4400-60-14 LaserSource, 60A/14V/840W, Bus Bar

- 60A / 14V range
- Both CW and QCW operation
- 2mA resolution
- USB and RS-232 interfaces

The **4400-60-14 LaserSource** provides up to 60A of current at up to 14V compliance, with excellent noise and accuracy specs. The 4400-60-14 is an excellent choice for applications that demand high compliance voltages, such as laser modules with several diodes in series. 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 7-segment 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.

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.

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Specifications

CW Mode Specifications	
LASER CURRENT	
Range (A)	0 – 60
Resolution (A)	0.005
Accuracy (±[% set+A])	0.05% + 0.03
Stability (ppm, time)	< 10, 1 hour
Temperature Coeff (ppm/°C)	50
Noise/Ripple (mA rms, low BW)	< 30
Transients (mA)	< 120
Compliance Voltage (V)	14
PHOTODIODE CURRENT	
Range (µA)	25 – 20000
Resolution (µA)	1
Accuracy (±[% set+µA])	0.05% + 2
Stability (ppm, time)	< 200, 24 hours
Temperature Coeff (ppm/°C)	< 200
PD Bias (V)	0 to -5V, software programmable
LASER VOLTAGE	
Range (V)	0 – 14
Resolution (V)	0.001
Accuracy (±[% set+V])	0.05% + 0.005
Stability (ppm, time)	< 50, 1 Hour
Temperature Coeff (ppm/°C)	< 100
EXTERNAL MODULATION	
Modulation Input Range	0 – 10V, 10kΩ
Modulation Bandwidth (kHz)	20
QCW Mode Specifications	
LASER CURRENT (ACC)	
Range (A)	4.50 - 60
Resolution (A)	0.005
Setpoint Accuracy (±[% set+A])	0.1% + 0.060
Measurement Accuracy (±[% reading+A])	2.5% + 0.025
Compliance Voltage (V)	14
LASER VOLTAGE	
Resolution (V)	0.01
Measurement Accuracy (±[% reading+V])	2% + 0.04
PHOTODIODE CURRENT	
Resolution (µA)	10
Measurement Accuracy (±[% reading+µA])	2% + 100
PULSE WIDTH	
Range (ms)	0.1 – 600
Resolution (ms)	0.001
Accuracy (ms)	0.015
FREQUENCY	
Range (Hz)	1 – 1000
Resolution (Hz)	0.1
Accuracy (Hz)	0.5
DUTY CYCLE	
Range (%)	0.1 – 90
Resolution (%)	0.1
Rise/Fall Times (µs)	< 50 / < 25
Overshoot (%)	< 7
Zero Current (A)	< 0.120
LIMITS	
Current Limit Accuracy (±[% set+A])	1% + 0.3
Voltage Limit Accuracy (±[% set+V])	1% + 0.2
GENERAL	
Display Type	4x20 VFD
Laser Connector	Bus Bar
Computer Interface	USB 2.0 Full Speed (Type B), RS-232 (DB-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