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13.8V dc Switch Mode Power Supply with Optional Fused Outputs

G1380xN-y-s

FEATURES

High efficiency cost effective power supply ideal for use in Intruder, Access Control and General Security applications. Featuring a regulated 13.8Vdc output supplying continuous full rated current to load and up to an additional 0.5A for charging a standby battery. The universal mains input voltage enables the power supply to be used across a wide geographical area. The highly efficient switch mode design ensures low operating costs, generates less heat and with a small physical size increases the room available for additional PCBs or cables. The modular construction simplifies maintenance. An optional integrated output module allows multiple circuits to be individually fused*.

- Continuous full rated current to load
- Additional 0.5A to charge standby battery
- 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
- Modular construction for ease of maintenance and installation
- Full electronic short circuit and overload protection on load output under mains operation
- Mains transient protection circuit
- Lid opening tamper detection
- Green Mains present LED
- Red Fault LED*
- 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/EC

SPECIFICATION (INPUT)

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	0.5W (No load and No battery connected)

SPECIFICATION (OUTPUT)	
Voltage	13.4 – 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.

LOCAL INDICATORS	
MAINS LED (Green)	Mains present
FAULT LED (Red)*	Fault present: Output fuse fail

*Not 4A or 5A

SIGNALLING OUTPUTS	
Lid Tamper	N/O volt free contact (See Table for rating). Note: Contact open when lid opened by normal means (TAMPER ACTIVE condition).

FUSED OUTPUTS (OPTIONAL)				
Model	G1380xN-s	G1380xN-2-s	G1380xN-4-s	G1380xN-8-s
No. of fused outputs	1	2	4	8
Fuse Value	See table overleaf	2 x (max load current / 2)	4 x (max load current / 4)	8 x (max load current / 8)

MECHANICAL						
Model	G1380xN-y-A	G1380xN-y-B		G1380xN-y-C		G1380xN-y-F
Enclosure Dimensions w x h x d (mm) [external]	230 x 200 x 80	355 x 330 x 80		330 x 275 x 80		380 x 230 x 75
Battery Capacity	1 x NP7 (8Ah)	1 x NP17 (18Ah)		1 x NP17 (18Ah)		1 x NP7 (8Ah)
Weight (kg) (Excluding Battery)	1, 1.5, 2, 3A	1, 2, 3A	4, 5A	1, 2, 3A	4, 5A	1, 2, 3A
	2.0	3.9	4.3	3.3	3.7	3.5

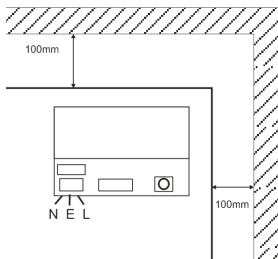
ENVIRONMENTAL	
Temperature – Operating	-10 to +40°C (operating) 75% RH non-condensing
Temperature - Storage	-20 to +80°C (storage)

CONNECTIONS

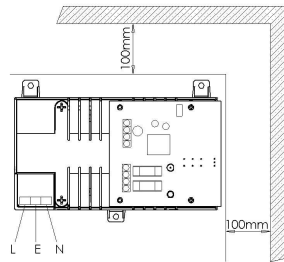
+LOAD	+ve voltage O/P to load equipment
-LOAD	-ve voltage O/P to load equipment
+BATT	Red lead to standby battery
-BATT	Black lead to standby battery
Tamper x 2	Tamper voltfree contact

INSTALLATION 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*. The PSU should be installed via a 3A fused spur according to all relevant safety regulations applicable to the application.



G1380xN-s (1A, 1.5A, 2A & 3A)



G1380xN-s (4A & 5A)

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 13.8Vdc 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 (dependent upon model) to indicate that no battery has been connected. This is normal.
- 10) Verify load is operating correctly.
- 11) Disconnect mains power.

Standby Battery – NOTE: Ensure batteries being fitted to this unit are in good condition

- 12) Where not integral to PSU PCB, 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 (dependent on model).
- 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.
- 17) Remove Load fuse and check red Fault LED is on (dependent on model).
- 18) Replace Load fuse. Check red Fault LED is off (dependent on model).

Tamper

- 19) Check that the tamper spring makes good contact with box lid when closed. Check that the tamper switch is:
- closed when the lid is closed and the lid screw is fitted
 - open when the lid is open.
- 20) Close cover and secure using fastening screw(s) provided.

MODEL SPECIFICATION TABLE

	G13801N	G138015N	G13802N	G13803N	G13804N	G13805N
Output Current	1A	1.5A	2A	3A	4A	5A
Battery Charge Current	0.5A	0.5A	0.5A	0.5A	0.5A	0.5A
Mains LED	√	√	√	√	√	√
Fault LED	√	√	√	√	X	X
Max Mains Input Current (at 90Vac)	0.8A	1.0A	1.0A	1.2A	1.8A	2.0A
Mains Input Fuse	T2.0A	T2.0A	T2.0A	T2.0A	T3.15A	T3.15A
Output Fuse**	F1.0A	F1.6A	F2.0A	F3.15A	F4.0A	F5.0A
Battery Fuse	PTC	PTC	PTC	PTC	1A	1A
Tamper Rating	0.05A/24Vdc	0.05A/24Vdc	0.05A/24Vdc	0.05A/24Vdc	0.05A/24Vdc	0.05A/24Vdc

** Module Fuse

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 be illuminated (dependent on model).

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.

www.elmdene.co.uk

Explanation of symbols: (Not all may apply)



Fault Indication



Mains Present



Protective Earth



Shock Risk - isolate before attempting access



Certification Level



Do not dispose of in unsorted waste

Specifications subject to change without notice