User Manual

UNO-IPS1560

Intelligent Power System for PCs
智慧電源管理系統

ADVANTECH
Enabling an Intelligent Planet

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Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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Declaration of Conformity

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

警告使用者：這是甲類資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當對策。

Technical Support and Assistance

1. Visit the Advantech web site at www.advantech.com/support where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it to work according to the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 50° C (122° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
16. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
17. ATTENTION: DANGER D'EXPLOSION SI LA BATTERIE EST INEXACTEMENT REMPLACÉE. REMPLACEZ SEULEMENT AVEC LA MÊME CHOSE OU LE TYPE ÉQUIVALENT RECOMMANDÉ PAR LE FABRICANT, JETTENT LES BATTERIES UTILISÉES INSTRUCTIONS DE S SELON FABRICANT DES'.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on.
- Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

Battery Information

Batteries, battery packs, and accumulators should not be disposed of as unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with the local regulations.

安全指示

1. 請仔細閱讀此安全操作說明。
2. 請妥善保存此用戶手冊供日後參考。
3. 用濕抹布清洗設備前，請從插座拔下電源線。請不要使用液體或去汙噴霧劑清洗設備。
4. 對於使用電源線的設備，設備周圍必須有容易接觸到的電源插座。
5. 請不要在潮濕環境中使用設備。
6. 請在安裝前確保設備放置在可靠的平面上，意外跌落可能會導致設備損壞。
7. 設備外殼的開口是用於空氣對流，從而防止設備過熱。請不要覆蓋這些開口。
8. 當您連接設備到電源插座上前，請確認電源插座的電壓是否符合要求。
9. 請將電源線佈置在人們不易絆到的位置，並不要在電源線上覆蓋任何雜物。
10. 請注意設備上的所有警告和注意標語。
11. 如果長時間不使用設備，請將其同電源插座斷開，避免設備被超標的電壓波動損壞。
12. 請不要讓任何液體流入通風口，以免引起火災或者短路。
13. 請不要自行打開設備。為了確保您的安全，請由經過認證的工程師來打開設備。
14. 如遇下列情況，請由專業人員來維修：
    - 電源線或者插頭損壞；
    - 設備內部有液體流入；
    - 設備曾暴露在過於潮濕的環境中使用；
    - 設備無法正常工作，或您無法通過用戶手冊來使其正常工作；
    - 設備跌落或者損壞；
    - 設備有明顯的外觀破損。
15. 請不要把設備放置在超出我們建議的溫度範圍的環境，即不要低於 -20° C （-4° F）或高於 50° C （122° F），否則可能會損壞設備。
16. 注意：電腦配置了由電池供電的即時時鐘電路，如果電池放置不正確，將有爆炸的危險。因此，只可以使用製造商推薦的同一種或者同等型號的電池進行替換。請按照製造商的指示處理舊電池。

根據 IEC 704-1:1982 的規定，操作員所在位置的聲壓級不可高於 70dB(A)。

免責聲明：該安全指示符合 IEC 704-1 的要求。研華公司對其內容的準確性不承擔任何法律責任。

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Chapter 1

General Information

This chapter gives background information on the IPS.

Sections include:

- Introduction
- Specifications
- Dimensions

1.1 Introduction

UNO-IPS1560 lightweight and intelligent power management module protects the system from electrical damage and greatly reduces the risk of losing data. UNO-IPS1560 module serves as temporary power during power spikes and allows for safe system shutdown.

1.2 Specifications

Input	Input Voltage	18 -36 Vdc
Output	Output Voltage	24Vdc
	Typical output current	3.0A (72W)
Battery	Battery Capacity	14.4 VDC, 1560 mAH
	Cycle life	300 times of charge circle
Protection	Short-circuit protection	Yes
Certification	EMC	CE, FCC, CCC, BSMI
	Safety	UL, CB, CCC, BSMI
Dimensions (W x D x H)		55 x 86.6 x 214 mm
Environment	Operating Temperature	0-45°C
I/O Connectors	Monitor & Set IPS	RS-232

This product is intended to be supplied by a Listed Power Adapter or DC power source, rated 18 - 36 VDC, 5.5-3.0A minimum and Tma 45 degree Celsius, if need further assistance with purchasing the power source please contact Advantech for further information.

1.3 Dimensions

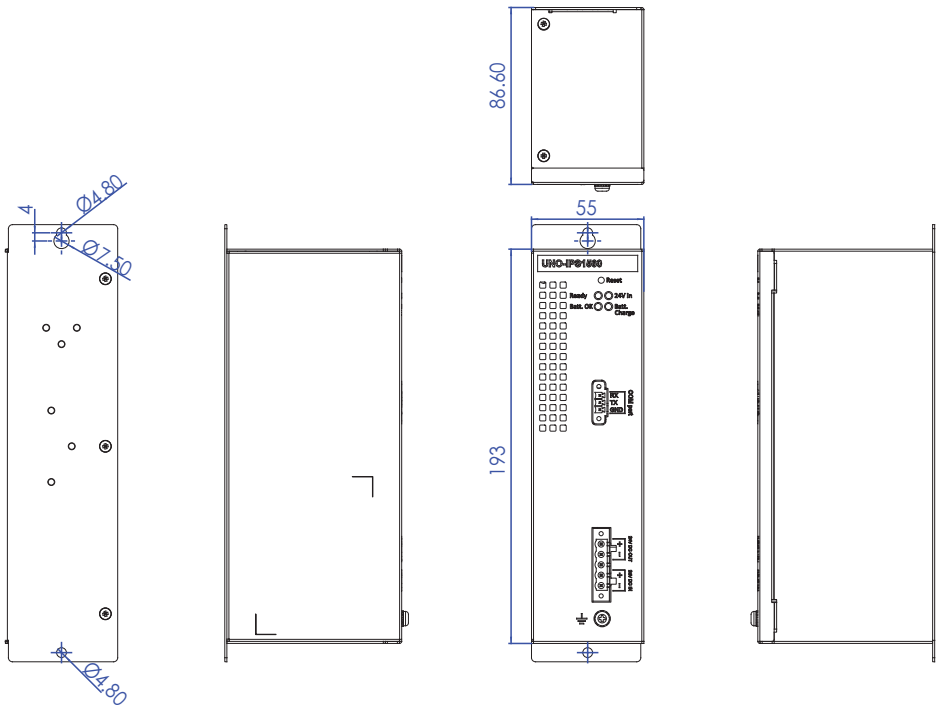


Figure 1.1 Dimensions of UNO-IPS1560-AE

Chapter 2

Installation

Sections include:

- Introduction
- LED indication
- Battery safety protection control
- A quick tour
- Mounting installation
- Power cable & control cable Installation

2.1 Introduction

The UNO-IPS1560 module serves as temporary power during power spikes. When the power is off, the UNO-IPS1560 can provide backup power for systems to allow operation to continue normally.

UNO-IPS1560 uses two cables to link with system (box/ Panel PC) and power sources. The power cable provides power to the system (box/ Panel PC) and the COM cable provides system battery information including battery capacity or health through a utility.

Refer to the cable connections below for UNO-IPS and the system.

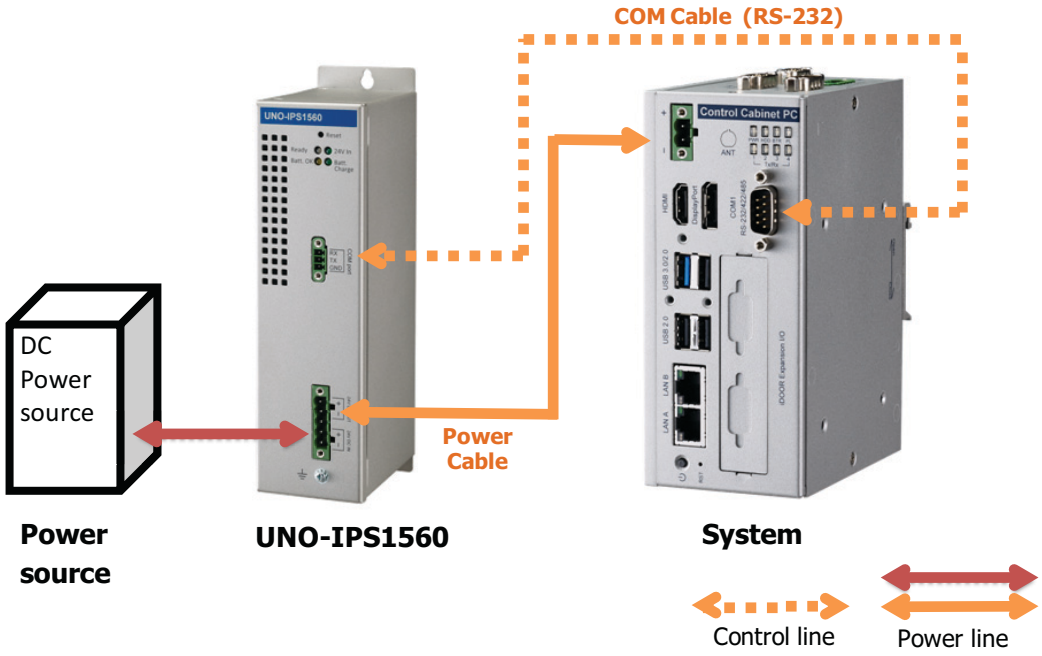


Figure 2.1 UNO-IPS1560 Wiring

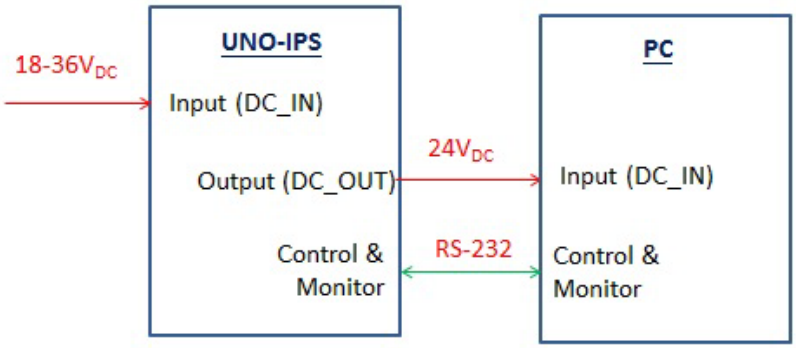
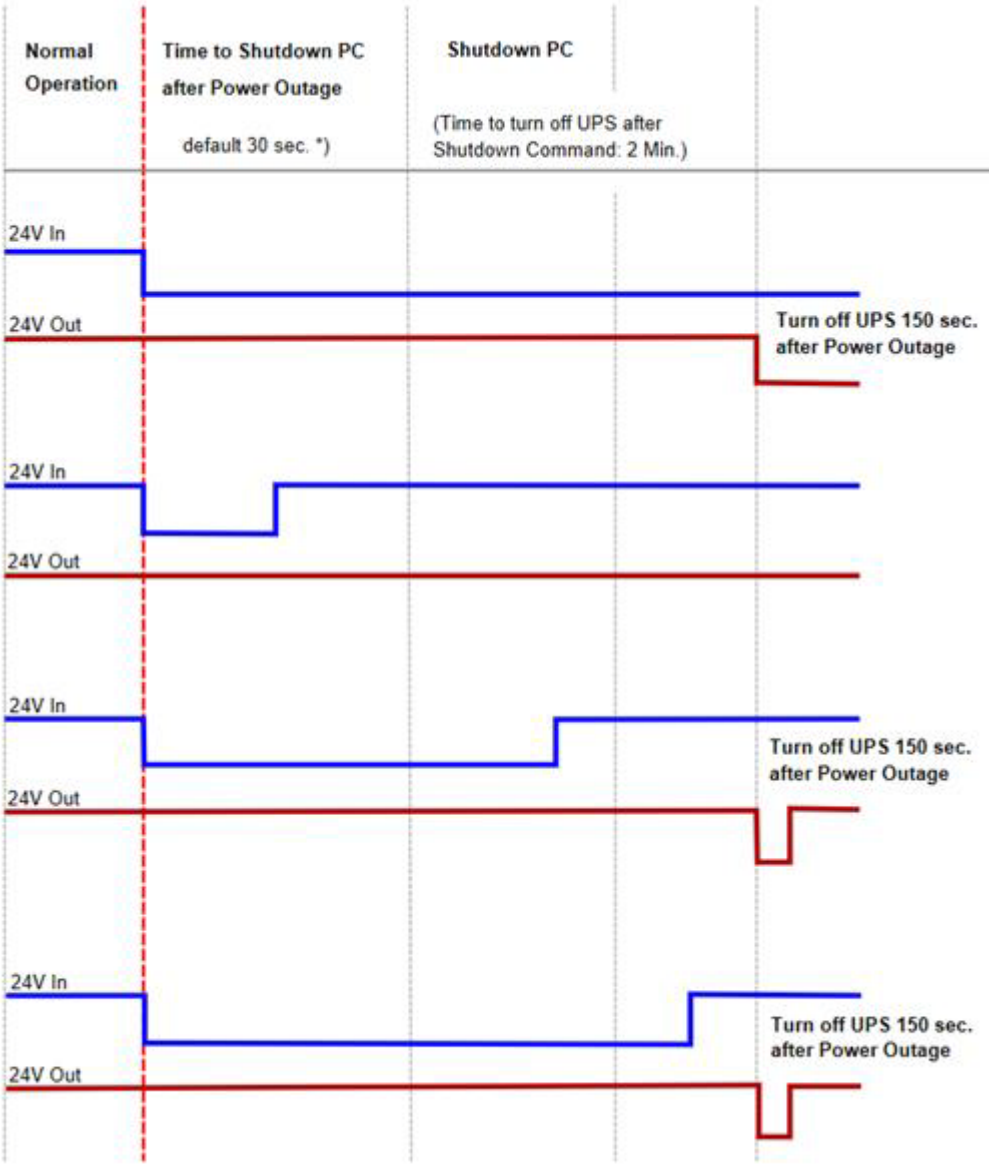


Figure 2.2 UNO-IPS1560 Connection Chart

UNO-IPS1560 shutdown signal behavior



2.2 LED Indication

LED	Bright (ON)	Dark (OFF)	Blinking
24V In	DC_IN	DC_IN loss	No DC input & PC is going to switch off
Ready	System ready	System not work	NA
Batt. OK	BAT ready	Not detect BAT	1. Low battery (Note 1) 2. BAT abnormal (0.5Hz blinking) (Note 2)
Batt. Charge	NA	BAT no charging	1. BAT charging (1Hz blink) 2. BAT abnormal (0.5Hz blinking) (Note 2)

Note!

1. *Low battery*
   BAT ≤ 15%, BAT LED blinking, ≥ 16% return normal state.
2. *BAT abnormal*
   BAT temperature ≥ 60° C, BAT & CHG LED blinking (0.5Hz),
   ≤ 55° C return normal state.

2.3 Battery Safety Protection Control

a. Battery temperature ≥ 65° C, cut-off battery function.

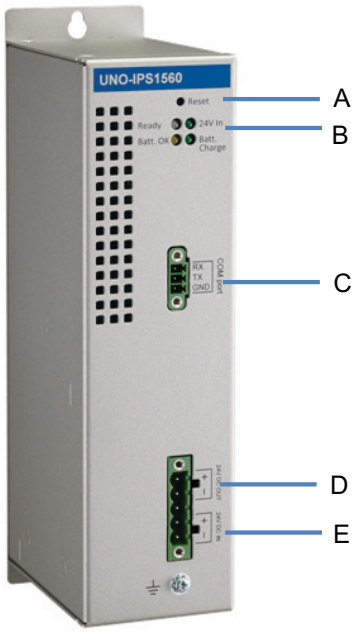
b. Battery capacity ≤ 5%, cut-off battery function.

2.4 A Quick Tour

Before setting up the UNO-IPS1560, take a moment to become familiar with the locations and purposes of controls, connectors and ports, illustrated in the figures below.

When placed upright on the desktop, UNO-IPS1560 looks like this below.

Figure 2.3 Overview



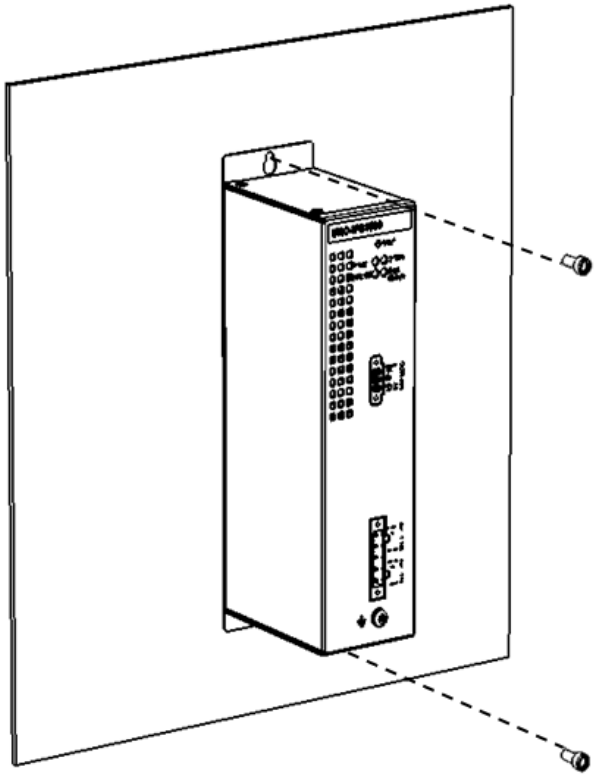
- A: System Reset
- B: LED Indicator
  - 24V In
  - Ready
  - Batt OK.
  - Batt Charge
- C: RS-232
- D: DC out (24V)
- E: DC In (18 -36V)

Figure 2.4 IO Connectors

2.5 Mounting Installation

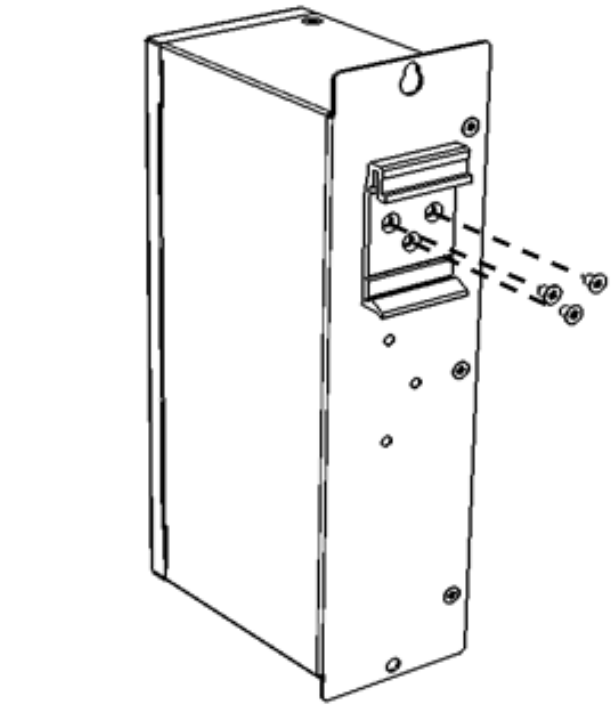
UNO-IPS1560 can be installed by DIN-Rail and book mount.

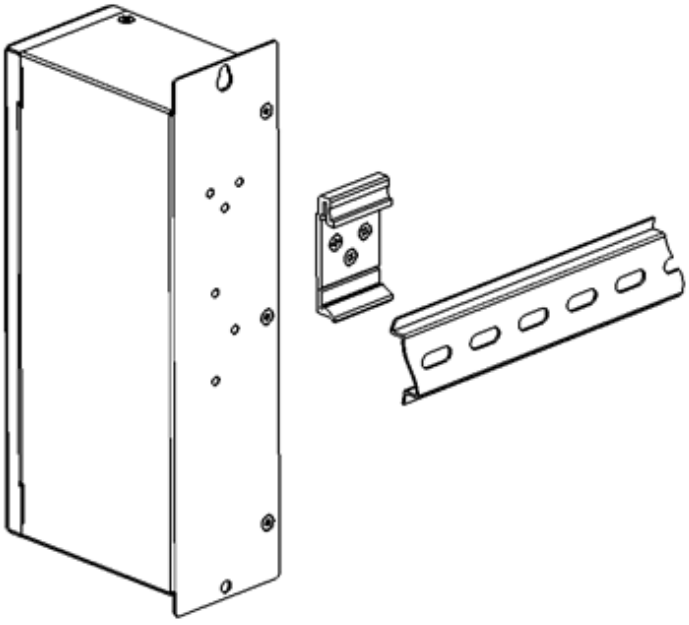
2.5.1 Book Mount Installation



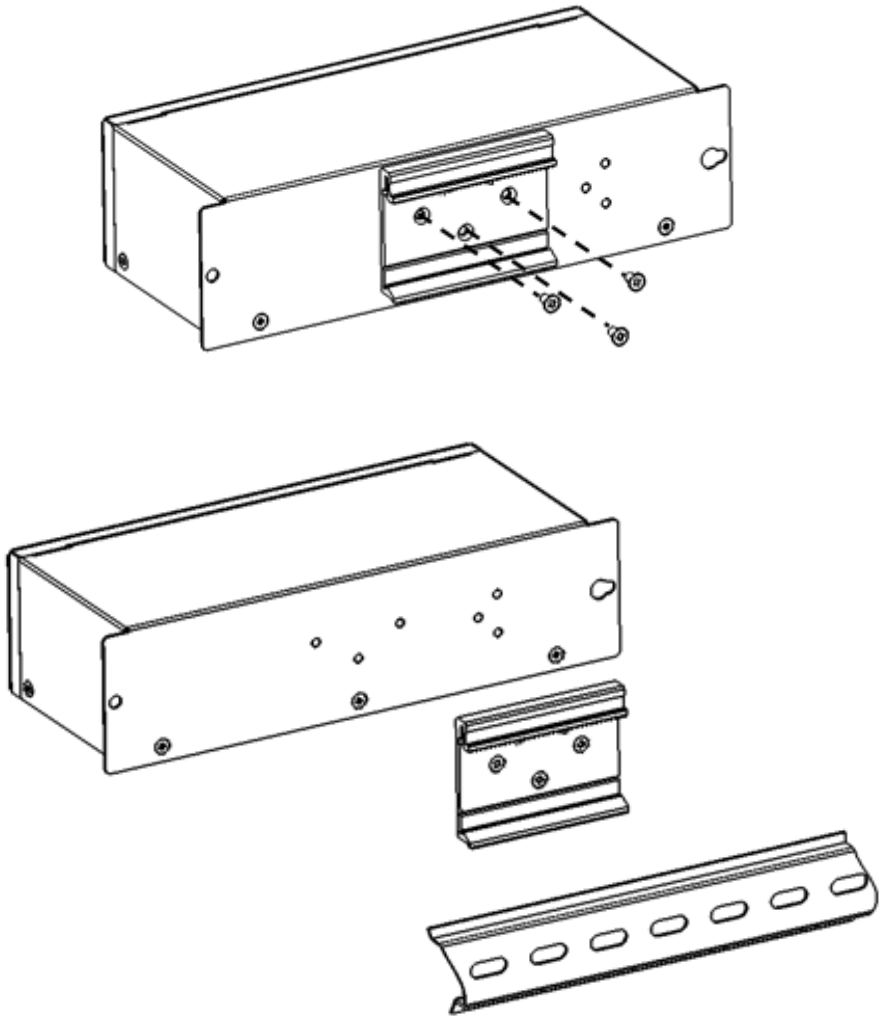
2.5.2 DIN-Rail Mount Installation

Vertical





Horizontal



Chapter 3

UNO-IPS1560 Adjustment Tool

3.1 Notice of Use

3.1.1 Operating System Setting Environment

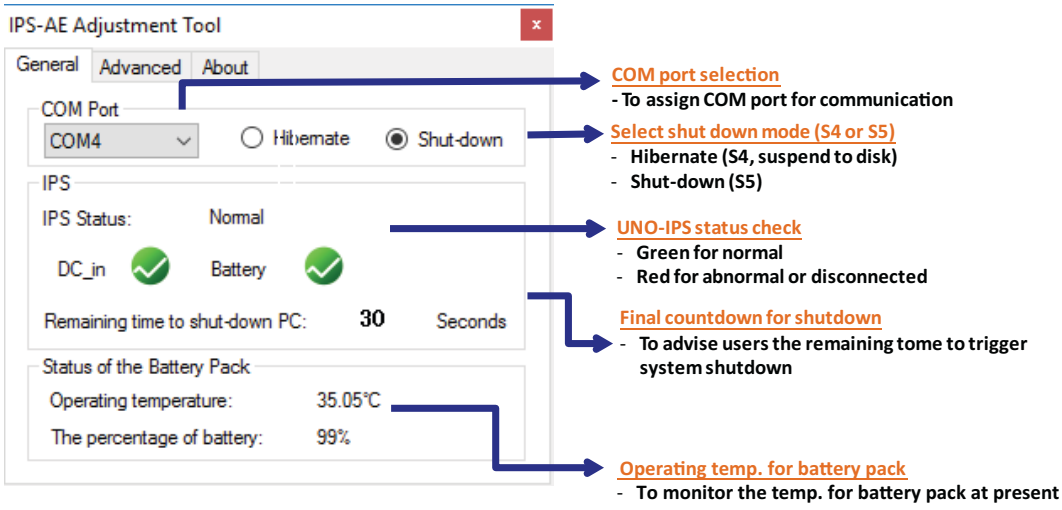
UNO-IPS1560 Adjustment Tool supports **Windows XP/7/8/8.1/10/ Linux**. For each operating system, a required **.Net Framework** installation will be necessary. Please refer to the following table for installation.

.Net Framework requirement list:

Operating System	Required SW:	Version
Windows XP	Net framework 2.0	2.0.50727.42
Windows 7	N/A	N/A
Windows 8	Net framework 3.5	3.5.30729.6387
Windows 8.1	Net framework 3.5	3.5.30729.6387
Windows 10	Net framework 3.5	3.5.30729.6387

Note! *You can download UNO-IPS1560 Adjustment Tool from the Advantech support website of UNO-IPS1560.*

3.2 UI Introduction - General



* Please download utility from the Advantech support website of UNO-IPS1560.

3.2.1 Select COM Port

Select the UNO-IPS1560 COM port.

3.2.2 Power State Selection (S4 or S5)

This option allows you to select the power status of your PC between hibernation* (S4) or shutdown* (S5) when UNO-IPS1560 is activate.

Note! *Hibernation (S4): All data/programs status will be saved in storage. You can resume you previous working state after S4 awakens.*

Shut down (S5): Shutdown process can be paused due to unfinished program execution or unsaved data.

3.2.3 UNO-IPS1560 Status

UNO-IPS1560 working status: green means normal and red means abnormal.

DC-in: Shows if DC power source for UNO-IPS1560 is normal or not.

Battery: Shows if UNO-IPS1560 battery is working normally or not.

3.2.4 Final Countdown for Shutdown

The UNO-IPS1560 will shutdown / hibernate your PC after the timer counts down to zero.

Note! *The time can be adjusted between 5 to 30 seconds. Please refer to 3.3.1 for further settings.*

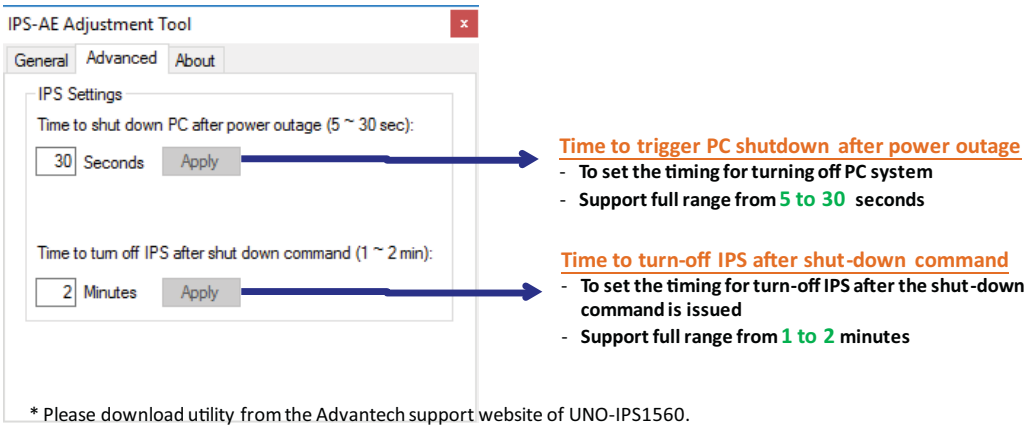
Note! *If stable DC power is supplied to UNO-IPS1560 before the timer counts down to zero, the value will automatically be reset and stop counting.*

3.2.5 Operating Temp. for Battery Pack

This section represents the current battery pack temperature.

Note! *The maximum operating temperature is 45°C.*

3.3 UI Introduction - Advanced



3.3.1 PC Shut-down Time after Power Outage

This advanced setting allows customers to adjust the final countdown time for shut-down between 5 to 30 seconds.

3.3.2 Time to Turn-Off UNO-IPS1560 after Shut-down Command

This parameter can set the time to shut down after sending a shut down/hibernate signal to the PC to protect battery life. You can set between 1 and 2 minutes.

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