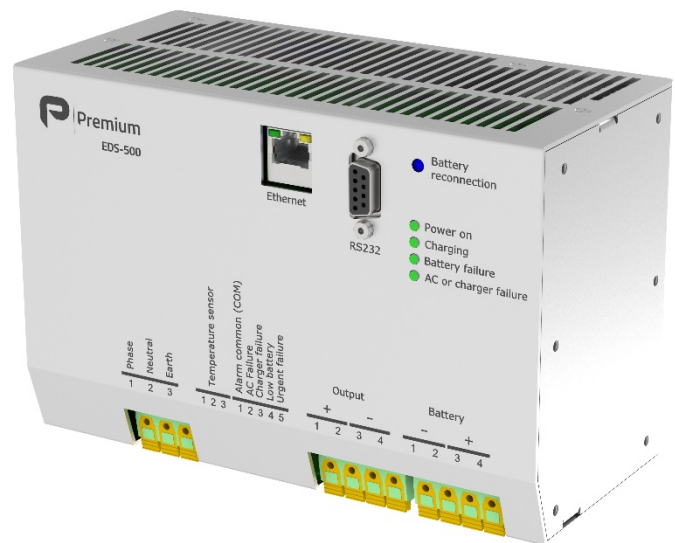


EDS-500

500W DC OUTPUT UPS

GENERAL FEATURES:

- Battery cut off when battery low
- 3 state battery charging
- Configurable maximum current charging level
- Step mains to battery without voltage dips
- Battery not included
- Battery temperature sensor input (Optional sensor)
- Battery low alarm
- Battery test
- Mains failure alarm
- UPS failure alarm
- Advanced configuration via RS232
- Ethernet connection (optional)
- Redundance ORing diode (optional)



3 YEAR
WARRANTY
INDUSTRY



MODELS	Input voltage range	Nominal output voltage	Maximum output power	Maximum output current	Maximum Output peak current from battery
EDS-500-5243	90 ... 264Vac	12V	500W	36.7A	50A 30s
EDS-500-5247	90 ... 264Vac	24V	500W	18.4A	30A 30s
EDS-500-5249*	90 ... 264Vac	48V	500W	9.19A	15A 30s

*References subject to special MOQs and lead times



INPUT	
Input voltage	Universal (100 ... 240Vac)
Input voltage range	90 ... 264Vac
Mains frequency range	47 ... 63Hz
Inrush current	<30A
Power factor	0.98 at full load
Efficiency	See table
OUTPUT	
Output voltage range	-0, +20%Von
Line regulation	<0,2%
Ripple	< 100 mVpp
BATTERY	
Battery charging method	Bulk / absorption / float
Maximum charging current	Configurable range depends on model (see table on page 1)
Maximum charging current tolerance	10%
Battery temperature compensation	2.5mV/K/cell
Battery test	By capacity measurement discharging over the load
ENVIRONMENTAL	
Storage temperature	-25 ... 80°C
Operating temperature	-25 ... 55°C (Po=nom) -25 ... 70°C (Po=nom/2)
Maximum Relative humidity	95% with no condensation
Cooling	Natural convection
MTBF	350.000h @ 40°C according to IEC61709
EMC	
Emission	EN61000-6-4
Immunity	EN61000-6-2
SAFETY	
Safety	IEC62368-1
Dielectric strength Input / Output, Signals	3000Vac 50Hz 1 min.
Dielectric strength Earth / Input	1500Vac 50Hz 1 min.
Dielectric strength Output / Earth, Signals	500Vac 50Hz 1 min.
MECHANICAL	
Size	186.5 x 87 x 124.4 mm
Weight	1490 gr.
CONTROL	
Battery reconnection button	For starting up without mains presence
LEDs	Power on (Green) Charging (Ambar) Battery Failure (Red): <ul style="list-style-type: none">• Led on: Battery test failed• Slow blink: Battery not present• Fast blink: Battery temperature sensor not present AC or charger failure (Red): <ul style="list-style-type: none">• Led on: Vout out of range• Slow blink: AC input out of range
Mains failure alarm	Mains out of range. Closed contact when alarm
Battery low alarm	Battery discharged. Closed contact when alarm
Urgent failure alarm	Maintenance required. Closed contact when alarm. Alarm cases: <ul style="list-style-type: none">• Battery not present• Battery test failed• Charger malfunction• Charger temperature out of range
UPS failure alarm	Vout out of range. Closed contact when alarm.
Alarms spec:	
Type	Solid state relay
Maximum switching voltage	60 V
Maximum switching current	0.2A



PROTECTIONS	
Against overloads and short-circuits	Current limiting
Battery protection against deep discharges	Battery cut off
Battery protection against overloads	Current limiting and fuse
Against Input over-currents	Fuse

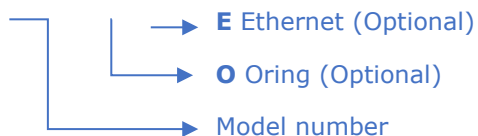
ORDERING CODES

Part Number	Output / Battery voltage			Maximum Output current	Maximum Output peak current from battery	Efficiency	Maximum charging current selection		
	Nominal	Float	Cut off				Min	Nominal	Max
EDS-500-5243	12V	13.6V*	10V*	36.7A	50A 30s	90%	2.5A	16A*	20A
EDS-500-5247	24V	27.2V*	20V*	18.4A	30A 30s	92%	1.25A	8.0A*	10A
EDS-500-5249*	48V	54.4V*	40V*	9.19A	15A 30s	93%	0.63A	4A*	5A

*References subject to special MOQs and lead times

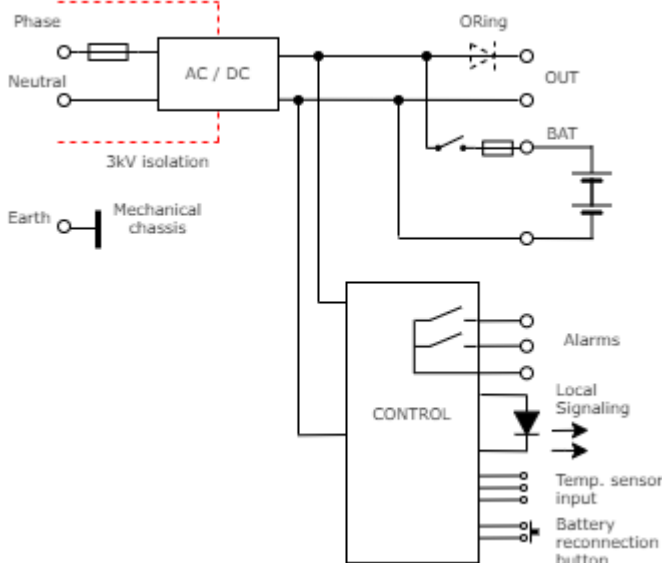
(*) Default factory settings

EDS-500-52 _ _ - _ _

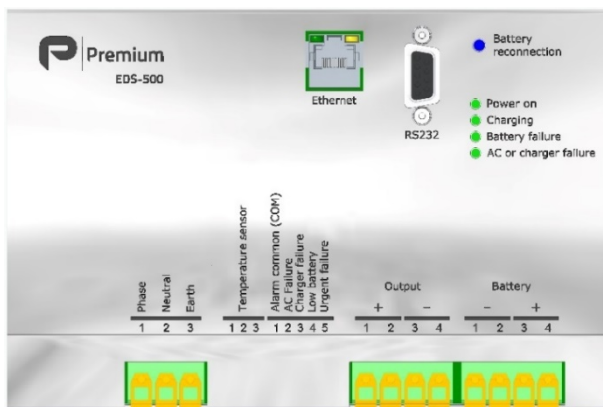
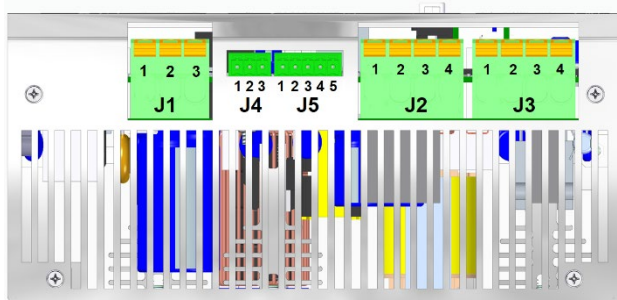


Accessories must be ordered in a separated order line

BLOCK DIAGRAM



CONNECTIONS



J1-1	Mains Line	Cable cross section 0,75 ... 6 mm ²
J1-2	Mains Neutral	
J1-3	Protective EARTH	
J2-1, 2	+ Vout	Temperature sensor not included
J2-3, 4	- Vout	
J3-1, 2	-VBat	
J3-3, 4	+ VBat	Mating connector: Phoenix Contact MC 1,5/ 5-ST-3,81 (not included)
J4-1	Temp sensor +5V	
J4-2	Temp sensor	
J4-3	Temp sensor GND	
J5-1	Com alarms	
J5-2	Mains alarm	
J5-3	UPS alarm	
J5-4	Low Bat. alarm	
J5-5	Urgent failure	

DESCRIPTION

This series consists of three models of a power supply-charger which, in the presence of mains voltage, supplies regulated voltage, while at the same time charging the battery in a controlled way. The range is ideal for charging lead-acid batteries of 12V, 24V, and 48V with capacities of up to 96Ah, 48Ah, and 24Ah respectively.

The device comprises a switched-mode power supply and a three steps battery charger circuitry. It also incorporates an alarm circuitry which acts independently, when a mains, UPS or battery condition occurs. The alarm outputs are the switched, potential-free contacts of relays.

Mains operation

When the mains supply is on, the output current is obtained directly from the power supply. The maximum battery charging current can be selected by the user through RS-232 connection. The maximum battery charging current will be equal to the set current or equal to the rated current less the output current; the floating voltage will be equal to the output voltage.

The system allows the temporary supply of an output current higher than the rated current. The average of this additional current, which is obtained from the battery, should not exceed the charging current as, otherwise, the battery would finally discharge.

If the power supply has no output, due to a mains voltage outage or to a failure in the power supply, the supply failure alarm will be triggered.

Operation without mains supply

When there is no mains supply, the battery comes, uninterruptedly, into operation and the output current is obtained from the battery. The output voltage will then depend on the battery discharge curve.

If the battery runs flat, the low battery alarm will be triggered. It will be disconnected from the output by way of a relay to prevent a deep discharge of the battery. When the mains supply returns, the UPS may take several minutes to supply the established battery charging current. During this time, the battery is charged with a small current until the low battery status is overcome. At that moment, the low battery alarm is reset, the relay closes, and the battery starts to charge normally.

Battery temperature sensor

An optional temperature sensor attached to the battery can be connected to the equipment. If it is used, charging and floating battery voltages are compensated according to battery temperature.

INSTALLATION

Make the connections according to the table figure

If the battery charging current required is different from the factory set, this can be changed through RS-232 connection

For safety reasons it is required:

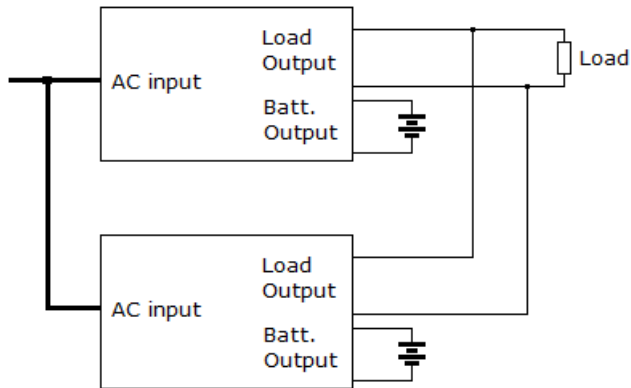
To incorporate an easily accessible means of disconnecting from the mains supply.

Upon replacing the mains fuse, make sure one of the same rating is used and with the power supply disconnected from the mains.

To provide the equipment with a protective enclosure, in compliance with the Electrical Safety Regulations and Directives in the country where it is installed.

To use a mains connection cable with a cross section of at least 0.75mm².

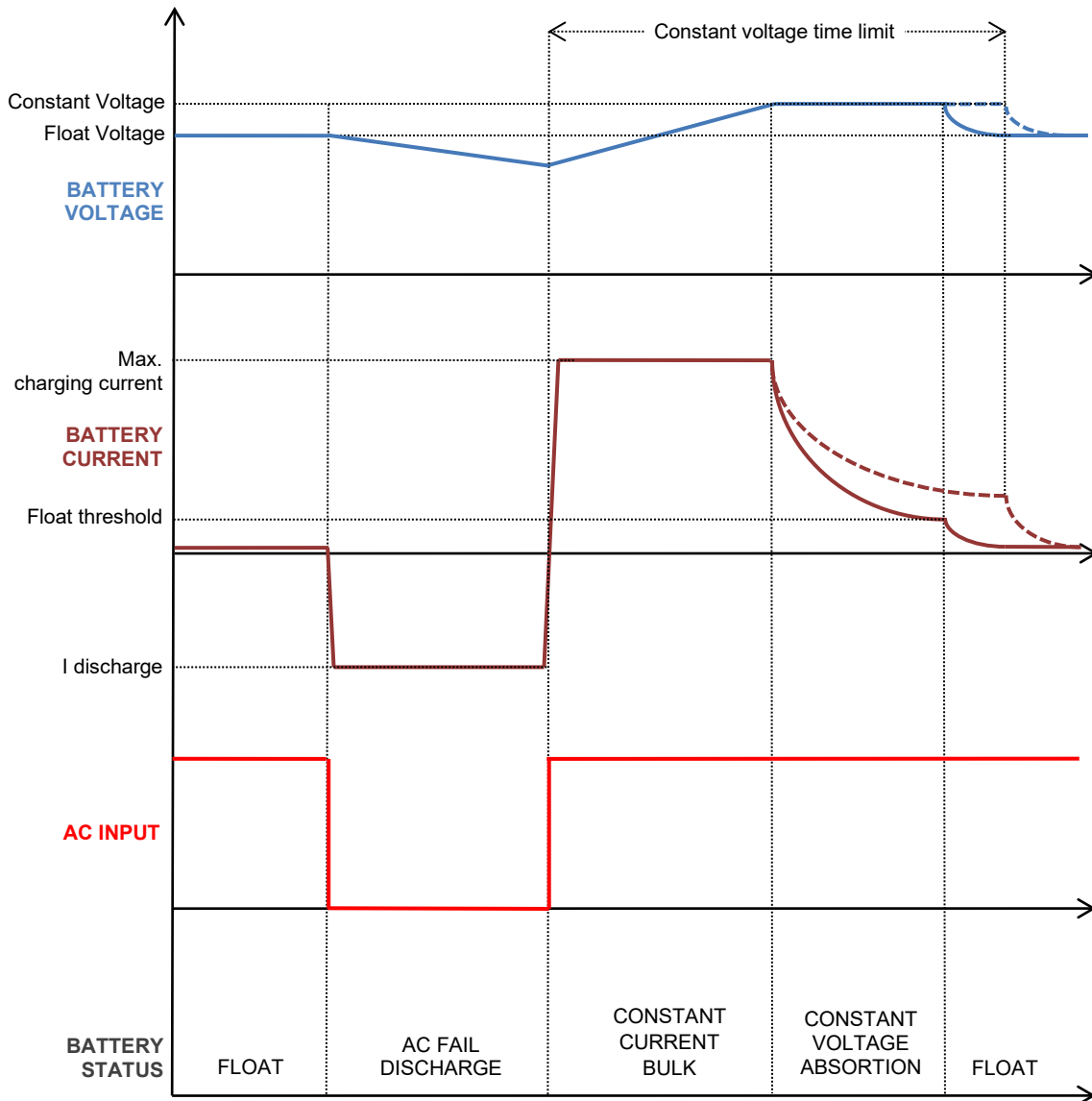
ORING FEATURE



The optional ORing feature enables the parallel connection of several power supply-chargers. In this manner, the load current is shared among the units and redundancy is introduced in the power system for high reliability.

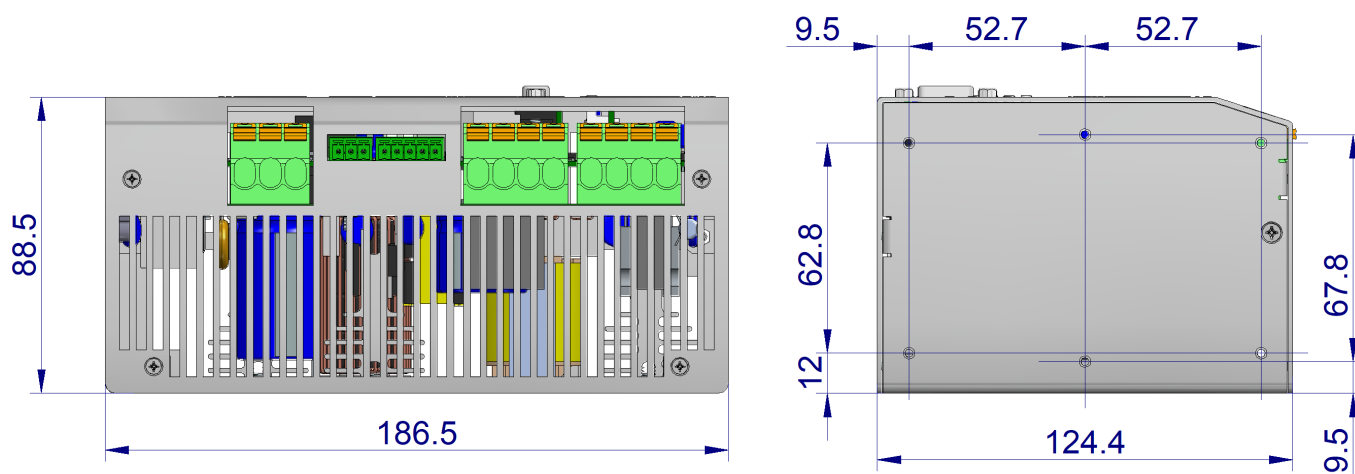
The implemented ORing is an active one, based on FET transistor, and thus minimizing power loss in this circuit.

CHARGING CHARACTERISTIC





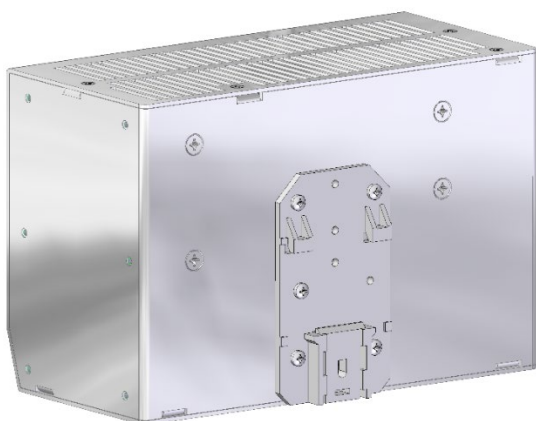
DIMENSIONS



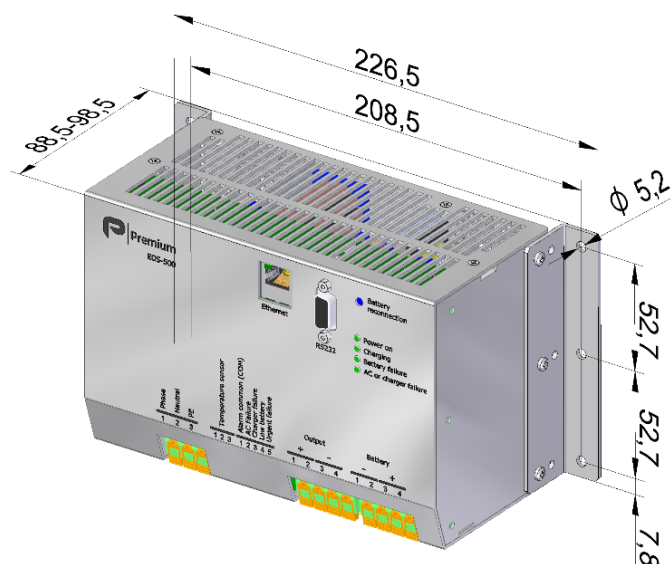
ACCESSORIES

Description	CODE
DIN rail clip set	NP-9441
Mounting brackets set	NP-9442
Temperature sensor (cable 2m)	NP-9433

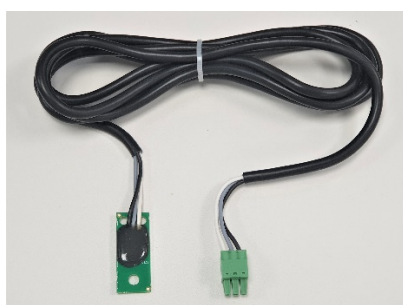
NP-9441



NP-9442



NP-9433



The sensor may increase the battery life, specially when it suffers relevant periodes of time with ambient temperatures $>35^{\circ}\text{C}$ or $<15^{\circ}\text{C}$

The sensor must be installed in the battery housing
It has a mounting hole of diameter 5mm



CE EU DECLARATION OF CONFORMITY

The undersigned, representing the following:

Manufacturer: PREMIUM, S. A.,
Address: C/ Dolors Aleu 19-21, 08908 L'Hospitalet de Llobregat, SPAIN

herewith declares that the product:

Type: DC UPS
Models: **EDS-500-5243... 5249**

is in conformity with the provisions of the following EU directive(s):

2014/35/EU	Low voltage
2014/30/EU	Electromagnetic compatibility
2011/65/EU	Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

and that standards and/or technical specifications referenced overleaf have been applied:

EN 60950-1: 2005	Safety. Information technology equipment
EN 62368-1: 2014	Safety. Audio/video, information and communication technology equipment
EN 61000-6-4: 2019	Generic emission standard
EN 61000-6-2: 2019	Generic immunity standard

CE marking year: **2020**

Notes:

For the fulfillment of this declaration the product must be used only for the aim that has been conceived, considering the limitations established in the instructions manual or datasheet.

L'Hospitalet de Llobregat, 04-09-2020

Jordi Gazo
Chief Executive Officer

PREMIUM S.A. is an ISO9001 and ISO14001
certified company by **Bureau Veritas**