

OPERATING INSTRUCTIONS



ESP-2000A



SUMMARY

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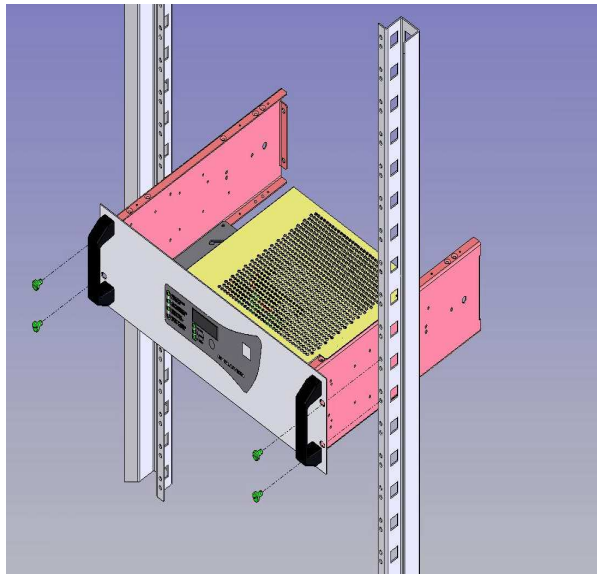
Safety instructions

This equipment is designed to be connected to the public mains electricity supply (230V). To avoid any risk of electric shock, all INTERVENTIONS must be carried out with the machine

SWITCHED OFF (upstream circuit-breaker open).

Interventions with the machine switched on are authorized only when it is impossible to switch the machine off. Such interventions must be carried out only by a qualified electrician limited to TBA on low-power circuits.

Technical specifications



☒ Mains input

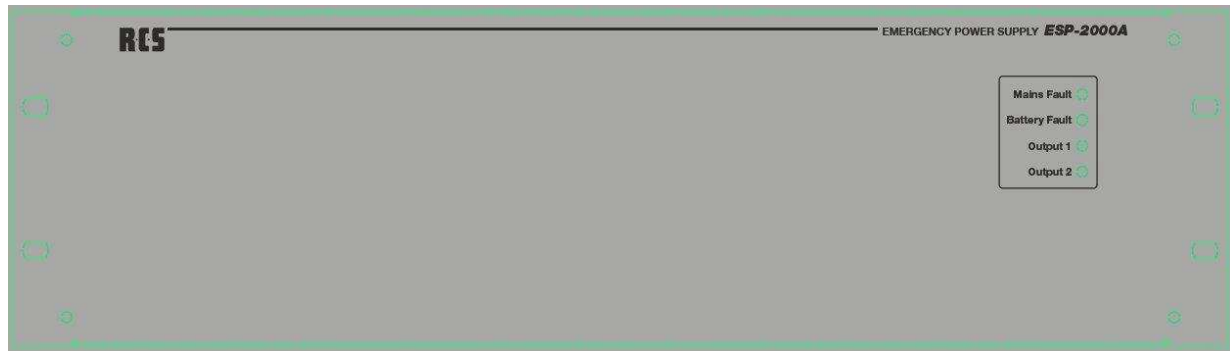
Rating	Power
24V / 12A	300W

Particular technical specifications

☒ ESP-2000A specifications

<p>The maximal internal Resistance of the battery and its associated circuits</p>	<p style="text-align: center;">24V</p> <p>300W 20mΩ +/-15%</p>
<p>This device is a power supply equipment. The ESP-2000A and the public address system must be supply by the same mains</p> <p><u>Normal work mode</u> : the E.A.E recharges then maintains in load from the main source, and assures the current of the public address system within the limits of I_{max a} '</p> <p><u>In security work mode</u>: the total current of use is supplied by the battery, including of the amplifiers of the public address system) with competition of ' absent I_{max b} sector ' (<=100A) according to the sizing of the battery.</p> <p>I_{max b} = I_n without current I_{max b} = I_n with current I_{max a} = I_n – C/20 I_{min} = 0 ESP-2000A can run without user current</p>	

☒ Supervision and indicator lights



Mains / Input voltage :

- ok if $>195.5V \pm 2\%$.
- Power supply is turned off if $<195.5V \pm 2\%$.
- Yellow LED if fault.
- Alarm report by dry contacts.

Battery:

- Battery fault if no battery or if high impedance on battery and its associated circuit or if battery voltage
- $<1.8V_{elt} \pm 3\%$.
- Yellow LED if fault.
- Alarm report by dry contacts.

Output 1:

- Green LED if ok.
- Alarm report by dry contacts if one of the 2 user outputs is absent.
- Dry contact alarm reports characteristic: 1A @ 24Vdc, 0.5A @ 120Vac

Output 2:

- Green LED if ok.
- Alarm report by dry contacts if one of the 2 user outputs is absent.
- Dry contact alarm reports characteristic: 1A @ 24Vdc, 0.5A @ 120Vac

LED on mother board :

- Green : all is ok,
- Yellow: mains fault,
- Red: battery fault or user output fault

☒ Environnemental specifications

- In compliance with European directives on the environment, this product should not be discarded but recycled in an adapted facility.

Commissioning

Once the mains user and battery electrical connections are complete, and the fuse and mains circuit-breakers are open

(if the product does not have an automatic reset function):

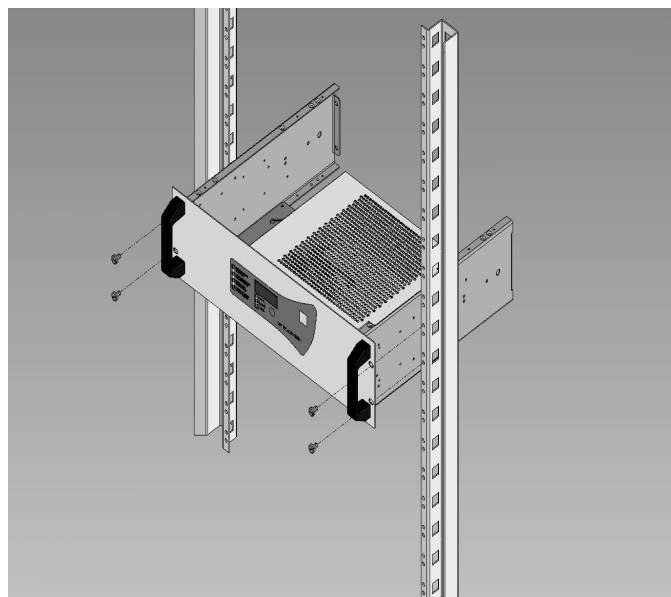
- close the upstream mains circuit-breaker.
- next, check that the mains presence LED is lit (if equipped).
- check that the DC output voltage presence LED is lit (if equipped).
- close the battery fuse (if there is no automatic reset function).
- check that the LED confirming correct internal operation (PC board) is lit.
- Link the flat cable and the earth wire
- close the cover.

Nota: Batterie test done every 30s during the first 20 minutes, then every 15 minutes.

For reset, disconnect the main (ac) and the batteries

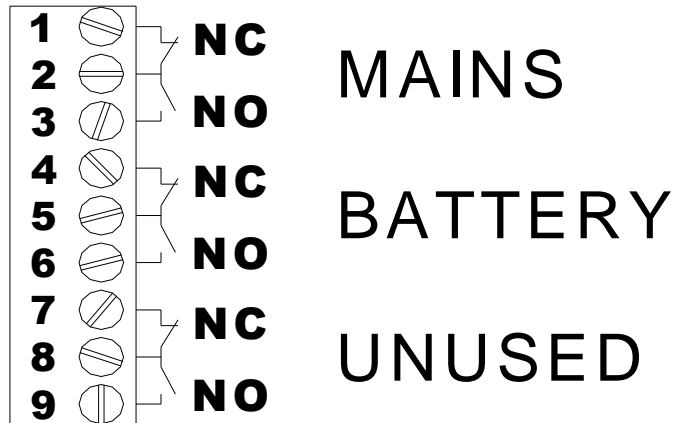
Assembling plan

☒ Rack



Connection plan

Alarms Reports



NC : Normally closed
NO : Normally Opened

⊠ Size of rack

Cabinets	Length (mm)	Width (mm)	Depth (mm)	Index of protection IP
Rack	133	483	395	30

⊠ Batteries capacities

	24V
Rack	38 - 225Ah

Maintenance

● So that your product make you a maximal and durable service, it is advised to maintain it in a rigorous state of cleanliness and to install it in a dry and ventilated place. We shall on no account be responsible for damages due to a wrong use or to defective maintenance of this equipment.



WARNING

- Replacement of the original battery by of a none equivalent modle can cause a risk of explosion.
- Disposal of use batteries must be done in accordance with the recycling standarts.

Protections

⊗ Secondary fuse

Range	ESP-2000A
Designation	F1 (user 1) F2 (user 2) F (Batt)
24V 12A	100A gG / 22 x 58 100A gG / 22 x 58

⊗ Primary fuse

Designation	F1
24V 12A	6,3A aM / 5x 20 / 1500A

First level check guide

The power supply charger doesn't deliver voltage

- 1) **Verify the main voltage on the main connector**
- 2) **Check the fuses**
- 3) **Verify the value of the tension on borders until 1 or until 2**
Verify that the battery voltage is adapted to the charger
- 4) **Repeat the measure after having disconnected the use and the battery.**
The tension on cables battery must be identical that of the use
- 5) **Verify that every battery of 12Vdc presents a higher or more equal voltage in 11,5Vdc**
- 6) **If every steps are all right, verify the compatibility of your use**

Functionalities

Range	Batterie fault		Mains fault		Output voltage presence		Internals indications on PC board
	Report* / Remote/	Led	Report* / Remote /	Led	Report* / Remote /	Led	
ESP-2000A	●	●	●	●	/	●	LED

● *Integrate*

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* *Remote by dry contact*

Equipment

Range	Low voltage battery Cut off/	Limitation courant batterie
ESP-2000A	●	@

● *Integrate*

@ *Option*

Glossary

Mains fault :

Presence indicated by LED (see the front panel) and by dry contact report.

Charger fault :

Charger fault if mains fuse is out of order or absent, or if product is out of order.

Correct functioning indicated by LED and by dry contact report.

User presence :

Voltage presence on the user outputs indicated by green LED. If any of the two outputs has no voltage, the LED will switch off.

Battery fault :

- Battery fault if battery is absent or if voltage is less than low threshold.
- Presence indicated by LED and by dry contact(see the front panel).
- Voltage of less than Low threshold indicated by blinking orange LED (back up time).

For ESP-2000A version, battery fault if internal impedance too high

Dry contacts

Distant report by dry contact (1A @ 24Vdc, 0.5A @ 120Vac).

Internals indications on the PC board

A LED on the PC board indicates operational status before the cabinet is closed (display board not connected). green: no fault;; orange: mains fault, red: battery or charger fault or output voltage presence is absence (this fault takes priority over a mains fault).

Temperature compensation

A battery voltage compensation system maintains the charge characteristics within the limits specified by the battery manufacturer across the whole of the operational temperature range.

Monitoring of battery current:

The charge current is adapted to the nominal capacity of the batteries and is electronically monitored and limited to the values prescribed by the manufacturer. configuration Jumper on additional card, configuration 25%, 50% 75% (manufacture configuration at 75% for ESP-2000A application)

Standards
NFS 61940
EN 12101-10
EN 54-4 / A2

Certificate Number : 0333– CPD 075243

Year of CE marking : 2010