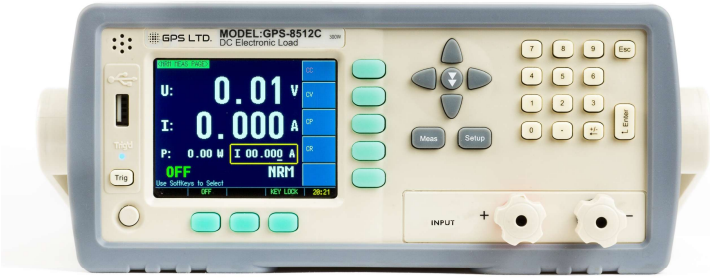
GPS-8512C

DC Electronic Load



KEY FEATURES

- 300 W, 300 V and 30 A input rating
- CC, CV, CP and CR load modes
- Sequence, automatic test and battery modes
- Four-wire remote sensing
- 3.5 inch true colour display
- SCPI over RS-232C

Four Load Modes, Six Ways To Run Them.

A programmable DC electronic load rated 300 W, 300 V and 30 A, with constant current, constant voltage, constant power and constant resistance modes on a 3.5 inch colour display.

The four modes are the easy half. What makes a load useful on a bench is what it does unattended: a transient mode that switches between two levels on its own timing, a sequence of up to ninety-nine steps, and an automatic test that runs twenty steps and returns a pass or fail against limits you set.

Battery work is a mode in its own right. Discharge at a constant current to a cut-off voltage, and the instrument reports capacity to 999.99 Ah and elapsed time to 999 hours, so a cell can be characterised rather than merely flattened.

Four-wire remote sensing takes the lead drop out of the voltage reading, which at 30 A is the difference between measuring the supply and measuring the cable.

IDEAL FOR

- Power supply design and verification
- Battery and charger characterisation
- LED driver and constant current sources
- Production and end-of-line testing
- Teaching and research laboratories

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Load ranges · 300 W, 300 V and 30 A · constant current, voltage, power and resistance			
Input rating	—	—	300 W · 300 V · 30 A · derated at low voltage per the operating curve
Constant current, 0 to 3 A	±(0.1% + 0.1% FS)	0.1 mA	Low range
Constant current, 0 to 30 A	±(0.2% + 0.1% FS)	1 mA	High range
Constant voltage, 0 to 18 V	±(0.05% + 0.02% FS)	1 mV	Low range
Constant voltage, 0 to 150 V	±(0.05% + 0.025% FS)	10 mV	Constant voltage is specified to 150 V, against a 300 V input rating
Constant power, 0 to 100 W	±(1% + 0.1% FS)	1 mW	
Constant power, 100 to 300 W	±(1% + 0.1% FS)	10 mW	
Constant resistance, 0.1 to 99 Ω	±(1% + 0.3% FS)	0.01 Ω	
Constant resistance, 100 Ω to 4 kΩ	±(1% + 0.8% FS)	0.1 Ω	
Monitor, voltage and current	Voltage 0.05% · current 0.1%	1 mV and 10 mV · 0.1 mA and 1 mA	Four-wire remote sensing available
Short circuit test	—	—	About 30 A at about 40 mΩ · over-current protection is off in this mode
Battery test	—	—	Constant current discharge to a cut-off voltage · capacity to 999.99 Ah · elapsed time to 1000 hours

Accuracy is stated as ±(% of setting + % of full scale) at 23 °C ± 5 °C and 65% relative humidity, after a short-circuit zero, more than sixty minutes of warm-up, and within twelve months of adjustment. Full scale is that of the range in use. Constant voltage is specified to 150 V while the input is rated to 300 V.

WHAT'S IN THE BOX

- GPS-8512C electronic load
- Test lead set
- AC power cord and RS-232 communication cable
- Data acquisition software
- User manual

AVAILABLE SEPARATELY · The RS-485 interface is an option specified with the order rather than fitted afterwards. Rack mounting and calibration are available from GPS.

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-8512C	Programmable DC electronic load, 300 W, 300 V, 30 A, CC/CV/CP/CR with sequence, automatic test and battery modes	**TBC**

DISPLAY
3.5 inch true colour TFT · voltage, current, power, resistance, battery capacity and discharge time

TEST FUNCTIONS
Normal, transient, sequence, automatic test, battery, LED load, over-current, over-power and short circuit

SEQUENCE
Ten files of up to a hundred steps · step timing 0.01 s to 60 s · looped or triggered

BATTERY TEST
Constant current discharge to a set cut-off voltage · capacity to 999.99 Ah and elapsed time to 1000 hours

PROTECTION
Five levels: over voltage, over current, over power, reverse polarity and over temperature · the input opens on trip

INTERFACE
RS-232C built in, SCPI · RS-485 optional · remote sensing and external trigger inputs · baud rate to 115200

SIZE AND COOLING
264 × 107 × 350 mm · 5.0 kg net · temperature-controlled fan

LOAD MODES
Constant current, constant voltage, constant power and constant resistance, selected by soft key

TRANSIENT
Two levels with independent timing · continuous, pulse or triggered · 0.1 Hz to 1 kHz

AUTOMATIC TEST
Ten files of twenty steps · each step CC, CV, CP, CR, short or open · pass and fail against set limits

SAMPLING RATE
Three rates: three, five or ten readings a second

SENSING AND TRIGGER
Four-wire remote sensing on the rear panel · internal, bus or external trigger

POWER AND ENVIRONMENT
198 to 252 V AC, 48.5 to 52.5 Hz · 15 VA maximum · operating 10 °C to 40 °C at 10 to 80% relative humidity

WARRANTY
1 year, subject to product registration with GPS