

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

Models: **ACCESS-PSU2-8A**

MULTI-ACCESS-PSU2, PSU4 and PSU6

13.8Vdc 8A/27.6Vdc 4A Selectable Voltage PSU

With UNIVERSAL back plate for mounting Access Control Devices

The **ACCESS-PSU2-8A** and **MULTI-ACCESS-PSUx** are an advanced, high efficiency power supply range, designed for use within Access Control applications. Featuring a selectable, regulated output of 13.8Vdc or 27.6Vdc, supplying continuous full rated current to load plus an additional 0.5A for charging one or two 12V standby batteries. Mains fail monitoring is offered as standard in conjunction with an onboard ancillary relay that can be used as a Fire relay if required. The 'Universal' mesh backplate and hinged plates, provide the installer simple & flexible mounting options for a range of devices/PCB's

1. FEATURES

- Continuous full rated current to load
- Universal mains input voltage 90-264Vac
- Selectable output voltage (12Vdc or 24Vdc) – with onboard selector switch (Default: 12Vdc)
- Lockable steel enclosure
- 17Ah Standby battery recharged to 80% within 24 hours
- MULTI-ACCESS: Two hinged mounting panels to accommodate multiple devices
- Volt free contact, signalling mains failure (EPS)
- Independent ancillary relay available for power/lock release
- MULTI-ACCESS: 8 x fused outputs with health LED's
- 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
- Green mains presents / yellow fault LEDs
- Reverse battery connection protection
- Lid and removal from wall tamper detection
- LED status indication (Mains & Fault)
- Full electronic short circuit & overload protection
- Individual battery and output fuse protection
- Mains transient protection circuit
- Accommodates either 2 x 12V 7Ah or 1 x 17Ah SLA battery
- Limited Lifetime Warranty

2. SAFETY INFORMATION



Mains equipment, observe local regulations.

3. INSTALLATION AND COMMISSIONING

Installation and repair must be carried out by a certified professional or qualified electrician in accordance with all relevant safety regulations that are applicable.

This unit is only suitable for installation as permanently connected equipment and is to be used with DC appliances only. This equipment is NOT SUITABLE for external installation and must be installed according to all relevant safety regulations.

The unit must be fed from an AC 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.

3.1. Door opening / closing

Door locking is provided by a Camlock key on either one or two positions on the front right-hand side of the enclosure – Figure 1



Figure 1: Key lock

3.2. Mounting

- Mount enclosure securely in correct orientation allowing minimum clearance of 10cm from walls, ceilings or other obstacles and using 5mm diameter steel screws having a thread size and length suitable for the wall type or the surface being mounted on (Figures 2 and 3).
- Route power and LV cables via different knockouts / cable entry holes.
- Use bushes and cable glands rated to UL94 HB minimum.

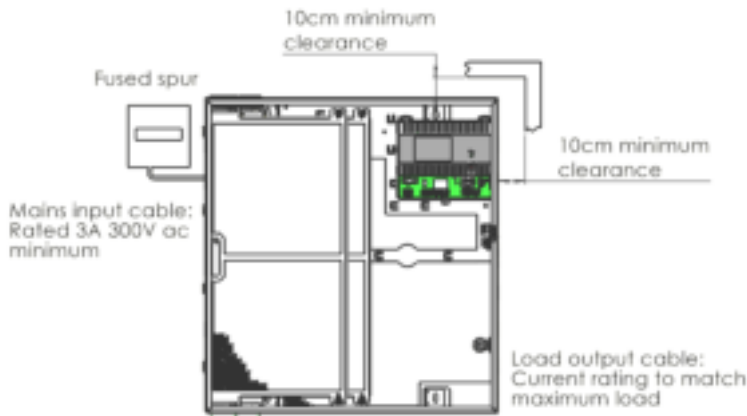
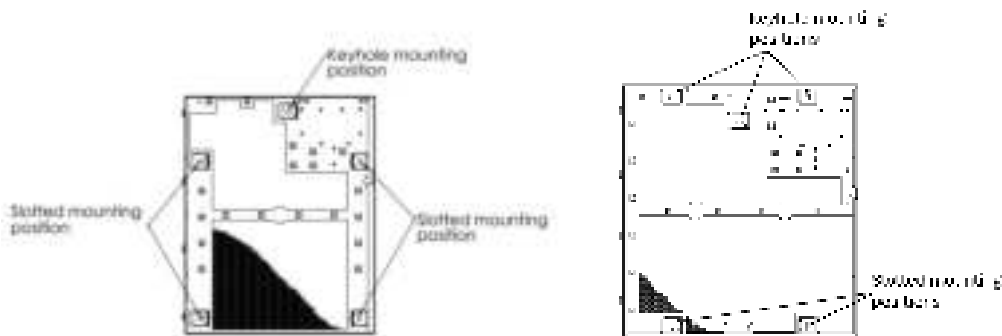


Figure 2: Mounting and clearances (Diagram shows MUTLI-ACCESS-PSU6, mounting requirements apply for all types)



ACCESS-PSU2-8A

MULTI-ACCESS-PSUx

Figure 3 Enclosure fixing points

3.3. AC Power Up (commissioning)

- Attach correctly rated AC power cable (minimum 0.5mm² [3A], 300/500V ac) and fasten using cable ties.
- Apply AC power. Check for 13.8Vdc/27.6Vdc on load output and AC power LED is on.
- Disconnect AC power.

3.4. Load Output (commissioning)

- Ensure Voltage selector switch is set to the correct voltage before applying load or connecting battery.
- Attach correctly rated load cable and fasten using cable ties. Note polarity.
- Apply mains power and check AC power LED is ON, verify load is operating correctly.

N.B. - The Red fault LED may flash to indicate no battery is connected; this is normal.

- Disconnect mains power.
- Connect EPS fault output to appropriate input of CIE equipment.
- Attach supplied battery cables to the correct PSU terminals and battery.
N.B. – For 24Vdc output operation ensure two 12Vdc batteries are connected in series with batteries connected correctly: 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 provided.
- Connect tamper switch to appropriate input of CIE equipment.
- Close the lid and fasten with keylock
- Reconnect AC power.
- Check there is no fault indication on the Fault LED. A single short flash indicates the battery is charging, please note, this is normal operation.
- Disconnect AC power. Check that the battery continues to supply voltage and current to the load.
- Reconnect AC power.

3.5. Standby battery

- Ensure a single 12V battery is used for 12V operation, and two 12V batteries in series for 24V.
- Attach supplied battery cables to terminal block and batteries.
NOTE: If in 24V mode, 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 as shown in Figure 4.
- Position batteries to avoid lid fixing screw.
- Apply mains power. Check Green Mains LED is ON.
- Check there is no fault indication on Yellow Fault LED.
- Disconnect mains power. Check that the batteries continue to supply the load. Check Green Mains LED is OFF and Mains Fail relay operated.
NOTE: Batteries must have sufficient charge to supply the load
- Reconnect mains power. Check Green Mains LED is ON and Mains Fail relay showing healthy.
- Remove Output fuse (F3) and check Yellow Fault LED is ON.
- Replace Output fuse and remove PSU protection fuse (F2). Check Yellow Fault LED is ON.
- Replace PSU protection fuse (F2). Check Yellow Fault LED is OFF.

- Test operation of Ancillary Relay (if used)

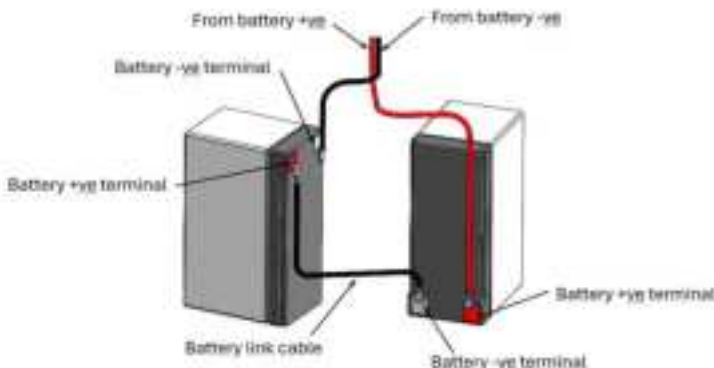


Figure 4: Battery connection

3.6. Tamper (commissioning) (Figure 5)

- Check that the CIE recognises the tamper is 'OPEN'.
- Close the lid and fasten with keylocks.
- With the unit mounted on the wall check that the rear tamper is not in a position that will affect its operation, for example over a mortar course, recess or raised area on the wall. Check that the tamper switch is: CLOSED when the lid/cover is closed and the retaining screws are fitted, OPEN when the retaining screws are removed, and the lid/cover is open. Use fine adjustment screw if necessary to align indicator with set point.
- Close the lid/cover and fasten. Re-check tamper circuit is closed at the control panel.

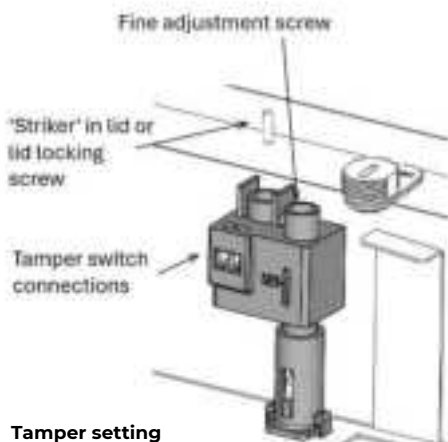


Figure 5: Tamper setting

3.7. Universal Backplate

The hole pattern in the enclosures allows a wide variety of Lenel controllers to be mounted in any position. A kit is included that comprises of standoffs and self-tapping screws for this purpose.

For PCB type devices, use the nylon arrowhead type standoffs supplied in the fixing kit.

It is recommended that the standoffs are fitted as described below:

- 1) Fit the standoffs into the PCB mounting holes.
- 2) Gently place the device in the required position, locating/aligning the standoffs on the Universal mesh but without pressing in place.
- 3) Once positioning is correct, push standoffs into the selected hole positions, ensuring each one has locked in place (Figure 6a)

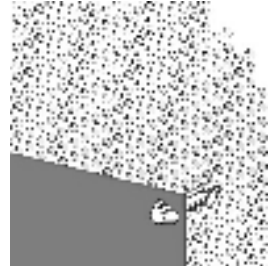


Figure 6a: Standoff fitting

For devices that need to be fixed by screws, use the 3.5mm (No.6) self-tapping screws that are supplied in the fixing kit.

It is recommended that the devices are fitted as described below:

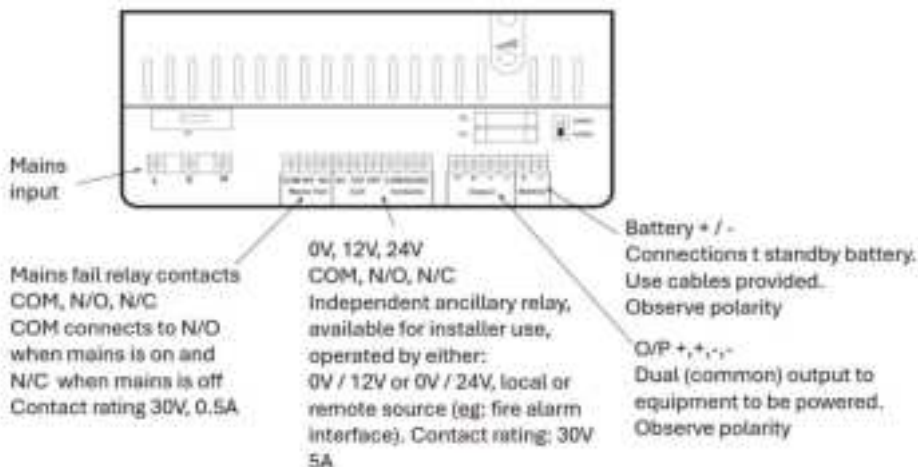
- 1) Align the device over the mesh, so that the required number of mounting holes are aligned as close as possible with the mesh hole pattern.
- 2) Loosely fix the screws in each of the aligned mounting positions.
- 3) Once position is correct, tighten all screws (max torque 0.6Nm) (Figure 6b)



Figure 6b: Screw fixing

3.8. Connections

Ensure output voltage selector switch is in correct position prior to connections.



TAMPER Front & Rear Enclosure Tamper signal – Normally Closed when Healthy.

ANCILLARY RELAY Coil operated by either: 0V/12Vdc or 0V/24Vdc
COM, NO, NC contacts available.
12 – 24V Output Voltage selection via sliding switch

3.9. Signalling outputs

Contact Rating 0.5A @ 30Vdc, Volt-free.

MAINS FAIL Open if Loss of AC power for > 10s

TAMPER 0.5 A @ 30Vdc volt-free contact.
Open if lid is opened, or if unit is prised from the wall.

3.10. LED Indicators

Mains LED (GREEN) Mains Present

FAULT LED (YELLOW) Output fuse fail, or Protection fuse fail (requires load and battery to be connected), battery shorted, reversed.

4. OPERATION AND MONITORING OVERVIEW

Once installed and commissioned no further involvement is required for normal operation. Under normal conditions with AC mains applied, the power supply will provide a continuous load current of up to 8A/4A via the 8-way Fused Output Module. Should a fault occur, the relevant fault signal will be activated, and the diagnostic LEDs will provide additional information regarding the type of fault detected. The unit will continue normal operation once the fault has been rectified.

Should a loss of mains occur, the unit will flag a fault and seamlessly switch to the standby battery for power. Should the battery become depleted before mains power is re-applied it will disconnect and all power to the load will be dropped.

Once mains power has been restored, power to the load from the power supply will automatically be provided and the standby battery will start to be recharged as required.

For monitoring, a single independent output signal is provided to indicate loss of AC power (MAINS FAIL).

5. SPECIFICATION

Input		
Rated Voltage/Operational Voltage	100-240Vac / 90-264Vac (at 50-60Hz)	
Max. AC power Input Current (at 90Vac)	< 2.0A @ 90V ac	
Mains input fuse (20mm 250Vac HRC)	T3.15A (HRC 20mm)	
Max standby power	1.5W (no load and no battery connected)	
Output	12V Mode	24V Mode
Voltage – mains power	13.5V-14.0Vdc (13.8Vdc nominal)	27.0V-28.0Vdc (27.6Vdc nominal)
Voltage – battery standby	10.5V-12.4Vdc	21.0V-24.7Vdc
Output Load Current (Max)	8A	4A
Fused outputs	ACCESS-PSU2-8A: 4 x F2.0A MULTI-AXIS-PSUx: 8 x F1.0 A (default). Spare fuses provided for 24V mode (8 x F500mA)	
Load output fuse	8A (F3)	4A (F2)
Ripple	< 100mVdc pk-pk max	
Overload	Electronic shutdown (mains operation) and fuse protection. Battery protection by self-resetting thermal fuse.	
Standby Battery		
Battery Type	12V Valve Regulated Lead Acid (1 or 2)	
Battery Capacity (max)	1 x 12V 17Ah (12V) or 2 x 12V 7Ah (24V)*	
Battery Fuse Protection	0.5A PTC thermal fuse (self-resetting)	
Environmental		
Temperature - Operating	-10°C to +40°C 90% RH non-Condensing	
Temperature - Storage	-20°C to +80°C	
Mechanical		
Dimensions (W x H x D) mm	ACCESS-PSU2-8A: 408 x 508 x 90 MULTI-ACCESS-PSUx: 479 x 515 x 146	
Weight (Kg) without battery	ACCESS-PSU2-8A: 6.2 MULTI-ACCESS- PSU2: 8.1 MULTI-ACCESS- PSU4: 8.9 MULTI-ACCESS- PSU6: 9.7	
IP and IK ratings	IP30 / IK08	

- For 24V applications only. Ensure voltage selector is set to 24V when connecting two batteries.

6. MAINTENANCE

This unit is intended for use by Service Personnel only. There are NO USER SERVICEABLE parts, and no regular is maintenance required of the PSE other than periodic testing and replacement of the standby battery.

7. 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

RoHS 2011/65/EU

8. END OF LIFE DISPOSAL

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 battery must be removed and disposed of 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.

For more information see: www.recyclethis.info

Warning: risk of explosion if incorrect battery type fitted.

The packaging supplied with this product may be recycled.

Please dispose of packaging accordingly.

9. SYMBOL DEFINITIONS

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



Fault Indication



Shock Risk –
isolate before
attempting
access



Mains Present



Protective Earth



Do not dispose of
in unsorted waste

Specifications subject to change without notice