	270 • 0.4
Resolution (µA)	10
Measurement Accuracy (±[% reading+µA])	2% + 100
FOLSE WIDTH	
Range (ms)	0.1 - 600
Resolution (ms)	0.001
Accuracy (ms)	0.015
	1 1000
Resolution (Hz)	0.1
Accuracy (Hz)	0.5
DUTY CYCLE	
Range (%)	0.1 – 90
Resolution (%)	0.1
Rise/Fall Times (µs)	< 50
Overshoot (%)	< 7
Zero Current (A)	< 0.200
LIMITS	
Current Limit Accuracy (±[% set+A])	1% + 0.5
Voltage Limit Accuracy (±[% set+V])	1% + 0.2
OFNERAL	
GENERAL	4-00 \/ED
Display Type	4x20 VFD
Laser Connector	LISB 2 0 Full Speed (Type P)
Computer Interface	RS-232 (DR-9 male)
Input Power	90 - 240V. 50 / 60Hz
Size (H x W x D) [inches (mm)]	3.5 (90) x 12 (305) x 14 (356)
Weight (lbs [kg])	13 [5.9]
Operating Temperature	+10°C to +40°C
Storage Temperature	-20°C to +60°C

