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13.8VDC 2A BATTERY MONITORING SMPSU

FOR VARIOUS ACCESS CONTROL PCBS – SEE TABLE FOR DETAILS

Model:
ACCESS-PSU

FEATURES

High efficiency cost effective power supply range ideal for use in Access Control applications. Featuring a regulated 13.8V dc output supplying continuous full rated current to load and a universal mains voltage input. Maximum battery life is assured using deep discharge protection to prevent premature battery failure when operating in standby mode for extended periods. Two sets of volt free contacts are provided to signal (i) loss of mains and (ii) battery and loss of output faults. Provision is made for fitting a variety of Access Control boards

- Continuous full rated current to load
- Universal mains input voltage 90-264V ac
- High efficiency electronics for reduced running costs and lower operating temperatures
- Installer safe design with all high voltage electronics fully shrouded
- Mains transient protection circuit
- Lid and removal from wall tamper detection
- Green Mains present LED
- Red Fault diagnostic LED
- Volt free contact signalling mains failure (EPS)
- Volt free contact signalling output and battery faults (GEN)
- Full electronic short circuit and overload protection on load output under mains operation
- Individual battery and output fuse protection

SPECIFICATION

Input Specification

Voltage (rated)	100-240V ac
Voltage (operating)	90-264V ac
Frequency	50-60Hz
Max Current	See Model Specification Table
Mains Input Fuse	See Model Specification Table

Output Specification

Voltage	12.8 – 14.2V dc (13.8V dc nominal) on mains power 9.8 – 13.0V dc on battery standby
Max load current	See Model Specification Table
Ripple	< 400 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)

Standby Battery

Battery Type	12V Valve Regulated Lead Acid
Battery Capacity	See below under Mechanical specification.
Battery Charging Fuse protection	See Model Specification Table below

Mechanical

Product Reference	**ACCESS-PSU**
Dimensions **w x h x d (mm)**	330 x 275 x 80
Battery Capacity	1 x NP7 (7Ah)
Weight (kg)	3.3
Enclosure Material	Steel white powder coated

Environmental

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

MODEL SPECIFICATION TABLE

	ACCESS-PSU
Max Output Current to load	2A
Output Fuse (20mm glass)	F2.0A
Max Mains Input Current	< 1.0A @ Full load
Mains Input Fuse (20mm 250Vac HBC)	T2.0A
Battery Fuse Protection	F2.0 A

SIGNALLING OUTPUTS

Rating: 0.10A @ 60Vdc 16Ω solid state relay contacts, volt free.
EPS Fault: Open if Loss of mains for >8s
GEN Fault: Open if Battery terminal voltage < 11.5Vdc (when operating in standby with no mains present), battery not present or Output and/or battery fuse blown
Tamper: 0.5A @ 30Vdc volt free contact. Open when lid is open or enclosure removed from surface.

Fault Diagnostic Table:

Red LED (Fault)	**Green LED (Mains)**	**PSU Status**
OFF	ON	Normal: Battery fully charged
One short flash every second	ON	Normal: Battery charging but not fully charged
Flashing: 1second On 1 second Off	ON	Fault: Output fuse or battery fuse blown, or battery missing
	OFF	Fault: No mains, output fuse blown
One short flash every 3 seconds	OFF	Fault: No mains, battery supplying load.
OFF	OFF	Fault: No mains, No output, Batteries disconnected or completely discharged

CONNECTIONS

O/P +, - Connection to equipment to be powered (Observe polarity)
EPS Fault: Relay output for mains fail. Open if loss of mains.
GEN Fault: Relay output for General Fault. Open in fault condition
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 *Fig. 1.0*
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.

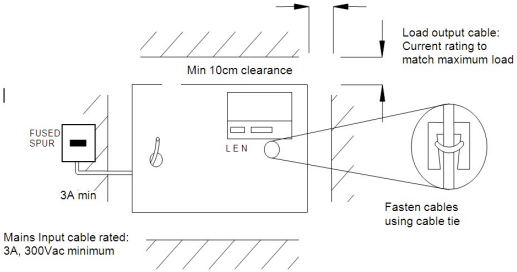


Fig 1.0 Mounting of Power Supply

Mains Power Up

4) Attach correctly rated mains cable (minimum 0.5mm^2 [3A], 300/500Vac). Fasten with cable ties.
5) Apply mains power.
   Check for 13.8Vdc on load outputs and 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.
   NOTE: Red Fault LED may flash to indicate no battery has been connected, this is normal.
   Verify load is operating correctly.
9) Disconnect mains power.

Signalling

10) Connect EPS and GEN fault outputs to appropriate inputs of Control and Indicating Equipment (CIE).

Standby Battery

11) Attach supplied battery cables to terminal block and batteries.
    NOTE: ensure correct polarity of battery connections: **+ve** use **Red** lead, **-ve** use **Black** lead.

Tamper

12) Connect tamper switch to appropriate inputs of control and indicating equipment (CIE).

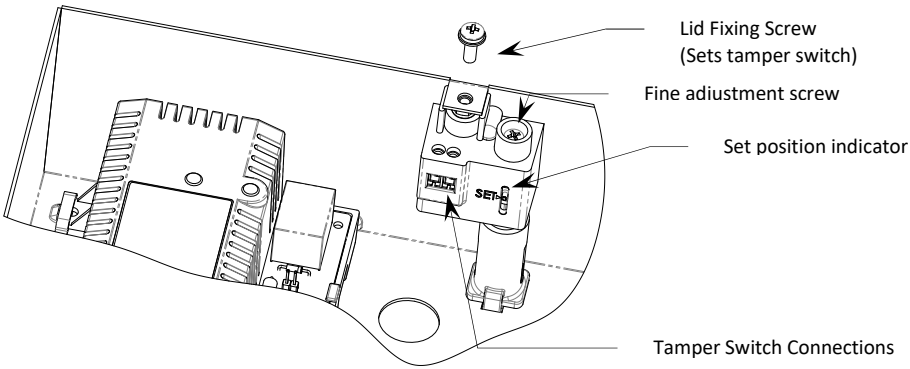


Fig 2.0 Position of G3 tamper assembly

13) Close the lid and fasten with screw supplied.
14) 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.
15) Close the lid/cover and fasten.

Re-check tamper circuit is closed at the control panel.

CONTROL BOARDS

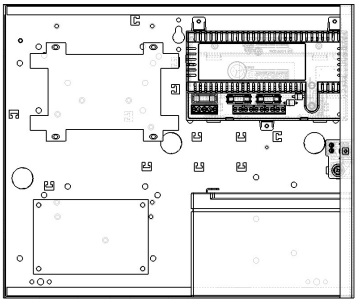
Ensure the PSU rating is suitable by checking the Access Control board's manual.

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.

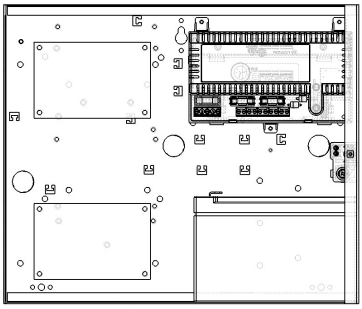
PCB Holes in enclosure base		Max Qty	PCB Holes in AP1-C (Adaptor plate 1)		Max Qty
Mercury	EP1501 (Type 3)	1	Paxton	Net2 plus	1
	MR51e (Type 3)	1		Net2 I/O	1
	MR50 (Type 5)	2		Net2 classic	1
SALTO	XS4 2.0 (CV4200)	1	Vanderbilt (ACT)	ACTPro 1500e	1
	CV505VN	1	NEDAP	AP7003	1
				AP7031	1
				AP7803	1
			CDVI		1
			Honeywell	IB2 I/O	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

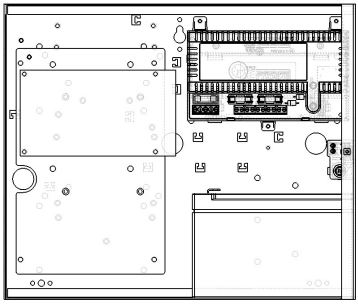
Access Control board positions



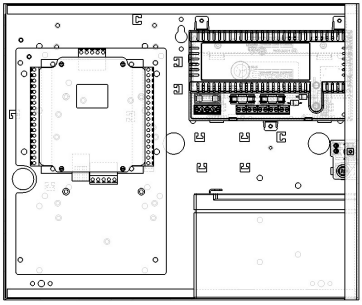
Type 3 + Type 5



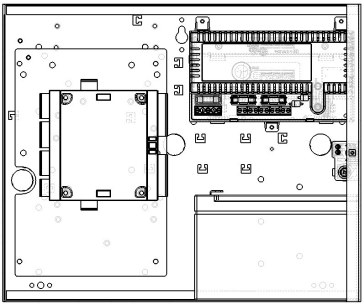
Type 5 + Type 5



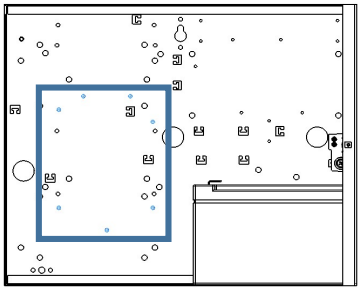
ACT



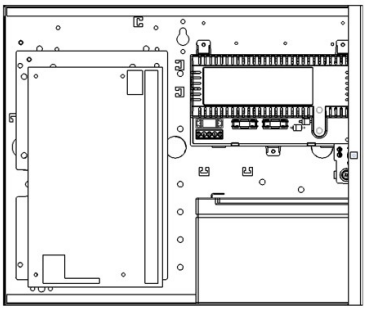
Paxton



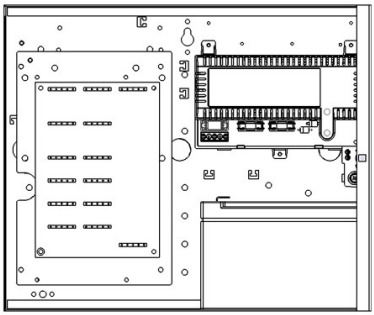
NEDAP



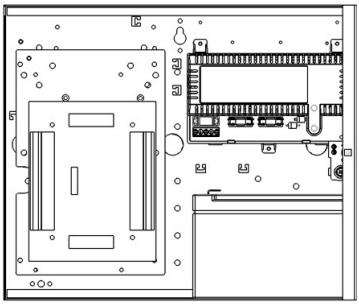
SALTO



CDVI PCB



HONEYWELL IB2 I/O board



HONEYWELL PRO22R2/PRO32R2 board

OPERATING INSTRUCTIONS

In the event of loss of mains, a battery fault or a GEN fault, the corresponding Fault signal contacts will open (see Fault diagnostic table for LED indicator status).

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.***

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 wheelie bin symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg).

For more information see: www.recyclethis.info

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


Fault Indication


Shock Risk - isolate before attempting access


Certification Level


Mains Present


Protective Earth


Do not dispose of in unsorted waste

Specifications subject to change without notice

The packaging supplied with this product may be recycled. Please dispose of packaging accordingly.

