

D2435-M-MS1-01



24VDC 5A Intelligent Power Supply



- 24VDC 5A switched-mode power supply
- Micro-processor monitored and controlled
- On-demand battery charging
- Constant battery impedance monitoring
- Integral ambient temperature monitoring
- 3 x opto-relay fault outputs
- 1 x external and 3 x internal status LED's
- Supplied pre-wired & assembled on a 2mm steel mounting plate
- Drop-in replacement for KT Assemblies housing

Dycon D2435-M-MS1-01 is a high-efficiency, 5 Ampere switched-mode, dual-output intelligent power supply that features on-demand load sharing to provide exceptional flexibility, allowing rapid, large-capacity, battery charging with either extended, standby, hold-up duration at light loads, or short, high current, peak loads where the spare capacity is diverted to battery charging. It is fitted with a constant-operation temperature sensor which automatically adjusts the charging rate to ensure that a battery is never overcharged simply because the ambient temperature has risen. Rather than relying on simple voltage readings to gauge the battery condition, these units constantly check the batteries' impedance and voltage which gives a more accurate reading and warning of impending problems and extending battery life. The D2435-M-MS1-01 is supplied mounted and wired on a 2mm steel mounting plate, a remotely-mountable Green LED status indicator, and all battery connectors are also included in the carton. This unit is designed to fit in the KT Assemblies housings, the mounting plate simply drops into the existing mounting holes.



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Dycon's D2435-M-MS1-01 has unique features that improve system performance and reliability

A critical security system power supply needs to be robust to ensure continuity of protection. The D2435-M-MS1-01 has additional performance features built-in that most other brands fail to provide. These will ensure that not only does the unit provide reliable power when needed, but also continuously monitors total performance, even regularly checking batteries' performance to ensure that it will operate correctly when the mains power is lost.

Main Features

The D2435-M-MS1-01 is a high-efficiency, 5 Amp power supply, providing a nominal 27VDC with two separate 12V lead-acid batteries for 24VDC standby operation when AC power is lost.

These features include:

- **Microprocessor controlled operation and protection.**
- **High-efficiency technology uses far less electricity and produces less heat than existing units.**
- **On-demand battery charging and load output current sharing**
- **Battery impedance monitoring.**
- **Automatic output reconnection after short circuit fault.**
- **No user-serviceable fuses, both outputs are protected by electronic E-fuses.**
- **Two independent, monitored, and controlled outputs.**
- **Two control inputs that can be used to switch the two outputs.**
- **Three opto-relay fault outputs for AC Power Fail, Battery Fault, PSU Fault**
- **1 x Green Status LED for fitting to the lid, supplied with a 350mm cable.**
- **3 x PCB-mounted LED fault indicators and 1 x PCB-mounted status LED indicator**
- **Over-voltage output protection**
- **On-board ambient temperature sensing**
- **Supplied wired & assembled on a 2mm mild-steel mounting plate to facilitate rapid change-over**

Dycon D2435-M-MS1-01 offers the following operational benefits: -

On-demand load sharing capability

This feature runs automatically and continuously giving the power supply exceptional flexibility. It allows rapid, large capacity battery charging with either extended standby hold-up duration at light loads, or short high current peak loads where spare output capacity is diverted to battery charging.

Each battery is connected separately, why?

Most 24VDC systems use 2 x 12VDC batteries connected in series to provide the 24VDC needed to drive the system, this means that the only way to check each individual battery's performance is to disconnect it from the system. Dycon's D2435-M-MS1-01 connects each battery separately, then seamlessly combines the 2 x 12VDC outputs into 24VDC, enabling the unit to constantly measure each individual battery's performance and report any problems individually.

Battery impedance monitoring

The weakest part of a conventional power supply is its batteries. Currently, most systems rely on battery voltage measurement which cannot predict, accurately, if there is a problem until it is too late. The D2435-M-MS1 regularly measures the impedance of the batteries and can flag up deterioration outside certain parameters.

Constant ambient temperature monitoring to control the battery charging rate

A battery charging at too high an ambient temperature will dramatically shorten its life! Dycon's D2435-M-MS1 has on-board sensors to automatically adjust the charging rate depending on the temperature.

D2435-M-MS1-01

24VDC Intelligent Power Solutions

Specifications

D2435-M-MS1-01 Assembly

Voltage Input	230VAC+10% -15%; 50Hz ± 15%
Max. AC Input Continuous Current	1.5A
Recommended Fused-Spur Input Fuses	250V-T3.15A
Output Voltage with AC Power	Minimum 26VDC; Maximum 29.5VDC Nominal
Output Ripple	< 0.07V Peak-to-Peak at Full Rated Output
Maximum Output Current at Full Load	5A
Battery Charging Voltage; Charging Current	27.6VDC; On-Demand (Maximum) 5A
Type of Batteries Required	2 x 12VDC 17Ah, VRLA (Sealed Lead Acid)
Standby Output Voltage	Minimum 19.5VDC; Maximum 27.6VDC
PSU Standby Current	32mA
Over-Voltage Cut-Out Threshold	30Vdc 2%
Low-Voltage Power Output Fault	<22VDC ±2%; Low Voltage Restore>23VDC ±2%
Battery Deep Discharge Voltage Limit	21VDC ±2%
Output Monitoring Threshold	Battery Charging Voltage <±2%
Battery Fuse	6A PTC non-replaceable
Fault Opto-Relays	Normally-Closed (NC), 100mA at 60V; ON-Resistance 16 Ohms maximum; 1500VRMS Isolation Voltage
Operating Temperature Range	-10°C to +40°C
Humidity	95% non-condensing
PCB Size (h x w x d)	168mm x 141 x 65mm
Mounting Plate Size & Construction	150 mm(h) x 285mm (w) x 2mm; (d); Powder-Coated, 2mm Mild-Steel
PCB to 12VDC 17Ah Battery Connectors	2 x CAB047 M5 Ring Terminal to 2-pin Molex, 300mm long
PCB to housing base & door earth connector	1 x CAB031 3 x T3 Spade Connectors, 150mm long
230VAC Mains Connector Block	1 x CAB003 230VAC with 3.15A Replaceable Fuse
Status indicator for mounting on lid	1 x LED-G-350 5mm green LED with 350mm cable and connector
Carton Contents	1 x D2435-M-MS1 PCB; 1 x mounting plate; 2 x CAB0047 battery connectors; 1 x CAB031 housing earth connectors; 1 x CAB003 mains connector block; 1 x LED-G-350 LED;
Carton dimensions (h x w x d)	290mm x 170mm x 115mm
Carton weight	2.5kg



CAB047 Battery connector



CAB031 Housing Earth Cable with 3 x T2 Spade Connectors



CAB003 Mains Block, with replaceable fuse



LED-G-350 green Led for lid

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Dycon leads the security and associated power supply markets, with UK design and manufacture of advanced power products, engineered to provide high quality, cost-effective solutions to meet current regulations and the specific needs of system integrators and end-users.

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