



Elektro-Automatik



EL 9000 T

Programmable Electronic DC Loads | 400 W - 600 W

Multilingual Color Touch Panel: Provides intuitive operation and easy configuration of settings.

Integrated Function Generator: Offers standard and arbitrary waveforms for versatile testing scenarios.

Comprehensive Protection Features: Includes OVP, OCP, and OPP to ensure safety during operation.

Multiple Operation Modes: Supports CV, CC, CP, and CR modes for diverse application requirements.

Standard and Optional Interfaces: USB port included, with optional Ethernet and analog interfaces for enhanced connectivity.

EA-EL 9000 T 400 W - 600 W

Programmable Electronic DC Load



General

The EA-EL 9000 T Series is a state-of-the-art line of compact electronic DC loads, specifically engineered for research laboratories, schools, and educational facilities. Designed with a focus on cost efficiency and space-saving, these models offer power ratings of 400 W, 500 W, and 600 W, making them ideal for a broad range of testing applications. Equipped with a fast microprocessor and robust connectivity, the series supports constant voltage (CV), constant current (CC), constant power (CP), and constant resistance (CR) modes, providing unparalleled flexibility for diverse testing needs.

Power Ratings, Voltages, Currents

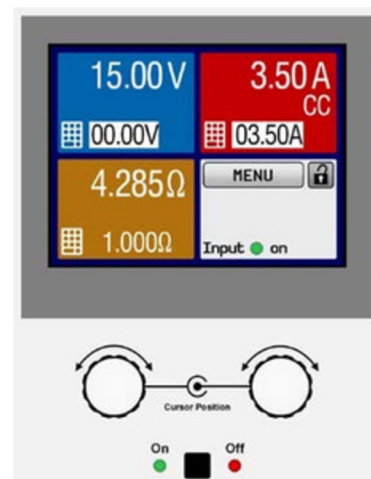
The EA-EL 9000 T Series offers input voltage ranges from 0–80 V, 0–200 V, and 0–500 V, with input currents spanning 0–8 A, 0–18 A, and 0–45 A. These specifications accommodate a wide variety of devices, from small electronics to industrial components. Steady power outputs are available in three options: 400 W, 500 W, and 600 W, ensuring precise and reliable performance for any application.

Display and Handling

The advanced color TFT touch panel provides an intuitive interface for monitoring and controlling the devices. Key parameters, including voltage, current, power, and resistance, are clearly displayed for real-time observation. Users can effortlessly adjust settings using rotary knobs or a numeric keypad, ensuring precise control over testing conditions. Lockable operation controls add an extra layer of security to prevent unintentional adjustments during testing.

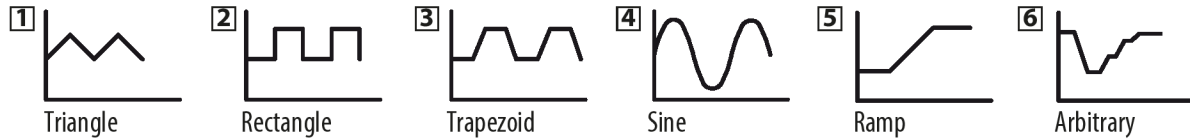
Multi-language Control Panel

Designed for a global audience, the EA-EL 9000 T Series features a multilingual interface supporting English, German, Russian, and Chinese. This flexibility ensures accessibility for users worldwide, enhancing the ease of operation in diverse testing environments.



Function Generator

Integrated into every model, the function generator supports standard waveforms, including triangle, rectangle, trapezoid, sine, ramp, and arbitrary shapes. These waveforms can be applied to either input voltage or current, allowing for sophisticated testing scenarios. The generator is fully configurable through the touch panel or remote interfaces, making it a valuable tool for research, development, and quality assurance.



Battery Test and MPP Tracking

The EA-EL 9000 T Series excels in advanced testing scenarios such as battery evaluation and photovoltaic system analysis. The battery test mode records metrics like elapsed time, capacity (Ah), and energy (Wh). Additionally, the MPP tracking feature simulates solar inverter characteristics, enabling precise measurement of UMPP, IMPP, and PMPP values. With adjustable thresholds and data export capabilities, this series provides unmatched versatility for energy applications.

Power Derating

To ensure safe operation under high loads, the EA-EL 9000 T Series incorporates thermal derating mechanisms. By automatically adjusting power intake based on ambient temperature, the devices prevent overheating and maintain optimal performance. Nominal power ratings are defined at 25°C, with seamless derating adjustments for higher temperatures.

Remote Control and Connectivity

Standard USB interfaces and optional Ethernet and analog ports enable seamless remote operation of the EA-EL 9000 T Series. The free “EA Power Control” software facilitates features like sequencing, allowing for automated testing workflows. For larger setups, the optional “Multi Control” app manages up to 20 units simultaneously, streamlining operations and improving efficiency.



Optional Analog Interface

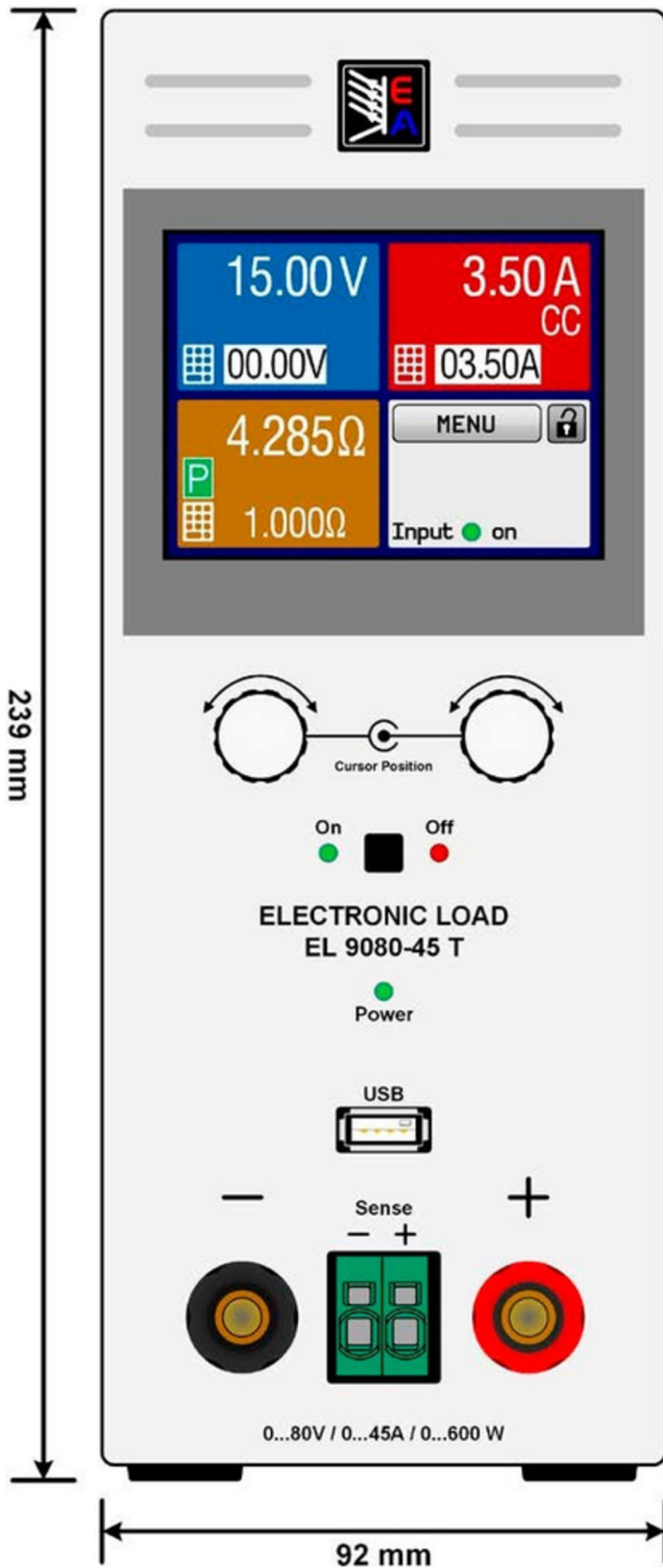
An optional galvanically isolated analog interface expands the functionality of the EA-EL 9000 T Series. Supporting input ranges of 0–5 V or 0–10 V, this interface allows for precise control over voltage, current, power, and resistance. The analog interface also includes outputs for voltage, alarms, and reference signals, enhancing compatibility with various testing configurations.

Options

The EA-EL 9000 T Series offers pluggable and retrofittable interface modules for added flexibility. Available options include USB, Ethernet, and analog interfaces, ensuring seamless integration into existing systems. These modules provide users with tailored solutions for specific operational needs.



Product Views



Technical Data

AC Supply

- Voltage: 90...264 V
- Frequency: 45...66 Hz
- Power consumption: max. 40 W

DC Input Voltage

- Accuracy: <0.1% of rated value

DC Input Current

- Accuracy: $\leq 0.2\%$ of rated value
- Load regulation 1-100% ΔIUC : $\leq 0.1\%$ of rated value
- Rise time 10–90%: <50 μs

DC Input Power

- <0.5% of rated value

DC Input Resistance

- Accuracy: $\leq 1\%$ of max. resistance + 0.3% of rated current

Display / Control Panel

- Graphics display with TFT touch panel

Digital Interfaces

- Equipped as standard:
 - 1x USB type B (for communication) / 1x USB type A (for storage device)
- Optionally available:
 - 1x Ethernet (not separate, always in combination with USB and analog interface)

Analog interface (optional)

- 15 pole D-Sub, galvanically isolated
 - Signal range: 0...5 V or 0...10 V (switchable)
 - Inputs: U, I, P, R, remote control on-off, DC input on-off, resistance mode on-off
 - Outputs: U, I, overvoltage, alarms, reference voltage
 - Accuracy U / I / P / R: 0...10 V: <0.2%, 0...5 V: <0.4%

Cooling

- Temperature controlled fan

Ambient temperature: 0...50 °C

Storage temperature: -20...70 °C

Terminals on front

- Load input: Plug & screw terminal
- Remote sensing: Clamp terminal
- Control interface: USB (type A)

Terminals on rear

- Analog interface: Optional: Sub-D connector 15 pole
- Digital interface: Built-in: USB (type B), optional: Ethernet

Mechanics

- Dimensions (W x H x D):
 - 92 x 239 x 352 mm (3.6" x 9.4" x 13.8")
- Weight:
 - ≈ 7 kg (15.4 lb)

Available Models

Model	Power	Power @ 40°C	Voltage	Current	Resistance	U_min for I_max
EL 9080-45T	0...600 W	0...550 W	0...80 V	0...45 A	0.12...40 Ω	≈ 2.2 V
EL 9200-18T	0...500 W	0...500 W	0...200 V	0...18 A	1...340 Ω	≈ 2 V
EL 9500-08T	0...400 W	0...400 W	0...500 V	0...8 A	6...2000 Ω	≈ 6.5 V

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