

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

13.8V dc 4A Switch Mode Power Supply with Optional Fused Outputs

FOR VARIOUS ACCESS CONTROL PCBs – SEE TABLE FOR DETAILS

Models: ACCESS-PSU1

FEATURES

High efficiency cost effective power supply ideal for use in Access Control 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, or recharging an 18Ah battery to >80% within 24 hours. 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 integrated output module allows multiple circuits to be individually fused.

- Continuous full rated current to load
- 7Ah Standby battery recharged to 80% within 24 hours
- 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
- Individually Fused Outputs

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 input current	2.0A
Mains Input Fuse	T3.15A HRC

SPECIFICATION (OUTPUT)	
Voltage	13.4 – 14.2Vdc (13.8Vdc nominal) on mains power 10.0 – 12.3Vdc on battery standby
Max load current	4A
Ripple	150 mV pk-pk max
Load output Fuses	4 x F1.0A
Overload	Electronic shutdown until overload or short circuit removed (under mains power only)

STANDBY BATTERY	
Battery Type	12V Valve Regulated Lead Acid
Battery Capacity	1 x NP7 (7Ah)

LOCAL INDICATORS	
MAINS LED (Green)	Mains present
FAULT LED (Red)	Flashing (1s) when loss of mains, battery disconnected, output fuse fail, output shorted or low output voltage.

SIGNALLING OUTPUTS	
Tamper	3A @ 125Vac N/O volt free contact Note: Contact opens when lid opened or case removed from mounting (TAMPER ACTIVE condition).
GEN Fault	0.1A @ 60vdc N/O volt free contact. Open when battery disconnected, *output fuse fail, battery fuse fail or output short circuit. (*Applies only to O/P 1 of multiple fused units)
EPS Fault	0.1A @ 60vdc N/O volt free contact. Open when loss of mains for more than 10s

FUSED OUTPUTS	
Model	ACCESS-PSU1
No. of fused outputs	4
Fuse Value	4 x 1.0A (max load current / 4)

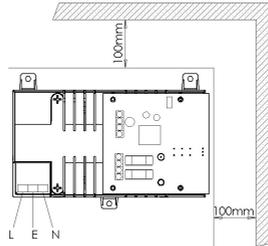
MECHANICAL	
Model	ACCESS-PSU1
Enclosure Dimensions w x h x d (mm) [external]	355 x 330 x 80
Battery Capacity	1 x NP7 (7Ah)
Weight (kg) (Excluding Batt.)	4.3

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.



ACCESS-PSU1

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 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) 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
- 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
- 18) Replace Load fuse. Check red Fault LED is off

Tamper

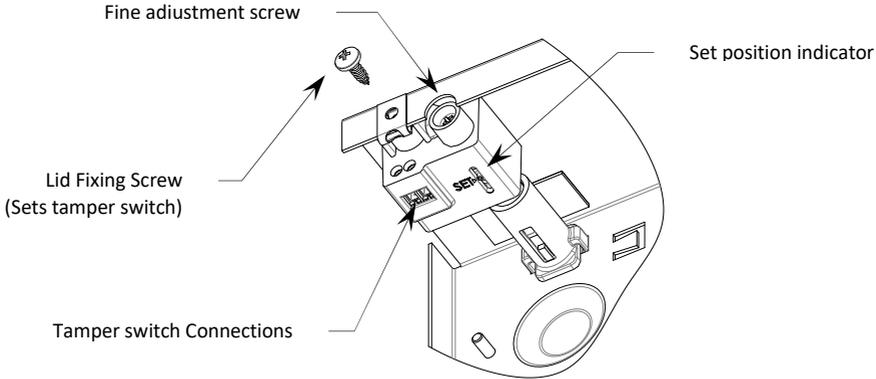
- 19) Connect tamper switch to the appropriate inputs of the control and indicating equipment (CIE)
- 20) Close the lid and secure with the screws provided.
- 21) With the unit mounted on the wall, check that the rear tamper is not in a position that will adversely affect its operation, for example over a mortar course, recess or raised area on the wall.
Check that the tamper switch is:

CLOSED when the cover is closed and the retaining screws are fitted

OPEN when the retaining screws are removed

Use the fine adjustment screw if necessary to align the indicator with the set point (See diagram)

- 22) Close and fasten the cover. Re-check the tamper circuit is closed at the control panel.



CONTROL BOARDS

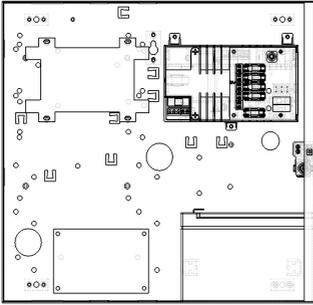
Ensure the PSU rating is suitable by checking the Access Control board's manual.

This ACCESS-PSU is supplied with an adaptor plate (AP1) which has fixing positions for a range of Access Control boards and also has fixing positions in the main base which can be accessed by removing the AP1 plate. The PSU contains a pack of various fixings which suit most access control boards but please ensure it is securely in place once fitted.

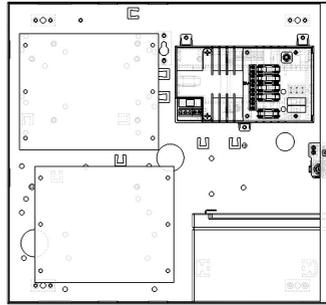
PCB Holes in the Tin		Max Qty	PCB Holes in AP1-B (Adaptor plate 1)		Max Qty
Mercury	EP1501 (Type 3)	1	Paxton	Net2 plus	2
	MR51e (Type 3)	1		Net2 I/O	2
	MR50 (Type 5)	1		Net2 classic	2
	EP2500 (Type 1)	2	Inner Range	SLAM	1
	EP1502 (Type 2)	1		ILAM	1
	EP4502 (Type 2)	1		UniBus 2	1
	MR52 (Type 2)	1			
	MR161N (Type 2)	1	Vanderbilt (ACT)	ACTPro 1500e	2
MR16OUT (Type 2)	1	NEDAP	AP7003	2	
HID Global	VertX EVO		1	AP7031	2
	V2000		1	AP7803	2
			CDVI	1	
			Honeywell	IB2 I/O	1
			Honeywell	PRO22R2/PRO32R2	1
			ADI	HUB PRO	1

Please note hole positions are subject to change without notice and Elmdene International Ltd are not responsible for any changes made by the manufacturers of the listed access control boards

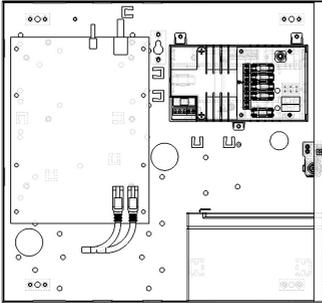
Access Control board positions



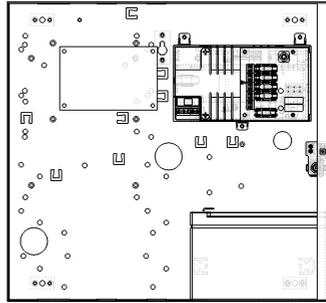
Type 3 + Type 5



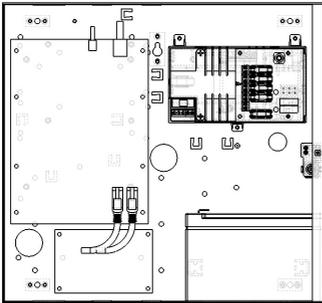
Type 1 + Type 1



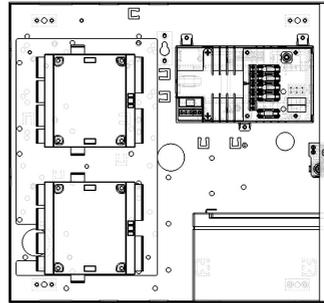
Type 2



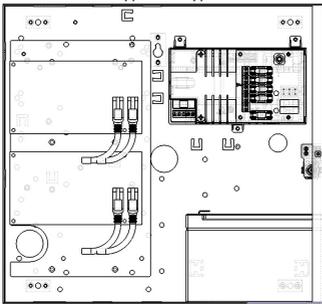
Type 5



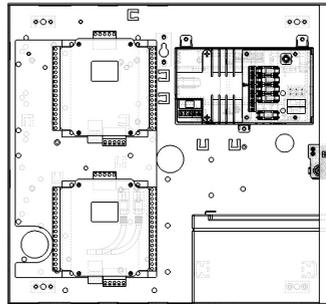
Type 2 + Type 5



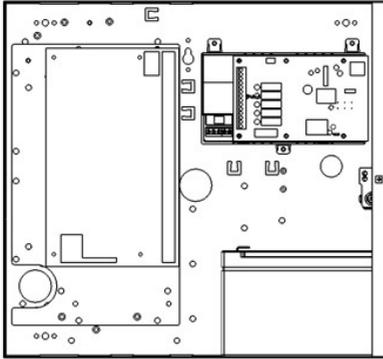
NEDAP



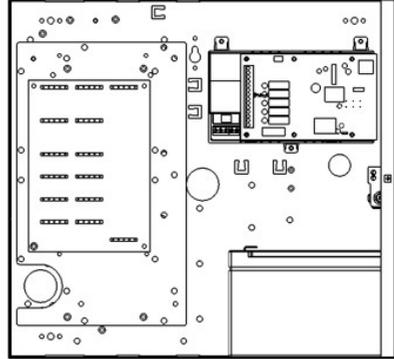
ACT



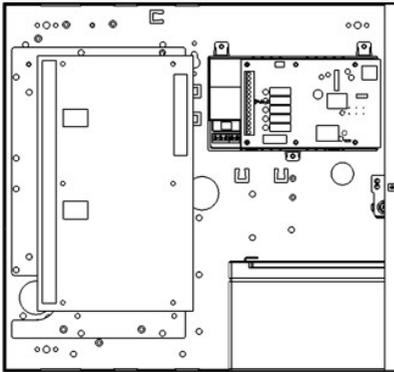
Paxton



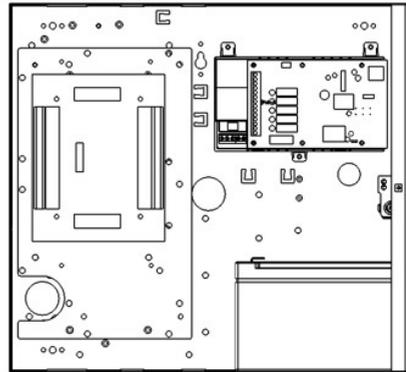
CDVI PCB



HONEYWELL IB2 I/O board



HONEYWELL
PRO22R2/PRO32R2 board



ADI HUB PRO board

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 (model dependent).

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.

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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