

RHEA-E1260A

Supercapacitor uninterruptible power supply

Uninterruptible power backup solution based on IEI intelligent supercapacitors

- Twelve 3.0V/600F supercapacitors
- 12/19/24 VDC Adaptive input/output.
- Maximum 150W load 2.6V@30°C lasting 100 sec
- The standard 60W load 2.6V@30°C lasting 280 sec
- -40°C to 60°C wide temperature environment
- 500,000 charge-discharge life cycles
- Long supercapacitor lifetime, up to 10 years
- Intuitive power management software for easier management
- Provide power-off shutdown service through software/hardware

150W
Maximum



RHEA-E1260A

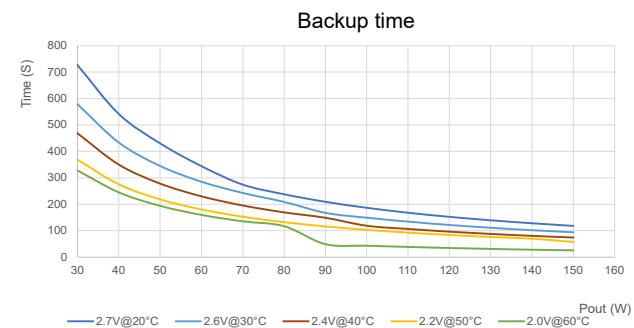
It can be equipped with twelve 600F supercapacitors, combined under the power of 150W, with different backup time and different size solutions to meet the different needs of customers in different application scenarios.



■ Long Life Supercapacitors- Maintenance- free energy storage

Twelve of 3.0V/600F capacitors in series design (customized services for various series and parallel connections with different capacities can be provided), It can be used as a maximum load of 150W at a normal temperature of 30 degrees, providing 100 seconds of operation and safe shutdown time after the system is powered off.

Maintenance-free long-life supercapacitors serve as efficient and long-lasting energy storage devices, providing uninterrupted power in short transition times and up to 500,000 charge and discharge cycles. Different from bypassing batteries that store energy through chemical reactions, supercapacitors are based on electrophysical principles and can be fully charged for use in a very short time. The service life of supercapacitors is ten times longer than that of traditional lead-acid batteries, and energy storage systems equipped with supercapacitors usually have high current carrying capacity, power density and reliability.



Under the conditions of different temperature, voltage and various loads, the sustainable time of supercapacitors will also be different.

■ 12/19/24V adaptive input and output, 7-segment digital tube status display

The Supercapacitor uninterruptible power supply supports three input voltages of 12/19/24V $\pm 10\%$, and the output voltage is consistent with the input voltage. The MCU control unit inside the product will monitor the status of the input voltage in real time, and provide a seven-segment digital tube to display the real-time voltage at the same time.



■ Standard input and output interface

Supercapacitor uninterruptible power supply Provides 2 types of input terminals, 4-PIN DC JACK and 4-PIN Phoenix terminals. It is used for the link mode where you can choose the input by yourself, and provides 4PIN Phoenix terminal output. It is convenient for customers to draw out different forms of power terminals.

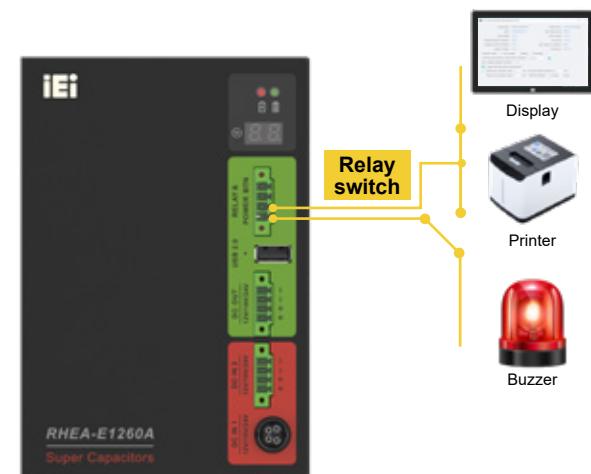


Power Output

Power Input

■ Relay Switch control

The supercapacitor uninterruptible power supply provides a set of relay switch signal outputs, which are closed by default, open after power on, and closed after power off. Users can also mount switch signals of other devices, such as monitors, printers or buzzers, etc. (maximum voltage 30V DC, current 1A)

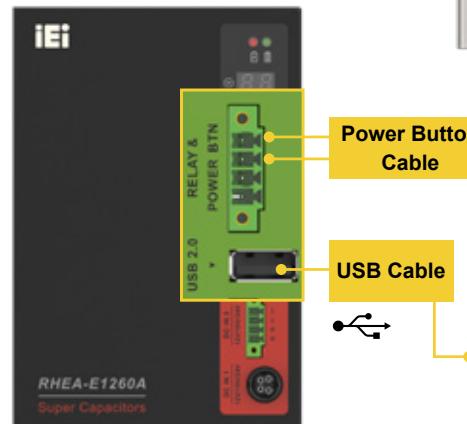


■ Power Failure Abnormal Information Trigger Mode

Mode 1

Through Hardware

Through a set of hardware power button switches. Switch button that can be directly connected to the main unit button pin, send a shutdown signal after power failure (10 seconds by default).



Mode 2

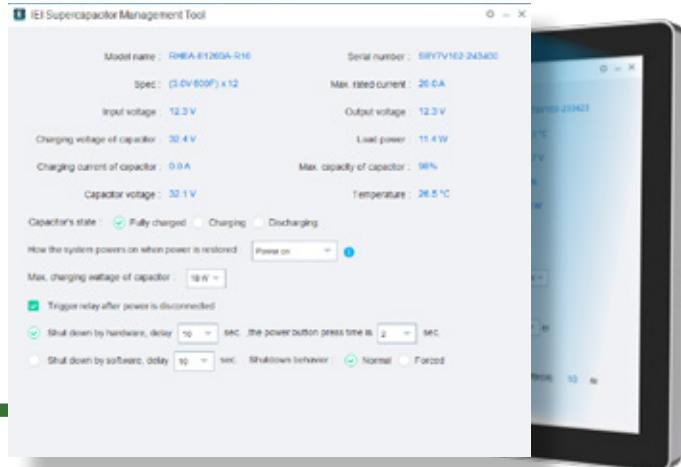
Through Software

Connect to the Windows computer via USB, and start the shutdown command through the IEI supercapacitor management tool software after receiving the abnormal notification (after 10 seconds by default).



Host display application software

IEI Supercapacitor Management Tool



Intuitive user interface and information

The "IEI Supercapacitor Management Tool" software allows the connected device to obtain the basic information of the supercapacitor backup board through the USB cable, including model, serial number, specification, voltage, load power, working mode, current and other intuitive information.

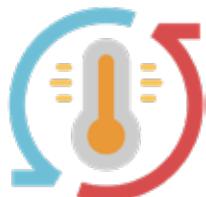


Ensuring safe shutdown of IPC systems

In the case of "Power Input Disconnection", the supercapacitor backup board sends "Power Input Failure" to the PC motherboard system, thereby starting the shutdown command of the planned system and saving valuable data.

In the absence of software management, there will be one sets of Power Button control signals (response time can be set by software) and one sets of Relay switch response triggers at the same time, and users can set the Power button by themselves.

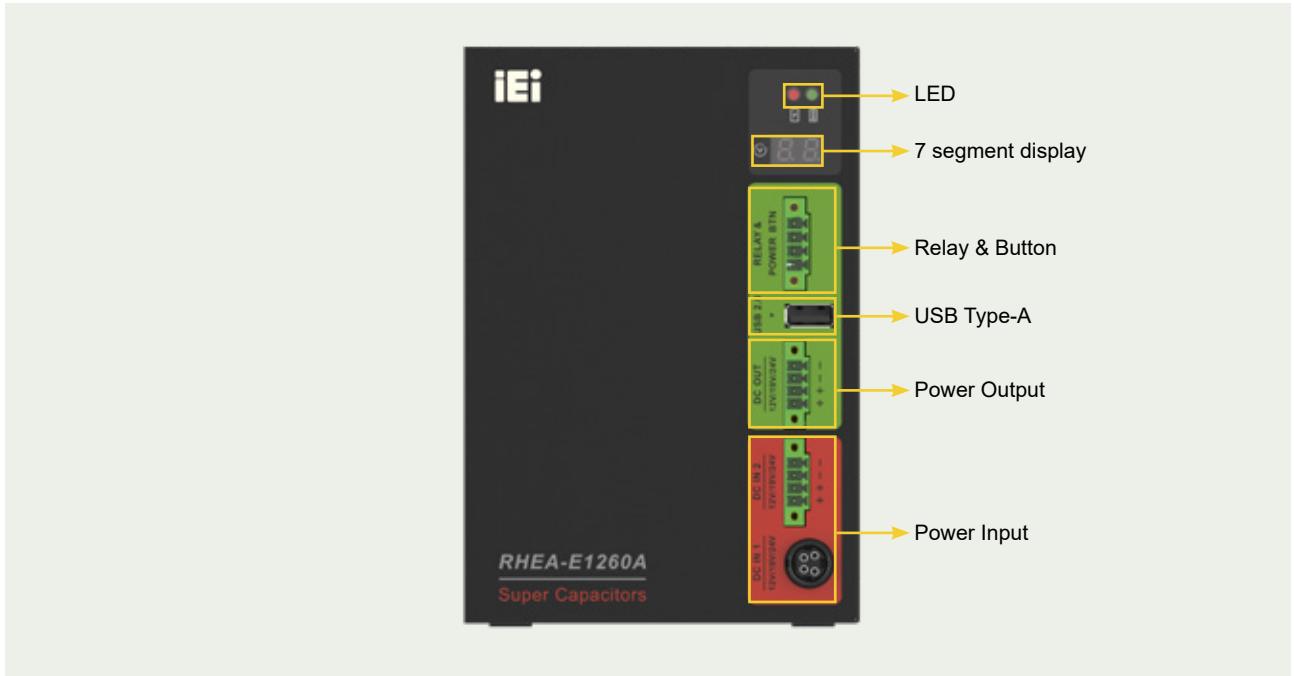
The Button signal is linked to the host or other control devices to realize the hardware-controlled shutdown function, and the Relay control switch can also be linked to other load devices, such as printers, monitors and other power supply devices, or alarm measures such as turning on hardware buzzers to deal with different on-site demand



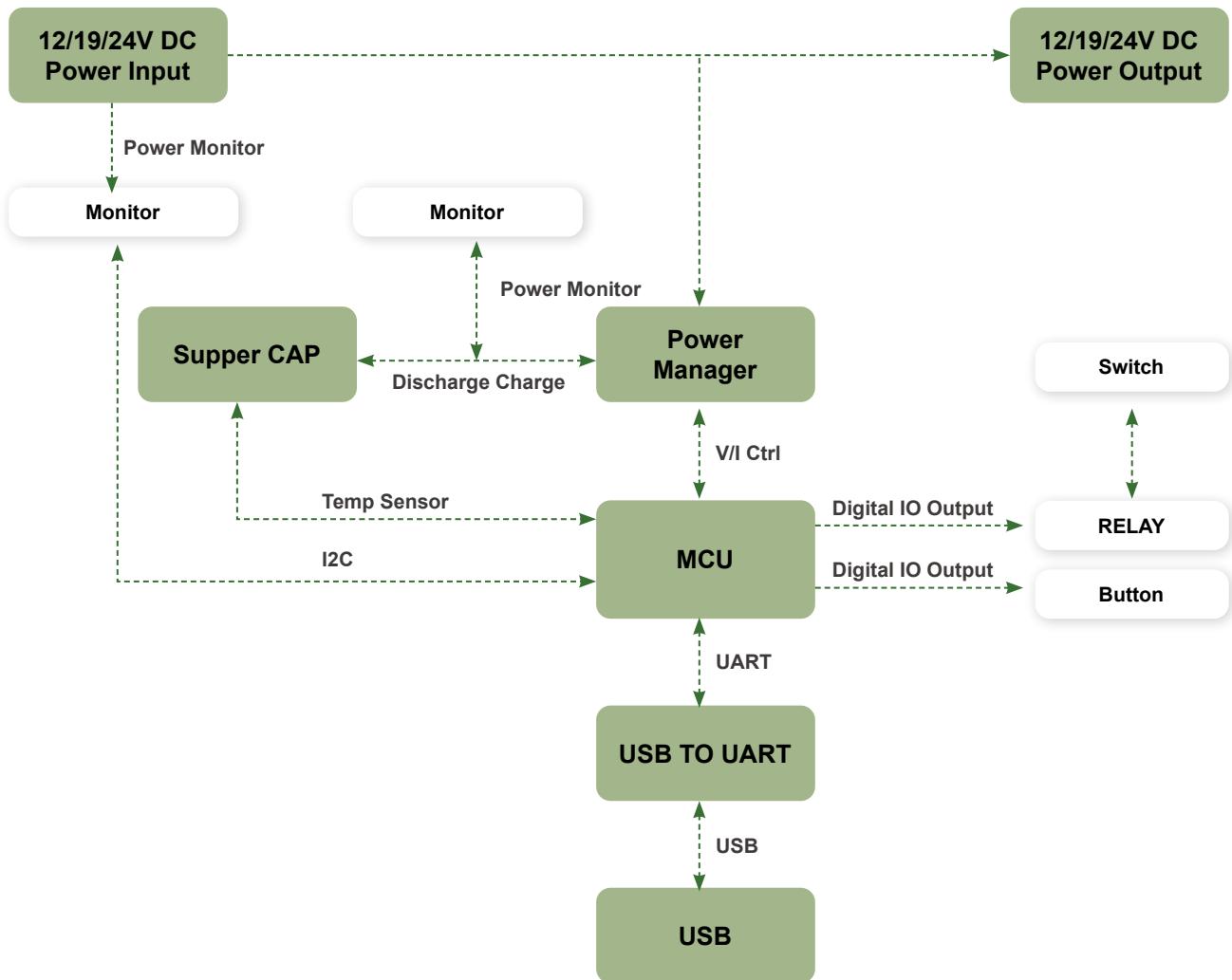
Temperature control

Supercapacitors are affected by ambient temperature and operating voltage, which will affect the entire service life. The standard temperature, voltage, and load life comparison table are as follows:

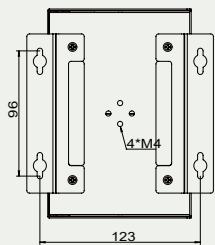
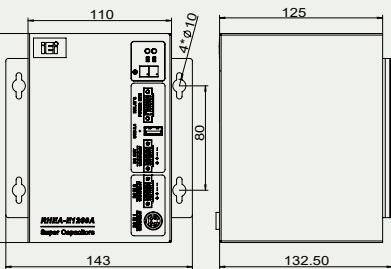
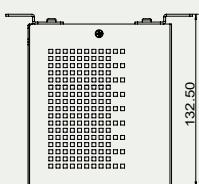
The capacitor of "IEI Supercapacitor Management Tool" is set to have a life of 10 years (under an ambient temperature of 35 degrees or below). When the temperature rises, the working voltage of the capacitor will automatically adjust to a voltage that meets the service life of 7-10 years, and the time of power supply to the load will be reduced (refer to the user manual for details).



Block Diagram



Dimensions



Specifications

Model	RHEA-E1260A
Battery Type	Super Capacitor
Capacitance	12 x 600F@3V
Service life	>10 years (when the capacitor works at 2.7V and 25 temperature)
Life cycle	500000 charge and discharge cycles
Input voltage	12V or 19V or 24V ±10%
	The output voltage is equal to the input voltage: Input 12V ±10%, output 12V Input 19V ±10%, output 19V Input 24V ±10%, output 24V Output power 150W
The output voltage	
LED Indicator	Red, Green
Backup time	100 sec. (under 150W load at 2.6V@30°C)
I/O interface	1 x 4 Pin DC JACK 1 x 4 Pin Terminal block power input 1 x 4 Pin Terminal block power output 1 x 4 Pin Terminal block (relay & power button) 1 x USB2.0 Type-A
Protect	Reverse protection Overload protection Overvoltage protection
Dimensions (mm)	160.2 x 125 x 110
Weight	2.37 / 2.6 kg
Working temperature	-40°C ~ 60°C
Storage temperature	-40°C ~ 70°C

Packing List

1 x USB Cable (Type-A to Type-A 500mm, P/N: 32001-006105-200-RS)
2 x terminal block (4pin, p=3.5mm, P/N:33502-000444-RS)
1 x terminal block (4pin, p=3.81mm, P/N:33502-000317-RS)
2 x Wall mount kit (P/N:41420-0592C2-00-HF)
1 x DIN-Rail kit (P/N:42311-0054E4-00-HF)
1 x Screw pack

Ordering Information

RHEA-E1260A-R10	150W DC/DC Supercapacitor uninterruptible power supply, 12/19/24V Input and Output, 12 x 600F@3V Supercapacitor
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Optional Accessories

32702-000200-100-RS	Power cord; European code (Vde); 1800mm (A) PLUG:SH-005 (16A 250V); (B) Connector:C13 (SH-006)
63040-010180-200-RS	Adapter power; FSP; FSP180-ABAN3; 9NA1804008; Active PFC; Vin: 90~264VAC; 180W; Dim:75.6*151.3*25.4mm; Plug=6.5mm; Cable=1500mm; Erp (no load 0.5W); Vout: 19VDC; Din 4Pin/lock; CCL; RoHS
63040-010120-300-RS	Adapter Power; FSP; FSP120-AHAN3; 9NA1206708; Active PFC; Vin:90~264VAC; 120W; Dim:75.6*151.3*25.4mm; Plug=6.5mm; Cable=1500mm;Erp (no load 0.15W); Vout:12VDC; Din 4Pin/lock; CCL; RoHS

Mouser Electronics

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