

ELMDENE

Protecting People & Property

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27.6VDC SWITCH MODE POWER SUPPLIES

WITH REMOTE FAULT SIGNALLING

Models:

G240xN-y

Where 'x' is max load current and 'y' is Enclosure type

FEATURES

High efficiency cost effective power supply ideal for use in Fire, Access Control and General Security applications. Featuring a regulated 27.6Vdc output supplying continuous full rated current to load and up to an additional 0.5A for charging 2 x 12V standby batteries, if fitted. 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.

- Continuous full rated current to load
- Additional 0.5A to charge 2 x 12V standby batteries
- 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
- Reverse battery connection protection
- 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
- Green Mains present LED
- Yellow Fault LED

SPECIFICATION

Input Specification

Voltage (rated)	100-240Vac
Voltage (operating)	90-264Vac
Frequency	50-60Hz
Max Current	See Model Specification Table
Mains Input Fuse	See Model Specification Table
Max standby Power	0.8W (No load and no battery connected)

Output Specification

Voltage	27.0 – 28.0Vdc (27.6Vdc nominal) on mains power 21.0 – 24.7Vdc on battery standby
Max load current	See Model Specification Table
Ripple	100 mV pk-pk max
Load output Fuse	See Model Specification Table below
Overload	Electronic shutdown until overload or short circuit removed (under mains power only) (G2403N & G2405N) Fuse Protection (G2401N & G2402N)

Standby Battery

Battery Type	2 x 12V Valve Regulated Lead Acid
Battery Capacity	See below under enclosure size.
Battery Charging Fuse protection	F630mA 20mm glass or PTC (G2401N only)

Mechanical

Model	Enclosure Dimensions w x h x d [external] (mm)	Max Battery Capacity	Weight (kg) [excluding battery]		
G2401N-A	230 x 200 x 80	2 x NP2.3 (2.3Ah)	G2401N	2.00	
			G2402N	3.16	
G240xN-C	330 x 275 x 80	2 x NP7 (7Ah)	G2402N	3.22	
			G2403N, G2405N		3.30
			G2401N	6.03	
G240xN-R	390 x 410 x 80	2 x NP17 (17Ah)	G2402N	6.09	
			G2403N, G2405N		6.17
			G2401N	8.39	
G240xN-H	400 x 420 x 140	2 x NP38 (38Ah)	G2402N	8.45	
			G2403N, G2405N		8.53
			G2402N	3.32	
G240xN-E	400 x 420 x 80	2 x NP17 (17Ah)	G2405N	3.40	

Environmental

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

CONNECTIONS

O/P +, -	Connection to equipment to be powered (Observe polarity)
BATT +, -	Connection to standby battery. Use cables provided (Observe polarity)

INSTALLATION INSTRUCTIONS

This unit is only suitable for installation as permanently connected equipment. This PSU is *NOT SUITABLE* for external installation. This unit must be fed from a mains power source having a separate (approved) disconnect device and fitted with a fuse or other over-current protection device rated at 3A maximum. Ensure that the disconnect device used has appropriate earth fault protection to the applicable standard. *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

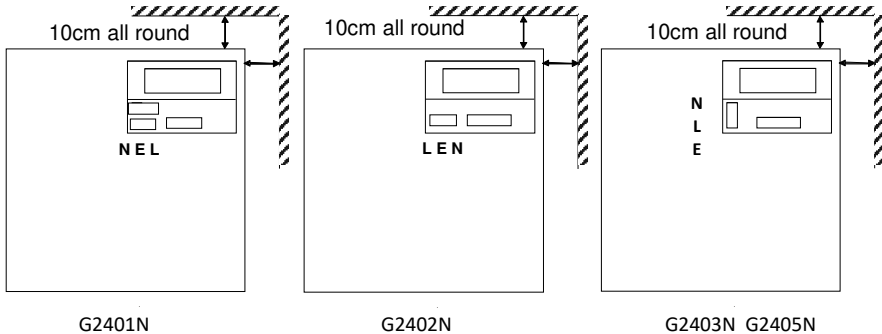
- 1) Mount securely in correct orientation allowing minimum clearance – see diagram.
- 2) Route mains and low voltage output cables via different knockouts and/or cable entry holes.
- 3) Use bushes and cable glands rated to UL94 HB minimum.

Mains Power Up

- 4) Attach correctly rated mains cable (minimum 0.5mm² [3A], 300/500Vac). Fasten with cable ties.
- 5) Apply mains power. Check for 27.6Vdc 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) Verify load is operating correctly.
- 10) Disconnect mains power.



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

- 11) Attach supplied battery cables to terminal block and batteries.
NOTE: ensure correct polarity of battery connections: **Red** lead to **+ve** of **battery 1**, **Black** lead to **-ve** of **battery 2**. Connect **-ve** of **battery 1** to **+ve** of **battery 2** using short link lead
- 12) Position batteries to avoid lid fixing screw.
- 13) Apply mains power. Check Green Mains LED is ON.
- 14) Check there is no fault indication on Yellow Fault LED.
- 15) Disconnect mains power. Check that the batteries continue to supply voltage and current to the load. Check Green Mains LED is OFF.
NOTE: Batteries must have sufficient charge to supply the load
- 16) Reconnect mains power. Check Green Mains LED is ON.
- 17) Remove Load fuse and check Yellow Fault LED is ON.
- 18) Replace Load fuse. Check Yellow Fault LED is OFF.

MODEL SPECIFICATION TABLE

	G2401N	G2402N	G2403N	G2405N
Output Current	1A	2A	3A	5A
Battery Charge Current	0.5A	0.45A	0.5A	0.5A
Mains LED (Green)	√	√	√	√
Fault LED (Yellow)	√	√	√	√
Max Mains Input Current (at 90Vac)	1.0A	1.3A	1.4A	2.0A
F1 - Mains Input Fuse (20mm HRC)	T2.0A	T2.0A	T3.15A	T3.15A
F2 - Output Fuse (20mm)	F1.0A	F2.0A	F3.15A	F5.0A
F3 - Battery Fuse (20mm)	PTC fuse	F0.63A	F0.63A	F0.63A

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 Yellow Fault LED will be illuminated.

MAINTENANCE

There is no regular maintenance required of the PSU other than periodic testing 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.** 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.

LOCAL INDICATORS

MAINS LED (Green)	Mains present
FAULT LED (Yellow)	Fault present: Output fuse fail (requires load and battery to be connected), output short circuit or low output voltage, or battery fuse fail (2A to 5A units only)

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



DISPOSAL OF PRODUCT AT END OF LIFE

This product falls within the scope of EU Directives 2012/19/EU Waste Electrical and Electronic Equipment (WEEE) and 2013/56/EU (Battery). At the end of life, the product must be separated from the domestic waste stream and disposed via an appropriate approved WEEE disposal route in accordance with all national and local regulations. Before disposal of the product, any batteries must be removed, and disposed separately via an appropriate approved battery disposal route in accordance with all national and local regulations. Package used batteries safely for onward transport to your supplier, collection point or disposal facility.

Caution: Risk of fire or explosion if bare battery wires are allowed to touch.

See Specification for battery type information. The battery is marked with the crossed out wheelee bin symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg).

For more information see: www.recyclethis.info

The packaging supplied with this product may be recycled.

Please dispose of packaging accordingly.

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