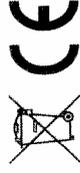




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## 13.8Vdc EN50131-6 Grade 2 PSU EN2-07-x for 7Ah Battery and up to 1.0A\* Continuous Load Current EN2-17-x for 17Ah Battery and up to 1.4A\* Continuous Load Current

### Features

Suitable for use in systems designed to comply with PD6662: 2004/EN50131 to Grade 2 and Environmental Class II requiring 7Ah and 17Ah standby battery capacity. Two independent output signals are provided for loss of mains fault (EPS\*\*), and general fault (including APS\*\* fault). Self-diagnostics can detect blown output and battery fuses and low battery voltage (APS fault). The PSU incorporates a battery management system comprising low battery voltage detection and deep discharge protection to ensure that the battery is not permanently damaged through excessive discharge. A brownout filter ensures that short mains voltage dips do not create a false loss of mains alarm. Three LEDs assist with quick and easy installation by showing presence of mains, correct battery charging and a fault condition. Comprehensive protection is built-in as standard including mains transient filtering, transformer thermal fuse, electronic output overload protection and fuses on the load and battery outputs.

- PD6662: 2004 / EN50131 Grade 2 Type A PSU
- PD6662: 2004 / EN50131 Environmental Class II
- Low quiescent battery monitoring current during standby operation
- Fault signals for loss of mains, power supply fault, and battery low voltage warning
- Battery Deep Discharge Protection.
- Protection against reverse battery connection.
- Thermal protection of power circuitry
- Transformer thermal fuse
- Mains transient suppression and brown-out filter
- Fully enclosed lid tamper circuit.

### Compliance

This power supply unit complies with the following EU Directives:  
Low Voltage 73/23/EC      EMC 89/336/EC      WEEE 2002/96/EC

\* See table overleaf to determine continuous standby battery current available for given standby times  
\*\*EN50131 Definitions: EPS = External Power Source      APS = Alternative Power Source

### Tamper

- 14) Check tamper switch is closed when lid is closed and open when lid is open.
- 15) Close lid and fasten using screw. Re-check tamper circuit is closed at control panel.

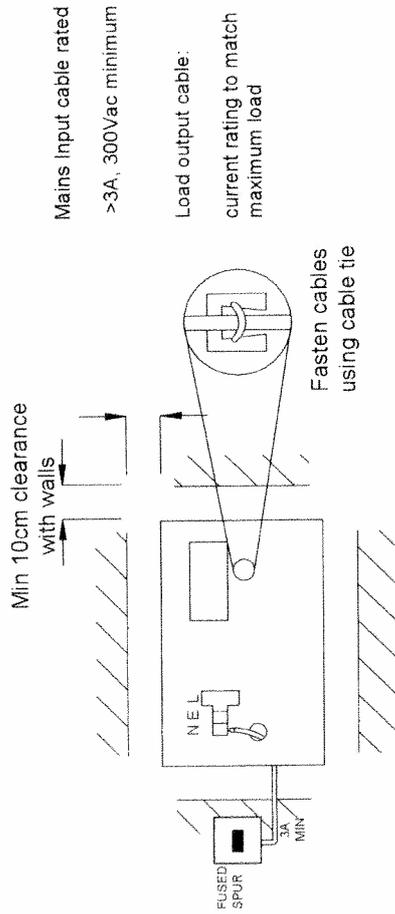


Fig 1.0 Mounting of Power Supply

### Operating Instructions

Do not use for a load exceeding the maximum operating current of the power supply.

In the event of loss of mains, a battery low voltage fault or a PSU fault, the corresponding Fault signal contacts will open.

If the output of the PSU fails, the cause of the failure should be investigated e.g. short circuit load, connection of a deeply discharged battery. The fault should be rectified before restoring power to the PSU. If any of the fuses require replacing, ensure the correct fuse rating and type is used.

### 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 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.**

### CAUTION

**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.

## Specification

### Input

230Vac nominal +10% / - 15%  
 50Hz nominal  
**2-07**: 220mA **2-17**: 285mA (nominal at full load)  
 T2A 20mm HRC

### Output

	EN2-07-x	EN2-17-x
<b>Voltage at full load</b> Mains power 230Vac +10%, -15% Battery standby	13.4 –14.0 Vdc (13.8 nominal) 9.6 – 13.0 Vdc	
<b>Ripple</b>	<220mV pk – pk max @ 230Vac <600mV pk – pk max @ 230Vac -15%	
<b>Fuse</b> Load Battery	F1.6A F1.6A	F2.0A F2.0A
<b>Continuous Output Current</b> Mains Battery for 12 hours Battery for 15 hours	1.0A 0.6A with 7Ah Battery 0.47A† with 7Ah Battery	1.4A 1.4A with 17Ah Battery 1.1A† with 17Ah Battery

†As calculated according to EN50131-6: 1997 Table 2.0 with rated battery fitted

### Mechanical

Case Reference	EN2-xx-A	EN2-xx-B	EN2-xx-C
<b>Enclosure Dimensions</b> w x h x d (mm)	230 x 200 x 80	355x330x80	330x 275 x 80
<b>Weight (kg)</b> excluding battery	2.7	4.7	4.5
<b>Material</b>	1.2mm steel white powder coated		

### Environmental

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

### Standby Battery Management

Maximum Battery Size  
 (not supplied with unit)  
 EN2-07: 7 Ah 12V Valve Regulated Lead Acid  
 EN2-17: 17Ah 12V Valve Regulated Lead Acid

### Warning: risk of explosion if incorrect battery type fitted

Battery Recharge Time

< 72 hours to 80%  
 A heavily discharged battery having a terminal voltage > 9.0V will attempt to be charged.

Protection

Reverse battery connection protection

Deep Discharge Protection

Battery disconnect at 10.6V battery terminal voltage

Quiescent Current

64 mA when running on battery - less than 1 mA after deep discharge protection

Battery Cold Start (BCS)

Momentarily link BCS pins together to connect battery to load if PSU commissioned without any mains

## Signalling Outputs

Rating  
 EPS Fault  
 General Fault  
 Tamper  
 0.10A @ 60Vdc 16Ω solid state relay contacts, voltfree.  
 Open if Loss of mains  
 Open if Battery terminal voltage < 11.5v (when operating in standby with no mains present), or Output and/or battery fuse blown  
 0.5A @ 30v dc volt free contact. Open when lid is open.

## Local Diagnostics

Green LED  
 Red LED  
 Yellow LED  
 On = Mains Present  
 On = Fault (only if mains present)  
 On = Battery Charging, Off = Battery Fully Charged

## Connections

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

EPS FAULT  
 GENERAL FAULT  
 Relay output for mains fail. Open if mains supply not present.  
 Relay output for General Fault. Open in fault condition

## Installation and 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.

## Mounting

- Mount securely allowing for minimum clearance - see Fig. 1.0.
- Route mains and LV output cables via different knockouts and/or cable entry holes.
- Use bushes and cable glands rated to UL94 HB minimum.

## Mains Power Up

- Attach correctly rated mains cable and fasten using cable ties.
- Apply mains power. Check for 13.8v on load outputs. Check green Mains LED is on.
- Disconnect mains power.

## Load Output

- Attach battery cables to terminal block and battery. NOTE: ensure correct polarity of battery connections: **+ve use red lead, -ve use black lead.**
- Apply mains power. Check green Mains LED is on.
- Check no fault indication on Red LED.
- Disconnect mains power. Check batteries continue to supply voltage and current to load. NOTE: batteries must have sufficient charge.
- Check EPS Fault signal is present at the control panel (if connected).
- Remove output fuse and check General Fault signal is present at the control panel (if connected).
- Replace output fuse, reconnect mains, check EPS and General Fault signals (if connected) are cleared at the control panel.