

NPort IA5000-G2 Series Quick Installation Guide

Version 1.0, June 2025

Technical Support Contact Information
www.moxa.com/support



© 2025 Moxa Inc. All rights reserved.

P/N: 1802051500230



Package Checklist

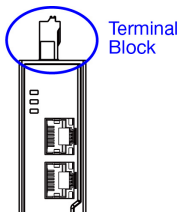
- NPort IA5000-G2
- Quick installation guide (this guide)

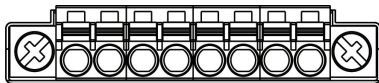
NOTE Notify your sales representative if any of the above items are missing or damaged.

For optional accessories, like cables, connectors, or mounting kits, refer to the Accessories section in the datasheet.

Powering the Device

Unbox the device server and power it up by connecting the proper pin assignment of the terminal block on the top of it. The following figures show the location and pin assignment of the terminal block on the device server.





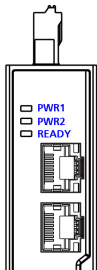
	V2+	V2-				V1+	V1-
Chassis GND	DC Power 2	DC Power 2	N.O.	Common	N.C.	DC Power 1	DC Power 1

When wiring the relay contact (R) and power inputs (P1/P2), we suggest using American Wire Gauge (AWG) 16 to 20 (1.5 mm^2 to 0.5 mm^2) as a cable and the corresponding pin-type cable terminals. The recommended stripping length is 8 to 9 mm. Use copper conductors and one conductor in one clamping point on the terminal block only. The shielding ground screw (M4) is near the power connector. When you connect the shielded ground wire (min. 16 AWG), the noise is routed from the metal chassis to the ground.

When you are using a DIN-rail power supply, ensure that the ground pin is properly connected. Connect the ground pin to the chassis ground of the rack or system.

NOTE This product is intended to be supplied by an external power source (UL Listed/IEC 62368-1/EN 62368-1/BSMI), of which the output complies with ES1/SELV. The output rating is rated at 12 to 48 VDC and minimum current 583 mA, and supports an ambient temperature of 75°C minimum for use with wide temperature (-T) models, or an ambient temperature of 60°C minimum for use with non -T models. When using a Class I external power source, the power cord should be connected to an outlet with an earthing connection.

After powering up the device, the Ready LED should turn solid red first. After a couple of seconds, the Ready LED should turn solid green, and you should hear a beep, which indicates that the device is ready. For detailed behavior of the LED indicators, see the *LED Indicators* section.

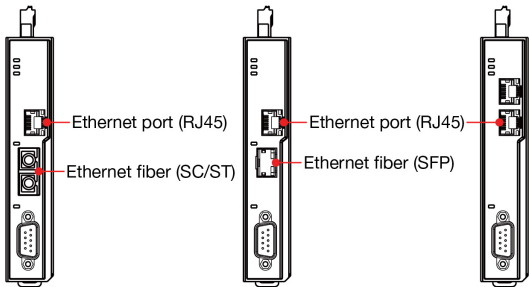


LED Indicators

LED	Color	LED Function	
PWR1, PWR2	Green	Steady	Power is on
		Off	Power is off
Ready	Red	Steady	Power is on and the NPort is booting up.
		Blinking	Indicates an IP conflict or the DHCP server did not respond properly, or a relay output occurred.
	Green	Steady	Power is on and the NPort is functioning normally.
		Blinking	The device server has been located by the Administrator's location function.
	Red and Green	When pushing the reset button, red and green LEDs blink (looks like amber), indicating the reset to default function will be enabled after 5 seconds. When pushing the reset button for over 5 seconds, the red and green LEDs will turn steady, indicating you can release the button, and the device will start with default settings.	
	Off	Power is off, or a power error condition exists.	
P1, P2	Yellow	Serial port is receiving data.	
	Green	Serial port is transmitting data.	
	Off	No data is being transmitted or received through the serial port.	

When the device is ready, connect an Ethernet cable to the NPort IA5000-G2 directly with the computer's Ethernet port or an Ethernet port of a switch.

NPort IA5000-SC/ST-G2 NPort IA5000-SFP-G2 NPort IA5000-G2 Series



Optical Fiber Interface

		100BaseFX		
		Multi-mode		Single-mode
Fiber Cable Type		OM1	50/125 μm	G.652
			800 MHz*km	
Typical Distance		4 km	5 km	40 km
Wave-length	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
	Link Budget (dB)	12		29
	Dispersion Penalty (dB)	3		1

Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.

Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).



WARNING

This is a Class 1 laser/LED product. Do not stare into the laser beam.

1. Caution—Use of the controls or adjustments or the performance of procedures other than those specified herein may cause hazardous radiation exposure.
2. Complies with 21 CFR 1040.10 and 1040.11, except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

For SFP module:

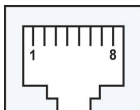
Laser Class 1 optical transceiver shall be used only.

Ethernet Ports

The NPort IA5000-G2 models have two built-in Ethernet ports. If the model name has optical fiber highlighted, it will only have one built-in RJ45 Ethernet port and one optical fiber port. For example, NPort IA5150-S-SC-G2 has 1 RJ45 Ethernet port and one single-mode SC connector fiber port.

Ethernet Port (RJ45)

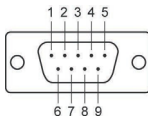
Pin	Signal
1	Tx+
2	Tx-
3	Rx+
6	Rx-



Serial Ports

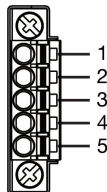
The NPort IA5000-G2 models come with DB9 serial port, while the NPort IA5000-TB-G2 models have 5-pin terminal block serial ports. The NPort IA5150-G2 models have one serial port, the NPort IA5250-G2 models have two serial ports, and the NPort IA5450-G2 models have four serial ports. The serial ports come with DB9 male connectors and support RS-232/422/485. Refer to the following table for the pin assignments.

Pin	RS-232	RS-422 4-wire RS-485	2-wire RS-485
1	DCD	TxD-(A)	-
2	RXD	TxD+(B)	-
3	TXD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-
9	-	-	-



The 5-pin terminal block for the NPort IA5000-TB-G2 models pin assignments are as follows:

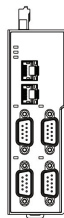
Pin	RS-232	RS-422 4-wire RS-485	2-wire RS-485
1	RxD	TxD+(B)	–
2	–	TxD-(A)	–
3	TxD	RxD+(B)	Data+(B)
4	–	RxD-(A)	Data-(A)
5	GND	GND	GND



The serial cables for connecting the NPort IA5000-G2 to a serial device can be purchased separately.

The NPort IA5100-G2, IA5200-G2, and IA5400-G2 models feature 1, 2, and 4 serial ports, respectively.

NPort IA5100-G2 Models **NPort IA5200-G2 Models** **NPort IA5400-G2 Models**



Software Installation

There are two methods to start the configuration of NPort IA5000-G2 Series. First, you can download the Device Search Utility from Moxa website to help you find the target NPort device server and set the username/password and the IP address. For more details, scan the QR code. A video guides you through the basic settings with Device Search Utility. You can also access the video via [this link](#).



Second, directly access the default IP address of the NPort: **https://192.168.127.254**. There is no default username or password. You will need to complete the following first-login process as part of the basic settings.

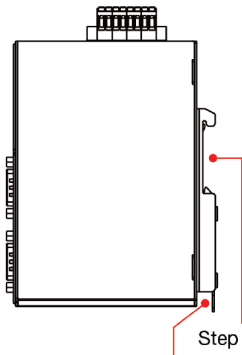
1. Set up the first Administrator's account and password for your NPort.
2. If you have exported configuration files from an NPort IA5000 or NPort IA5000A, import the configuration file to complete the settings.
If this is your first time using an NPort, skip this step.
3. Configure the IP address, subnet mask, and network settings for the NPort.
4. After applying the settings, the NPort will reboot.
Log in using the Administrator's account and password that you set up in step 1.

Mounting Options

The NPort IA5000-G2 device servers include a DIN-rail mounting kit in the box, which can be used to mount the NPort to a DIN-rail or the inside of a cabinet. You can order a wall-mount kit separately for different placement options, as illustrated in the following diagrams:

NPort IA5000-G2 工業級串口設備連網服務器內附導軌式安裝配件以安裝在現場的滑軌上或是機櫃中；若需要壁掛式安裝，請另行採購相關配件。以下以圖示說明各種安裝方式的安裝方法與注意事項。

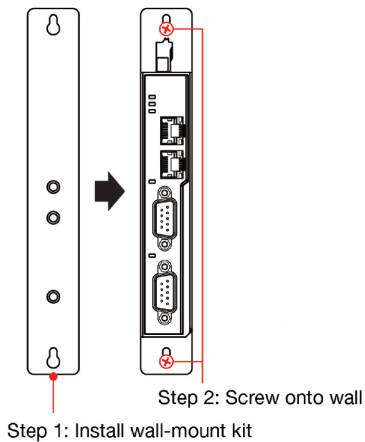
DIN-rail Mounting 導軌式安裝



Step 2: Click onto DIN rail

Step 1: Push down the spring

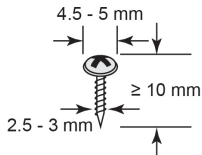
Wall Mounting 壁掛式安裝



The mounting kit packages include screws. However, if you prefer to buy your own, refer to the dimensions below:

- Wall-mounting kit screws: FMS M3 x 5 mm
- DIN-rail mounting kit screws: FMS M3 x 5 mm

For attaching the device server to a wall, it requires two screws. The heads of the screws must be 4.5 to 5.0 mm in diameter, the shafts must be 2.5 to 3.0 mm in diameter, and the length of the screws should be over 10 mm.



以上各式安裝配件都會包含對應的螺絲，若您偏好自己採購螺絲，以下為各配件我們建議的螺絲尺寸：

- 壁掛式安裝螺絲尺寸: FMS M3 x 5 mm
- 導軌式安裝螺絲尺寸: FMS M3 x 5 mm

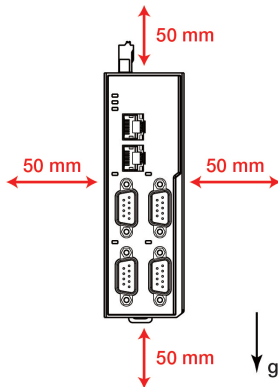
當要透過壁掛式將設備鎖附至牆壁上時，會需要另外採購兩根螺絲，建議兩根螺絲的規格符合以下尺寸：

- 螺絲頭的直徑應在 4.5 至 5.0 mm 之間
- 螺絲本身的直徑應該在 2.5 至 3.0 mm
- 螺絲長度應長於 10 mm

Horizontal Installation

Before installing the device, make sure there is enough space between the device and nearby items (walls, other devices, etc.) to ensure proper heat dissipation.

To ensure that the device works properly, we suggest reserving at least 50 mm of space on each of the four sides, as shown in the figure.



Specifications

Power Requirements	
Power Input	12 to 48 VDC
Input Rating	<ul style="list-style-type: none">• NPort IA5150-G2/IA5250-G2 models: 12 to 48 VDC, 452 mA (max.)• NPort IA5450-G2 models: 12 to 48 VDC, 583 mA (max.)

Power Consumption	<ul style="list-style-type: none"> NPort IA5150-G2/IA5250-G2 models: Room temperature: 25°C, 12 to 48 VDC, 377 mA (max.) Room temperature: 75°C, 12 to 48 VDC, 452 mA (max.) NPort IA5450-G2 models: Room temperature: 25°C, 12 to 48 VDC, 478 mA (max.) Room temperature: 75°C, 12 to 48 VDC, 583 mA (max.)
Relays	
Contact Current Rating	Resistive load: 1 A @ 30 VDC
Environmental Limits	
Operating Temperature	<ul style="list-style-type: none"> Standard models: -10 to 60°C (14 to 140°F) Wide temp. models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% RH
Isolation Protection	Isolation Protection: <ul style="list-style-type: none"> Serial: 2 kV (for "I" models) Ethernet: 1.5 kV (for "I" models)

Physical Characteristics	
Dimensions	<ul style="list-style-type: none"> NPort IA5150-G2/NPort IA5250-G2 models: 25 x 89 x 129 mm (0.98 x 3.5 x 5.07 in) NPort IA5450-G2 models: 42 x 89 x 129 mm (1.65 x 3.5 x 5.07 in)
Weight	<ul style="list-style-type: none"> NPort IA5150-G2 models: TBD g (TBD lb) NPort IA5250-G2 models: TBD g (TBD lb) NPort IA5450-G2 models: TBD g (TBD lb)
Reliability	
Alert Tools	Built-in buzzer and RTC
MTBF	<ul style="list-style-type: none"> NPort IA5150-G2 (-T): 3,238,923 hrs NPort IA5150I-G2 (-T): 3,156,544 hrs NPort IA5150-S-SC-G2 (-T): 2,889,487 hrs NPort IA5150-M-SC-G2 (-T): 2,889,487 hrs NPort IA5150-SFP-G2 (-T): 3,109,327 hrs NPort IA5250-G2 (-T): 2,931,934 hrs NPort IA5250I-G2 (-T): 2,943,248 hrs NPort IA5250-TB-G2 (-T): 2,799,662 hrs NPort IA5250I-TB-G2 (-T): 2,809,979 hrs NPort IA5450-G2 (-T): 2,363,042 hrs NPort IA5450I-G2 (-T): 2,377,791 hrs NPort IA5450-TB-G2 (-T): 2,195,874 hrs NPort IA5450I-TB-G2 (-T): 2,208,607 hrs

RoHS Compliance



All Moxa products are marked with the CE logo to indicate that our electronic products have met the RoHS 2 Directive's requirements.



All Moxa products are marked with the UKCA logo to indicate that our electronic products have met the UK RoHS Regulation.

Moxa Inc. declares that the equipment complies with China RoHS (Restriction of Hazardous Substances), officially known as Administrative Measure on the Control of Pollution Caused by Electronic Information Products, along with their associate standards. Product information and the corresponding compliance documentation related to China RoHS are available at the following internet address:

<https://www.moxa.com>

For further information, please visit our website at:

http://www.moxa.com/about/Responsible_Manufacturing.aspx

Simplified EU and UK Declaration of Conformity

Hereby, **Moxa Inc.** declares that the equipment complies with directives. The full test of the EU and UK declaration of conformity and other detailed information is available at the following Internet address:

<https://www.moxa.com> or <https://partnerzone.moxa.com/>

Restricted Bands of Operation for Wireless Devices



The 5150-5350 MHz frequency band is restricted to indoor use for EU member states.

As countries and regions have different regulations regarding the use of frequency bands to avoid interference, please check local regulations before using this device.

EU Contact Information

Moxa Europe GmbH

New Eastside, Streitfeldstrasse 25, Haus B, 81673 München, Germany

UK Contact Information

MOXA UK Limited

First Floor, Radius House, 51 Clarendon Road, Watford, Hertfordshire, WD17, 1HP, United Kingdom

FCC Supplier's Declaration of Conformity

The following equipment:

Product Model: As shown on the product label

Trade Name: MOXA

It's herewith confirmed this device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. This device must not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

It is understood that each unit marketed is identical to the device as tested, and any changes to the device that could adversely affect the emission characteristics will require retesting.

CAN ICES-003(A) / NMB-003(A)

Responsible Party—U.S. Contact Information

Moxa Americas Inc.

601 Valencia Avenue, Suite 100, Brea, CA 92823, USA

Phone number: 1-877-669-2123

Manufacturer address:

No. 1111, Heping Rd., Bade Dist., Taoyuan City 334004, Taiwan

Contact Us:

For our worldwide sales offices, please visit our website:

https://www.moxa.com/about/Contact_Moxa.aspx

Product Warranty Statement

Moxa warrants this product to be free from manufacturing defects in materials and workmanship, starting from the date of delivery. The actual warranty period of Moxa's products varies with the product category. Complete details can be found here:

<http://www.moxa.com/support/warranty.htm>

NOTE The warranty statement on the above web page supersedes any statements in this printed document.

Moxa will replace any product found to be defective within the first three months of purchase, provided said product has been properly installed and used. Defects, malfunctions, or failures of the warranted product caused by damage resulting from acts of God (such as floods, fire, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances, plugging the board in under power, or incorrect cabling, and damage caused by misuse, abuse, and unauthorized alteration or repair, are not warranted.

Customers must obtain a Return Merchandise Authorization (RMA) number prior to returning a defective product to Moxa for service. The customer agrees to insure the product or assume the risk of loss or damage during transit, to prepay shipping charges, and to use the original shipping container or equivalent.

Repaired or replaced products are warranted for ninety (90) days from the date of repair or replacement, or for the remainder of the original product's warranty period, whichever is longer.

产品保修声明

Moxa 自产品出货日起提供产品保修。保修期间，如因零件损坏或生产不良而导致产品故障，将提供免费维修服务。

Moxa 根据产品类别提供不同保修期限，完整细节可在以下网页查看：

http://www.moxa.com.cn/support/warranty_policy.htm

注 上述网页的保修声明可取代本声明的任何陈述。

从 Moxa 出货三个月之内，在正常安装与使用下，如产品发生故障，Moxa 将提供换货服务。产品因雷击、洪水、地震等天灾所造成的损坏，其他外部力量（比如电源干扰、带电拔插、错误接线）、错用或乱用、未经 Moxa 授权的硬件变更或维修所造成的损坏，缺少产品序列号标签或者标签受损，不在保修范围内。

客户必须先提交在线申请，取得 RMA 申请确认单后，再将产品寄回。客户需承担邮寄到 Moxa 维修部过程中遗失或受损的风险，并支付运费；以及使用原有包装或具备同等保护效果的包装寄送产品。

经 Moxa 维修或换货的产品，自维修或换货日起，有 90 天保修期；产品最后保修期限，以五年保修或 90 天保修两者中更长时间为准。

技术支持与服务联络窗口

邮箱：Support.mcn@moxa.com 联系人：Moxa 技术支持部

返修服务联络窗口

邮箱：rma.mcn@moxa.com 联系人：Moxa 客服部

合格证

此产品通过

-外观检查

-功能及性能试验

-绝缘试验

符合出货标准

PASS

Moxa 产品注意事项

1. 请于使用产品前，详读本注意事项。
2. 请保存本注意事项以便后续参考。
3. 请于进行清洁工作前，将产品断电并且从电源端拔除。进行清洁工作时，请勿直接将清洁用溶剂倾倒或喷洒于产品上，请透过清洁布进行清洁工作。
4. 本产品应使用于受限区域（例如受人员管制的计算机室），授权人员须了解并知悉于碰触发热的金属机壳前，应有妥善的安全防护。产品外部的金属件可能会有一定热度，在接触产品前，请操作人员执行特别防护措施以免操作人员的手或身体遭受伤害。
5. 若产品为需插电产品，请勿将产品摆放于电源插座太远的位置，并且确认操作人员可以无阻碍地接近电源插座端。
6. 请让产品远离高湿环境。
7. 请将产品安装于稳固的环境。产品的掉落可能会造成损坏。
8. 产品开口处为力于产品内部空气对流。为确保产品不会过热，请不要阻塞开口处。
9. 连接电源时，请确保电源端的电压输入正确。
10. 请将电源线放置于不会被人员踩踏以及物品重压的位置。
11. 请注意产品上或相关文件中所标示的警告。
12. 若产品不会长时间使用，请断电以避免电源端瞬间压升或压降。
13. 请勿倾倒任何异物于产品开口处，以避免火灾或触电。
14. 请勿自行拆卸产品。就安全考虑，请由合格的技术人员进行拆卸。
15. 若下列任一情形发生，请由合格的技术人员进行确认：
 - a. 电源线或插头损坏。
 - b. 液体侵入产品。
 - c. 产品暴露于高湿环境。

- d. 产品运作不良，或是您无法透过使用手册进行操作。
 - e. 产品掉落并且造成损坏。
 - f. 产品有明显破损。
16. 任何未经验证的零配件可能造成产品非预期的损害。为确保安装的正确性，请使用配件包所附之零配件进行安装。
17. 工业计算机产品内含有电池供电之实时时钟电路，请依制造商指示进行更换。
18. 请于执行硬件工作时将机壳与电源断开联结。请勿于电源钮为启动状态时连接电源，高感度电子零件可能会因瞬间浪涌电流而造成损伤。
19. 有关产品规格，等级与符合之法规请参考产品本体之标示。

知识产权声明

随附本产品发行的文书或档案为 Moxa 版权所有，并保留相关权利。未经 Moxa 许可，所有内容不得透过任何途径以任何形式复制、翻印或者传输。

产品保固相关信息

有关 Moxa 产品保固政策，请参照 Moxa 官网
http://www.moxa.com.cn/support/warranty_policy.htm。

限制责任声明

保修条款得取代其它无论是明示或暗喻、书面或口头的保修协议。Moxa 在产品制造、销售、供应及使用上所担负的责任，无论是基于保修条款、合约、过失、产品责任 或其它项目，均不应超过产品的原始成本。对于非蓄意或必然的客户损失，包括因产品的制造、销售或供货所导致的利益损失及使用损坏，Moxa 不负任何赔偿责任。

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：串列服務器 Equipment name		型號（型式）：NPort IA5000-G2 Series（及其系列型號） Type designation (Type)				
單元 Unit (如適用)	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
外殼	○	○	○	○	○	○
印刷電路板及其 電子組件	—	○	○	○	○	○
電纜/電線/連 接器	—	○	○	○	○	○
機械部件- 金屬	—	○	○	○	○	○
機械部件- 非金屬	○	○	○	○	○	○
<p>備考 1. “超出 0.1 wt %”及 “超出 0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。 Note 1: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.</p> <p>備考 2. “○”係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2: “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.</p> <p>備考 3. “—” 係指該項限用物質為排除項目。 Note 3: The “—” indicates that the restricted substance corresponds to the exemption.</p>						

Limitation of Liability

The provisions of the warranty are in lieu of any other warranty, whether expressed or implied, or written or oral. Moxa's liability arising out of the manufacture, sale, or supply of the product and its use, whether based on warranty, contract, negligence, product liability, or otherwise, shall not exceed the original cost of the product. In no event shall Moxa be liable for unintended or consequential damages, including, but not limited to, loss of profits or damages arising out of the manufacture, sale, or supply of the product.

责任限制

本保修条款可取代其它任何明示或暗喻、书面或口头的保修声明。Moxa 在产品制造、销售、供应及使用上所担负的责任，无论是基于保修条款、合约、过失、产品责任或其它项目，均不应超过产品的原始成本。

对于非蓄意或必然的客户损失，包括但不限于因产品的制造、销售或供货所导致的利益损失及使用损坏，Moxa 不负任何赔偿责任。

Product Disposal



This mark on all Moxa products indicates that equipment should not be disposed of by standard waste treatment processes and should be collected separately.

製造商資訊：

Moxa 四零四科技股份有限公司

+886-3-2737575

桃園市八德區和平路 1111 號



警告

為避免電磁干擾，本產品不應安裝或使用於住宅環境。



CAUTION

Risk of Explosion if the battery is replaced by an incorrect type.
Dispose of used batteries according to the instructions.