6340 ComboSource, 4 Amp

- User selectable 2A or 4A range
- < 40uA noise
- 60 Watts of TEC power
- 0.002°C stability
- AutoTune automatic PID
- USB/RS-232 interfaces

The 6340 ComboSource offers excellent low current performance, with both a 4 Amp and 2 Amp operating range, works well for high power pump modules and other medium current diode lasers. With 1mA set point resolution and less than 30uA of noise, the 6340 provides a transparent driver that won't interfere with the performance of your laser or LED devices.

Dual Range
One of the valable features of the 6340 is the dual range capability, which allows operation in either a 2A range or 4A range. For applications that need less than 2A, the lower range offers higher accuracy, lower noise, and improved stability, while still maintaining the 4A range for higher power devices.

Ground Loops Eliminated
The 6340 optically and electrically isolates it's isolated inputs and outputs, preventing device-damaging ground loops. No other driver on the market has this capability.

User Function Keys
The user function keys can be used to quickly select a different configuration state or execute a predefined set of commands. Switch between two different experiments or script repetitive actions…anything you can do manually with the instrument can be programmed to the function key.

Powerful 60 Watt Temperature Controller
In addition to the high performance diode driver, the 6340 adds a 60 watt temperature controller, giving you substantial power for demanding applications. Only need a little bit of power? No problem, because the 6340 works just as well driving 2 watts of power as it does driving 50. Support for all standard sensors (thermistor, RTD, AD590, and LM335) is also included.

AutoTune Automatic PID Calculation
All Arroyo Instruments temperature controllers feature AutoTune for automatic PID calculation. With AutoTune, you no longer need to fiddle with PID parameters to find values that work with your application. Simply hook up your mount, set the appropriate limits, and start the AutoTune process. The instrument will automatically calculate PID parameters that will work with your mount.

Simple User Interface
The 6340's user interface is remarkably simple… so easy to use, you'll have it up and running in no time. Easy-to-read messages, simple menus, and powerful multi-line display make the instrument incredibly easy to use.

Specifications Summary	
Laser Driver	4 Amp / 2 Amp, 5 Volt
Temperature Controller	5 Amp, 12 Volt, 60 Watt

Laser Driver	
LASER CURRENT	
Range (mA)	0 – 4,000 or 0 – 2,000
Resolution (mA)	0.2
Setpoint Accuracy (±[% set + mA])	0.05% + 0.8
Measurement Accuracy (±[% reading + mA])	0.05% + 0.8
Stability (ppm, time)	< 10, 1 hour
Temperature Coeff (ppm/°C)	50
Noise/Ripple (µA rms)	< 40
Transients (µA)	< 400
Compliance Voltage (V)	5
Modulation Bandwidth (kHz)	150
Modulation Input Range	0 – 10V, 10kΩ
PHOTODIODE CURRENT	
Range (µA)	2 – 5,000
Resolution (µA)	0.1
Setpoint Accuracy (±[% set+µA])	0.05% + 1
Measurement Accuracy (±[% reading+µA])	0.05% + 1
Stability (ppm, 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
Setpoint Accuracy (±[% set+V])	0.05% + 0.005
Measurement Accuracy (±[% reading+V])	0.05% + 0.005
Stability (ppm, time)	< 50, 1 hour
Temperature Coeff (ppm/°C)	< 100
Four-wire Measurement	Yes
LIMITS	
Current Limit Accuracy (mA)	40
Voltage Limit Accuracy (±% FS)	2.5%

Temperature Controller	
Power (A , V, W)	5A, 12V, 60W
Stability (1 hour, °C)	0.002
Stability (24 hours, °C)	0.005
Temperature	
Range (°C)	-99 to 250
Resolution (°C)	0.01
Thermistor (100µA) Accuracy at 25°C (°C)0.03	
AD590 Accuracy at 25°C (°C)	0.90
LM335 Accuracy at 25°C (°C)	0.90
RTD Accuracy at 25°C (°C)	0.35
Thermistor, 100µA Range	
Accuracy (±[% reading + kΩ])	0.05 + 0.005
Range (kΩ)	0.02 – 45
Resolution (kΩ)	0.001
Thermistor, 10µA Range	
Accuracy (±[% reading + kΩ])	0.05 + 0.05
Range (kΩ)	0.2 – 450
Resolution (kΩ)	0.01
LM335	
Accuracy (±[% reading + mV])	0.3 + 1
Range (mV)	1730 – 4730
Resolution (mV)	0.1
Bias (mA)	1
AD590	
Accuracy (±[% reading + µA])	0.03 + 0.1
Range (µA)	173 – 473
Resolution (µA)	0.01
Bias (V)	4.5
RTD	
Accuracy (±[% reading + Ω])	0.03 + 0.1
Range (Ω)	20 – 192
Resolution (Ω)	0.01
Bias (mA)	1
Current	
Range (A)	5
Compliance Voltage (V)	12
Max Power (W)	60
Resolution (A)	0.01
Accuracy (±[% value + A])	0 + 0.03
Noise/Ripple (A , rms)	< 0.005
Current Limit Accuracy (A)	0.05
Voltage (measurement only)	
Accuracy (±[% reading + V])	0 + 0.05
Range (V)	12
Resolution (V)	0.01

General	
Laser Connector	DB-9, female
TEC Connector	DB-15, female
Displa y Type	4x20 VFD
Computer Interface	USB 2.0 Full Speed (USB Type B), RS-232 (DB-9, male)
Power	100V / 120V / 230V 50/60 Hz
Size (H x W x D) [inches (mm)]	3.5 (90) x 8.5 (215) x 12 (305)
Operating Temperature	+10°C to +40°C
Storage Temperature	-20°C to +60°C