

FF Data Sheet | Fusion Power Supply

These self-contained Power Supply and Battery Charging Units deliver 28V output and are available in four current ratings: 1.5A, 3A, 5A, and 10A.

The power supply units are supplied in three enclosure sizes: small (1.5A / 3A models), medium (5A model), and large (10A model).

Each unit includes a common fault relay with changeover contacts, designed to operate in failsafe mode (normally energised). The contacts will switch if a fault is detected on the panel or if complete power failure occurs. These are unfused contacts rated for up to 3A at 30V DC.

Charging voltage is temperature-compensated and factory set to 27.3V DC at 20°C.

The PSU cabinets are manufactured from sheet steel and designed for wall mounting. Access is via a front-hinged door secured with screws, while cable entry points are provided at the top and rear using 20mm knockouts. Two indicator lights at the top of the enclosure show system status: Green for normal operation and Yellow for fault conditions.



Maximum Compatible Battery Capacities

- PSU1.5 (1.5A): 2 × 7Ah, Fire Retardant
- PSU3 (3A): 2 × 7Ah, Fire Retardant
- PSU5 (5A): 2 × 18Ah, Fire Retardant
- PSU10 (10A): 2 × 38Ah, Fire Retardant

Specification

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	Thermistor TTC5103 10,000 Ohms at 25°C.
Battery Charger Output	27.3VDC nominal at 20°C.	Temperature compensated

Model	PSU1.5	PSU3
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

Order Part Numbers

PSU1.5	1.5 Amp Power Supply
PSU3	3 Amp Power Supply
PSU5	5 Amp Power Supply
PSU10	10amp Power Supply

Unboxed

PSU1.5-MB	1.5 Amp Power Supply, Unboxed
PSU3-MB	3 Amp Power Supply, Unboxed
PSU5-MB	5 Amp Power Supply, Unboxed
PSU10-MB	10amp Power Supply, Unboxed