# Keysight NL3-Class ATE DC Electronic Load

## EL4900 Series Regenerative DC Electronic Loads

The EL4900 Series DC electronic loads provide precision for power device testing, from validation to transient analysis. The regenerative feature returns up to 95% of absorbed energy to the grid, reducing energy and cooling costs without disrupting grid performance. Paired with the PathWave Advanced Power Suite software, the EL4900 Series provides robust automation of complex test scenarios, delivering deeper insights and analysis. Validate complex power devices in less space, with no compromise on performance or programmability.



**Keysight EL4900 Series DC electronic loads**

### Operating Modes

| | |
|---|---|
| Current priority (CC) | Voltage priority (CV) |
| Power priority (CP) | Resistance priority (CR) |
| CV+CC | CV+CR |
| CC+CR | CC+CV+CP+CR (Auto) |

| Model | 10 V | 32 V | 80 V | 300 V | 500 V | 800 V | 1500 V |
|---|---|---|---|---|---|---|---|
| | EL49x1A | EL49x2A | EL49x3A | EL49x4A | EL49x5A | EL49x6A | EL49x7A |
| **DC Power Ratings** | | | | | | | |
| Voltage | 10 V | 32 V | 80 V | 300 V | 500 V | 800 V | 1500 V |
| Current | 120–720 A | 80–480 A | 40–240 A | 20–120 A | 12–72 A | 8–48 A | 12–24 A |
| Power | 1.2–7.2 kW | 2–12 kW | 2–12 kW | 2–12 kW | 2–12 kW | 2–12 kW | 6–12 kW |
| **Load Regulation** [1] | | | | | | | |
| Voltage | ≤ 4 mV | ≤ 12.8 mV | ≤ 16 mV | ≤ 60 mV | ≤ 100 mV | ≤ 160 mV | ≤ 300 mV |
| Current | ≤ 120–720 mA | ≤ 80–480 mA | ≤ 40–240 mA | ≤ 20–120 mA | ≤ 12–72 mA | ≤ 8-64 mA | ≤ 12-24 mA |
| **Programming Accuracy** [1] | | | | | | | |
| Voltage | 0.08% + 8 mV | 0.05% + 22 mV | 0.03% + 24 mV | 0.03% + 90 mV | 0.03% + 150 mV | 0.03% + 240 mV | 0.03% + 900 mV |
| Current 0.1% + | 0.3% + 510 mA to 3.06 A | 0.1% + 200 mA to 1.2 A | 0.1% + 40 mA to 240 mA | 0.1% + 30 mA to 180 mA | 0.1% + 12 mA to 72 mA | 0.1% + 8 mA to 48 mA | 0.2% + 24 mA to 48 mA |
| **Readback Accuracy** [1] | | | | | | | |
| Voltage | 0.08% + 8 mV | 0.05% + 22 mV | 0.03% + 24 mV | 0.03% + 90 mV | 0.03% + 150 mV | 0.03% + 240 mV | 0.03% + 900 mV |
| Current 0.1% + | 0.3% + 510 mA to 3.06 A | 0.1% + 200 mA to 1.2 A | 0.1% + 60 mA to 380 mA | 0.1% + 30 mA to 180 mA | 0.1% + 12 mA to 72 mA | 0.1% + 8 mA to 48 mA | 0.2% + 24 mA to 48 mA |
| **Programming Resolution** | | | | | | | |
| Voltage | 1 mV | 1 mV | 1 mV | 1 mV | 10 mV | 10 mV | 10 mV |
| Current | 100 mA | 10 mA | 10 mA | 10 mA | 1–10 mA | 1–10 mA | 1 mA |
| **Line Regulation** | | | | | | | |
| Voltage | ≤ 2 mV | ≤ 3.2 mV | ≤ 16 mV | ≤ 30–60 mV | ≤ 100 mV | ≤ 160 mV | ≤ 300 mV |
| Current | ≤ 72–432 mA | ≤ 48–288 mA | ≤ 24–144 mA | ≤ 12–36 mA | ≤ 7.2–57.6 mA | ≤ 4.8–28.8 mA | ≤ 7.2–14.4 mA |
| **Typical Characteristics** | | | | | | | |
| Command processing time | ≤ 0.1 ms | | | | | | |

1. Percent of value + offset; at 23 °C ± 5 °C after a 30-minute warm-up; measurement NPLC=1; valid for 1 year.

More Information: www.keysight.com/find/EL4900

# High Density, High Performance

## Power that adapts to every test

- Return absorbed energy to the grid with a regenerative design that returns up to 95% of absorbed energy
- Multiple operating modes: (CV, CC, CR, CP, plus combinations)
- Voltage options: 10 V, 32 V, 80 V, 300 V, 500 V, 800 V, and 1500 V
- Power range: 1.2 kW to 12 kW; parallel up to 16 units for higher sinking current
- Stackable parallel connections for higher total sinking current

## Smarter tools for deeper insights

- Built-in waveform generation for battery testing
- Averaged and digitized measurement modes
- Amp-hour and watt-hour calculations
- PathWave software applications for analysis, control, and emulation

## Safety and simplicity built-in

- Overvoltage, overcurrent, overpower, and overtemperature safeguards
- Fast hardware-level protection response
- Compact 1U and 2U rack designs
- Dedicated rack-mount kits
- Standard LAN, USB, and CAN; optional GPIB, RS-232, and analog
- Built-in web interface for remote control

## Accessories

| Part Number | Description |
|---|---|
| PW9252A | PathWave Advanced Power Control and Analysis application |
| RP5901C | GPIB interface board for EL4900 Series DC loads and RP5900 Series supplies |
| RP5902C | Analog / RS232 interface board for EL4900 Series DC loads and RP5900 Series supplies |
| RP5903C | Parallel kit — Fiber optics cable and transmitter module |
| RP5904C | Rack-mount kit 1U for EL4900 Series DC loads and RP5900 Series supplies |
| RP5905C | Rack-mount kit 2U for EL4900 Series DC loads and RP5900 Series supplies |

## For More Information

For more information on the Keysight EL4900 Series regenerative DC electronic loads, please visit:
www.keysight.com/find/EL4900

To find a distributor in your area, visit:
www.keysight.com/find/distributors

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.

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