

4300 SERIES

LASERSOURCE LASER DRIVER



The 4300 Series LaserSource is a high-accuracy laser driver capable of supplying up to 20A for low and medium-power laser and LED applications. This laser driver offers features typically found in only more expensive units, such as overlapping laser protection systems and an optional QCW mode.



OVERLAPPING LASER PROTECTION

Including safety interlock, ESD protection, hardware limits for current & voltage, soft power-on, and intermittent contact safeguards.



QUASI-CONSTANT WAVE MODE (OPTIONAL)

QCW mode provides low duty cycle, high current pulses to manage thermal loading. Rise times less than 20 μ s. Pulse widths as narrow as 100 μ s.



ANALOG MODULATION

Bandwidths up to 65 kHz.



MULTIPLE OPERATING MODES

Choose from: ● Constant Current ● Constant Power ● Constant Voltage



SIMPLE USER INTERFACE

Easy to Read, High Contrast VFD Display with all messages and settings in plain English. View All 3 At Once:

● Current Set Point ● Photodiode Current ● Laser Voltage



PROGRAMMABLE PHOTODIODE BIAS VOLTAGE

Menu-selectable PD bias voltage, from 0 to -5 Volts.

AT-A-GLANCE

Current Ranges:

- ▶ 2 Amp / 15 Volt
- ▶ 4 Amp / 8 Volt
- ▶ 8 Amp / 4 Volt
- ▶ 20 Amp / 5 Volt
- ▶ Custom configurations

High Accuracy

- ▶ Up to 0.025% of reading
+ 0.025% of scale

Low Noise

- ▶ As Low as <20 μ A

Compliance Voltages

- ▶ Up to 24 Volts available

Remote Operation via PC

- ▶ Use your existing control code.
Our command set is compatible with other manufacturers.
- ▶ USB / RS-232 Connections



GROUND LOOPS: ELIMINATED. YOUR LASER IS PROTECTED.

A ground loop can destroy your laser in an instant. Every input and control circuit on the LaserSource is electrically isolated. Offset voltages, ground connections, and AC noise will never act on your system.

No other laser driver on the market has this capability.

4300 CW MODE SPECIFICATIONS

		4302	4304	4308	4320	
CW Mode Specifications	Setpoint	Laser Current				
		Range (mA)	0 – 2000	0 – 4000	0 – 8000	0 - 20,000
		Resolution (mA)	0.1	0.1	0.5	1
		Accuracy (\pm [% set+mA])	0.05% + 0.4	0.05% + 0.8	0.05% + 1.6	0.05% + 4
		Stability (ppm, time)	< 10, 1 hour			
		Temperature Coeff (ppm/°C)	50			
		Noise/Ripple (μ A rms)	< 20	< 30	< 60	< 5000
		Transients (μ A)	< 300	< 400	< 600	< 50mA
		Compliance Voltage (V)	15	8	4	5
		Photodiode Current				
	Range (μ A)	25 – 20000				
	Resolution (μ A)	1				
	Accuracy (\pm [% set+ μ A])	0.05% + 2				
	Stability (ppm, time)	< 200, 24 hours				
	Temperature Coeff (ppm/°C)	< 200				
	PD Bias (V)	0 to -5V, programmable				
	Laser Voltage					
	Range (V)	0 – 15	0 – 8	0 – 4	0 – 5	
	Resolution (V)	0.001				
	Accuracy (\pm [% set+V])	0.05% + 0.005				
Stability (ppm, time)	< 50, 1 hour					
Temperature Coeff (ppm/°C)	< 100					
External Modulation						
Input Range	0 – 10V, 10k Ω					
Modulation Bandwidth (kHz)	65	50	40	10		
Measurement	Laser Current					
	Resolution (mA)	0.1	0.1	0.5	1	
	Accuracy (\pm [% reading+mA])	0.05% + 0.4	0.05% + 0.8	0.05% + 1.6	0.05% + 4	
	Laser Voltage					
	Resolution (V)	0.001				
	Accuracy (\pm [% reading+V])	0.05% + 0.004				
Photodiode Current						
Resolution (μ A)	1					
Accuracy (\pm [% reading+ μ A])	0.05% + 2					

www.arroyoinstruments.com

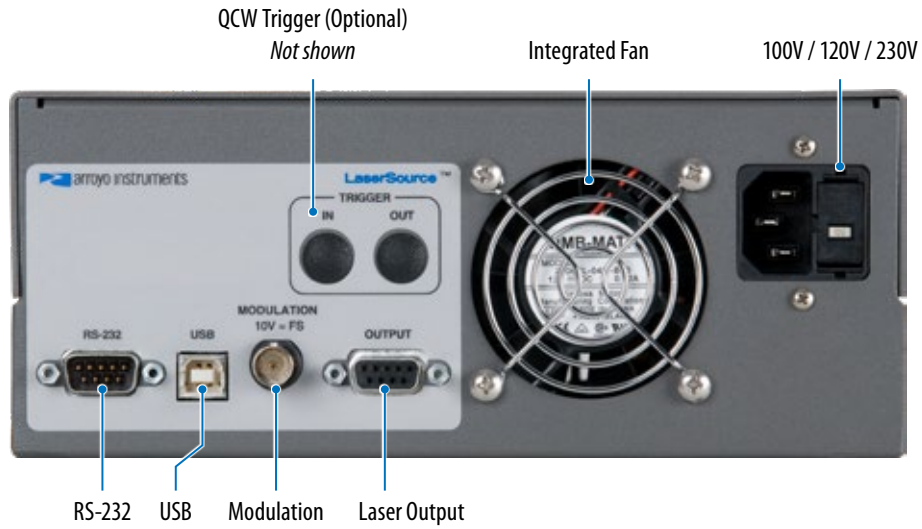
4300

QCW MODE SPECIFICATIONS

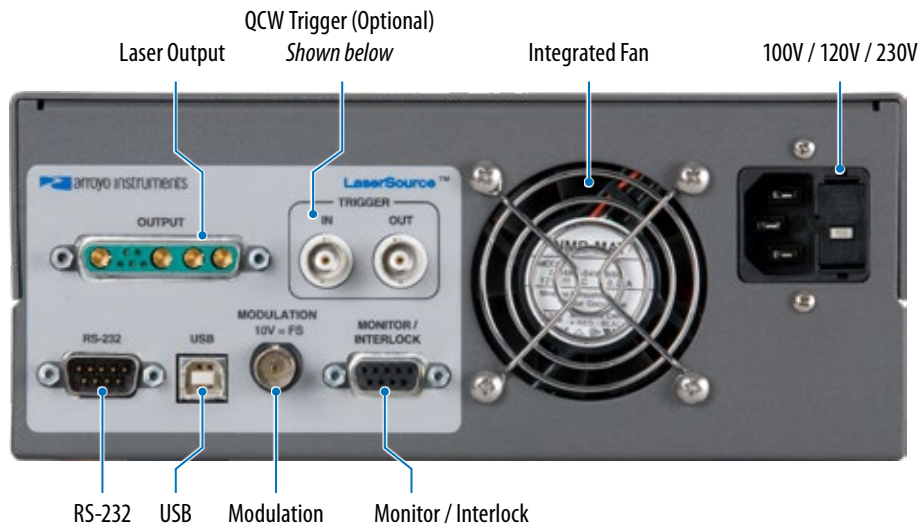
		4302	4304	4308	4320
Setpoint	Laser Current (ACC)				
	Range (mA)	15 – 2000	25 – 4000	50 – 8000	150 – 20000
	Resolution (mA)	1	1	1	1
	Accuracy (\pm [% set+mA])	0.5% + 2	0.5% + 4	0.5% + 10	0.5% + 25
	Compliance Voltage (V)	15	8	4	5
Measurement	Laser Current				
	Resolution (mA)	1	1	1	1
	Accuracy (\pm [% reading+mA])	3% + 4	3% + 8	3% + 16	3% + 30
	Laser Voltage				
	Resolution (V)	0.01			
	Accuracy (\pm [% reading+V])	2% + 0.04			
	Photodiode Current				
	Resolution (μ A)	10			
	Accuracy (\pm [% reading+ μ A])	2% + 100			
Parameters	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 (μ s)	< 20 / < 10	< 20 / < 10	< 20 / < 10	< 50 / < 10
Overshoot (%)	< 7				
Zero Current (% of set)	7.5				
Limits	Laser Current				
	Resolution (mA)	1	1	1	100
	Accuracy (\pm [% reading+mA])	20	40	80	200
	Laser Voltage				
	Resolution (V)	0.1			
	Accuracy (\pm % FS)	2.5%			
General	Display Type	2x20 VFD			
	Laser Connector	DB-9, female	DB-9, female	DB-9, female	9W4, female
	Computer Interface	USB 2.0 Full Speed (Type B), RS-232 (DB-9, male)			
	Power	100V / 120V / 230V, 50/60 Hz			
	Size (H x W x D) [inches (mm)]	3.47 (89) x 8.5 (215) x 12 (305)			
	Weight [lbs (kg)]	6.4 (2.9)	6.4 (2.9)	6.4 (2.9)	7.8 (3.5)
	Operating Temperature	+10°C to +40°C			
	Storage Temperature	-20°C to +60°C			

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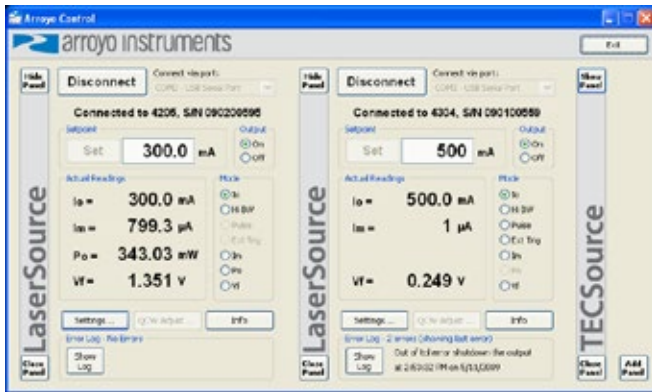
4300 REAR VIEW



4320 REAR VIEW



ARROYO CONTROL



Control any Arroyo laser driver or temperature controller directly from your PC. Simply connect to your Arroyo device via USB or RS-232 and gain direct access to settings, device limits, and adjustments from an easy-to-use Windows interface. You can even connect to multiple instruments at the same time.

Download ArroyoControl for free from www.arroyoinstruments.com.

LabView drivers available.



ACCESSORIES



1401-RM-1

4300 SERIES 2U RACK MOUNT KIT, 1 UNIT

This rack mount kit will mount any 4300 Series LaserSource, 5300 Series TECSource, or 6300 ComboSource in 2U of rack space. The unit can be positioned to the left or right side of the rack space, depending on how you mount the hardware.



1401-RM-2

4300 SERIES 2U RACK MOUNT KIT, 2 UNITS

This rack mount kit will mount any 4300 Series LaserSource, 5300 Series TECSource, or 6300 ComboSource side-by-side in 2U of rack space.