Product description



Max output power: 83W (27,6V 3A)
Size: 13,2 x 10,1 x 5,9 cm

Built-in battery test function
Built-in deep discharge protection for the batteries.

Number of protected outputs: 2

Common alarm output for mains, charging, and battery failure.

Protected against overload, short circuit and overvoltage.

CE marked

Product Code: 100.10.2403.000.0

Charger:	
Power:	83W max (27.6V 3A)
Cooling:	Natural air flow
Output 24V:	Two output circuits, fuse 10A, 2,5mm^2 wire
Status/error:	Relay contacts for battery/mains/charging fault
Enclosure:	Recyclable aluminum
Dimensions:	132x101x59 mm (W x D x H).
Weight:	530 g
LED indications:	
LED's 5 pcs:	Power supply status, battery, overload, and fuse failure
Battery:	
Recommended capacity: 7 – 38Ah type AGM	
Screw terminals: 2.5mm^2 max	

Recommended accessories:	
EL490 series:	Battery shelf
EL072 series:	Tamper switch
Battery wires:	Battery wires, 2.5mm^2

EL200-2403 DC UPS 24V 3A

Product description

EL200-2403 is a reliable power supply based on switch-mode technology that has high efficiency and small dimensions. The power supply is designed to operate in parallel with a 24V lead acid battery to ensure uninterrupted power supply even when the mains voltage fails. In normal operation, the power supply keeps the battery charged while providing power to the load. When the mains voltage fails, the battery automatically takes over and continues to provide the necessary power to the load, without any form of voltage interruption. The battery capacity is determined based on the desired operating time. The battery is taken care of by the power supply's internal battery monitoring circuits and charging function to ensure a long battery life. The power supply has an output for remote reading of battery condition/charging/mains status in the form of potential-free relay contacts. LEDs indicate battery condition, mains/charger ok, overload and fuse failure.

Battery charging function
The power supply has a built-in separate charge regulator that can deliver up to 2A of charging current. The charging function is adapted to systems where the battery primarily has a standby function. The charging process consists of two stages.
1. Bulk charging:
Here most of the energy is supplied during charging. The current is limited to 2A and as the battery is charged, the voltage will rise and the current will decrease. When the voltage reaches the maintenance level, the charger switches to stage 2.
2. Maintenance charging:
The charging voltage is kept constant and the purpose is to compensate for self-discharge.

Battery monitoring and battery protection
The power supply automatically tests the battery condition when connected to the mains and then every 60 minutes. If the voltage on the battery drops below 22V during the test, a battery fault is indicated by the LED marked BATTERY OK going out. The LED BATTERY OK will light up again when the voltage during the battery test exceeds 23.8V. When the mains voltage disappears and the battery supplies power to the load, the LED marked BATTERY OK flashes.
Deep discharge protection:
In the event of a mains failure, the load is powered by the battery. To prevent the battery from being damaged by being completely discharged, the load circuits are automatically disconnected when the battery voltage has dropped to 19V. The load circuits are automatically reconnected when the mains voltage returns.

Mains/Charging monitoring
When the charger is supplying power and is in order, the LED marked MAINS/CHARGER OK lights up.
When the power supply stops supplying power due to a mains failure or charging error, the LED marked MAINS/CHARGER OK goes out.

Alarm output
The power supply has a common output for remote reading of the battery condition and charging/mains status.
The relay contacts are potential-free and can withstand a current of 1 ampere DC, resistive load.
There is a time delay of 30 seconds from the time a mains/charging error occurs until the relay contacts are activated.
In the event of a battery fault, the relay contact is activated immediately.

- Relay contacts marked ALARM **C and NO are closed** in the event of a fault.
- Relay contacts marked ALARM **C and NC are broken** in the event of a fault.

Protection against overload, short circuit, overtemperature and overvoltage
The LED marked OVERLOAD starts flashing if the current draw exceeds the power supply's maximum output current. The power supply is not damaged by this current limitation.

The power supply has overtemperature protection that turns off the supply if the temperature of internal components becomes too high. It is reset automatically when the temperature has dropped to normal temperature.

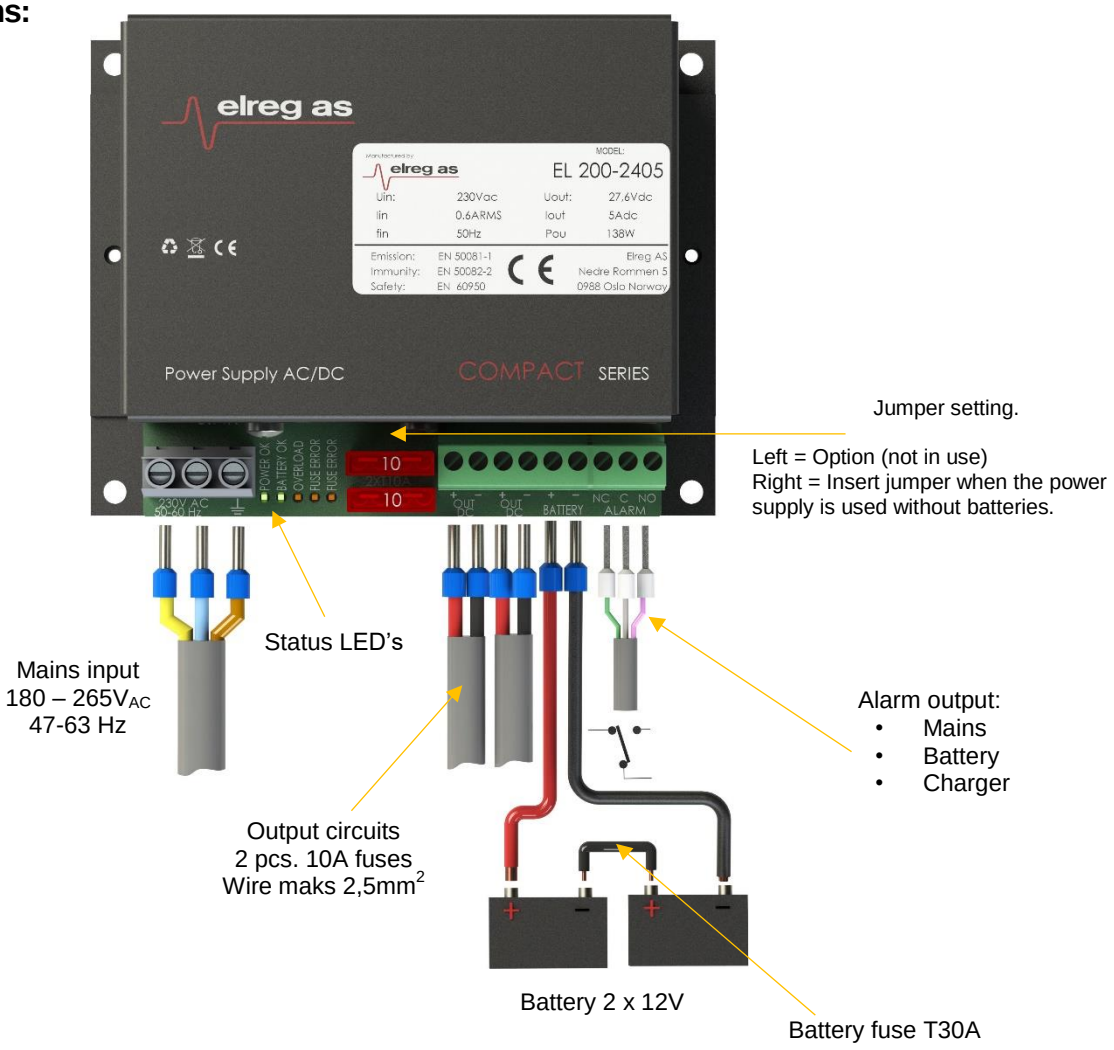
The power supply is equipped with 2 output circuits, each protected by a 10A fuse (slow blow). The primary function of these fuses is to limit the current from the battery out to the consumer circuits.
In addition, it is highly recommended to add a fuse mounted as close to the battery bank as possible.

Two red LEDs marked FUSE ERROR indicate a fuse failure.
It is assumed that the output is loaded with at least 50mA for the LEDs to light.

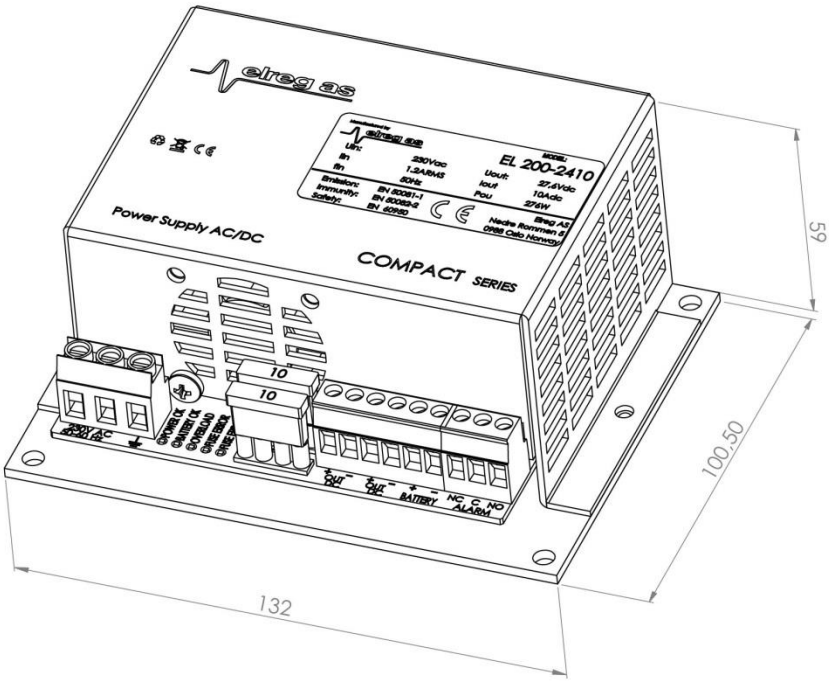
The power supply has an independent voltage monitor that ensures that the power supply is turned off if the output voltage exceeds 29.7 - 35.1V. Reset by disconnecting the mains for a short while.

Final product may differ slightly from picture

Connections:



Dimensions:



Technical data EL200-2403	
Inputs	
Input voltage	180-264V_{AC}, 47-63 Hz
Input current	0.4A / 230V_{AC} at full output power and max charging current
Power factor	> 95%, at full output power and 230V_{AC} in.
Overvoltage protection	Yes, MOV (Metall Oxide Varistor)
Efficiency:	93%, at full output power
Wire connection	Screw terminals max 2.5mm^2
Outputs	
Output voltage	27,6 V_{DC} ±0,15V
Output current Circuit 1 + Circuit 2 max	3 A_{DC}
Output power Circuit 1 + Circuit 2 max	83W
Voltage ripple and noise:	<200mV p-p DC-30MHz, measured with oscilloscope probe with short ground lead
Number of protected outputs	2 pcs
Fuse type	10AT Auto fuse, standard blade fuse (ATO series)
Battery connection	1 pcs. 24V
Charging voltage, float charge	27,2V ±0,1V
Charging current	>2 A_{DC} (current limiting)
Charging principle	Type: Constant Current / Constant Voltage
Wire connection	Screw terminals max 2.5mm^2
Protection:	
Overload	105 ~ 150% rated output power, Protection type: Hiccup after 3 sec, recovers automatically (3 sec)
Over voltage protection, outputs	31.5 ~ 37.5V, Protection type: Shut down o/p voltage, re-power on to recover.
Over temperature	Protection type: Shut down o/p voltage, recovers automatically after temperature goes down or re-power on to recover
Status outputs	
Alarm output mains/charger/battery	Potential-free relay contacts NO, NC, C, max 1A load
Wire connection	Screw terminals max 2.5mm^2
General	
Battery test	Automatic, based on periodic internal test
Cooling:	Natural air flow
Recommended battery capacity	6 – 38Ah
Physical	
Weight	530 g
External dimmensions	132 x 101 x 59 mm (W x D x H).
Storing temperature	÷40 °C til +85 °C
Working temperature	÷30 °C til +50 °C
Ingress protection	IP20
Mounting	4 pcs. mounting holes
Safety and EMC	
Safety standard	EN62368-1
EMC emission	EN55032 (CISPR32), Conduction Class B, Radiation Class A og EN61000-3-2 (Harmonic distortion)
EMC immunity	EN55035, EN61000-6-2, EN61000-4-2,3,4,5,6,8,11

UL62368-1
ANSI/AAMI ES60601-1

BS EN/EN62368-1
BS EN/EN60335-1
BS EN/EN61558-1/-2-16
BS EN/EN60601-1

IEC62368-1
IEC60335-1
IEC61558-1/-2-16
IEC60601-1

AS/NZS 61558-1/-2-16

GB4943.1

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