



GPS-3004

Multi-Channel Linear DC Power Supply



Four Channels, One Power Budget.

Four identical isolated channels, each 0 to 32 V at 0 to 10 A and rated 160 W. Linear regulation throughout, with ripple under 1.5 mV rms and load regulation inside 0.01% plus 2 mV.

Every channel has the same range, so any of them will do for any rail. Each will take up to 160 W in whatever combination of volts and amps the job calls for, and the 384 W the instrument shares out is yours to divide as you choose.

The channels are galvanically isolated and float free of the chassis, which is what lets them be combined. Stack all four in series for 128 V, bundle them in parallel for 40 A, or pair two about a common point for a matched positive and negative supply. Nothing is tied to earth, so a complex load brings no ground loops with it.

Beyond setting a rail, it will run one. A list sequence steps through programmed values, synchronous mode moves every channel together in proportion, and a battery charging curve can be simulated rather than approximated.

Electronic fuses are configurable per channel with a delay from zero to 250 ms, so an inrush is tolerated and a fault is not. Each channel also takes a voltage and a current soft limit, capping what the knob will reach, and a warning band the display flags when the output leaves it.

KEY FEATURES

- Four isolated channels, 0 to 32 V at 0 to 10 A
- 160 W per channel, 384 W across the instrument
- Series to 128 V, parallel to 40 A
- List sequence and synchronous output
- Electronic fuses, soft limits and warning bands
- RS-232 and USB, LAN optional · SCPI or MODBUS

IDEAL FOR

- Automated test equipment
- Multi-rail embedded development
- Battery and charger work
- Analogue and sensor design
- Teaching and research laboratories

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Four identical channels · up to 160 W each · 384 W shared across the instrument			
Output voltage, per channel, 0 to 32 V	$\pm(0.05\% + 5 \text{ mV})$	1 mV	Four identical channels, isolated and ungrounded
Output current, per channel, 0 to 10 A	$\pm(0.1\% + 5 \text{ mA})$	0.2 mA below 1 A, 1 mA at and above	Subject to the channel power boundary below
Readback, voltage	$\pm(0.05\% + 5 \text{ mV})$	1 mV	
Readback, current	$\pm(0.1\% + 2 \text{ mA})$	0.2 mA below 1 A, 1 mA at and above	
Channel power	—	—	Up to 160 W in any voltage and current pairing · 10 A anywhere to 16 V, 5 A at 32 V
Instrument power	—	—	384 W shared across the four, divided as the job needs · the output switches off with a warning above it
Series connection	—	—	Up to 128 V across the four channels
Parallel connection	—	—	Up to 40 A
Line regulation	Voltage $\leq 0.01\% + 2 \text{ mV}$ · current $\leq 0.01\% + 250 \mu\text{A}$	—	
Load regulation	Voltage $\leq 0.01\% + 2 \text{ mV}$ · current $\leq 0.01\% + 250 \mu\text{A}$	—	
Ripple and noise	Voltage $\leq 1.5 \text{ mV rms}$ · current $\leq 1 \text{ mA rms}$	—	20 Hz to 20 MHz
Remote sensing	—	—	Compensates up to 1 V of drop along the load leads
Electronic fuse	Response $< 10 \text{ ms}$	Delay 0 to 250 ms in 10 ms steps	Set independently for each channel

Setting and readback accuracies apply at $25^\circ\text{C} \pm 5^\circ\text{C}$. Two power figures apply together: up to 160 W from any one channel, and 384 W shared across the four. Add the rails up against the 384 W when sizing a bench.

WHAT'S IN THE BOX

- GPS-3004 power supply
- Mains lead, USB cable and RS-232 cable
- Sense leads and four test leads
- User manual

AVAILABLE SEPARATELY · LAN is fitted during manufacture, so specify it with the order. Rack mounting and calibration available from GPS.

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-3004	Four-channel linear DC power supply, 0–32 V at 0–10 A, 160 W per channel and 384 W total	523004

CHANNELS AND POWER

Four identical outputs, 0 to 32 V at 0 to 10 A, isolated and ungrounded · up to 160 W per channel in any voltage and current pairing · 384 W shared across the four

PROGRAMMED OUTPUT

A list sequence steps through stored voltage and current values · synchronous mode moves every channel in proportion · a battery charging curve can be simulated rather than approximated

ELECTRONIC FUSES

Configured independently per channel · response under 10 ms · delay settable from 0 to 250 ms in 10 ms steps, so an inrush is tolerated and a fault is not

SENSING AND TERMINALS

Remote sensing compensates up to 1 V of lead drop · output at the rear as well as the front, with lower resistance

POWER AND ENVIRONMENT

110 V or 220 V $\pm 10\%$ · operating 5°C to 40°C below 80% RH · storage -20°C to 70°C below 80% RH

SERIES AND PARALLEL

Up to 128 V with the four channels in series · up to 40 A in parallel

LIMITS AND WARNINGS

A voltage and a current soft limit per channel, capping the adjustment range · and a warning band on each, flagged on the display when the output leaves it

PROTECTION

Over voltage protection per channel, preset 32.5 V, referenced to the measured or the set voltage · over current and over temperature · overload and short circuit on every channel

INTERFACES AND STARTUP

RS-232 and USB fitted with cables · LAN at manufacture · SCPI or MODBUS · handling under 50 ms · the power-on output state is set in the menu

SIZE AND MASS

285 × 136 × 405 mm (w × h × d) · 14.0 kg