Installation Manual for D24XX Series of 24V Switched Mode Power Supplies

Power Supply	PCB only	A Box	B Box	C Box
1 Amp – general purpose	D2401-P	D2401-A	D2401-B	D2401-C
2 Amp – general purpose	D2402-P	D2402-A	D2402-B	D2402-C
3 Amp – general purpose	D2403-P	D2403-A	D2403-B	D2403-C
2 Amp – with battery charging	D2412-P	N/A	D2412-B	D2412-C
3 Amp – with battery charging	D2413-P	N/A	D2413-B	D2413-C

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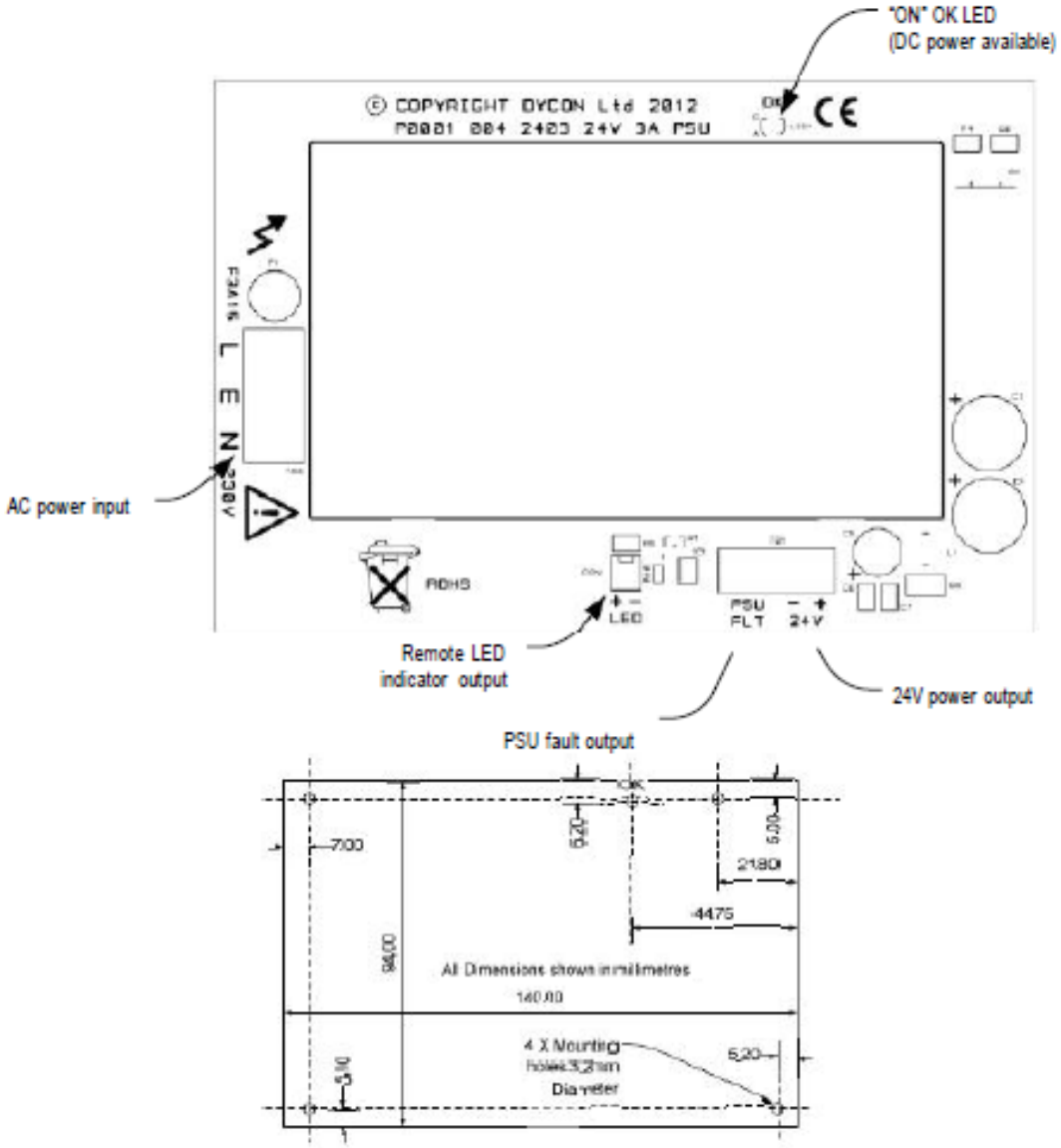
Overview

The Dycon D2401/2/3 power supplies are switched mode power supplies with a normally closed voltage-free output for signalling status and serviceability of the unit.
The D2412 and D2413 versions do not have the fault output but do provide battery charging capability.
The power supplies all provide a nominal 24V when powered from a 230V AC supply.

The power supplies have the following features:

- ON (OK) LED display indicating normal operation
- Remote LED indicator output
- Voltage free contacts for signalling PSU status *(only on D2401/2/3 versions)*
- Electronic overload protection with automatic reset
- Highly efficient power conversion – better than 86% at full load

Mounting Dimensions and Layout - D2403



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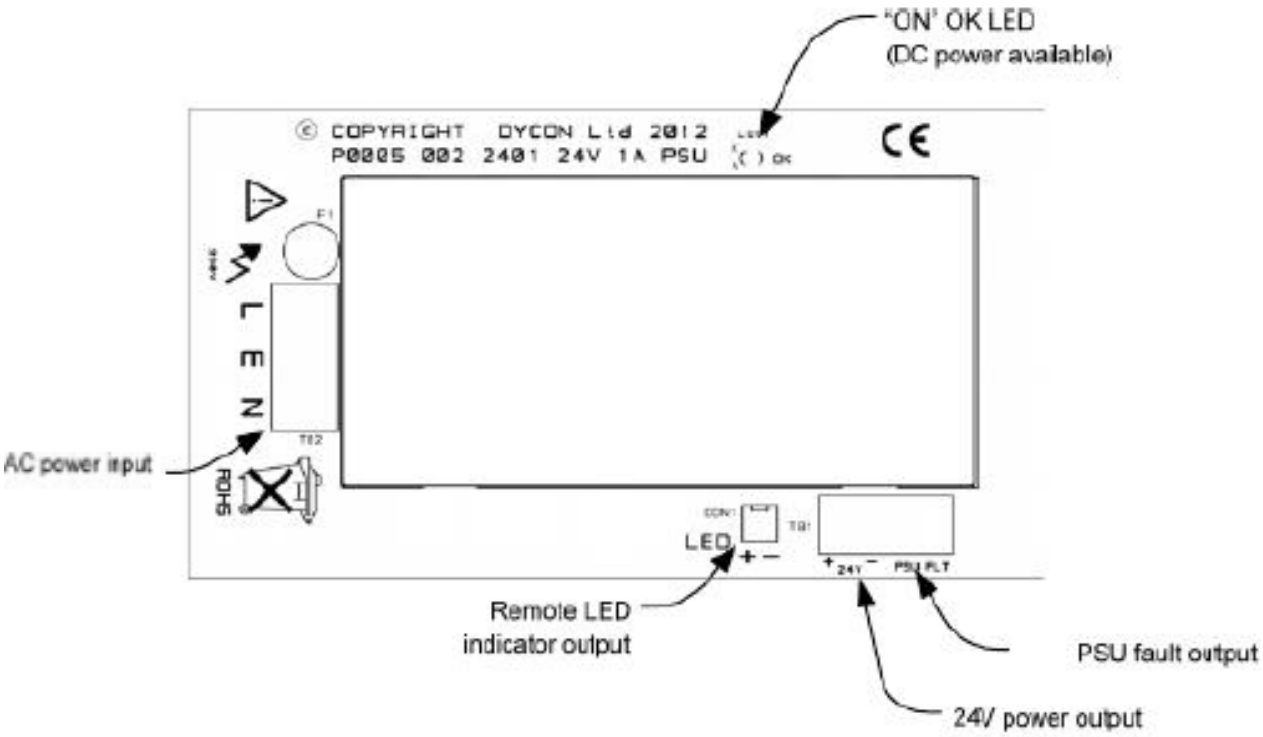
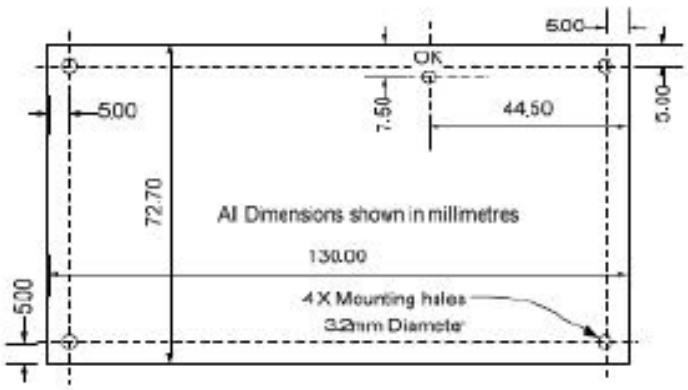
Mounting Dimensions and Layout - D2401





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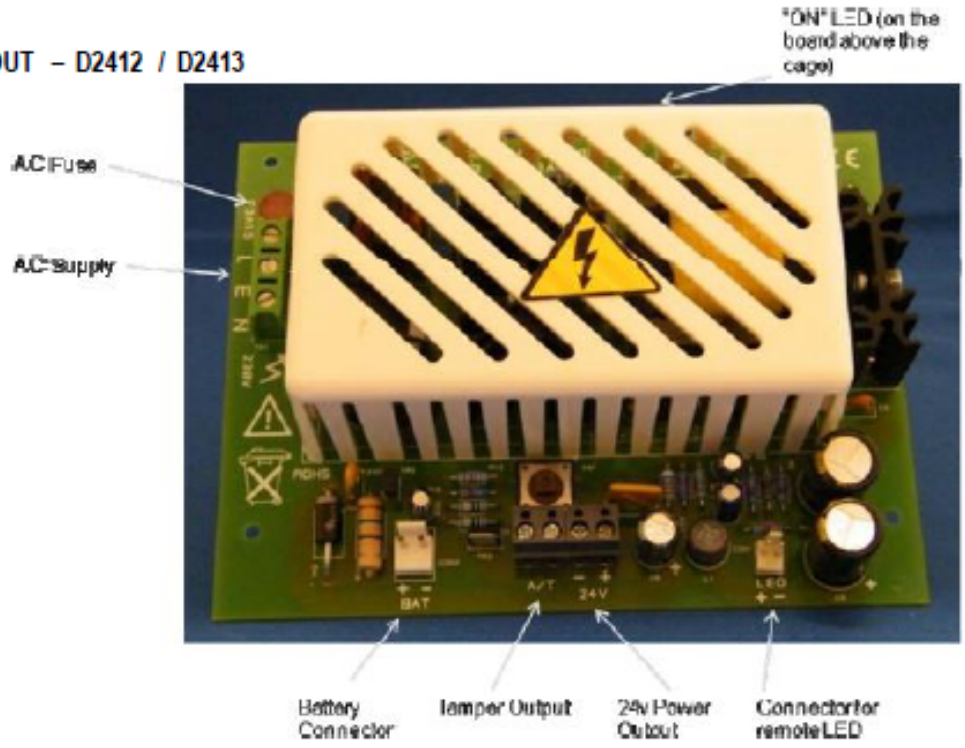
LAYOUT – D2412 / D2413



Installation

Mount the metal enclosure onto the wall.

Connect the Live, Earth and Neutral terminals to an un-switched fused spur.

Connect the Normally Closed relay output to the monitoring equipment used to report and signal equipment faults.

Connect the 24v power output to the system.

Switch on the AC supply and confirm that the AC OK LED is lit.

External Power Supply (AC Supply)

The power supply has a three-way terminal block for Live, Earth and Neutral connections. When supplied boxed, earth is connected to the metal enclosure and the lid earthed with a flying push-fit lead

24V Power Output

Terminal blocks are provided to connect to the system. The output is floating and can be referenced to earth if required. The output is short circuit and overload electronically protected and suitable for switching highly inductive loads. The output is controlled by the ON/OFF input (see above).

Auxiliary Power Supply (Batteries) *[D2412 and D2413 models only]*

The D2412 and D2413 models are compatible with 7AH or 8AH Sealed Lead Acid or Gel batteries which should be connected to the "BATT" terminals. If two batteries are to be used, they must be connected in series.

Battery Protection

The batteries and electronic circuitry are protected against reverse polarity connection by a self-resetting electronic fuse.

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PSU Fault *(only available on the D2401/2/3 models)*

The PSU fault relay will open when the 24V power supply is no longer available:

- Thermal shutdown due to overload
- AC power is not present
- 24V output is switched on and shorted

The relay contacts are voltage-free and floating. The PSU fault relay status will not be changed when the output is switched on or off using the ON/OFF input.

ON LED

The ON LED will indicate if the 24V is available.

Maintenance

There are no serviceable parts. No maintenance is required other than routine periodic testing.

Please note that high voltage is present under the cage – handle with care. Do NOT touch.

Do NOT remove the cage.

Specifications

Power supply	Type A, Ungraded, Environmental Class 2
AC Input voltage	230v +10% -15%, 50Hz ± 15%
AC Input fuse - D2401 - D2402, D2412 - D2403, D2413	20mm anti-surge fuse rated at: - 230V, 1A - 230V, 2A - 230V, 3A
Output voltage	24v nominal
Output ripple	Less than 100mV
Battery recharge time	Less than 72 hours
Operating temperate range	-10°C to +40°C

Sizes and Weights

	PCB	"A" Housing	"B" Housing	"C" Housing
Size (H x W x D mm)	130 x 100 x 38	235 x 170 x 85	260 x 320 x 87	345 x 430 x
Weight (kg)	0.19	2.0	3.2	4.5

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