TEST & MEASUREMENT INSTRUMENTS — DATASHEET

# ET5501A / ET5501B / ET5503A / ET5503B / ET5504A / ET5506A / ET5506B / ET5506C / ET5512A / ET5512B / ET5518A / ET5518B / ET5524A / ET5524B / ET5530A / ET5530B / ET5536A / ET5536B

## ET5500 Series High-Precision Programmable DC Electronic Load




## OVERVIEW

The ET5500 series high-precision programmable DC electronic loads use a standard chassis size and high-performance chips in a high-speed, high-precision design, with display resolution up to 0.1 mV / 0.1 mA and superior performance. Eight standard models cover 150 W to 600 W, six mid-power models cover 1200 W to 2400 W, and four high-power models extend the range to 3000 W and 3600 W — 18 models in total. The series is widely used in automated integration testing, production-line testing of chargers, switching power supplies, linear power supplies, new-energy batteries, battery management systems (BMS) and DC charging piles, vehicle electronics and automotive systems, and in laboratory R&D testing at research institutes.

## FEATURES

- 4.3-inch TFT LCD display, Chinese / English display; simple, convenient operation with an intuitive interface
- Key lock function prevents accidental misoperation; power-off data retention
- Voltage / current display resolution up to 0.1 mV / 0.1 mA
- Six basic measurement modes: CC, CV, CR and CP, plus combined CC+CV and CR+CV — plus professional test modes
- Automatic pass/fail test mode: detects whether the current test is within the set pass range and displays Pass / Fail
- Automatic scan test mode, testing power-supply output continuity within a set range
- Battery capacity test mode for discharge-capacity testing of lead-acid, lithium and other batteries
- LED driver test mode, simulating LED driver power-supply performance
- Dynamic test mode for testing the dynamic output performance of power supplies
- List test mode with 88 groups, simulating one device under test under various loading conditions
- Short-circuit test mode, simulating a load short circuit; supports 100 groups of memory
- Remote voltage sensing; current monitoring supported
- Power-off memory; built-in buzzer alarm, with key prompt tone and buzzer alarm switchable on or off
- RS232 communication interface standard, supporting SCPI and Modbus programming commands
- PC data-acquisition software supported

## SPECIFICATIONS

| Item | ET5501A | ET5501B | ET5503A | ET5503B | ET5504A | ET5506A | ET5506B | ET5506C |
|---|---|---|---|---|---|---|---|---|
| **Rated input power** | 150 W | 150 W | 300 W | 300 W | 400 W | 600 W | 600 W | 600 W |
| **Input voltage** | 0–150 V | 0–500 V | 0–150 V | 0–500 V | 0–150 V | 0–150 V | 0–500 V | 0–150 V |
| **Input current** | 0–30 A | 0–15 A | 0–30 A | 0–15 A | 0–60 A | 0–60 A | 0–30 A | 0–120 A |
| **CV mode range** | 0.1–150.0 V | 0.1–500.0 V | 0.1–150.0 V | 0.1–500.0 V | 0.1–150.0 V | 0.1–150.0 V | 0.1–500.0 V | 0.1–150.0 V |
| **CV resolution** | 1 mV / 10 mV | | | | | | | |
| **CV accuracy** | ±(0.05 % + 0.025 % FS) | | | | | | | |
| **CC mode range** | 0–30.00 A | 0–15.00 A | 0–30.00 A | 0–15.00 A | 0–60.00 A | 0–60.00 A | 0–30.00 A | 0–120.00 A |
| **CC resolution** | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 1 mA / 10 mA |
| **CC accuracy** | ±(0.05 % + 0.05 % FS) | | | | | | | |
| **CP mode range** | 0–150 W | 0–150 W | 0–300 W | 0–300 W | 0–400 W | 0–600 W | 0–600 W | 0–600 W |
| **CP resolution** | 10 mW | | | | | | | |
| **CP accuracy** | ±(0.1 % + 0.1 % FS) | | | | | | | |
| **CR mode range** | 16-bit | | | | | | | |
| **CR resolution** | 10 mΩ | | | | | | | |
| **CR accuracy** | ±(0.1 % + 0.1 % FS) | | | | | | | |
| **Voltage readback range** | 0–150 V | 0–500 V | 0–150 V | 0–500 V | 0–150 V | 0–150 V | 0–500 V | 0–150 V |
| **Voltage readback resolution** | 0.1 mV / 1 mV | | | | | | | |
| **Voltage readback accuracy** | ±(0.025 % + 0.025 % FS) | | | | | | | |
| **Current readback range** | 0–30 A | 0–15 A | 0–30 A | 0–15 A | 0–60 A | 0–60 A | 0–30 A | 0–120 A |
| **Current readback resolution** | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 0.1 mA / 1 mA | 1 mA / 10 mA |
| **Current readback accuracy** | ±(0.05 % + 0.05 % FS) | | | | | | | |
| **Display** | 4.3-inch TFT LCD · Chinese / English | | | | | | | |
| **Interfaces** | RS232 standard · SCPI and Modbus programming commands | | | | | | | |

## MID-POWER MODELS

| Item | ET5512A | ET5512B | ET5518A | ET5518B | ET5524A | ET5524B |
|---|---|---|---|---|---|---|
| **Rated input power** | 1200 W | 1200 W | 1800 W | 1800 W | 2400 W | 2400 W |
| **Input voltage** | 0–150 V | 0–500 V | 0–150 V | 0–500 V | 0–150 V | 0–500 V |
| **Input current** | 0–120 A | 0–60 A | 0–180 A | 0–90 A | 0–240 A | 0–120 A |
| **Voltage ranges (small / large)** | 15 V / 150 V | 15 V / 500 V | 15 V / 150 V | 15 V / 500 V | 15 V / 150 V | 15 V / 500 V |
| **Current ranges (small / large)** | 12 A / 120 A | 6 A / 60 A | 18 A / 180 A | 9 A / 90 A | 24 A / 240 A | 12 A / 120 A |
| **Setting resolution (small / large range)** | 1 mV / 1 mA · 10 mV / 10 mA | 1 mV / 1 mA · 10 mV / 1 mA | 1 mV / 1 mA · 10 mV / 10 mA | 1 mV / 1 mA · 10 mV / 10 mA | 1 mV / 1 mA · 10 mV / 10 mA | 1 mV / 1 mA · 10 mV / 10 mA |
| **Display resolution** | 0.1 mV / 0.1 mA | | | | | |
| **Basic accuracy** | Voltage ±(0.025 % + 0.025 % FS) · Current ±(0.05 % + 0.05 % FS) | | | | | |
| **Display** | 4.3-inch TFT LCD · Chinese / English | | | | | |
| **Interfaces** | RS232 standard · SCPI and Modbus programming commands | | | | | |

## HIGH-POWER MODELS

| Item | ET5530A | ET5530B | ET5536A | ET5536B |
|---|---|---|---|---|
| **Rated input power** | 3000 W | 3000 W | 3600 W | 3600 W |
| **Input voltage** | 0–150 V | 0–500 V | 0–150 V | 0–500 V |
| **Input current** | 0–240 A | 0–120 A | 0–240 A | 0–120 A |
| **CV mode range** | 0.1–150.0 V | 0.1–500.0 V | 0.1–150.0 V | 0.1–500.0 V |
| **CV resolution / accuracy** | 1 mV / 10 mV · ±(0.05 % + 0.025 % FS) | | | |
| **CC mode range** | 0–120.0 A | 0–120.0 A | 0–240.0 A | 0–120.0 A |
| **CC resolution / accuracy** | 1 mA / 10 mA · ±(0.05 % + 0.05 % FS) | | | |
| **CP mode range** | 0–3000 W | 0–3000 W | 0–3600 W | 0–3600 W |
| **CP resolution / accuracy** | 10 mW · ±(0.1 % + 0.1 % FS) | | | |
| **CR mode range** | 16-bit · resolution 10 mΩ · accuracy ±(0.1 % + 0.1 % FS) | | | |

| Item | ET5530A | ET5530B | ET5536A | ET5536B |
|---|---|---|---|---|
| **Voltage readback range** | 0–150 V | 0–500 V | 0–150 V | 0–500 V |
| **Voltage readback resolution / accuracy** | 0.1 mV / 1 mV · ±(0.025 % + 0.025 % FS) | | | |
| **Current readback range** | 0–120 A | 0–120 A | 0–240 A | 0–120 A |
| **Current readback resolution / accuracy** | 0.1 mA / 1 mA · ±(0.05 % + 0.05 % FS) | | | |
| **Display** | 4.3-inch TFT LCD · Chinese / English | | | |
| **Interfaces** | RS232 standard · SCPI and Modbus programming commands | | | |

## GENERAL SPECIFICATIONS

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|---|---|
| **Power supply** | 220 Vac ±10 % or 110 Vac ±10 %, 45–65 Hz |
| **Operating temperature** | 10 ℃ to 40 ℃ · relative humidity ≤ 90 % (within 0–40 ℃) |
| **Non-operating temperature** | −10 ℃ to 60 ℃ |
| **Dimensions** | Standard models: approx. 400 mm × 240 mm × 100 mm · high-power models: approx. 550 mm × 440 mm × 380 mm |
| **Weight** | Standard models: 4.4 kg · high-power models: approx. 40 kg |

Specifications are as published in the ET5500 series technical data sheet. Instruments are quoted per enquiry — contact with your voltage and current range for pricing and availability.