

# EL30000 Series Bench DC Electronic Loads

## Measure, Capture, and Display

The EL30000 Series bench DC electronic loads provide superior performance in compact bench form factor. A single and dual-channel model is available with up to 600 W – ideal for design verification of consumer power supplies, batteries, battery modules, solar panels, LED drivers, and power converters. You can easily characterize wide-bandgap semiconductor components such as MOSFET and IGBT.

The EL30000 Series bench DC electronic loads are fully SCPI programmable with built-in USB, LAN, and optional GPIB interfaces. Advance features include scope view, data logging, sequencing, battery test mode and more, enabling you to measure, capture, and quickly display your results.



**Figure 1.** EL34143A 350 W bench electronic load 150 V, 60 A (left), EL34243A 600 W dual-input bench electronic load 150 V, 60 A(right)

Option	Description
EL34GPBU	GPIB user-installable interface module
UK6	Commercial calibration with test result data
SEC	NISPOM and file security

Performance specifications		EL34143A	EL34243A	
Input power		350 W	300 W	300 W
Channel		1	1	2
Input ratings (0 to 40 °C)		0 to 150 V	0 to 150 V	0 to 150 V
		0 to 60 A	0 to 60 A	0 to 60 A
Parallel mode current		NA	120 A	
Typical minimum operating voltage at full-scale current		1.5 V		
Command processing time		< 10 ms		
Programming accuracy ± (% of output + offset)				
Constant current (CC) mode	Low, 0.6 A	0.04% + 130 uA		
	Medium, 6 A	0.04% + 2 mA		
	High, 60 A	0.04% + 12 mA		
Constant voltage (CV) mode	Low, 15 V	0.02% + 3 mV		
	High, 150 V	0.02% + 15 mV		
Constant resistance (CR) mode	Low, 0.05 Ω to 30 Ω	0.1% + 230 mS		
	Medium, 10 Ω to 1.25 kΩ	0.1% + 18 mS		
	High, 100 Ω to 4 kΩ	0.1% + 3.5 mS		
	Ultra-high, 250 Ω to 100 kΩ	0.1% + 400 uS		
Constant power (CP) mode	Low, 0.02 W – 8 W <sup>1</sup> / 7 W <sup>2</sup>	0.06% + 4 mW		
	Medium, 0.3 W – 35 W <sup>1</sup> / 30 W <sup>2</sup>	0.06% + 260 mW		
	High, 2 W – 350 W <sup>1</sup> / 300 W <sup>2</sup>	0.06% + 1.6 W		
Programming accuracy ± (% of output + offset)				
Current	Low, 0.6 A	0.04% + 120 uA		
	Medium, 6 A	0.04% + 1.8 mA		
	High, 60 A	0.04% + 9.6 mA		
Voltage	Low, 15 V	0.02% + 3 mV		
	High, 150 V	0.02% + 15 mV		
Notes:				
1.		Power range of E34143A		
2.		Power range of E34243A		

More Information: [www.keysight.com/find/el30000](http://www.keysight.com/find/el30000)

## Key Values

### Measure accurately

- Integrated voltmeter and ammeter
- Precise programming/readback accuracy
- Built-in 2-wire or 4-wire remote sense technology

### Capture, store, and transfer dynamic waveforms

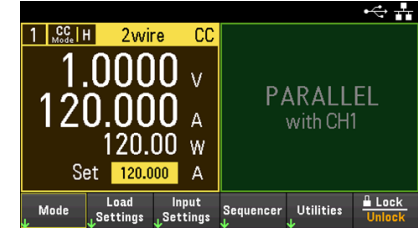
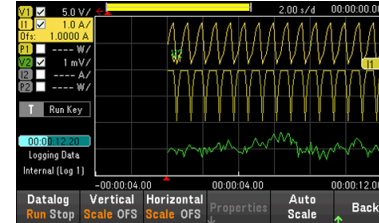
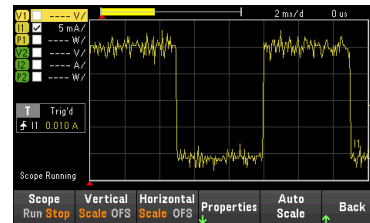
- Data logger that is configurable
- Log voltage, current, and energy
- Internal or external memory storage
- Export to .CSV for post-analysis

### Display like an oscilloscope for precise analysis

- Performs precise transient analysis with scope function
- Digitizes voltage and current
- Displays results on a 4.3-inch color LCD

### Advanced characterization

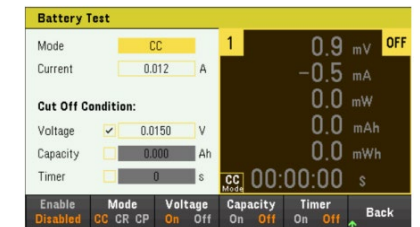
- Use operating modes: constant current (CC), constant voltage (CV), constant resistance (CR), constant power (CP)
- Battery Test mode: Optimize battery testing with precise voltage and capacity control
- Improve measurements with low current range
- Dynamic load profiles with List (continuous, pulse, or toggle)
- Adjust transient steps with a programmable slew rate
- Modern connectivity: LAN (LXI Core), USB, and GPIB (optional)



Sequencer (List)

Step	Current	Time	BOST	EOST
0	0.500	1.000		
1	1.000	1.000		
2	2.000	1.000		
3	3.000	1.000		
4	4.000	1.000		

\* Long press [Delete] key to clear all the list.



- Front USB host port for external USB drive
- Color display shows readback voltage, current and power simplifying setup, and monitoring
- Channel selection and control knobs for quick adjustments
- Function keys and keypad provide intuitive interface
- Two electronic load inputs allow individual on/off control (EL34243A only)
- Color coded input channels, controls, and display allow at a glance verification
- Rear output terminals for clean wiring in a system
- Optional GPIB
- USB communication port
- LXI LAN port
- Digital I/O
- Parallel input connection for 120 A, 600 W input (EL34243A)
- Scope function captures transients
- Data logger records seconds to hours
- Transient *List* creates a dynamic load profile
- Customizable cut-off conditions based on voltage, capacity, or timer for battery test and instant access to vital measurements on meter view

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