

# ELMDENE

Protecting People & Property

## Elmdene International Ltd

3 Keel Close, Interchange Park,  
Portsmouth, Hampshire, PO3 5QD, UK

Tel: +44(0)23 9269 6638

Fax: +44(0)23 9266 0483

Web: [www.elmdene.co.uk](http://www.elmdene.co.uk)

## G1380xBM-y-s Series 13.8V dc Switch Mode Power Supplies with Standby battery charging, fault monitoring, remote fault signalling and Optional Fused Outputs\*

### FEATURES

High efficiency cost effective power supply range ideal for use in Intruder, Access Control and General Security 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. An optional integrated output module allows multiple circuits to be individually fused\*.

- Continuous full rated current to load
- 18Ah Standby battery recharged to 80% within 24 hours
- Universal mains input voltage 90-264Vac
- High efficiency electronics for reduced running costs and lower operating temperatures
- Installer safe design with all high voltage electronics fully shrouded
- Full electronic short circuit and overload protection on load output under mains operation
- 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
- Individually Fused Outputs\*

\* Dependent upon model.

### COMPLIANCE

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

Low Voltage 2014/35/EU

EMC 2014/30/EU

WEEE 2012/19/EU

RoHs2 2011/65/EU

### SPECIFICATION

#### Input Specification

Voltage (rated)	100-240Vac
Voltage (operating)	90-264Vac
Frequency	50-60Hz
Max current	See Model Specification Table overleaf
Mains Input Fuse	See Model Specification Table overleaf
Max standby Power	See Model Specification Table overleaf

## SPECIFICATION (CONT.)

### Output Specification

Voltage	13.5 – 14.2Vdc (13.8vdc nominal) on mains power 10.0 – 12.3Vdc on battery standby
Max load current	See Model Specification Table overleaf
Ripple	150 mV pk-pk max
Load output Fuse	See Model Specification Table overleaf
Overload	Electronic shutdown until overload or short circuit removed (under mains power only)

### Standby Battery

Battery Type	12V Valve Regulated Lead Acid
Battery Capacity	See below under enclosure size.
Battery Charging Fuse protection	See Model Specification Table overleaf

### Mechanical

Model	G1380xBM-y-B	G13810BM-y-C	G13810BM-y-R	G1380xBM-y-C
Enclosure Dimensions w x h x d (mm) [external]	355 x 330 x 80	330 x 275 x 80	390 x 410 x 80	330x 275 x 80
Battery Capacity	1 x NP17 (18Ah)	2 x NP7 (8Ah)	2 x NP17 (18Ah)	1 x NP17 (18Ah)
Weight (kg) excluding battery	3, 4, 5A 4.3	10A 4.3	10A 5.42	3, 4, 5A 3.7

### Environmental

Temperature	-10 to +40°C (operating) 95% RH non-condensing -20 to +80°C (storage)
-------------	--

### Model Specification Table

	G13803BM	G13804BM	G13805BM	G13810BM
<b>Max Output Current to load</b>	3A	4A	5A	2 x 5A
<b>Output Fuse*</b> (20mm glass)	F3.15A	F4.0A	F5.0A	2 x F5.0A
<b>Max Mains Input Current</b> (at 90Vac)	2.0A	2.0A	2.0A	3.0A
<b>Mains Input Fuse</b> (20mm 250Vac HBC)	T3.15A	T3.15A	T3.15A	T3.15A
<b>Battery Fuse Protection</b>	F3.15A	F4.0A	F5.0 A	2 x F5.0A

\* Single o/p models only

## LOCAL INDICATORS

### Local Indicators

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

\*For 10A model, only one Fault LED will be visible via front panel. Each module has independent fault monitoring and signalling.

## SIGNALLING OUTPUTS

### Signalling Outputs

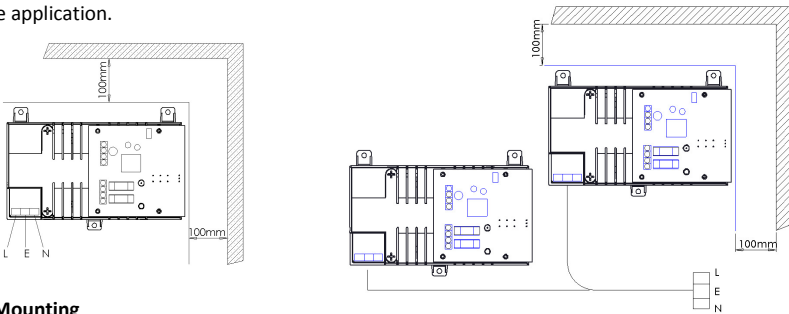
GEN Fault (general)	0.1A @ 60vdc N/O volt free contact. Open when battery disconnected, *output fuse fail, battery fuse fail or output short circuit. (*Applies only to O/P 1 of multiple fused units)
EPS Fault (mains)	0.1A @ 60vdc N/O volt free contact. Open when loss of mains for more than 10s
Lid Tamper	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).

## CONNECTIONS

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

## INSTALLATION & COMMISSIONING

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**. The PSU should be installed 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 0.5mm<sup>2</sup> [3A], 300/500Vac) and fasten using cable ties.
- 5) Apply mains power. Check for 13.8Vdc on load outputs. Check green Mains LED is on.
- 6) Disconnect mains power.

### Load Output

- 7) Attach correctly rated load cable and fasten using cable ties. Note polarity.
- 8) Apply mains power. Check green Mains LED is on.
- 9) **NOTE:** Red LED may be illuminated to indicate that no battery has been connected. This is normal.
- 10) Verify load is operating correctly.
- 11) Disconnect mains power.

### Standby Battery

- 12) Attach supplied battery cables to terminal block and battery.  
**NOTE:** ensure correct polarity of battery connections: **+ve** use **red** lead, **-ve** use **black** lead.
- 13) Apply mains power. Check green Mains LED is on.
- 14) Check there is no fault indication on Red LED.
- 15) Disconnect mains power. Check that the batteries continue to supply voltage and current to the load.  
The Green LED should be off.  
**NOTE:** Batteries must have sufficient charge to supply the load
- 16) Reconnect mains power. Green LED should be on.

### Tamper

- 17) Check that the tamper screw makes good contact with the mounting surface. Check that the tamper switch is:
  - closed when the lid is closed and the lid screw is fitted
  - open when the lid is open.
- 18) Close cover and secure using fastening screw(s) provided.

## 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.

## PREVENTATIVE MAINTENANCE

This unit is intended for use by Service Personnel only. There are NO USER SERVICEABLE parts inside.

There is no regular maintenance required of the PSU other than periodic testing, calibration check and replacement of the standby batteries. **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.**

### CAUTION

**Dispose of used batteries according to the battery manufacturer's instructions and all local and national regulations.**

#### Explanation of symbols: (Not all may apply)



Fault Indication



Shock Risk - isolate before attempting access



Mains Present



Certification Level



Protective Earth



Do not dispose of in unsorted waste

Specifications subject to change without notice