

Product Data Sheet

These stand-alone Power Supply / Battery Charging Units can supply 28V at one of four currents: 1.5A, 3A, 5A and 10A.

Maximum battery size for each model:

PSU-1001 (1.5A) 2 x 7Ah, Fire Retardant

PSU-1002 (3A) 2 x 7Ah, Fire Retardant

PSU-1003 (5A) 2 x 18Ah, Fire Retardant

PSU-1004 (10A) 2 x 38Ah, Fire Retardant



The PSUs come in one of three enclosure sizes; small (1.5A / 3A), medium (5A) and large (10A).

A common fault relay with changeover contacts is provided. The contacts are normally energised (failsafe), change over when any fault is active on the panel or in the event of total power loss. Unfused, Max 3A at 30VDC.

The temperature compensated charging voltage is set at 27.3V DC at 20°C.

This product has been designed and manufactured in the United Kingdom.

General Description of the Equipment

The PSU panel cabinet comprises of a sheet steel enclosure, suitable for wall mounting, with a front access door secured by screws. Cable entry is via 20mm 'knockouts' at the top and rear of the cabinet. Two lights near the top of the enclosure indicate a healthy supply (Green) and a fault condition (Yellow).

General Specifications

Enclosure	Steel IP30. Epoxy powder coated Interpon Radon, silver grey.
Cabling	Fire resistant screened cable, minimum size 1 mm ² . Max cable length 1 Km (20 Ohm). FireBurn, FP200 or equivalent (max capacitance 1uF, max inductance 1mH).
Temperature Range: -5°C to +40°C	Maximum relative humidity: 95%
Approx. dimensions of panel (mm) (W x H x D)	311 x 240 x 76 (1.5A & 3A) 404 x 374 x 95 (5A) 469 x 394 x 185 (10A)

Electrical Specification Inputs & Outputs

Terminal Capacity	0.5mm ² to 2.5mm ² solid or stranded wire.	
PSU Input +/- to PCB	29VDC supply input. Diode protected for reversal and independent short circuit.	Max current 3 amps. Max input current 3 amps. Input voltage 29.0VDC to 30VDC.
Temp Sense Input	Input for connection of battery temperature sensor. Attach to central point of sealed lead acid battery pair.	Thermistor TTC5103 10,000 Ohms at 25°C.
Battery Charger Output	27.3VDC nominal at 20°C.	Temperature compensated

Model:	PSU-1001	PSU-1002
Mains supply	47-63Hz 0.42A @ 230VAC	47-63Hz 1.2A @ 230VAC
Mains supply fuse	2 Amp (T2A 250V) 35W unit. Not accessible for servicing. Internal to switch mode power unit.	3 Amp (T4A 250V) 100W unit. Not accessible for servicing. Internal to switch mode power unit
Internal power supply rating	1.5A total including battery charging. Maximum load shared between outputs: 1A	3A total including battery charging. Maximum load shared between outputs: 2A
Power supply output voltage	19-29VDC	19-29VDC
Maximum ripple voltage	150 mV p-p. Supply and charger fault monitored.	150 mV p-p. Supply and charger fault monitored
Min current supplied by PSU (I _{min})	0A	0A
Maximum continuous load	I _{max} A: 0.75A I _{max} B: Not specified	I _{max} A: 1.5A I _{max} B: Not specified
Battery charging voltage	27.3VDC nominal at 20°C. Temperature compensated	27.3VDC nominal at 20°C. Temperature compensated
Battery charging current limit	400mA or 700mA	400mA or 700mA
Max current drawn from batteries	1A with main power source disconnected. Battery fuse 5A (5x20 glass, quick blow)	2A with main power source disconnected. Battery fuse 5A (5x20 glass, quick blow)
Battery high impedance fault (Batt Hi Z)	Resistance > 1 Ohm 1-hour reporting time	Resistance > 1 Ohm 1-hour reporting time
Battery type	YUASA NP7-12 (12V 7.0Ah) Fire Retardant	YUASA NP7-12 (12V 7.0Ah) Fire Retardant
Battery fuse	5A	5A

Model:	PSU-1003	PSU-1004
Mains supply	47-63Hz 0.8A @ 230VAC	47-63Hz 2.5A @ 230VAC
Mains supply fuse	3 Amp (T4A 250V) 150W unit. Not accessible for servicing. Internal to switch mode power unit	5A (T4A 250V) 320W unit. Not accessible for servicing. Internal to switch mode power unit
Internal power supply rating	5A total including battery charging. Maximum load shared between outputs: 4A	10A total including battery charging. Maximum load shared between outputs: 7.5A
Power supply output voltage	19-29VDC	19-29VDC
Maximum ripple voltage	150 mV p-p. Supply and charger fault monitored.	200 mV p-p. Supply and charger fault monitored
Min current supplied by PSU (I _{min})	0A	0A
Maximum continuous load	I _{max} A: 2.5A I _{max} B: Not specified	I _{max} A: 4A I _{max} B: Not specified
Battery charging voltage	27.3VDC nominal at 20°C. Temperature compensated	27.3VDC nominal at 20°C. Temperature compensated
Battery charging current limit	1.2A or 2.0A	1.2A or 2.0A
Max current drawn from batteries	4A with main power source disconnected. Battery fuse 5A (5x20 glass, quick blow)	7.5A with main power source disconnected. Battery fuse 10A (5x20 glass, quick blow)
Battery high impedance fault (Batt Hi Z)	Resistance > 1 Ohm 1-hour reporting time	Resistance > 1 Ohm 1-hour reporting time
Battery type	YUASA NP18-12 (12V 17.2Ah) Fire Retardant	YUASA NP38-12I (12V 38Ah) Fire Retardant
Battery fuse	5A	10A