

Output Specification

Model	400/4L/12V/BM	400/5L/12V/BM
Voltage	13.5 - 14.2Vdc (13.8 nominal) on mains power	
Ripple	150mV pk - pk max	
Max load current	4.0A continuous	5.0A continuous
Load output fuse	F4A 20mm glass	F5A 20mm glass
Overload	Electronic shutdown until overload / short circuit removed	

Standby Battery

Model	400/4L/12V/BM	400/5L/12V/BM
Battery Capacity	1 x 18Ah Valve Regulated Lead Acid (NP18 size)	
Battery Recharge Time	To 80% within 24 hours	
Deep discharge Protection	Battery disconnected at 10.5V nominal	
Battery Fuse Protection	F4A 20mm glass	F5A 20mm glass

Mechanical

Model	400/4L,5L/12V/BM
Enclosure Dimensions, W x H x D (mm) external	355 x 330 x 80
Weight (kg), excluding battery	3.8
Material	White powder coated steel

Operating Instructions

This unit is intended for use by Service Personnel only - There are NO USER SERVICEABLE parts inside. The green Mains LED will be illuminated whilst the mains supply is present. In the event of a fault condition the red Fault LED will flash and the corresponding (EPS or GEN) fault signal contacts will open.

Maintenance

There is no regular maintenance required of the PSU other than periodic testing and replacement of the standby battery. **Reference should be made to the battery manufacturer's documentation to determine typical/expected battery life with a view to periodic replacement of the battery.**

If the output of the PSU fails the cause of the failure should be investigated e.g. short circuit load. The fault should be rectified before restoring power to the PSU. The fuses may need to be replaced. Ensure the correct fuse rating and type is used.

CAUTION

**Risk of explosion if battery is replaced by an incorrect type.
Dispose of used batteries according to the battery manufacturer's instructions
and all local and national regulations..**

*The packaging supplied with this product may be recycled. Please dispose of packaging accordingly.
Specifications subject to change without notice.*



Instruction Insert: 400-BM Series 12V Switch Mode Power Supplies

Part Numbers	Description	Voltage Range
303-036	400/4L/12V/BM 4 Amp Switch Mode Power Supplies	12Vdc
303-037	400/5L/12V/BM 5 Amp Switch Mode Power Supplies	12Vdc
With Standby battery charging, fault monitoring and remote fault signalling		

For any technical queries please contact:

Tel: + 44 (0) 1420 592444

Email: technical@cranfordcontrols.com

Features

High efficiency cost effective power supply ideal for use in Access Control and general PSU applications. Featuring a regulated 13.8V dc output supplying continuous full rated current to load and a universal mains voltage input. Standby battery recharging is achieved within 24h for an 18Ah battery. Maximum battery life is assured using deep discharge protection to prevent premature battery failure when operating in standby mode for extended periods. Two sets of volt free contacts are provided to signal (i) loss of mains and (ii) battery and loss of output faults.

- Continuous full rated current to load.
- 18Ah Standby battery recharged to 80% within 24 hours.
- Universal mains input voltage.
- Load output features full electronic short circuit and overload protection under mains operation.
- Deep discharge protection (at approx 10.5V)
- Mains transient protection circuit.
- Lid and removal from wall tamper detection.
- Green Mains present LED.
- Red Fault LED
- Volt free contact signalling mains failure
- Volt free contact signalling output and battery faults.

Compliance

This power supply unit meets the essential requirements of the following European Directives:

Low Voltage 2006/95/EC EMC 2004/108/EC WEEE 2002/96/EC RoHS 2002/95/EC

Full datasheet available DS110

Doc No: 125-077 Issue No: 001

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Input Specification

Voltage	90Vac Minimum, 264Vac Maximum
Frequency	50-60Hz
Max current	2A @ 90Vac
Mains Input Fuse	T3.15A 20mm 250Vac HBC

Local Indicators

MAINS LED (Green)	Mains present
FAULT LED (Red Flashing)	Flashes (1s period) when: loss of mains, battery disconnected, output fuse fail, battery fuse fail, output short circuit or low output voltage.

Signalling Outputs

GEN Fault (general)	0.1A @ 60Vdc N/O Volt free contact. Open when battery disconnected, output fuse fail battery fuse fail, output short circuit or low output voltage.
EPS Fault (mains)	0.1A @ 60Vdc N/O Volt free contact. Open when loss of mains for more than 10s
Lid Tamper	3A @ 125Vac N/O Volt free contact. Note: Contact open in when lid opened by normal means or unit is removed from mounted surface (TAMPER ACTIVE condition).

Environment

Temperature	-10 to +40°C (operating) 75% RH non-condensing -20 to +80°C (storage)
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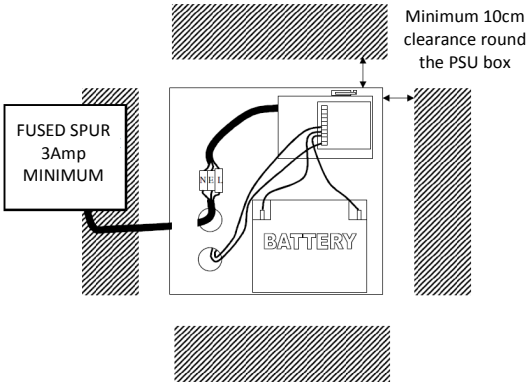
Connections

+LOAD 1, 2, 3, 4*	+ve voltage O/P to load equipment
-LOAD 1, 2, 3, 4*	-ve voltage O/P to load equipment
EPS Fault	Voltfree contacts for loss of mains indication
GEN Fault	Voltfree contact for general faults (see signalling outputs)
+BATT	+ve (Red lead) connection to standby battery
-BATT	-ve (Black lead) connection to standby battery

*Dependant on model

Installation and Commissioning Instructions

This unit is only suitable for installation as permanently connected equipment. The PSU is *NOT SUITABLE* for external installation. *EQUIPMENT MUST BE EARTHED*. Before installation, ensure that external disconnect device is *OFF*. Install according to all relevant safety regulations applicable to the application.



Mounting

- 1) Mount securely in correct orientation allowing minimum clearance – see diagram.
- 2) Route mains and low voltage output cables via different knockouts and/or cable entry holes.
- 3) Use bushes and cable glands rated to UL94 HB minimum.

Mains Power Up

- 4) Attach correctly rated mains cable (minimum 0.5mm² [3A], 300/500Vac) and fasten using cable ties.
- 5) Apply mains power. Check for 13.8v on load outputs. Check green Mains LED is on. The Red LED should be flashing.
- 6) Disconnect mains power.

Load Output

- 7) Attach supplied battery cables to terminal block and battery.
- NOTE:** ensure correct polarity of battery connections: **+ve** use **red** lead, **-ve** use **black** lead.
- 8) Attach correctly rated load cable and fasten using cable ties. Note polarity.
 - 9) Apply mains power. Check green Mains LED is on.
 - 10) Check there is no fault indication on Red LED.
 - 11) Disconnect mains power. Check that the batteries continue to supply voltage and current to the load. The Green LED should go out immediately and the Red LED will start to flash about 10 seconds after the mains power has been disconnected.
- NOTE:** batteries must have sufficient charge to supply the load
- 12) Reconnect mains. Green LED should be on and the Red LED should go off.

Tamper

- 13) Check that the tamper screw makes good contact with the mounting surface. Adjust rear tamper screw if necessary. Check that the tamper switch is:
 - closed when the lid is closed and the lid screw is fitted
 - open when the lid is open.
- 14) Close cover and secure using fastening screw(s) provided.