

APPENDIX A. SPECIFICATIONS

Note: All specifications subject to change without notice.

Input Rating:

100/120 V model: 90 - 132 VAC, 47 Hz - 63 Hz

220/240 V model: 198 - 264 VAC, 47 Hz - 63 Hz

Input Power Cable: 3-wire; grounded
I.E.C. power entry module

Output Range: Constant voltage, constant current, constant power.
(Programmable) Automatic cross-over upon reaching limits.

Voltage: PowerPac 1000: 5 V DC to 1000 V DC; fully adjustable in 1 V steps
PowerPac 3000: 20 V DC to 3000 V DC; fully adjustable in 1 V steps

Current: PowerPac 1000: 1 mA to 500 mA; fully adjustable in 1 mA steps
PowerPac 3000: 1 mA to 400 mA; fully adjustable in 1 mA steps

Power: PowerPac 1000: 1 W to 250 W; fully adjustable in 1 W steps
PowerPac 3000: 1 W to 400 W; fully adjustable in 1 W steps

Output Terminals: 4-pair recessed female banana jacks,
floating, and wired in parallel

Timer Control: 1 minute to 99 hours and 58 minutes, or
99,999 volt-hours

No Load Detection: PowerPac 1000: 58 μ A (or greater than 6 mega-ohm) at greater than 350 V
PowerPac 3000: 200 μ A at greater than 350 V

Performance

Ripple : PowerPac 1000: $\pm 1\%$ at 1000 V and 250 W

PowerPac 3000: $\pm 1\%$ at 3000 V and 400 W

Line Regulation: PowerPac 1000: $\pm 1\%$ at 1000 V and 225 W from 90 - 132 V AC and 198 - 264 V AC

PowerPac 3000: $\pm 1\%$ at 3000 V and 400 W from 90 - 132 V AC and 198 - 264 V AC

Load Regulation: PowerPac 1000: $\pm 1\%$ at 1000 V for a 50% change in output load
(200 mA to 400 mA; 400 mA to 200 mA)

PowerPac 3000: $\pm 1\%$ at 3000 V for a 50% change in output load

Drift: PowerPac 1000: $\pm 0.5\%$ after a 30 minute warm-up at 1000 V and 225 W

PowerPac 3000: $\pm 0.5\%$ after a 30 minute warm-up at 3000 V and 400 W

Noise: 35 dBA

Readout Stability:	PowerPac 1000	PowerPac 3000
Volts:	±1% at 1000 V full scale	±1% at 3000 V full scale
Current:	±1% at 500 mA full scale	±1% at 400 mA full scale
Power:	±1% at 250 W full scale	±1% at 400 W full scale

Set Point Accuracy:	PowerPac 1000	PowerPac 3000
	±1% at 1000 V full scale	±1% at 3000 V full scale

Safety Features

No load detection: LCD alarm display if initial load is greater than 6 million ohm upon start of run.
Continual checking during the run if the load is greater than 6 million ohm

Sudden load change detection: Alarm display and power down upon sudden load change.

Ground Leakage: Alarm display if ground leakage is greater than 500µA; power down on failure

Arc detection*: Alarm display and power down upon arc detection

Overload/short circuit protection: Alarm display and power down upon short circuit detection

PowerPac 1000: 3000 V DC rms isolation from high voltage outputs to earth ground

PowerPac 3000: Internal fusing on both hot and neutral
4000 V DC rms isolation from high voltage outputs to earth ground

Auto power up after power failure: Alarm display and completion of run if a power failure occurs

Safety Compliance: IEC 1010

EMI Conforms to CE standards for Emissions and Immunity; tested only at 220 V.
See Declaration of Conformity for details.
TUV EMC certification.

Display: 128 x 64 dot backlit LCD graphics display

Function Modes: Memory for up to 9 programmed methods, each with up to 9 steps
Constant voltage, constant current, constant power; time and volt-hour control
Final run conditions (power, volts, and amps) displayed at completion of run

Housing: Spill-resistant design (complies with U.L. 94V0)
No external heat sinks

Gel Temp. Range: Control range for gel is 0° C to 90° C (±2%)
(PowerPac 3000)

*Arc Detection: U.S. patent number 5,280,404

Operating Conditions

Temp.: 0 - 40°C
Humidity: 0 - 95% relative humidity, non-condensing

Dimensions: 29 (L) x 28 (W) x 11 (H) cm; unit is stackable

Weight: PowerPac 1000: 3.1 kg
PowerPac 3000: 3.7 kg