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27.6Vdc SWITCH MODE POWER SUPPLY MODULES

Models:

G240xNU

Where 'x' is max load current: 1A, 2A, 3A or 5A.

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. 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 while generating less heat. The modular construction simplifies maintenance.

- Universal mains input voltage 90-264vac
- Additional 0.5A to charge 2 x 12V standby batteries
- High efficiency electronics for reduced running costs and lower operating temperatures
- Continuous full rated current to load
- Modular construction for ease of maintenance & installation
- Installer safe design with all high voltage electronics fully shrouded
- Reverse battery connection protection
- Full electronic short circuit and overload protection on load output
- 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)

Local Indicators

MAINS LED (Green)	Mains present
FAULT LED (Yellow)	Fault present: Output or battery fuse fail (requires load & battery to be connected), loss of mains, output short circuit or low output voltage.

Standby Batteries

Battery Type	2 x 12V Valve Regulated Lead Acid
Battery Charging Fuse protection	F630mA 20mm glass

Mechanical

Model	G2401NU	G2402NU	G2403NU / G2405NU
Module Dimensions w x h x d (mm / external)	134 x 84 x 42	150 x 115 x 52	153 x 55 x 145
Recommended Batteries	2 x 12V NP7 or NP17		
Weight	G2401NU	G2402NU	G2403NU / G2405NU
	240g	280g	650g

Environmental

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

+O/P	+ve voltage O/P to load equipment
-O/P	-ve voltage O/P to load equipment
+BATT	Red lead to standby battery 1
-BATT	Black lead to standby battery 2

OPERATION

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.

INSTALLATION AND SET-UP

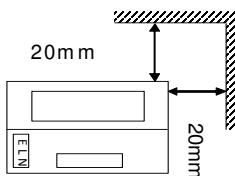
This unit is only suitable for installation as permanently connected equipment. The PSU is *NOT SUITABLE* for external installation. *EQUIPMENT MUST BE EARTHED*. Before installation, ensure that external disconnect device is *OFF*. The PSU should be installed according to all relevant safety regulations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

Enclosure and Mounting

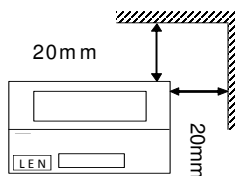
This power supply module has high voltage present and is for use by Service Personnel only. This power supply module **MUST** be securely mounted within a robust enclosure having suitable means to prevent unintentional access to the module. Suitable notices must be affixed to the outside of the enclosure to warn of high voltages present internally.

Mounting the module

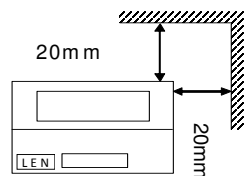
- 1) Mount securely in correct orientation allowing minimum clearance of 20mm all round – see diagrams below.
- 2) The G2401NU and G2402NU modules have the option of either being DIN rail mounted (using the integrated DIN rail mount) or by using appropriate fixings using the four available mounting lugs. The G2403NU and G2405NU modules are fixed using the three available mounting points.



G2401NU



G2402NU



G2403NU & G2405NU

Mains Power Up

- 3) Attach correctly rated mains cable (minimum 0.5mm^2 [3A], 300/500Vac) and secure in enclosure using cable ties.
- 4) Apply mains power. Check for 27.6Vdc on load outputs. Check Green Mains LED is on.
- 5) Disconnect mains power.

Load Output

- 6) Attach correctly rated load cable and secure in enclosure using cable ties. Note polarity.
- 7) Apply mains power. Check green Mains LED is on.
- 8) Verify load is operating correctly.
- 9) Disconnect mains power.

INSTALLATION AND SET-UP**CONTINUED****Standby Battery**

- 10) Connect battery to terminal block using minimum 32/0.2 (1.0mm² CSA) stranded wire.

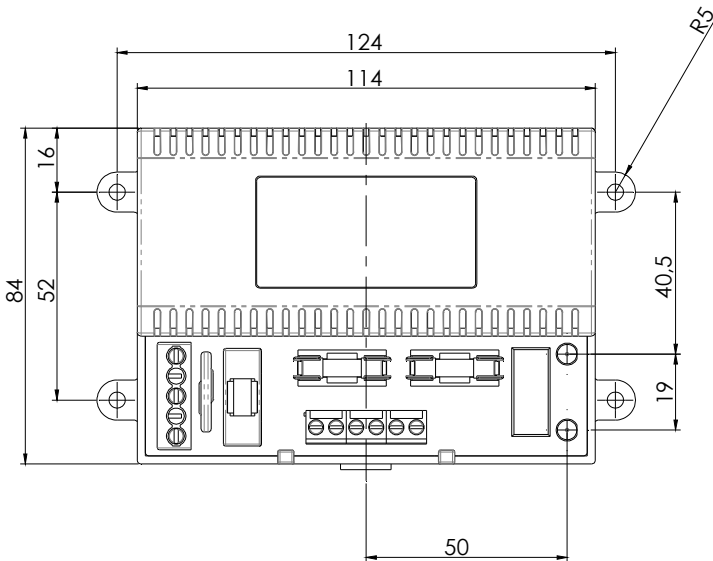
NOTE: ensure correct polarity of battery connections.

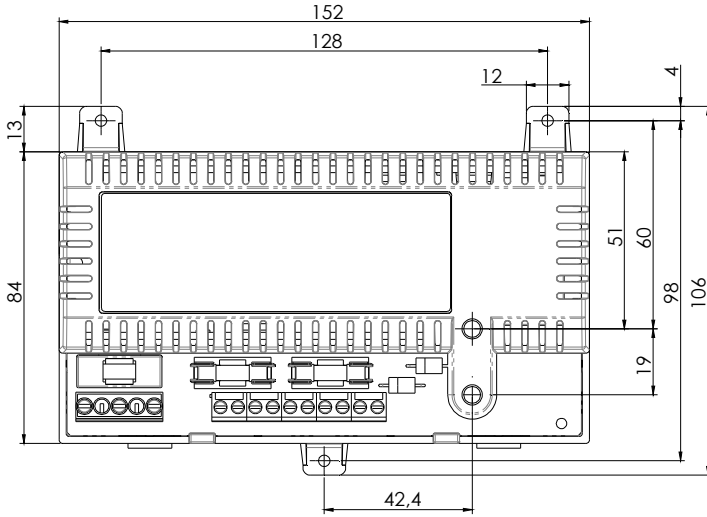
Maximum recommended total battery lead length = 500mm

- 11) Apply mains power. Check Green Mains LED is on.
12) Check there is no fault indication on Yellow LED.
13) Disconnect mains power. Check that the batteries continue to supply voltage and current to the load. The Green LED should be off.

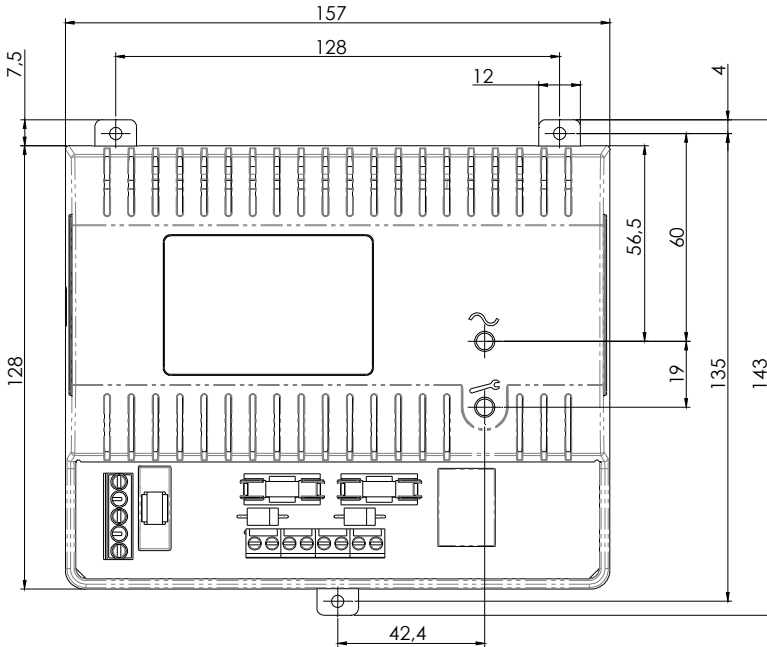
NOTE: Batteries must have sufficient charge to supply the load

- 14) Reconnect mains power. Green LED should be on.
15) Remove Load fuse and check Yellow Fault LED is on.
16) Replace Load fuse. Check Yellow Fault LED is off.

Module Dimensions**G2401NU**



G2402NU



G2403NU & G2405NU

Model Specification Table	G2401NU	G2402NU	G2403NU	G2405NU
Output Current	1A	2A	3A	5A
Battery Charge Current	0.5A	0.5A	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)	630mA	630mA	630mA	630mA

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.

COMPLIANCE

This product meets the essential requirements of the following EU Directives:

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

**DISPOSAL OF PRODUCT AT END OF LIFE**

This product falls within the scope of EU Directives 2002/96/EC Waste Electrical and Electronic Equipment (WEEE) and 2006/66/CE (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, the standby battery 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.

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

For more information see: www.recyclethis.info

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.*