



D1438-2U Rack-mount Power Supply with monitoring.



The D1438-2U PSU is a high end power supply suitable for 19" rack mount provided with heavy duty sliders and brackets to fit standard computer racks.

The PSU provides 2 x 4 monitored 12-volt outputs of 1 Ampere each providing a total of 8 x 1 Ampere outputs. Each output is electronically fused and controlled by a processor for automatic reset. In addition, each bank of 4 outputs also has an electronic fuse for additional protection. The automatic reset prevents replacing manually fuses and resets are performed per bank of 4. A volt free relay output is provided to allow central monitoring through the Lenel system.

Each bank of 4 outputs can be switched off with the fire input. This allows to have only the locks released while the controllers remain powered when the fire alarm is triggered.

The unit has 1 or 2 switch mode power supplies (Depending on Model) with electronic fuses and current protection. The D1410 (single PSU) unit is rated at 10 Ampere 12 volt allowing an output of 2 x 5 Ampere total 10 Ampere at peak. Outputs available is for a total of 8 Ampere minimising heat and allowing for startup peaks of Magnet locks.

The 2U unit has 2 fans to provide cooling.

Tamper switch for lid NC(Normally closed) when lid is closed

External Ethernet RJ45 connector on the back

IEC 13 mains connector with glass fuse. The DR version has 2 inlets for automatic fall over from inlet A to B through a high power Relay.

Brushed cable entry on the back of unit, Optional 8 x knock outs 32mm

LED indicator panel on front providing information on status for each output, fire and fault.

The 2U provides space for 4 Lenel (Mercury) Controllers.

Note Mains input 220- 240 volt AC only for D1410 PSU

The D1410 PSU has 2 electronically fused outputs each at 5 Ampere. The 12 VDC fans in the back left are powered from output 1 and 2 on the PSU.

Fixings for 4 x Lenel PCB's are included, M3 x 6 mm as well as rack fixing.



Above picture shows Lenell panel fitted to the left with RJ45 connection to the first controller.

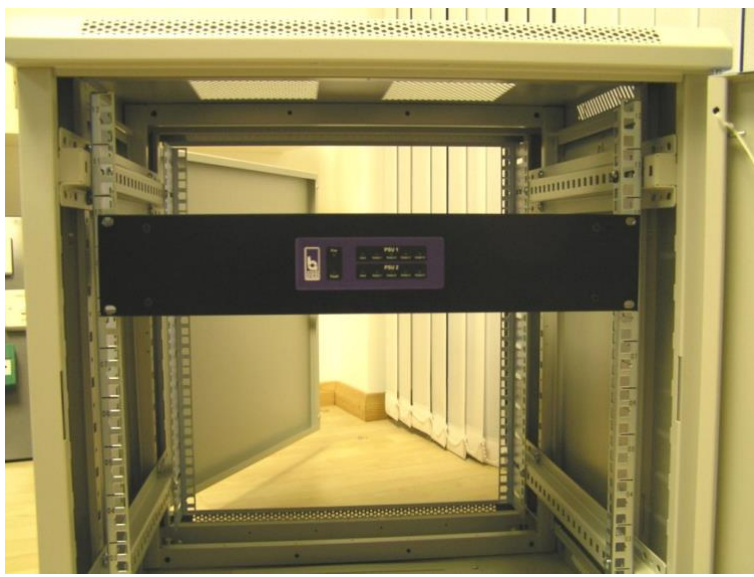
The lid lifts off when the 2 M3 black screws on the top front are removed.

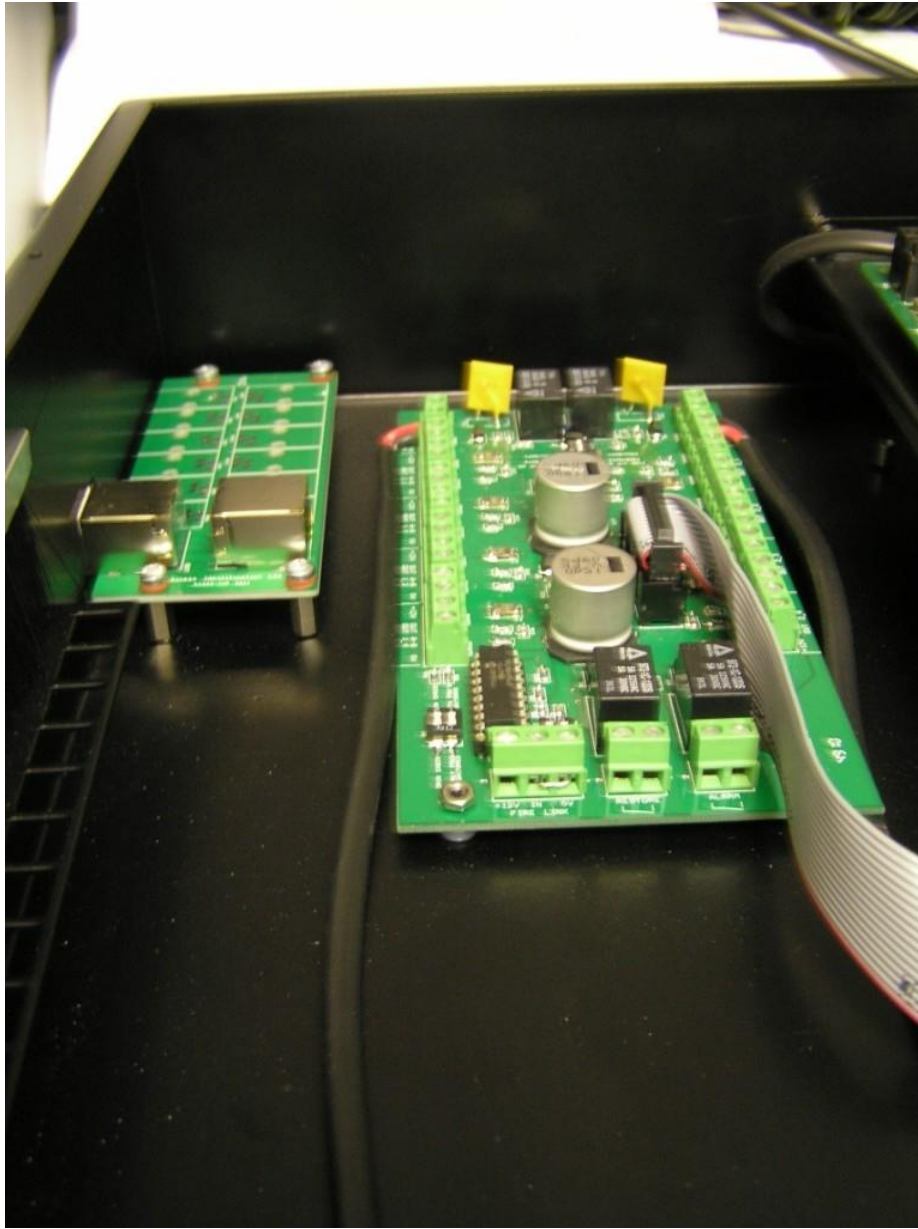
The Tamper switch with yellow/black wire can be connected to one of the controller inputs and is normally closed contact when the lid is closed.

Isolate mains power from both the A and B feed IEC connectors on the back before opening the unit.

The extra-long heavy-duty sliders allow the units to be pulled out to open the lid. Allow for enough cable length to pull out the 2U unit completely.

The hinged tray can be lifted when the 2 front screws are removed, leave the 2 centre screws located on the sides they act as hinges.

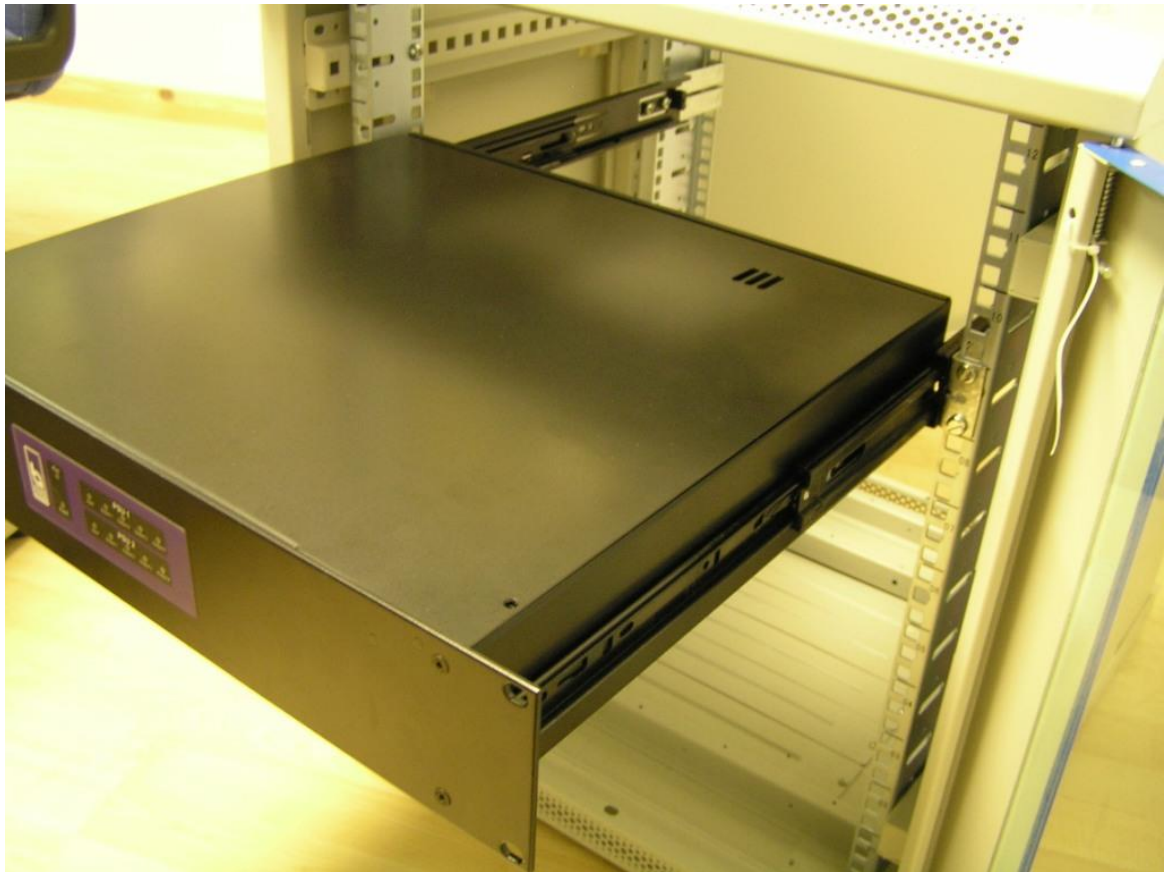


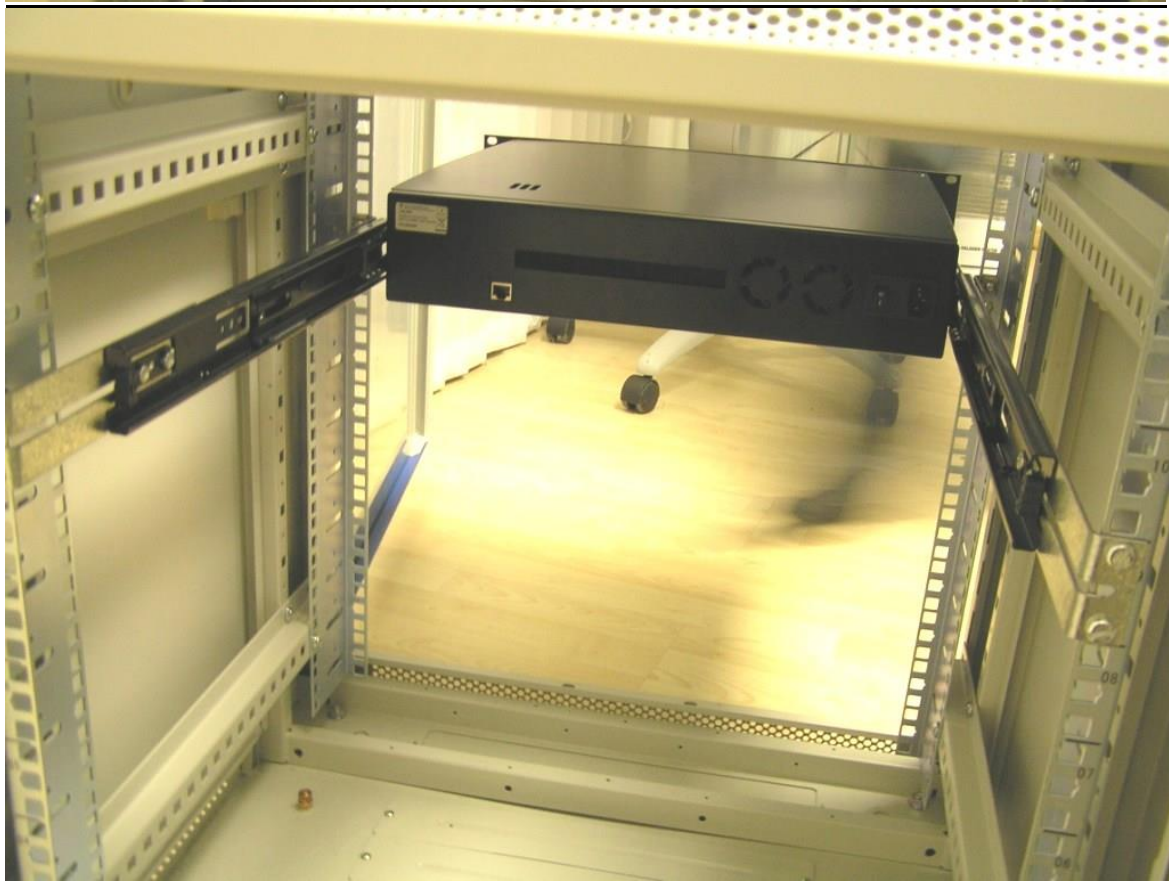
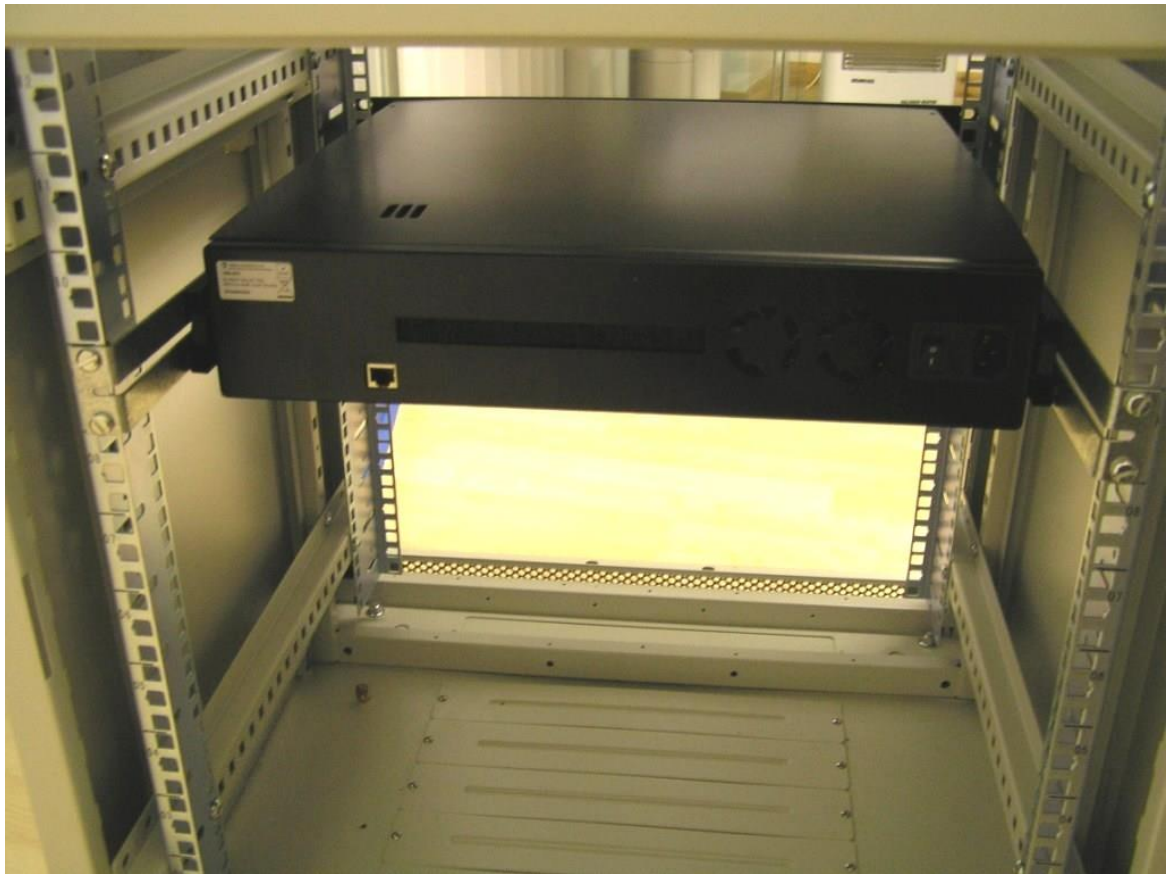


Control board monitors each output 2 x 4 at 12 volt DC. Fire input per row of 4 outputs and 2 relay outputs volt free.

The small connector board is for RJ45 connector to allow the connector to be removed from outside the rack unit.

The ribbon cable connects to the LED PCB at the front of the unit.







A and B mains feed version with automatic mains AC switching. Optional

In normal operation, the main power relay and alarm indication relay are energised, and the restore indication relay is de-energised. The green LEDs indicate the presence of the corresponding supply or output, the yellow LED indicates that the fire circuit is intact, and the red LED indicates the unit status.

The red LED has 4 different modes of operation –

1. a 0.2 sec flash every 4 seconds indicates that all is well and the processor is running.
2. A 1 second on/1 second off flash indicates that the “safety” period is in progress (see later).
3. A short off period every 2 seconds indicates that a restore attempt is in progress.
4. A solid red LED indicates that a supply fault exists.

There are 3 user selectable switches on the board.

The switch next to the Fire Link input (S2) is used to simulate interruption in the fire circuit by selecting both switches to off.

The switch adjacent to pin 1 of the PIC (S1) selects single sided operation and safety period.

The switch adjacent to the PIC (S1-1), selects single-sided operation (PSU1 only) if 'on'. If 'off', both power supplies and output blocks are monitored.

The switch furthest from the PIC (S1-2), selects a 3 minute (nominal) safety period if 'on'. If 'off', a 1 minute period is used.

The switch adjacent to the input relays (S3) selects which input is controlled by the 'Fire Input'.

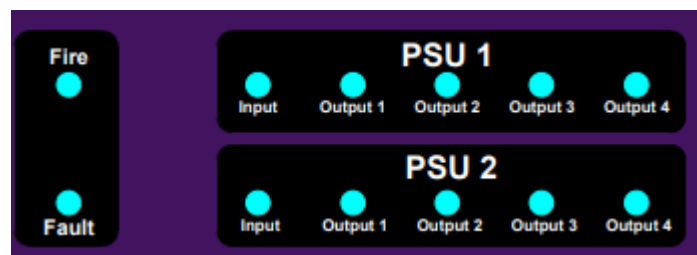
When power is initially applied to the unit, a short restore period is invoked, without energising the alarm relay, followed by a 5 second ignore period, after which the alarm relay is energised, and a safety detection period commences.

When a power fault is detected, the main power relay is de-energised for 30 seconds to allow the thermal fuses to reset. Simultaneously the restore relay is energised (contacts make), which is used to indicate via a controller on a different power supply that a restore attempt is in progress. At the end of this 30 second period, the main relay is then re-energised to restore power. The restore relay is turned off at the same time. A further 5 seconds must elapse before monitoring is resumed. If the power supply has then recovered, normal operation is resumed, and the safety period is invoked. If the power supply or output has not recovered or fails again within the safety period, then the main relay is left energised to maintain the working circuits, and the alarm relay is de-energised (contacts break) to signal a fault condition. The red LED then turns on permanently.

Following the restoration of the fire circuit, a 5 second ignore period is invoked to allow the supplies to settle. An alarm condition is maintained when the fire circuit is broken, but the fault condition is re-detected following the end of the fire condition.

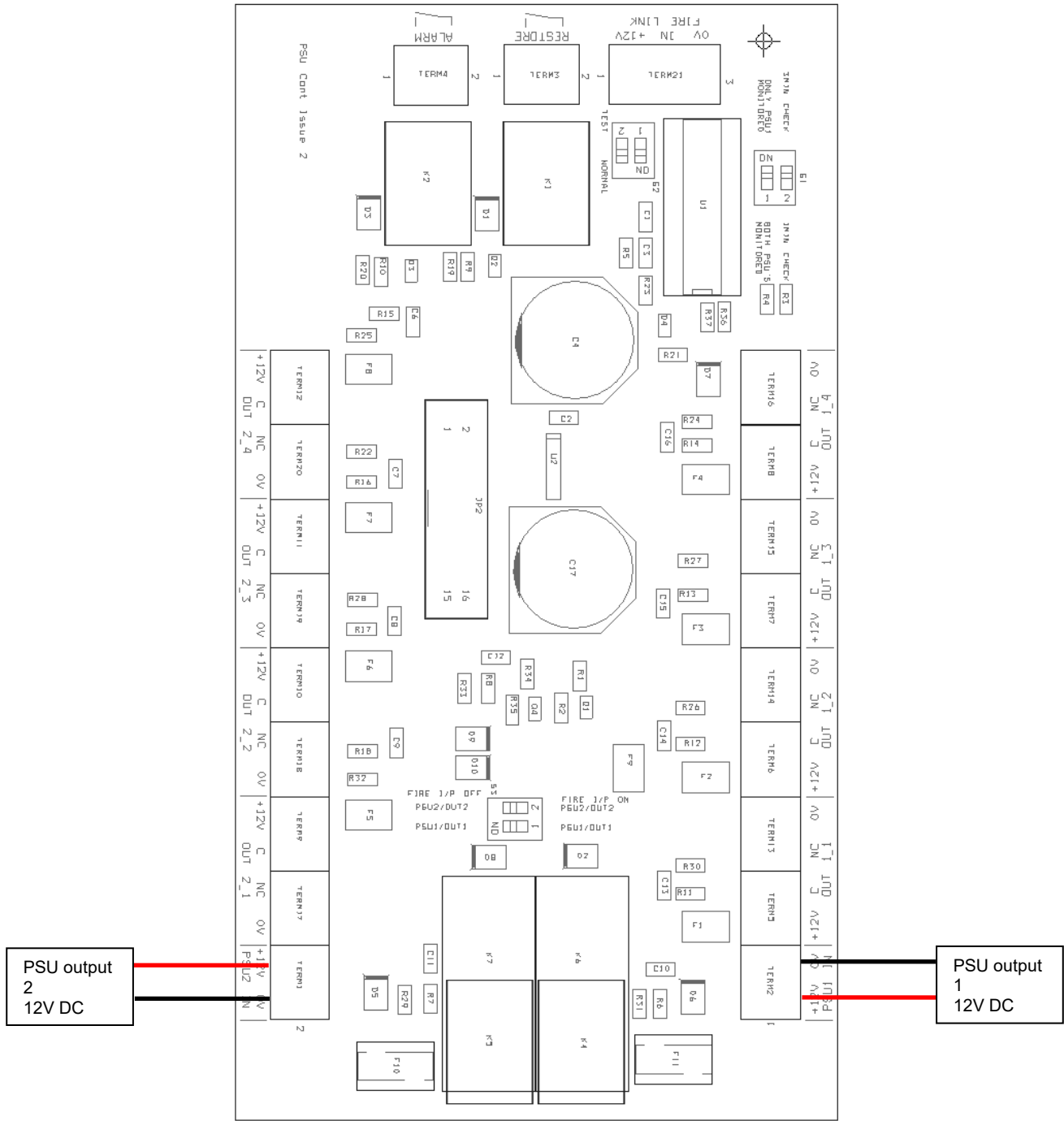
NOTE – during a restore, BOTH sets of power outputs are turned off, so any doors supplied from this unit which require maintained supplies will release during the restore period of 30 seconds.

NOTE – if running from a single, non-battery-backed supply, a direct short may cause the unit to 'hunt' for several seconds, after which an alarm condition will be maintained. This is due to the current limit in the power supply having a faster response time than the semiconductor fuses used on the board. After a few seconds, however, the fuses have generated sufficient heat to 'blow', and only the shorted output will be lost.



The front LED panel indicates the 2 power feeds from the PSU (s)
 If power from the PSU is ok the PSU 1 and 2 input will both be lit green.
 There are 2 x 4 individually monitored and controlled outputs showing each in green. If an electronic fuse is activated the led of that output will go off.

PSU Control Connection Diagram



Power Supply	Type A, Ungraded, Environmental Class 2
Voltage Input	230Vac +10% -15%; 50Hz \pm 15%
AC Connection	PCB-mounted
Maximum Input Current	1.2A
Output Voltage	12Vdc Nominal
Output Ripple	< 500mV Peak-to-Peak at Full Rated Output
Output Current (Mode 1 Selectable)	2 x 5 Ampere to Control board. Maximum total rating of all outputs is 10 Ampere at 12 VDC
Output Current (Mode 2 Selectable)	10 x 1A Electronically Fused Outputs; These Outputs Can Be Connected Together to satisfy Higher Current Requirements
Output Duty Cycle Control	Only Draws Power when Required by the Load
Maximum Over-Voltage Cut-Out	14.4Vdc \pm 3%
Operating Temperature Range	-10°C to +40°C
PSU Type	D1410 Dycon Power Solutions Ltd.
LED Indicators on PCB	10 x Individual Output Shorted or Overloaded (red)
Humidity	95% non-condensing
PCB Size (D1410-P) (h x w x d)	126 x 160 x 66mm
Weight	9.5Kg

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