



Model:

RHEA-E1260A Series

Supercapacitor uninterruptible power supply, 12 x 3V600F
Cap, 12/19/24V DC Input/Output, 7 segment display.

User Manual



Revision

Date	Version	Changes
September 23, 2025	1.00	Initial release



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Manual Conventions



WARNING / AVERTISSEMENT

Warnings appear where overlooked details may cause damage to the equipment or result in personal injury. Warnings should be taken seriously.

Des avertissements apparaissent lorsque des détails négligés peuvent endommager l'équipement ou entraîner des blessures. Les avertissements doivent être pris au sérieux.



CAUTION / ATTENTION

Cautionary messages should be heeded to help reduce the chance of losing data or damaging the product.

Les messages de mise en garde doivent être respectés afin de réduire les risques de perte de données ou d'endommagement du produit.



NOTE / REMARQUE

These messages inform the reader of essential but non-critical information. These messages should be read carefully as any directions or instructions contained therein can help avoid making mistakes.

Ces messages informent le lecteur d'informations essentielles mais non critiques. Ces messages doivent être lus attentivement car toutes les instructions ou instructions qu'ils contiennent peuvent aider à éviter de commettre des erreurs.



HOT SURFACE / SURFACE CHAUDE

This symbol indicates a hot surface that should not be touched without taking care.

Ce symbole indique une surface chaude qui ne doit pas être touchée sans précaution.

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Chapter

1

Introduction

1.1 Overview



Figure 1-1: RHEA-E1260A Module

The RHEA-E1260A supercapacitor uninterruptible power supply utilizes twelve 600F 3V capacitors with a maximum load power of 150W. It can maintain uninterrupted power for approximately 100 seconds at an ambient temperature of 30°C, providing ample runtime for data preservation and safe shutdown, preventing system and data corruption caused by unauthorized power outages.

The RHEA-E1260A offers three common input voltages: 12/19/24V, with output voltage equal to the input voltage. A seven-segment display provides current operating voltage and other warning information.

The RHEA-E1260A can be connected to a host computer via a USB Type-A port. The Iei Supercapacitor Management Tool allows control over shutdown timing and method after a power outage. This helps customers manage various backup power solutions after an input power outage.

1.2 Features

The **RHEA-E1260A Series** features are listed below:

- 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

RHEA-E1260A Series

- Intuitive power management software for easier management
- Provide power-off shutdown service through software/hardware

1.3 Technical Specifications

The RHEA-E1260A technical specifications are listed in (Table 1-1)

Model Name	RHEA-E1260A
Battery type	Super Capacitor
Capacity	12 x 600F@3V
Service life	>10 years (when the capacitor works at 2.7V and 25 temperature)
lifecycle	500000 charging/discharging cycles
Input Voltage	12V or 19V or 24V $\pm 10\%$
Output Voltage	The output voltage is equal to the input voltage: Input 12V $\pm 10\%$, output 12V Input 19V $\pm 10\%$, output 19V Input 24V $\pm 10\%$, output 24V
Output Power	150W
LED indication	Red, Green
backup time	100 sec. (under 150W load at 2.6V@30°C)
I/O connector	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
security	Overload protection Overvoltage protection
Dimensions (mm)	160.2 x 125 x 110
Weight	2.37 / 2.6 kg
Operating Temperature	-40 ~ 60°C
Storage Temperature	-40 ~ 70°C

Table 1-1: Technical Specifications

The RHEA-E1260A Backup Time are listed in

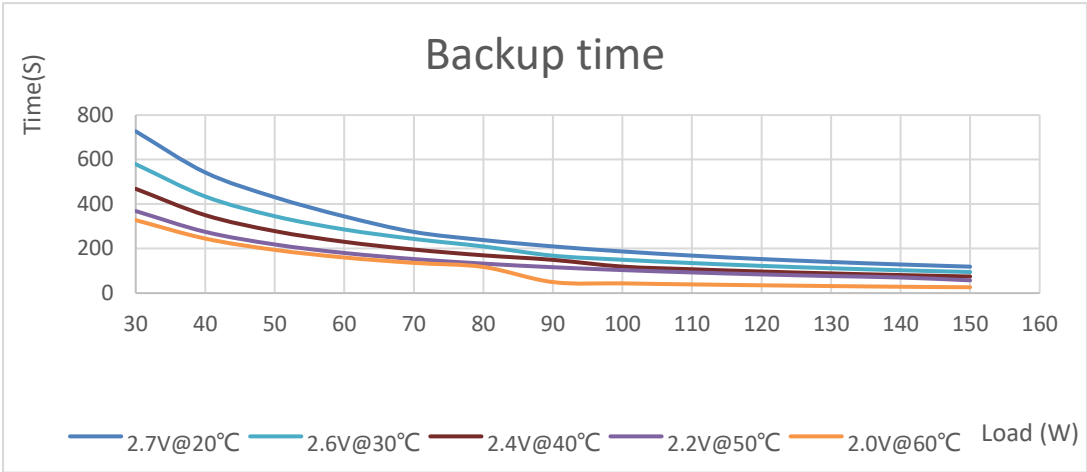


Table 1-2: Backup Time Curve

1.4 I/O interface

The I/O interface panel of the RHEA-E1260A Series (see Figure 1-2) has the following standard I/O interface connectors:

- 1 x 7 segment display
- 1 x DC IN (4Pin DC Jack)
- 1 x DC IN (4Pin Terminal block)
- 1 x DC OUT (4Pin Terminal block)
- 1 x relay & Power BTN (4Pin Terminal block)
- 1 x USB2.0 Type-A
- 2 x LED

The standard I/O interface connector panel is shown in Figure 1-2.

RHEA-E1260A Series

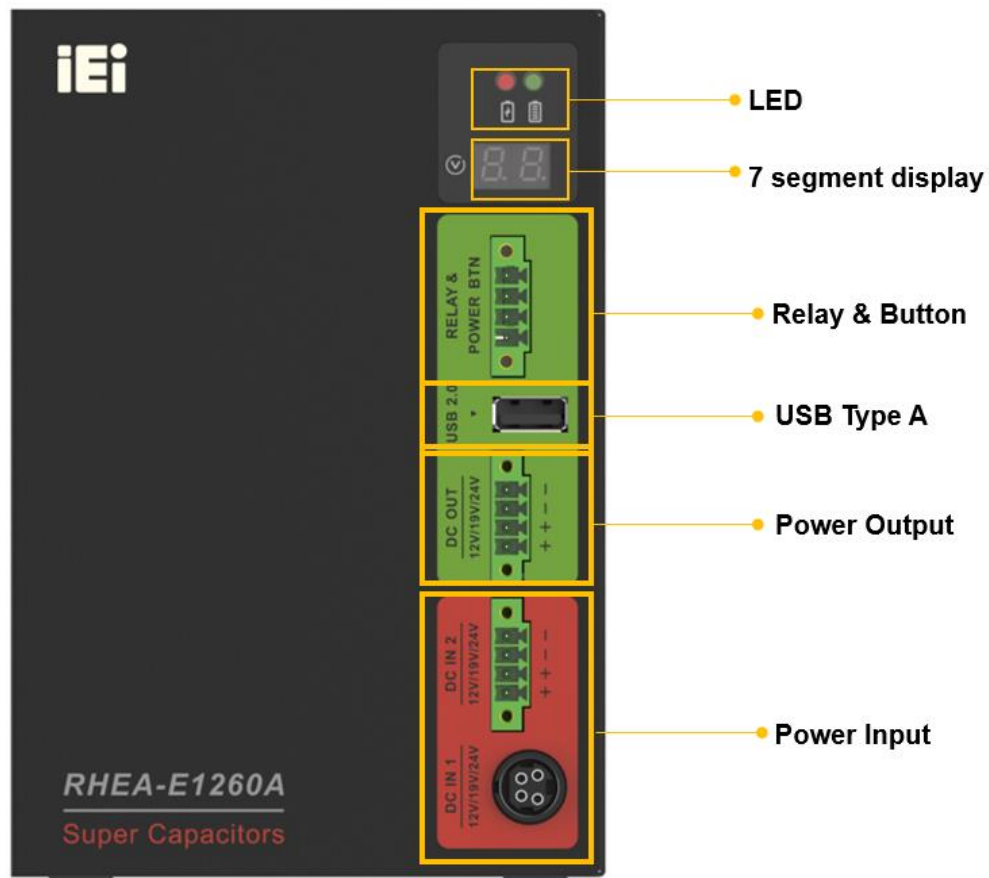


Figure 1-2: Standard I/O Interface Connectors

1.5 Physical Dimensions

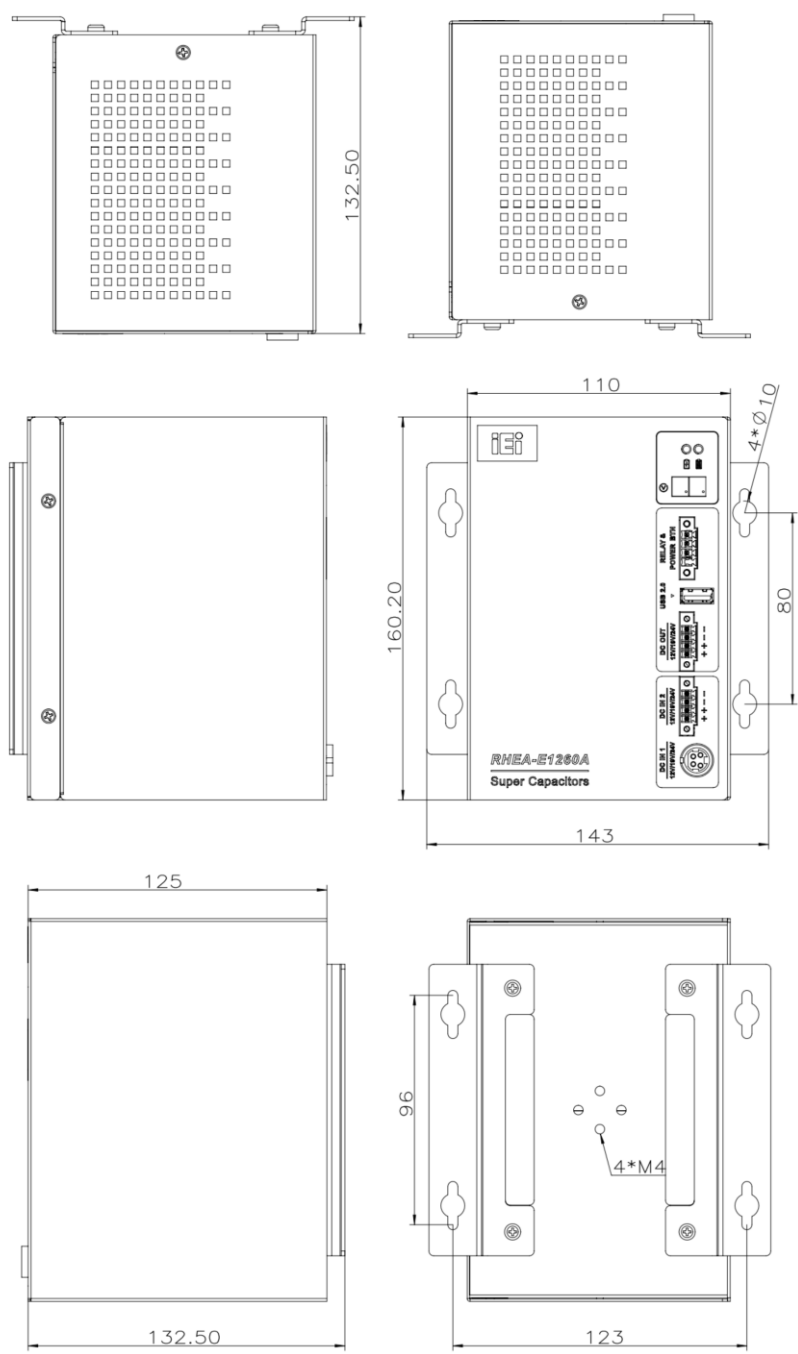


Figure 1-3: RHEA-E1260A Dimensions

Chapter

2

Unpacking

2.1 Unpacking

2.1.1 Unpacking Precautions

When the RHEA-E1260A Series is unpacked, please do the following:

- Follow the anti-static precautions outlined in.
- Make sure the packing box is facing upwards so the RHEA-E1260A Series does not fall out of the box.
- Make sure all the components shown in **Section 2.2** are present.

2.2 Unpacking Checklist



NOTE:

If some of the components listed in the checklist below are missing, please do not proceed with the installation. Contact the IEI reseller or vendor you purchased the RHEA-E1260A Series from or contact an IEI sales representative directly. To contact an IEI sales representative, please send an email to sales@ieiworld.com.tw.

2.2.1 Package Contents

The RHEA-E1260A Series is shipped with the following components:

Quantity	Item	Image
1	RHEA-E1260A Series module	
1	USB Type-A to Type-A cable (P/N: 32031-000600-100-RS)	

RHEA-E1260A Series

1	DIN-Rail mounting kit	
2	Wall mount brackets (P/N:41020-0578C2-00-HF)	
2	4-pin P=3.5mm Terminal block (P/N:33502-000444-RS) (for DC IN 2 & DC OUT Connector)	
1	4-pin P=3.81mm Terminal block (P/N:33502-000317-RS) (for Relay & Power BTN Connector)	
1	Chassis screws	

The following table lists the optional items that can be purchased separately.

Optional	
Power cord (P/N: 32702-000200-100-RS)	
Power adapter (180W) (P/N: 63040-010180-200-RS)	

Chapter

3

Installation

3.1 Anti-static Precautions



WARNING / AVERTISSEMENT

Failure to take ESD precautions during the maintenance of the RHEA-E1260A Series may result in permanent damage to the RHEA-E1260A Series and severe injury to the user.

Le non-respect des précautions ESD lors de la maintenance de la série AUPS peut entraîner des dommages permanents à la série AUPS et des blessures graves à l'utilisateur.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the RHEA-E1260A Series. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the RHEA-E1260A Series is accessed internally, or any other electrical component is handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband:*** - Wearing a simple anti-static wristband can help to prevent ESD from damaging the board.
- ***Self-grounding:*** - Before handling the board touch any grounded conducting material. During the time the board is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad:*** - When configuring the RHEA-E1260A Series, place it on an anti-static pad. This reduces the possibility of ESD damaging the RHEA-E1260A Series.
- ***Only handle the edges of the PCB:*** - When handling the PCB, hold the PCB by the edges.

3.2 Installation Precautions



WARNING / AVERTISSEMENT

Never open the equipment. For safety reasons, the equipment should be opened only by qualified skilled person.

Ne jamais ouvrir l'équipement. Pour des raisons de sécurité, l'équipement ne doit être ouvert que par une personne qualifiée.

When installing the power module, please follow the precautions listed below:

- **Power turned off:** When installing the power module, make sure the power is off. Failing to turn off the power may cause severe injury to the body and/or damage to the system.
- **Certified Engineers:** Only certified engineers should install and modify onboard functionalities.
- **Anti-static Discharge:** If a user opens the top cover of the power module to configure the jumpers or plug in additional peripheral devices, they should ground themselves first and wear an anti-static wristband.

3.3 Mounting Brackets Installation

RHEA-E1260A Series comes with standard rail mounting bracket and wall mounting bracket. Follow these steps to install

3.3.1 Din-rail Installation

Step 1: Turn the product over.

Step 2: Align the retention screw holes in each bracket with the corresponding retention screw holes on the rear surface.

Step 3: Secure the brackets to the system by inserting retention screws.

Step 4: Manually adjust the DIN-RAIL fixed bayonet position (rate greater than 35MM).

RHEA-E1260A Series

Step 5: Place the entire device close to the Din-rail guide rail, align the bayonet, and finally tighten the screws with the tool. Complete the installation.

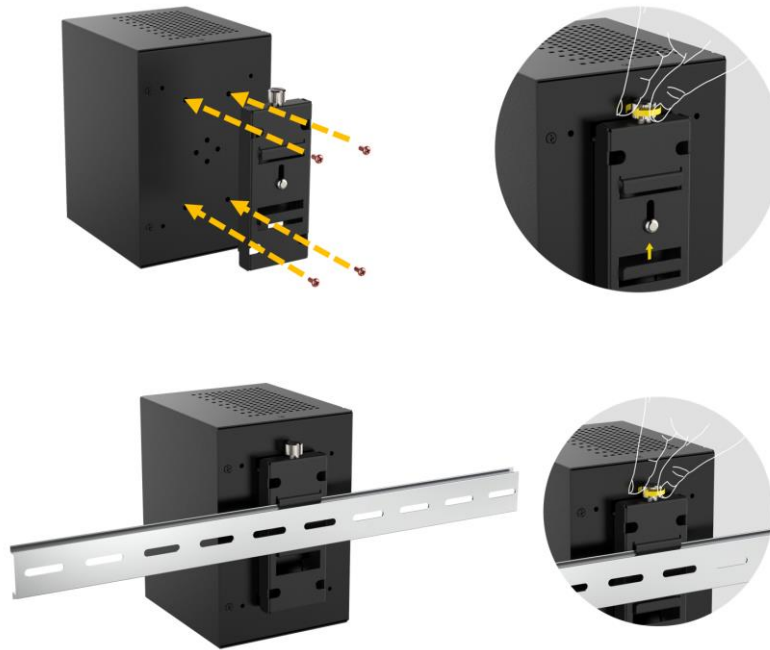


Figure 3-1: Din rail Installation

3.3.2 Wall Mount Installation

Step 1: Turn the product over.

Step 2: Align the retention screw holes in each bracket with the corresponding retention screw holes on the bottom surface.

Step 3: Secure the brackets to the system by inserting retention screws into each bracket.

Step 4: Mounting Bracket Retention Screw



Figure 3-2: Wall mount Installation

3.4 Warning Message

RHEA-E1260A 7-segment display and LED light for displaying working status and abnormal information. The specific information content is shown as follows

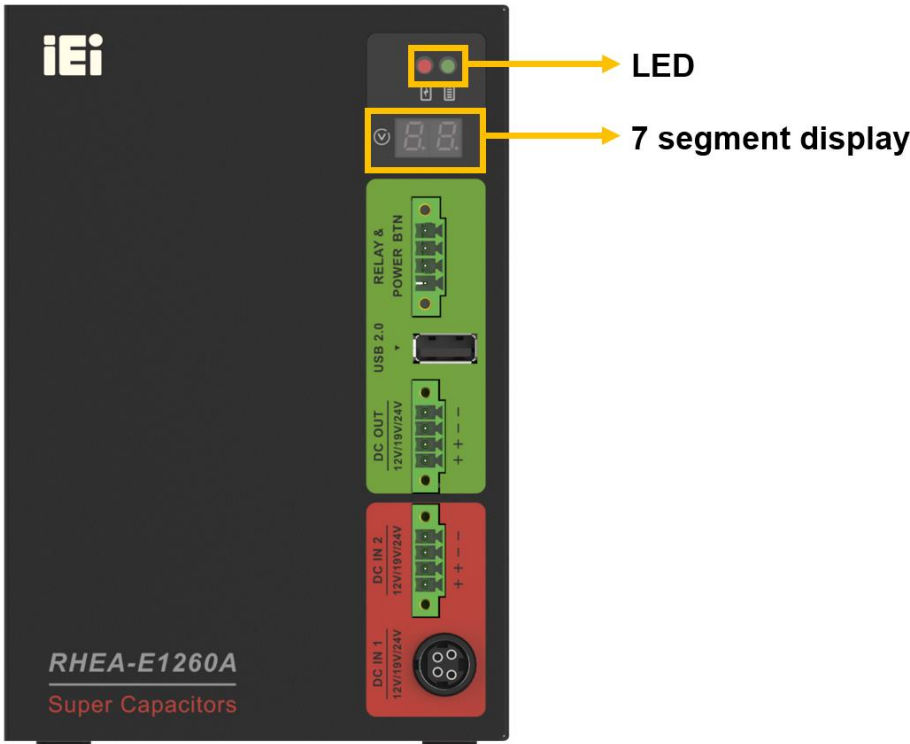


Figure 3-3: LED Light

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Mode	Character	DESCRIPTION	trigger condition	cancel method
normal	12	Display input voltage: 12/19/24, the input voltage meets the range of 12/19/24 $\pm 10\%$, constant light indicates that the capacitor output is on, and flashing indicates that the capacitor output is off.	Default	Default
	19			
	24			
Invalid input voltage	14	It shows that the input voltage does not meet the range of 12/19/24 $\pm 10\%$	The input voltage is higher than 8.0V, but not in the range of 12/19/24 $\pm 10\%$	Reconnect to a supported power source
Capacitor voltage is too low	CL	The capacitor voltage is too low, and the capacitor output is turned off	The capacitor voltage is lower than 6.0V when discharging or the capacitor voltage is lower than 6.5V when charging	The power supply is present and the capacitor voltage is higher than 6.5V

Mode	Character	DESCRIPTION	trigger condition	cancel method
Capacitor voltage is too high	CH	The capacitor voltage is too high, and the capacitor output is turned off	The capacitor voltage is higher than the maximum rated voltage +1.0V	Power is present and the capacitor voltage is lower than the currently set maximum capacitor voltage
overcurrent	OC	The capacitor discharge current is too high, and the capacitor output is turned off	Capacitor current exceeds rated current	The power supply is present and the capacitor current is lower than the rated current -0.5A
overvoltage	OU	output voltage exceeds too high, the capacitive output turns off	Capacitor output voltage higher than 12/19/24 $\pm 10\%$ range	Power is present and the capacitor output voltage is below 12/19/24 $\pm 10\%$ -0.2V
overload	OL	The power of the load device is too high, and the capacitor output is turned off	Load power consumption exceeds rated power *1.05	The power supply is present and the load power consumption is lower than the rated power *0.95

RHEA-E1260A Series

Mode	Character	DESCRIPTION	trigger condition	cancel method
overheating	OT	The temperature of the capacitor is abnormal, and the output of the capacitor is turned off	Capacitor temperature exceeds operating temperature range	The power supply is present and the temperature is higher than the minimum operating temperature +5 and less than the maximum temperature -5
shutdown	SD	The power supply is disconnected, and the capacitor output is turned off	System shutdown complete	power present

Table 3-1: 7-segment display state

	Power Input LED 	Charger Status LED 
Color	Red	Green
Off	---	--
On	Battery low	battery full
Blinking	--	Charging

Table 3-2: LED Indicators

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	VCC	4	VCC

Table 3-3: Power Input Pinouts

3.5 External Peripheral Interface Connectors

The RHEA-E1260A Series has the following connectors. Detailed descriptions of the connectors can be found in the subsections below.

- Relay & Button
- USB Type-A
- Power Output
- Power Input

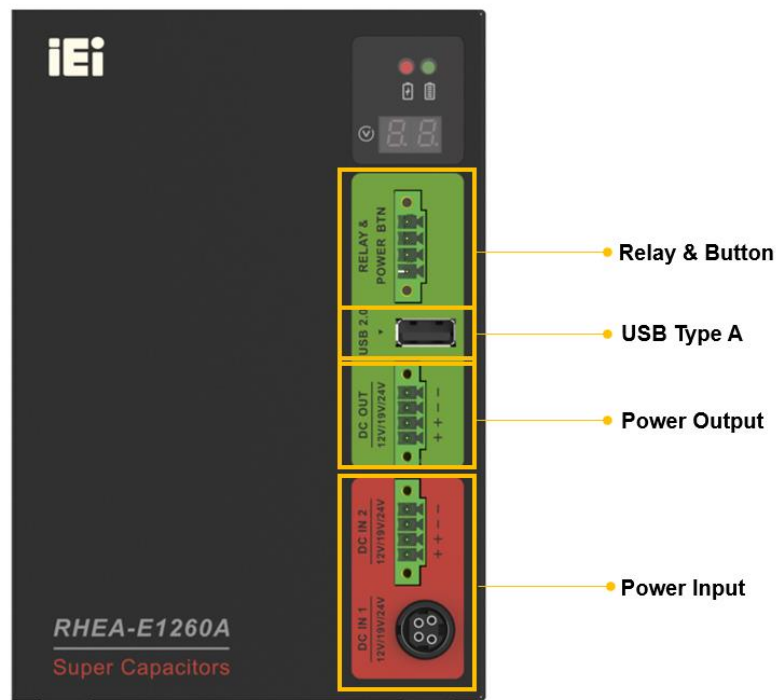


Figure 3-4: External Peripheral Interface Connectors

RHEA-E1260A Series**3.5.1 DC IN 1 Power Input Connector**

The power connector connects to the 12/19/24 V DC power adapter (**Figure 3-5**)



Figure 3-5: DC IN 1 Power Input Connector

3.5.2 DC IN 2 Terminal Block Power Input Connector

The power connector connects the leads of a 12/19/24V DC power supply into the terminal block (The interface is 1x4pin, P=3.5mm). Make sure that the power and ground wires are attached to the correct sockets of the connector (**Figure 3-6**).

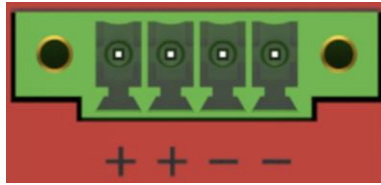


Figure 3-6: DC IN 2 Terminal Block

3.5.3 DC OUT Terminal Block Power Input Connector

The power connector connects the leads of a 12/19/24V DC power supply into the terminal block (The interface is 1x4pin, P=3.5mm). Make sure that the power and ground wires are attached to the correct sockets of the connector (**Figure 3-7**).

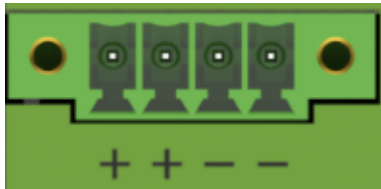


Figure 3-7: DC OUT Terminal Block

3.5.4 USB Connector

This USB connector provides a USB communication link port, please use a standard USB TYPE-A cable link.

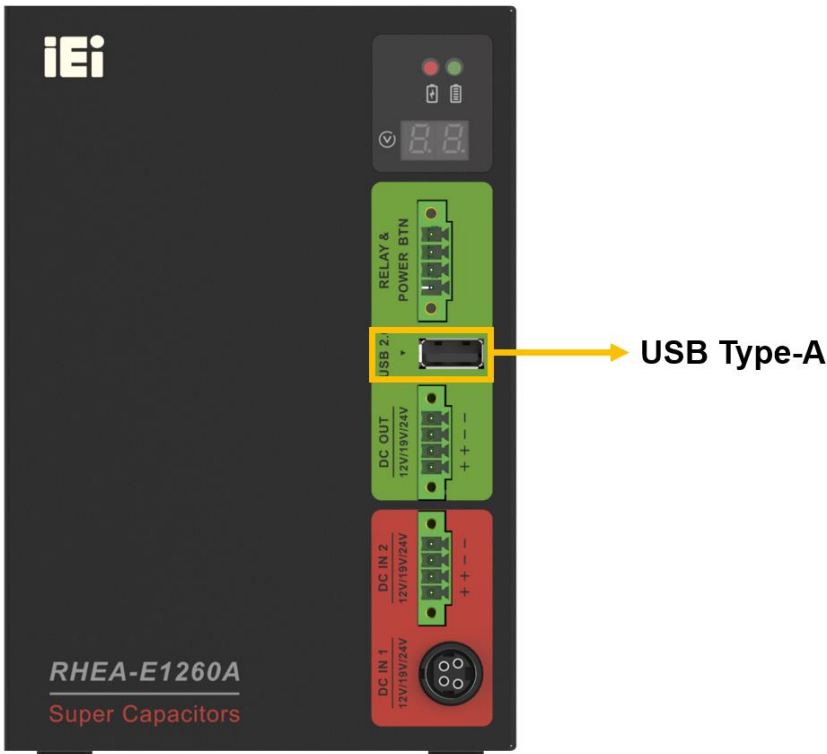


Figure 3-8: USB Connector Location

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	K-1	2	K-1
3	K+	4	K+

Table 3-4: USB Connector Pinouts

RHEA-E1260A Series**3.5.5 Relay & Button Connector**

This Relay & Button connector provides a set of relay switches and a set of level switch control signals. Please use standard wires to connect as defined (The interface is 1x4pin, P=3.81mm).

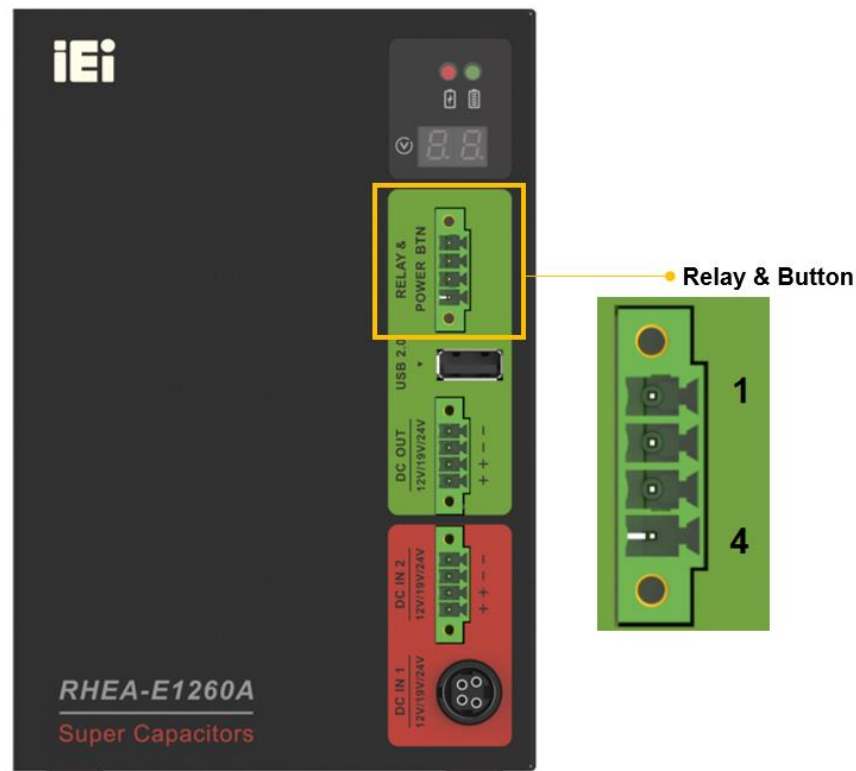


Figure 3-9: Relay & Button Connector Location

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PWR_BTN +	2	GND
3	K2	4	K1

Table 3-5: Relay & Button Connector Pinouts

3.6 Connectors

3.6.1 Layout

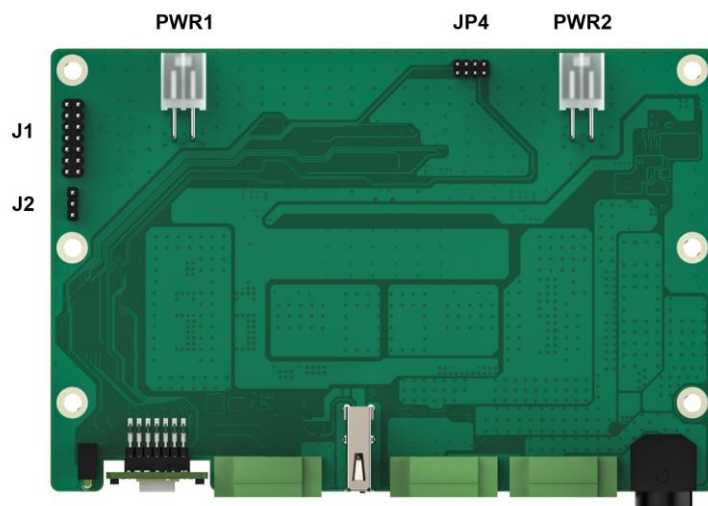


Figure 3-10: Power Board



Figure 3-11: Relay Connector Location

3.6.2 Internal Peripheral Connectors

The table below lists all the connectors on the board.

Connector	Type	Label
Debug connector	3-pin header	J2
Firmware programming connector	14-pin header	J1
Supercapacitor board communication connector	8-pin header	JP4
Supercapacitor board power connector	4-Pin ATX 12V Female	PWR2
Supercapacitor board power connector	4-Pin ATX 12V Female	PWR1

Table 3-6: Power Board Peripheral Interface Connectors

Connector	Type	Label
Supercapacitor board communication connector	8-pin header	JP4
Supercapacitor board power connector	4-Pin ATX 12V Female	PWR2
Supercapacitor board power connector	4-Pin ATX 12V Female	PWR1

Table 3-7: Supercapacitor Board Peripheral Interface Connectors

3.6.1 Debug Connector

- CN Label:

J2
- CN Type:

3-pin header, p=2.54 mm
- CN Location:

See Figure 3-12
- CN Pinouts:

See Table 3-8

This debug connector is for technical personnel to debug and use, non-technical personnel should not operate.

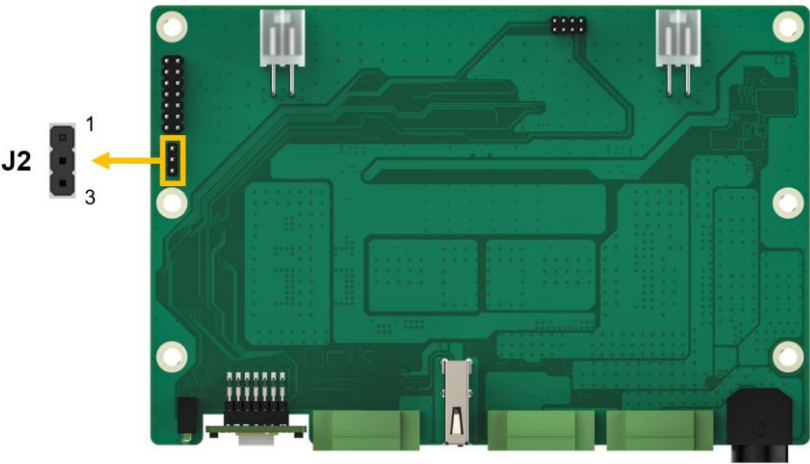


Figure 3-12: Debug Connector Location

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	TXD1	2	RXD1
3	GND		

Table 3-8: Debug Connector Pinouts

RHEA-E1260A Series**3.6.1 Firmware programming connector**

- CN Label:** J1
- CN Type:** 14-pin header, p=2.54 mm
- CN Location:** See **Figure 3-13**
- CN Pinouts:** See **Table 3-9**

This firmware writing connector is for technical personnel to debug and use, non-technical personnel should not operate.

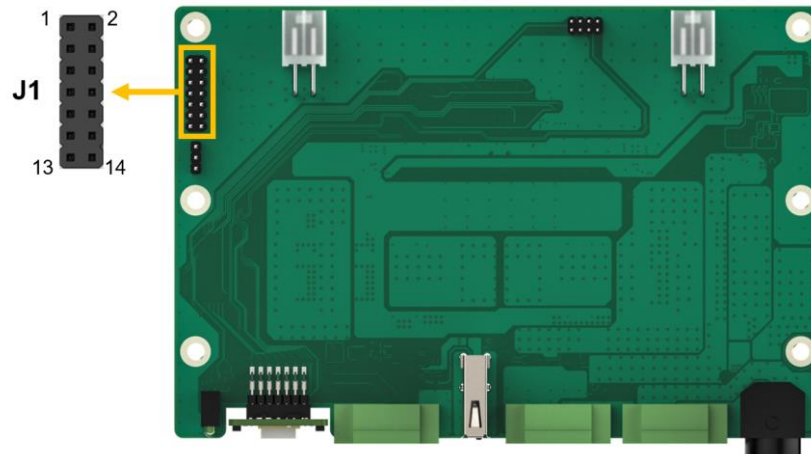


Figure 3-13: Firmware programming connector Location

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	N/A	2	GND
3	N/A	4	RSTPU
5	TOOL0	6	T_RESET
7	N/A	8	+3V3
9	+3V3	10	RST
11	N/A	12	GND
13	RST	14	GND

Table 3-9: Firmware programming connector Pinouts

3.6.2 Supercapacitor board communication connector

- CN Label:

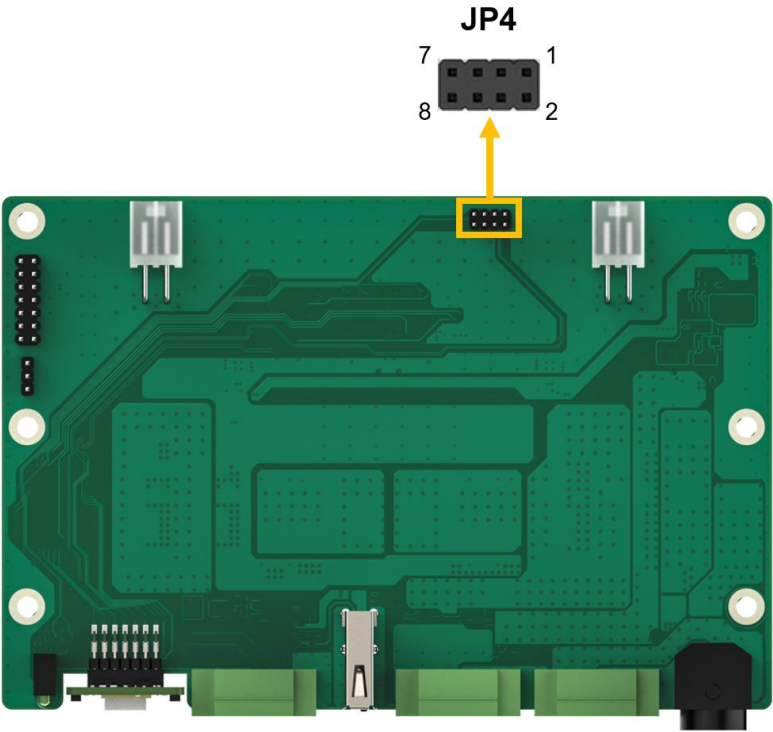
JP4(Power board), JP1(Supercapacitor board)
- CN Type:

6-pin wafer, p=1.23 mm
- CN Location:

See Figure 3-14
- CN Pinouts:

See Table 3-10

Supercapacitor board communication connector is used to link the power board and supercapacitor board to obtain information.



RHEA-E1260A Series



Figure 3-14: Supercapacitor board communication connector Location

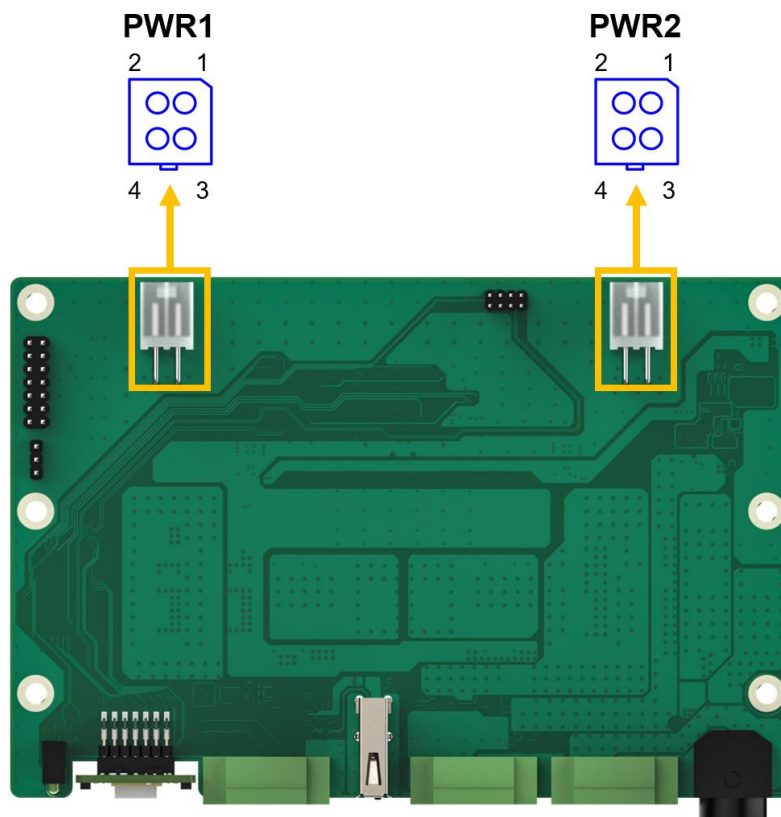
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3V3	2	SCL
3	GND	4	SDA
5	ANI2	6	-
7	ANI4	8	-

Table 3-10: Supercapacitor board communication connector Pinouts

3.6.3 Supercapacitor board power connector

- CN Label:** PWR1, PWR2
- CN Type:** 4-Pin ATX 12V Female, p=2.00 mm
- CN Location:** See **Figure 3-15**
- CN Pinouts:** See **Table 3-11**

Supercapacitor board power connector is used to connect the power board and supercapacitor board for charging and discharging.



RHEA-E1260A Series



Figure 3-15: Supercapacitor board power connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	VIN	4	VIN

Table 3-11: Supercapacitor board power connector Pinouts

3.7 Connecting the RHEA-E1260A Series



WARNING / AVERTISSEMENT

1. The equipment power supply cord shall be connected to a socket-outlet with earthing connection.
2. This product is intended to be supplied by a UL listed (Certificate) power supply, Output equals input, 150W maximum, Tma 40-degree C minimum and altitude 2000m, if need further assistance, please contact manufacturer or UL File owner or brand owner for further information.
1. Le cordon d'alimentation de l'équipement doit être connecté à une prise de courant avec mise à la terre.
2. Ce produit est destiné à être alimenté par une alimentation électrique répertoriée UL (certificat), La sortie est égale à l'entrée, maximum 150 W, Tma 40 degrés C minimum et altitude 2000m, si besoin d'aide supplémentaire, veuillez contacter le fabricant ou le propriétaire du fichier UL ou le propriétaire de la marque pour plus d'informations.

To support the power failure backup function, the **RHEA-E1260A Series** must be connected to both the power source and the system.

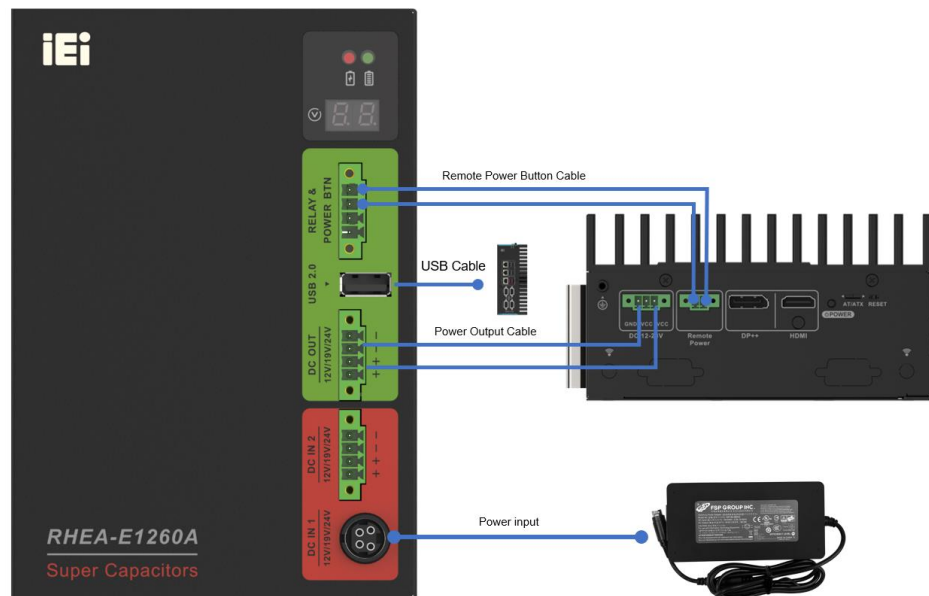


Figure 3-16: RHEA-E1260A Series and Embedded System Connections

Chapter

4

Software Application

4.1 Introduction

The IEI Supercapacitor Redundant Board Management Tool is used to detect real-time information about the capacitor board and monitor its power supply status. It is recommended to run this application on Windows 10 or later.

4.2 Driver Installation

Please follow the steps below to install the driver.

Step 1: After connecting the supercapacitor backup system USB cable, the driver list will prompt a USB serial device, which needs to be installed.

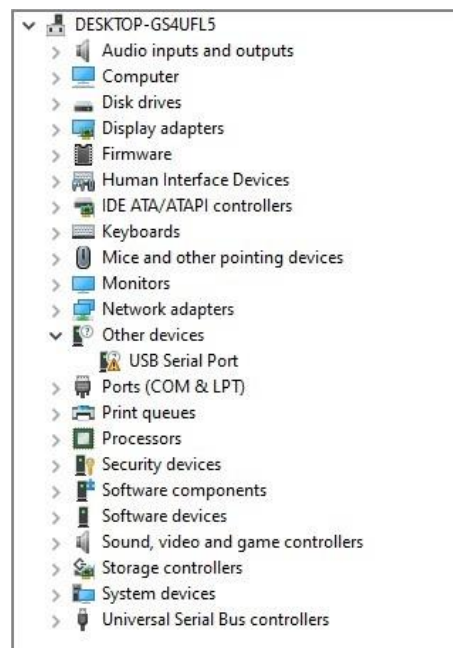
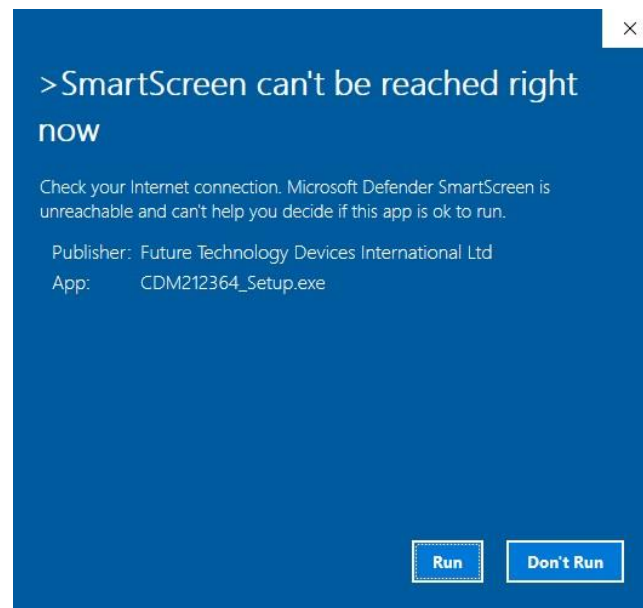


Figure 4-1: Driver Installation

Step 2: Download the SuperCap setup file from IEI website. Run the CDMxxx_Setup.exe file.

RHEA-E1260A Series**Figure 4-2: Download the SuperCap setup file**

Step 3: A message screen appears (**Figure 4-3**). To continue the installation process click **Run**.

**Figure 4-3: Message screen 1**

Step 4: The Setup Wizard starts installing the driver.

Step 5: The Installation Complete window appears (**Figure 4-4**). Click **Finish** to exit.

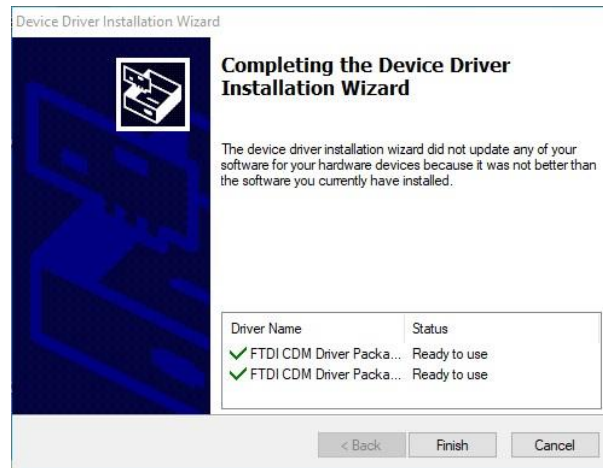


Figure 4-4: Message screen 2

Step 6: device manager display driver

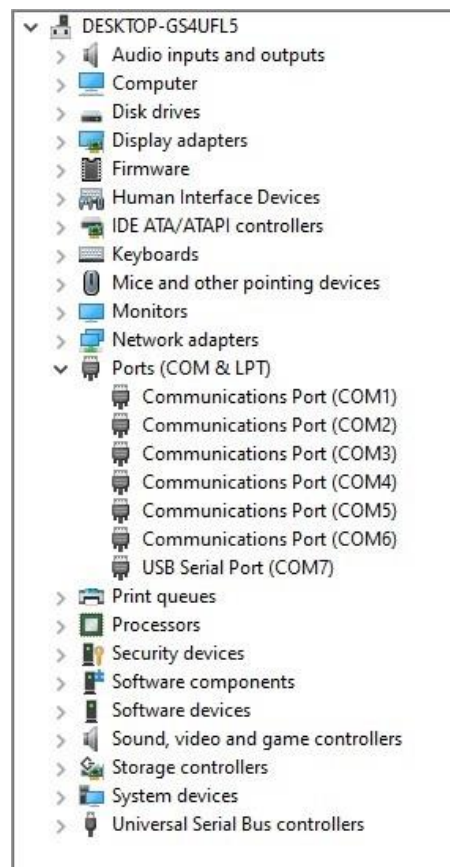


Figure 4-5: Device manager display driver

4.3 Application Installation

Follow the steps below to install the SuperCap application.

Step 1: Download the SuperCap setup file from IEI website. Run the SuperCap_ Vxxx _win64.exe file.

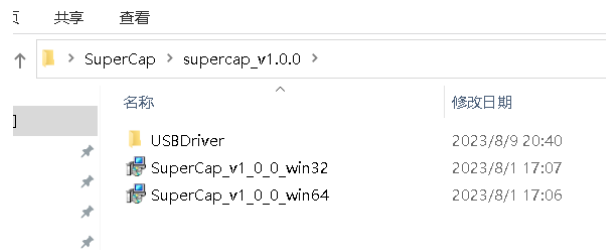


Figure 4-6: Application Installation

Step 2: A message screen appears (**Figure 4-7**). To continue the installation process click **Run**.

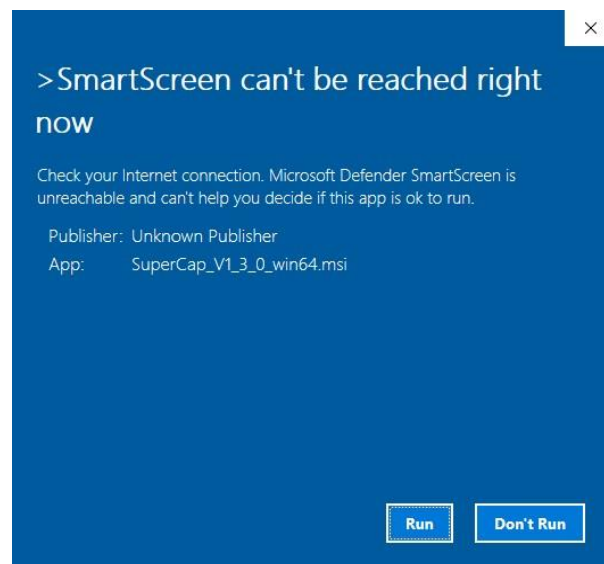


Figure 4-7: Welcome Screen

Step 3: The Setup Wizard starts installing the program.

Step 4: The Installation Complete window appears (**Figure 4-8**). Click **Finish** to exit.

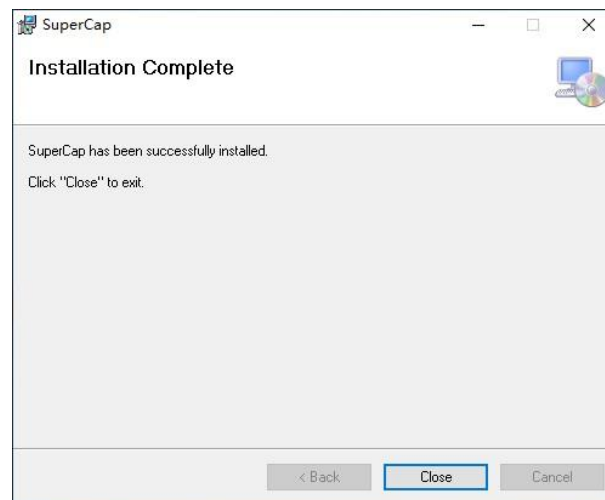


Figure 4-8: Installation Complete

Step 5: To launch the application, double click the shortcut (**Figure 4-10**) on the desktop



Figure 4-9: SuperCap Application

RHEA-E1260A Series

4.4 Overview

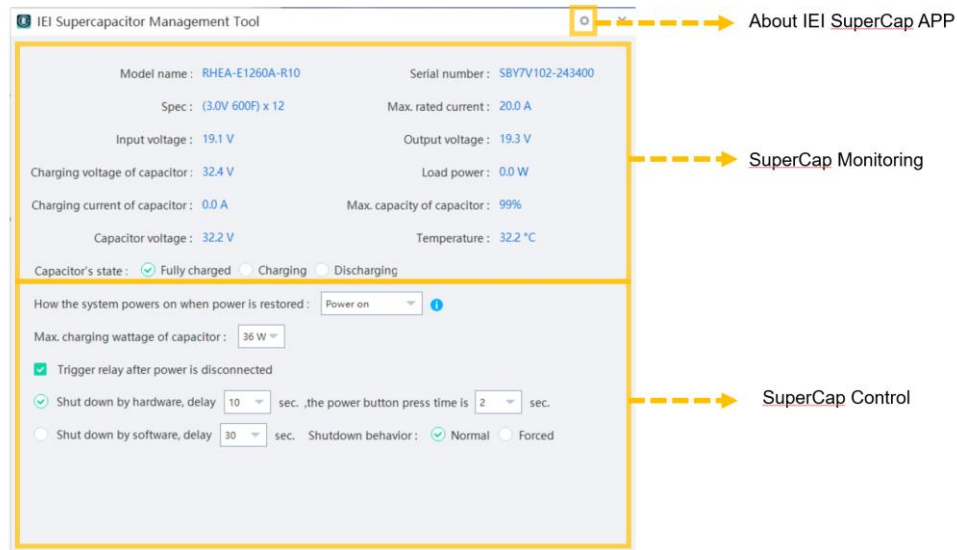


Figure 4-10: IEI Supercapacitor Management Tool Application Overview

4.5 Monitoring

The IEI Supercapacitor application status page can obtain basic information about the supercapacitor backup board, including: "Model", "Serial Number", "Specifications", "Voltage", "Load Power", "Operating Mode", "Current" and other intuitive information.

The following sections describe the status information in details.

Model name : RHEA-E1260A-R10	Serial number : SBY7V102-243400
Spec : (3.0V 600F) x 12	Max. rated current : 20.0 A
Input voltage : 19.1 V	Output voltage : 19.3 V
Charging voltage of capacitor : 32.4 V	Load power : 0.1 W
Charging current of capacitor : 0.0 A	Max. capacity of capacitor : 98%
Capacitor voltage : 32.1 V	Temperature : 32.2 °C
Capacitor's state : ☒ Fully charged ☐ Charging ☐ Discharging	

Figure 4-11: Status information in details

4.5.1 Model name information

The product model name read by the USB cable can quickly confirm the product model (Figure 4-12).

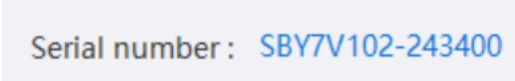


Model name : RHEA-E1260A-R10

Figure 4-12: Model name Information

4.5.2 Serial number information

When the DC power is connected to the AUPS series power module, the AUPS application detects it and shows in the screen as **Figure 4-13**



Serial number : SBY7V102-243400

Figure 4-13: Serial number Information

4.5.3 Spec information

Displays the information and quantity of supercapacitors in the product.

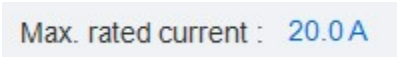


Spec : (3.0V 600F) x 12

Figure 4-14: Spec information

4.5.4 Max. rated current information

Displays the maximum output operating current



Max. rated current : 20.0 A

Figure 4-15: Max. rated current Information

4.5.5 Input voltage information

Displays the voltage information of the power input

RHEA-E1260A Series

Input voltage : 19.0 V

Figure 4-16: Power input voltage Information

4.5.1 Output voltage information

Displays the voltage information of the power supply output

Output voltage : 18.8 V

Figure 4-17: Output voltage Information

4.5.2 Charging voltage of capacitor information

Displays the charging voltage of the supercapacitor

Charging voltage of capacitor : 32.4 V

Figure 4-18: Capacitor voltage Information

4.5.1 Load power information

Displays the power of the power load

Load power : 65.1 W

Figure 4-19: Load power Information

4.5.2 Charging current of capacitor information

Displays the charging current of the supercapacitor



Charging current of capacitor : 1.2 A

Figure 4-20: Charging current of capacitor Information

4.5.3 Max. capacity of capacitor information

Displays the current capacity information of the supercapacitor

Max. capacity of capacitor : 98%

Figure 4-21: Max. capacity of capacitor Information

4.5.4 Capacitor voltage information

Displays the operating voltage of the supercapacitor

Capacitor voltage : 22.5 V

Figure 4-22: Capacitor voltage Information

4.5.1 Temperature information

Display the temperature information of supercapacitor

Temperature : 30.3 °C

Figure 4-23: Temperature Information

4.5.2 Capacitor's state information

Display the current working status of the product: Fully charged, charging, discharging.



RHEA-E1260A Series

Capacitor's state : ☐ Fully charged ☒ Charging ☐ Discharging

Figure 4-24: Capacitor's state Information

4.6 Control section

The RHEA-E1260A allows the host to modify some basic functions of the supercapacitor backup system via USB. These functions include settings for the load system's power-on status, charging power, shutdown behavior, and shutdown mode.

How the system powers on when power is restored : ⓘ

Max. charging wattage of capacitor :

☒ Trigger relay after power is disconnected

☒ Shut down by hardware, delay sec. ,the power button press time is sec.

☐ Shut down by software, delay sec. Shutdown behavior : ☒ Normal ☐ Forced

Figure 4-25: Control section

4.6.1 How the system power on when power is restored

This setting allows users to modify the system's operating state after a power outage by adjusting the three settings: Power off, Power on, and Last state. This setting will be directly modified in the BIOS via the app. This setting is only supported on products on the IEI compatibility list.

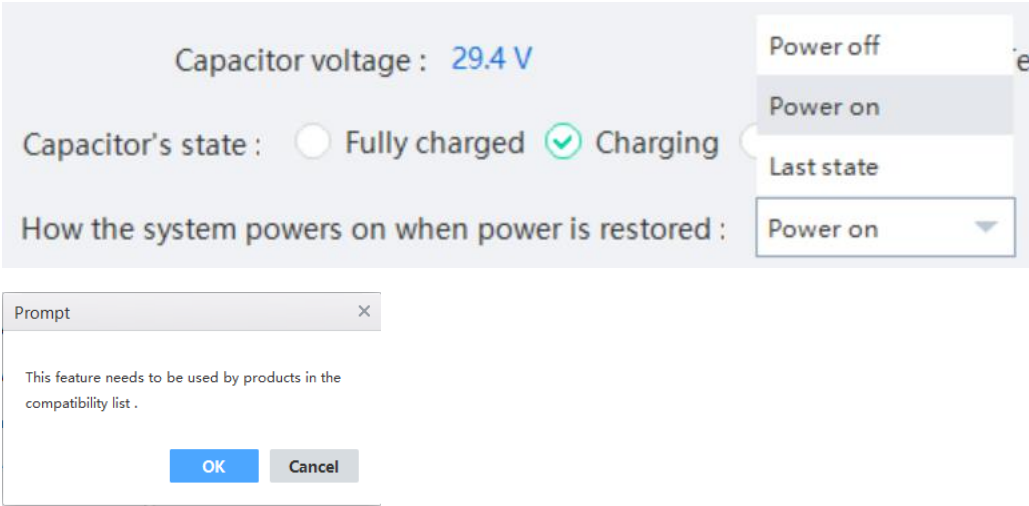


Figure 4-26: How the system power on when power is restored

4.6.2 Max charging wattage of capacitor

Allows the user to adjust the charging power of the Supercapacitor backup system after power is applied. Once set, the supercapacitor will operate at the set power consumption of 72W at 2A, 36W at 1A, and 18W at 0.5A. The charging current of the capacitor will display the current setting in real time.

Note: When set to the maximum power consumption of 36W, please select an adapter that exceeds the maximum power consumption of the load by at least 36W to prevent excessive charging current when the supercapacitor backup board is powered on, causing the load to fail to start. .

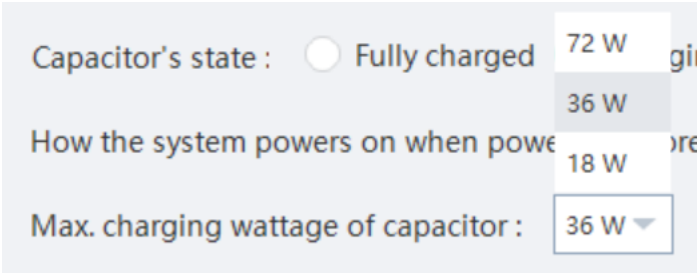


Figure 4-27: Max charging wattage of capacitor

RHEA-E1260A Series**4.6.3 Trigger relay after power is disconnected**

After this setting is checked, the relay switch of the Supercapacitor backup system will be triggered after power failure. The relay switch will work between NC and NO. For the definition, please refer to

☒ Trigger relay after power is disconnected

Figure 4-28: Trigger relay after power is disconnected

4.6.4 Shut down by hardware/Software

The IEI Supercapacitor backup system provides two shutdown control methods.

The first is hardware shutdown. Please refer to the wiring section for details. Connect the power button cable. After a power outage, the supercapacitor backup system will terminate the IEI supercapacitor app and trigger the power button of the supercapacitor backup system after a 10-second countdown (default, adjustable from 1 to 60 seconds) set in the software. The triggering time is 2 seconds (default, adjustable from 1 to 8 seconds). The hardware switch will then output a signal to the controlled load device, triggering a hardware shutdown signal (please configure the hardware switch behavior in the load device system).

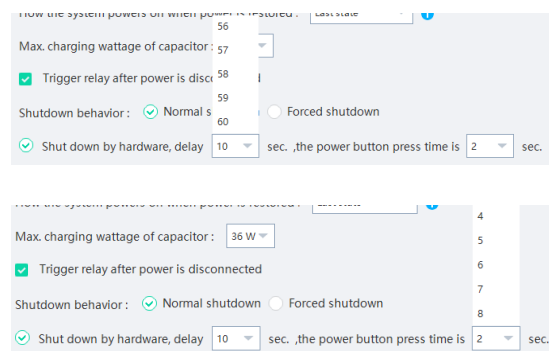


Figure 4-29: Shut down by hardware/Software

The second type of software shutdown is when the power is off. The supercapacitor backup system will perform a software shutdown according to the above shutdown behavior settings after the software-set 10-second countdown ends (the default value can be set between 1-120 seconds).

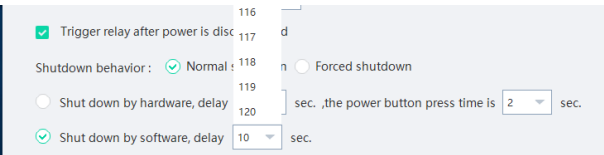


Figure 4-30: Second type of software shutdown

4.6.4.1 Shutdown behavior

This setting is used to configure the software-triggered shutdown behavior after a power outage.

Normal indicates a normal shutdown. After the set countdown is complete, the software automatically closes the IEI Supercapacitor Management Tool and notifies the operating system to shut down. If other software is interrupting the shutdown process, the IEI Supercapacitor Management Tool will no longer manage the shutdown process because it is already closed. The user must handle this.

Forced indicates a forced shutdown. After the set countdown is complete, the IEI Supercapacitor Management Tool terminates all ongoing software processes and notifies the system to shut down. At this point, no processes are running in the operating system, allowing you to safely shut down the computer.



Figure 4-31: Shutdown behavior

4.7 Language

This setting allows you to change the display language of the Supercapacitor Management Tool. Currently, English and Simplified Chinese are supported.

After changing the language, you will need to restart the application for the change to take effect.

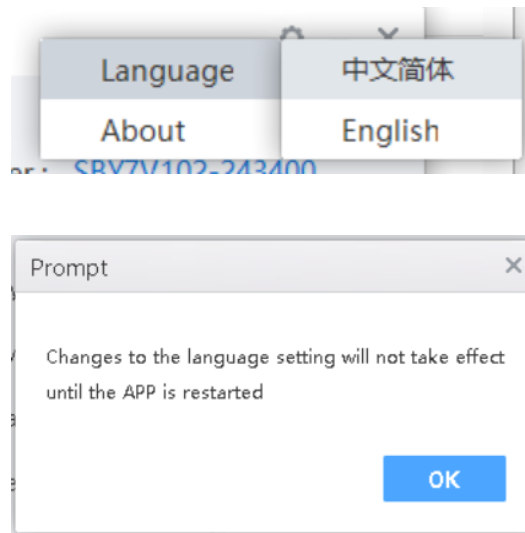
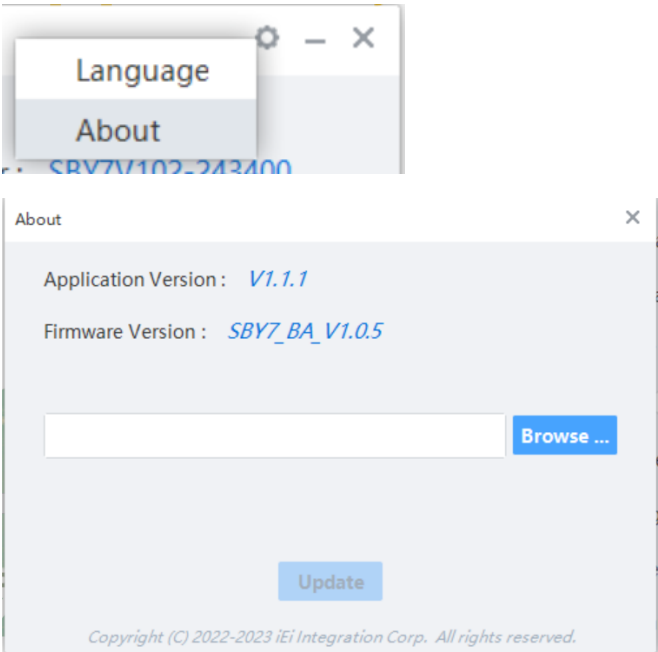


Figure 4-32: Change the display language

4.8 About

Users can use this setting to update application software and FW versions locally. Please follow the steps below.

Step 1: Check the current firmware version on the About page and obtain the latest version (please contact IEI).



SuperCap-APP_
V1.1.1_x64-SBY
7_V1.0.6_20250
327_564E

Figure 4-33: Update application software and FW versions locally

Step 2: Click the "Browse" button to find the update file package, and click Update after confirmation.



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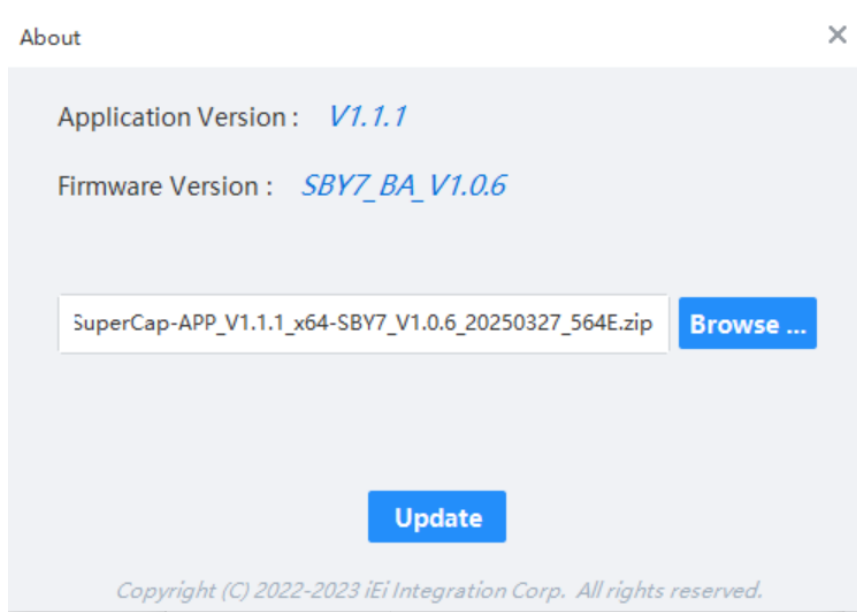


Figure 4-34: Click Update after confirmation

Step 3: Please read and confirm the two pop-up reminder messages.

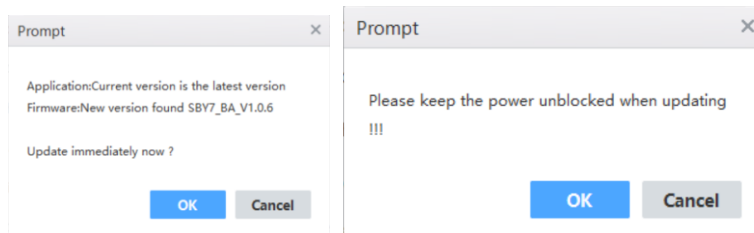


Figure 4-35: Two pop-up

Step 4: During the update process, the APP page will show "Updating". When completed, it will prompt that the update is complete.

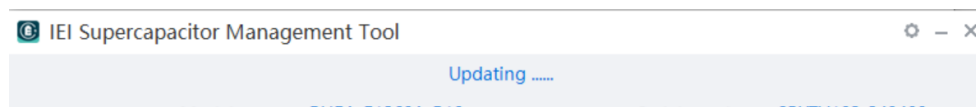


Figure 4-36: Updating

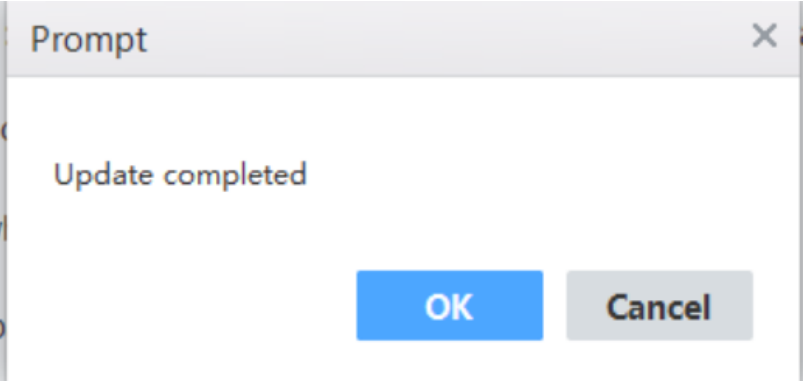


Figure 4-37: Update completed

Step 5: Return to the About page to check if the updated version has changed.

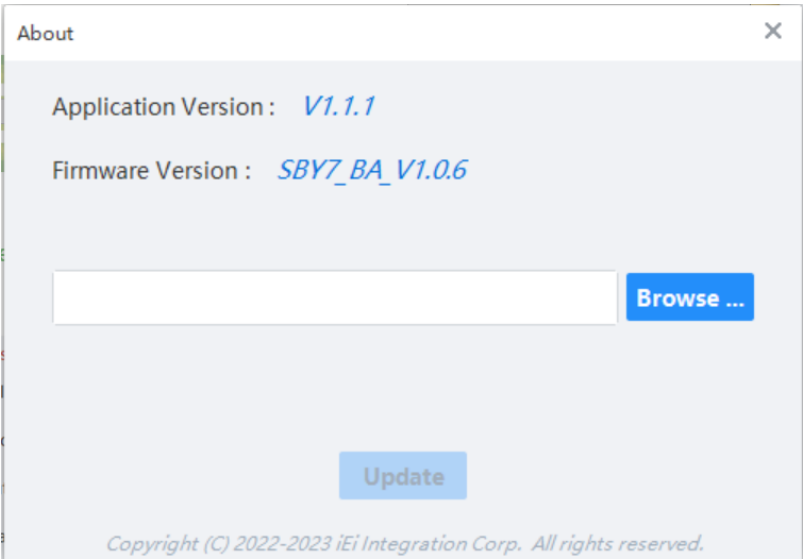


Figure 4-38: Check updated version

Chapter

A

Safety Precautions

[ENGLISH]**DANGER!****1. Disassemble and Reconstruction**

“Do not disassemble or reconstruct battery”

The battery pack has safety function and protection circuit to avoid the danger. If they have serious damage, it will cause the generating heat, smoke, rupture or flame.

2. Short-circuit

“Do not short-circuit battery”

Do not connect the + and – terminals with metals (such as wire). Do not carry or store the battery with metal objects (such as wire, necklace or hairpins). If the battery is short-circuited, excessive large current will flow and then the generating heat, smoke, rupture of flame will occur. And also, it causes generating heat at metals.

3. Incineration and Heating

“Do not incinerate or heat the battery”

These occur the melting of insulator, damage of gas release vent or safety function, or ignition on electrolyte. Above mentioned matters cause the generating heat, smoke, rupture or flame.

4. Use Nearby Heated Place

“Do not use or leave battery nearby the fire, stove or heated place (more than 80 °C)”

In case that separator made of polymer is melted by high temperature, the internal short-circuit occurs in individual cells and then it causes the generating heat, smoke, rupture or flame. In addition, do not use the battery under the heated place (more than 80°C) for same reason.

5. Immersion

“Do not immerse the battery in water or sea water, or get it wet”

If the protection circuit included in the battery is broken, the battery will be charged at extreme current or voltage and the abnormal chemical reaction occurs in it. And then it causes the generating heat, smoke, rupture or flame.

6. Charge Nearby Heated Place

“Do not charge battery nearby the fire or under the blazing sun”

If the protection circuit to avoid the danger works under high temperature or it is broken, the battery will be charged at abnormal current (or voltage) and abnormal chemical reaction will occur. It caused the generating heat, smoke, rupture or flame.

RHEA-E1260A Series**7. Charger and Charge Condition**

“Do use the specified charger and observe charging requirement”

If the battery is charged with unspecified condition (under high temperature over the regulated value, excessive high voltage or current over regulated value, or remodeled charger), there are cases that it will be overcharged or the abnormal chemical reaction will occur in cells. It caused the generating heat, smoke, rupture or flame.

8. Penetration

“Do not drive a nail into the battery, strike it by hammer, or tread it”

As the battery might be broken or deformed and then it will be short-circuited, it caused the generating heat, smoke, rupture or flame.

9. Impact

“Do not give battery impact or throw it”

The impact might cause leakage, heat, smoke, rupture, and/or fire of cell in the battery. And also if the protection circuit in the battery is broken, the battery will be charged at abnormal voltage or current, and abnormal chemical reaction might occur. It might cause leakage, heat, smoke rupture, and/or fire.

10. Deformation

“Do not use the battery with conspicuous damage or deformation”

It causes the generating heat, smoke, rupture or flame.

11. Soldering

“Do not make the direct soldering on battery”

As the insulator is melted by heat or the gas release vent (or safety function) is broken, it caused the generating heat, smoke, rupture or flame.

12. Reverse Charge and Overdischarge

“Do not reverse polarity (and terminals)”

On charging, the battery is reverse-charged and abnormal chemical reaction occurs. And also, there may be case that unexpected large current flows on discharging. These cause the generating heat, smoke, rupture or flame.

13. Reversed Polarity Use

“Do not reverse-charge or reverse-connect”

The battery has polarity. In case the battery is not connected with charger or equipment smoothly, do not force them to connect and do check polarity of battery. If the battery is connected to opposite polarity with charger, it will be reverse-charged and abnormal chemical reaction will occur. It causes the generating heat, smoke, rupture or flame.

14. Connect Battery to the Plug

“Do not connect battery to the plug socket or car-cigarette-plug”

Added high voltage to the battery, the excessive current will flow in it and then it will cause the generating heat, smoke, rupture or flame.

15. Inappropriate Use for Other Equipment

“Do not use battery for other equipment”

If the battery is used for unspecified equipment, it will deteriorate its performance and cycle-life. At worst, abnormal current will flow or battery may generate heat, smoke, rupture or flame.

16. Leakage

“Do not touch a leaked battery directly”

in case the leaked electrolyte gets into eyes, wash them with fresh water as soon as possible without rubbing eyes. And then, see a doctor immediately.

If leave damaged eyes undone, it will cause eye-trouble.



WARNING:

1. Mixed Use

“Do not use Lithium ion battery in mixture”

Do not use Lithium ion battery with the primary batteries or secondary batteries whose capacity kind or maker is different, if do that, the battery will be discharged or charged excessively in use. And it may cause the generating, smoke, rupture or flaming because of the abnormal chemical reaction in cells.

2. Ingestion

“Keep the battery away from babies”

Keep the little battery out of the reach of babies in order to avoid troubles by swallowing. In case of swallowing the battery, see a doctor immediately.

3. Charging Time

“Do not continue to charge battery over specified time”

If the battery is not finished charging over regulated time, let it stop charging. There is possibility that the battery might generate, smoke, rupture or flame.

4. Store

“Do not get into a microwave or a high pressure container”

It causes the generating, smoke, rapture or flaming because of a sudden heat or damage of sealing condition of battery.

RHEA-E1260A Series**5. Leakage**

“Do not use a leaked battery nearby fire”

If the liquid leaks from the battery (or the battery gives out bad smell), let the battery leave from flammable objects immediately. Unless do that, the electrolyte leaked from battery will catch fire and it will cause the smoke, flaming or rupture of it.

6. Rust, Changing Color and Deformation

“Do not use an abnormal battery”

In case the battery has bad smell or is generated its changing color or deformation or causes something wrong in using (includes charging and storage), let it take out from equipment or charger and do not use it. If an abnormal battery is used, it will generate, smoke, rupture or flame.

**CAUTION:****1. Use Under Strong Sunshine**

Do not use or leave the battery under the blazing sun (or heated car by sunshine). The battery may generate heat, smoke or flame. And also, it might cause the deterioration of battery's characteristics or cycle life.

2. Static Electricity

The battery has the protection circuit to avoid the danger. Do not use nearby the place where generates static electricity (more than 100 V) which gives damage to the protection circuit. If protection circuit were broken, the battery would generate, smoke, rupture or flame.

3. Charging Temperature Range

Charging temperature range is regulated 0°C and 40°C. Do not charge the battery out of recommended temperature range. Charging out of recommended range might cause the generating heat or serious damage of battery. And also, it might cause the deterioration of battery's characteristics and cycle life.

4. Manual

Please read the manual before using the battery and keep it after reading.

5. Charging Method

Please read the manual of specified charger about charging method.

6. First Time Use

When the battery has rust, bad smell or something abnormal at first-time-using, do not use the equipment and bring the battery to the shop from which it was purchased.

7. Used By Children

In case younger children use the battery, their parents teach how to use batteries according to the manual with care. And also, when children are using the batteries, pay attention to use it according to that or not.

8. Keep Battery Away From Children

Keep the battery out of the reach of younger children. And also, pay attention when the battery is taken out from the charger or equipment by little children.

9. Leakage

If the skin or cloth is smeared with liquid from the battery, wash with fresh water. It may cause the skin inflammation.

[FRENCH]**DANGER!****1. Démonter et reconstruire**

"Ne pas démonter ou reconstruire la batterie"

La batterie a une fonction de sécurité et un circuit de protection pour éviter le danger. S'ils sont gravement endommagés, cela provoquera la génération de chaleur, de fumée, de rupture ou de flamme.

2. Court-circuit

"Ne pas court-circuiter la batterie"

Ne connectez pas les bornes + et - avec des métaux (tels que des fils). Ne transportez pas et ne stockez pas la batterie avec des objets métalliques (tels que des fils, des colliers ou des épingles à cheveux). Si la batterie est court-circuitée, un courant excessif et important circulera, puis la génération de chaleur, de fumée, de rupture de flamme se produira. Et aussi, cela provoque la génération de chaleur au niveau des métaux.

3. Incinération et chauffage

"Ne pas incinérer ou chauffer la batterie"

Ceux-ci se produisent lors de la fonte de l'isolant, de l'endommagement de l'évent de dégagement de gaz ou de la fonction de sécurité, ou de l'inflammation de l'électrolyte. Les matières mentionnées ci-dessus provoquent la génération de chaleur, de fumée, de rupture ou de flamme.

4. Utilisez un endroit chauffé à proximité

"Ne pas utiliser ou laisser la batterie à proximité du feu, du poêle ou d'un endroit chauffé"

RHEA-E1260A Series

(plus de 80 °C)"

Dans le cas où ce séparateur en polymère est fondu à haute température, le court-circuit interne se produit dans les cellules individuelles, puis il provoque la génération de chaleur, de fumée, de rupture ou de flamme. De plus, n'utilisez pas la batterie sous l'endroit chauffé (plus de 80°C) pour la même raison.

5. Immersion

"Ne plongez pas la batterie dans l'eau ou l'eau de mer, et ne la mouillez pas"

Si le circuit de protection inclus dans la batterie est cassé, la batterie sera chargée à un courant ou à une tension extrême et la réaction chimique anormale se produira dans celle-ci. Et puis cela provoque la génération de chaleur, de fumée, de rupture ou de flamme.

6. Chargez un endroit chauffé à proximité

"Ne chargez pas la batterie à proximité du feu ou sous le soleil de plomb"

Si le circuit de protection pour éviter le danger fonctionne à haute température ou s'il est cassé, la batterie sera chargée à un courant (ou une tension) anormal et une réaction chimique anormale se produira. Il a provoqué la génération de chaleur, de fumée, de rupture ou de flamme.

7. Chargeur et condition de charge

"Utilisez le chargeur spécifié et respectez les exigences de charge"

Si la batterie est chargée dans des conditions non spécifiées (température élevée supérieure à la valeur régulée, haute tension excessive ou courant supérieur à la valeur régulée, ou chargeur remodelé), il y a des cas où elle sera surchargée ou une réaction chimique anormale se produira dans les cellules. Il a provoqué la génération de chaleur, de fumée, de rupture ou de flamme.

8. Pénétration

"N'enfoncez pas de clou dans la batterie, ne la frappez pas avec un marteau ou ne la marchez pas"

Comme la batterie peut être cassée ou déformée et ensuite elle sera court-circuitée, cela a provoqué la génération de chaleur, de fumée, de rupture ou de flamme.

9. Incidence

"Ne donnez pas d'impact à la batterie ou ne la jetez pas"

L'impact peut provoquer une fuite, de la chaleur, de la fumée, une rupture et/ou un incendie de la cellule de la batterie. Et aussi si le circuit de protection de la batterie est cassé, la batterie sera chargée à une tension ou à un courant anormal, et une réaction chimique anormale pourrait se produire. Cela pourrait provoquer des fuites, de la chaleur, une rupture de fumée et/ou un incendie.

10. Déformation

"N'utilisez pas la batterie avec des dommages ou des déformations visibles"

Il provoque la génération de chaleur, de fumée, de rupture ou de flamme.

11. Soudure

"Ne pas faire de soudure directe sur batterie"

Lorsque l'isolant est fondu par la chaleur ou que l'évent de dégagement de gaz (ou la fonction de sécurité) est cassé, cela a provoqué la génération de chaleur, de fumée, de rupture ou de flamme.

12. Charge inversée et décharge excessive

"Ne pas inverser la polarité (et les bornes)"

Lors de la charge, la batterie est chargée en sens inverse et une réaction chimique anormale se produit. Et aussi, il peut y avoir des cas où un courant important inattendu circule lors de la décharge. Ceux-ci provoquent la génération de chaleur, de fumée, de rupture ou de flamme.

13. Utilisation de polarité inversée

"Ne pas inverser la charge ou inverser la connexion"

La batterie a une polarité. Si la batterie n'est pas correctement connectée au chargeur ou à l'équipement, ne les forcez pas à se connecter et vérifiez la polarité de la batterie. Si la batterie est connectée à la polarité opposée avec le chargeur, elle sera chargée en sens inverse et une réaction chimique anormale se produira. Il provoque la génération de chaleur, de fumée, de rupture ou de flamme.

14. Connectez la batterie à la prise

"Ne connectez pas la batterie à la prise de courant ou à la prise de voiture-cigarette"

En ajoutant de la haute tension à la batterie, le courant excessif circulera dans celle-ci et provoquera alors la génération de chaleur, de fumée, de rupture ou de flamme.

15. Utilisation inappropriée pour d'autres équipements

"Ne pas utiliser la batterie pour d'autres équipements"

Si la batterie est utilisée pour un équipement non spécifié, cela détériorera ses performances et sa durée de vie. Au pire, un courant anormal circulera ou la batterie peut générer de la chaleur, de la fumée, une rupture ou une flamme.

16. Fuite

"Ne touchez pas directement une batterie qui fuit"

au cas où l'électrolyte qui fuit pénètre dans les yeux, rincez-les à l'eau douce dès que possible sans vous frotter les yeux. Et puis, consultez immédiatement un médecin.

Si vous laissez les yeux endommagés définitifs, cela causera des troubles oculaires.

**AVERTISSEMENT:****1. Usage mixte**

"Ne pas utiliser de batterie lithium-ion dans le mélange"

N'utilisez pas de batterie au lithium-ion avec des batteries primaires ou des batteries secondaires dont le type de capacité ou le fabricant est différent, si vous le faites, la batterie sera déchargée ou chargée de manière excessive en cours d'utilisation. Et cela peut provoquer la génération, la fumée, la rupture ou l'inflammation en raison de la réaction chimique anormale dans les cellules.

2. Ingestion

"Gardez la batterie hors de portée des bébés"

Conservez la petite pile hors de portée des bébés afin d'éviter les troubles de la déglutition. En cas d'ingestion de la batterie, consultez immédiatement un médecin.

3. Temps de charge

"Ne continuez pas à charger la batterie pendant le temps spécifié"

Si la batterie n'a pas fini de se charger pendant le temps régulé, laissez-la s'arrêter de se charger. Il est possible que la batterie génère, dégage de la fumée, se rompe ou s'enflamme.

4. Magasin

"Ne pas entrer dans un micro-ondes ou un récipient à haute pression"

Il provoque la génération, la fumée, le ravisement ou l'inflammation en raison d'une chaleur soudaine ou d'un endommagement de l'état d'étanchéité de la batterie.

5. Fuite

"N'utilisez pas une batterie qui fuit à proximité d'un feu"

Si le liquide fuit de la batterie (ou si la batterie dégage une mauvaise odeur), laissez immédiatement la batterie s'éloigner des objets inflammables. À moins de le faire, l'électrolyte qui fuit de la batterie prendra feu et provoquera de la fumée, des flammes ou sa rupture.

6. Rouille, changement de couleur et déformation

"N'utilisez pas une batterie anormale"

Dans le cas où la batterie a une mauvaise odeur ou génère un changement de couleur ou une déformation ou provoque quelque chose de mal lors de l'utilisation (y compris le chargement et le stockage), laissez-la sortir de l'équipement ou du chargeur et ne l'utilisez pas. Si une batterie anormale est utilisée, elle générera de la fumée, une rupture ou une flamme.

**ATTENTION:****1. Utiliser sous un fort soleil**

N'utilisez pas ou ne laissez pas la batterie sous le soleil de plomb (ou la voiture chauffée par le soleil). La batterie peut générer de la chaleur, de la fumée ou des flammes. Et aussi, cela pourrait entraîner la détérioration des caractéristiques ou de la durée de vie de la batterie.

2. Électricité statique

La batterie a le circuit de protection pour éviter le danger. Ne pas utiliser à proximité d'endroits où se génère de l'électricité statique (plus de 100 V) qui endommage le circuit de protection. Si le circuit de protection était rompu, la batterie générerait de la fumée, se romprait ou s'enflammerait.

3. Plage de température de charge

La température de charge est réglée entre 0°C et 40°C. Ne chargez pas la batterie en dehors de la plage de température recommandée. Une charge hors de la plage recommandée peut provoquer une génération de chaleur ou de graves dommages à la batterie. Et aussi, cela pourrait entraîner la détérioration des caractéristiques et de la durée de vie de la batterie.

4. Manuel

Veuillez lire le manuel avant d'utiliser la batterie et conservez-le après l'avoir lu.

5. Méthode de charge

Veuillez lire le manuel du chargeur spécifié concernant la méthode de charge.

6. Première utilisation

Lorsque la batterie présente de la rouille, une mauvaise odeur ou quelque chose d'anormal lors de la première utilisation, n'utilisez pas l'équipement et apportez la batterie au magasin où elle a été achetée.

7. Utilisé par les enfants

Si des enfants plus jeunes utilisent la batterie, leurs parents enseignent avec soin comment utiliser les batteries conformément au manuel. Et aussi, lorsque les enfants utilisent les piles, faites attention à l'utiliser en fonction de cela ou non.

8. Gardez la batterie hors de portée des enfants

Gardez la batterie hors de portée des jeunes enfants. Et aussi, faites attention lorsque la batterie est retirée du chargeur ou de l'équipement par de jeunes enfants.

9. Fuite

Si la peau ou le tissu est taché de liquide provenant de la batterie, lavez-le à l'eau douce. Cela peut provoquer une inflammation de la peau.

Appendix

B

Hazardous Materials Disclosure



The details provided in this appendix are to ensure that the product is compliant with the Peoples Republic of China (China) RoHS standards. The table below acknowledges the presences of small quantities of certain materials in the product, and is applicable to China RoHS only.

A label will be placed on each product to indicate the estimated “Environmentally Friendly Use Period” (EFUP). This is an estimate of the number of years that these substances would “not leak out or undergo abrupt change.” This product may contain replaceable sub-assemblies/components which have a shorter EFUP such as batteries and lamps. These components will be separately marked.

Please refer to the following table.

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Housing	O	O	O	O	O	O
Display	O	O	O	O	O	O
Printed Circuit Board	O	O	O	O	O	O
Metal Fasteners	O	O	O	O	O	O
Cable Assembly	O	O	O	O	O	O
Fan Assembly	O	O	O	O	O	O
Power Supply Assemblies	O	O	O	O	O	O
Battery	O	O	O	O	O	O
O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in SJ/T11363-2006 (now replaced by GB/T 26572-2011).						
X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in SJ/T11363-2006 (now replaced by GB/T 26572-2011).						



RHEA-E1260A Series

此附件旨在确保本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有“环境友好使用期限”的标签，此期限是估算这些物质“不会有泄漏或突变”的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯 醚 (PBDE)
壳体	O	O	O	O	O	O
显示	O	O	O	O	O	O
印刷电路板	O	O	O	O	O	O
金属螺帽	O	O	O	O	O	O
电缆组装	O	O	O	O	O	O
风扇组装	O	O	O	O	O	O
电力供应组装	O	O	O	O	O	O
电池	O	O	O	O	O	O
O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T 11363-2006 (现由 GB/T 26572-2011 取代) 标准规定的限量要求以下。 X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 (现由 GB/T 26572-2011 取代) 标准规定的限量要求。						