APPENDIX H

: USER'S MANUAL

EUT Type: PDLC Power Controller

FCC ID.: 2BHKM-GIS-1011

PDLC Power Controller User Manual

GIS-1011

GIS
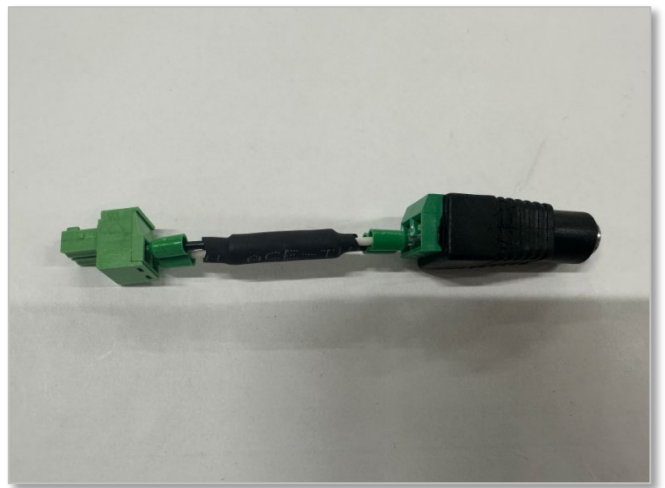
GOOIL SOLUTION Co., Ltd.

● Product overview

● PDLC Power Controller is a simple way to control PDLC Smart Windows.

● Can adjust the transmittance of PDLC smart window in four steps.

● Can remote control with a dedicated 'Remote Controller'

● Product configuration

PDLC Power Controller 1EA

Dedicated Input Cable 1EA

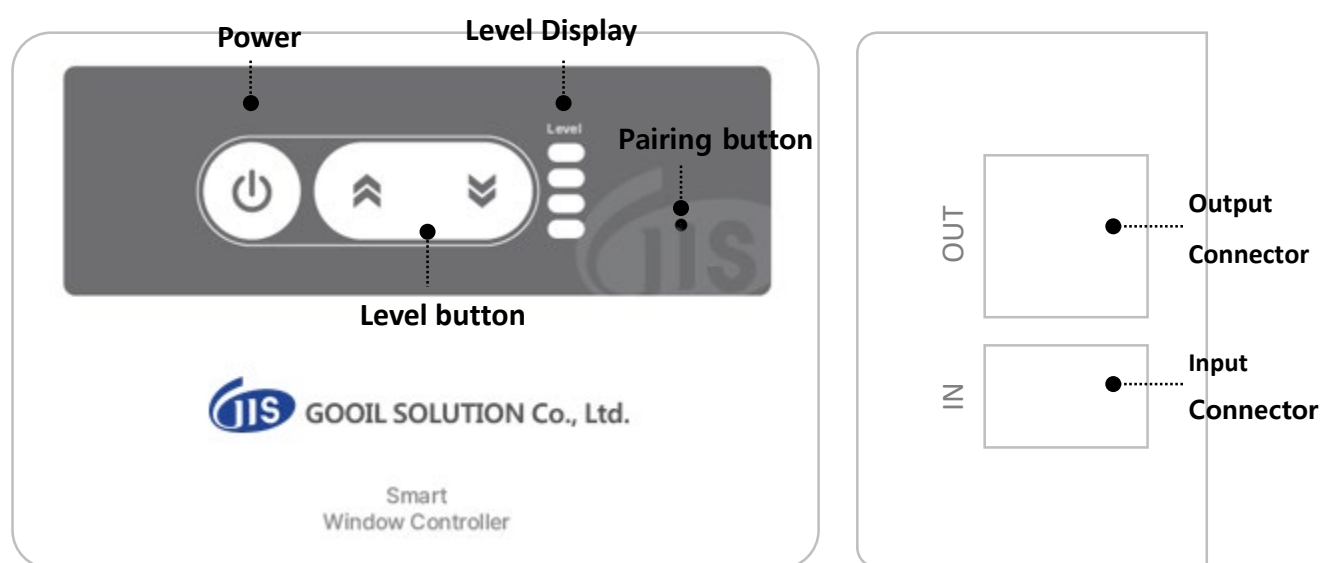※ Power adapter must be purchased separately

● DC 12V/3A or higher

● Connector dimensions

   - Outer diameter : 5.5mm

   - Inner diameter : 2.1mm

● Before you start

※ Please read the precautions before using.

● After using it, be sure to turn off the power and unplug the power adapter.

● Short circuits and electrical short can occur if they are aged after prolonged use..

● Abnormal pressure by bending or twisting the area where the controller and cable are connected can cause short circuits and faults. Please be especially careful.
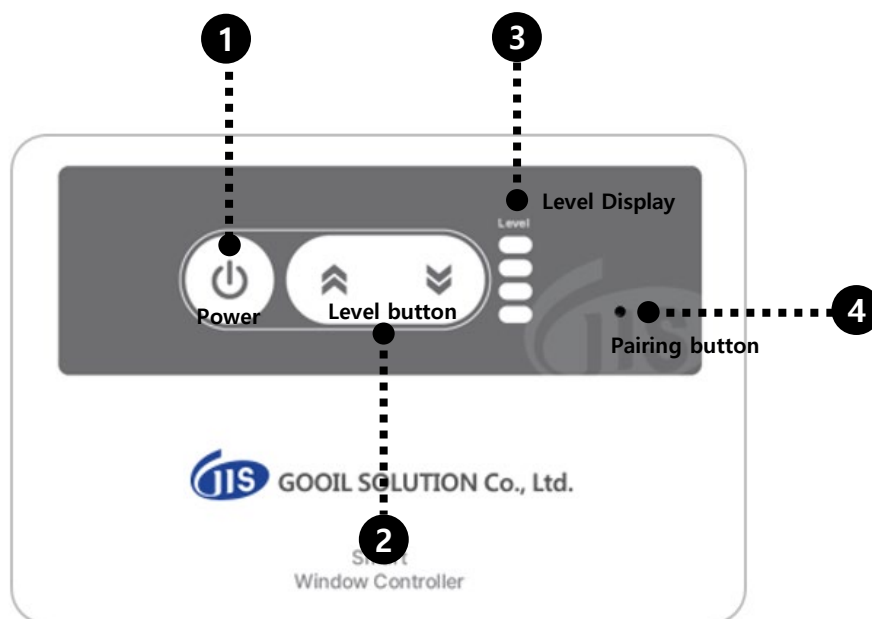
● The name and function of each part

Power　　**Level Display**

Pairing button

Level button

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OUT　　**Output Connector**

IN　　**Input Connector**

Remote Controller for 'PDLC Power Controller'

(It has a magnet inside)

<Battery Type : CR2032 x 1EA>

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Frontal　　**Rear**

2

1 Press the power button to start the operation at Level 3. Press one more time to stop.

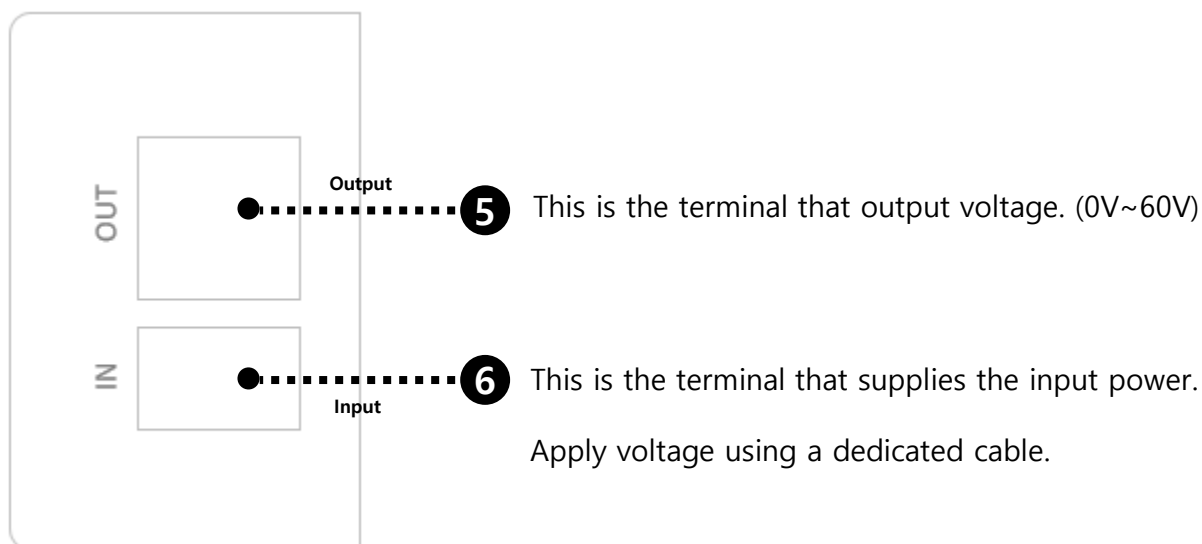**2** Can adjust the level by pressing the Level button.

You can raise the level with the left button (∧) and lower the level with the right button (∨).

3 Displays the current level.

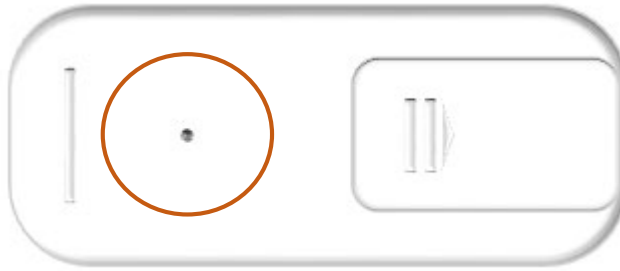In the Power Off state, the LED is not illuminated.

The LED illuminates according to the Level (1~4).

4 It is a button that pairs the dedicated 'Remote Controller' and the 'PDLC Power Controller'.
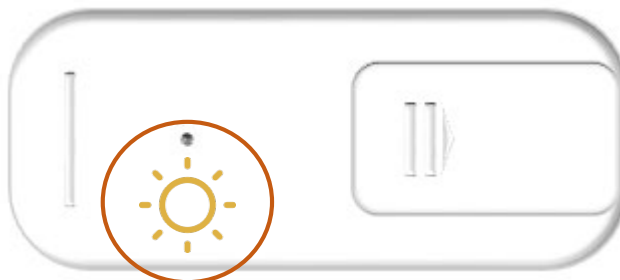

5 This is the terminal that output voltage. (0V~60V)

6 This is the terminal that supplies the input power.

Apply voltage using a dedicated cable.

3

1

Press the pairing button using a thin tool on the back of the remote controller.

2

Level

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Press the pairing button using a thin tool on the front of the controller.

3

When flashing orange light on the back of the remote controller, press the pairing button again

● In order to use this product safely and properly, please read part carefully and fully understand before using it.

● The precautions indicated here are intended to prevent damage or loss to oneself or others by using the product correctly.

● If this device is improperly used or is not used in accordance with the instruction manual, the warranty will be invalid and we may refuse to be responsible for the device.

● The use of this product prohibits the use of persons with motor, sensory or intellectual degradation and experience and knowledge (including children) unless the person in charge manages and instructs them on safety.
Make sure that the child does not play with this product.

● We have set up situations that may occur if the product is not used correctly and marked ❗ **[Warning]** and ⓘ **[Caution]**.
Both of which are important to safety, so please be sure to follow them.

> **⊙ There is a magnet inside the remote controller.**
>
> **Keep away from pacemakers, defibrillators, credit cards, and electronic storage media.**
>
> ※ Magnets can create magnetic fields that interfere with the normal operation of devices
>   and products or cause malfunctions
> ※ Regarding the pacemaker, please consult your doctor before using it.

① If this device is improperly used or is not used in accordance with the instruction manual, the warranty will be invalidated and we may refuse to be liable for any damage.

② To avoid the risk of electric shock, keep the device, cable, adapter, etc. from getting
   wet with water or other liquids.
※ There is a risk of fire due to electric shock, short circuit, etc.

③ Do not assemble or disassemble.

④ Never disassemble, modify, or repair the product..
※ It can cause fire, electric shock, and injury
(Please check that even a free repair period will be paid for any disassembly or renovation.)

⑤ Never insert any objects, such as fingers, pencils, chopsticks, sticks, etc., into the
   inner part of the case while operating.
※ There is a risk of injury and product damage.
※ There is a risk of fire.

⑥ Do not use gas stoves, etc. where sparks are present, where flammable substances
   (gasoline, benzene, thinner, gas, etc.) are present, or where moisture or water droplets
   may splash
※ There is a risk of electric shock or fire.

⑦ If the product is damaged or drowned, stop using it and contact the warranty center.

⑧ In addition, in case of abnormality or failure, stop using it and contact the A/S center immediately.

※ Damage to properties refer to extended damage to a house, crayfish or livestock or pets.

① Do not damage, force, bend, pull, twist, wrap around the product,
   apply high-temperature heat, or damage the wire.
※ Wire damage can cause disconnection, fire, and ignition.

② Keep the batteries on the remote control out of reach of children.
※ If a child swallows the battery, Take the child to the hospital immediately.

③ Do not drop the product or give it a strong impact.
(Stop using it as soon as it does not work properly and contact the consumer counseling office.)

④ Do not confuse input and output connectors.
※ There is a risk of failure due to abnormal behavior.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different

  from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

■ This device may not cause harmful interference

■ This device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

● Federal Communication Commissions (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The device has been evaluated to meet general RF exposure requirement.

The device can be used in portable exposure condition without restriction.

● Product information

- Company name : GIS (Gooil Solution)

- Date of manufacture : Separately marked

- Manufacturer : GIS (Gooil Solution)

- Country of manufacture : Korea

Separation		Contents
Product Name		PDLC Power Controller
Model Name		GIS-1011
Dimensions		60mm (L) x 45mm (W) x 30mm (H)
Control steps		4 Steps (1~4 Level)
Control Inputs		External button, 2.4GHz RF receiver (BLE)
Rated input voltage (V)	**Input Terminals**	- 15EDGK-3.81 (2pin) - 15EDGRC-3.81 (2pin)
	Input voltage to control	DC 12V/3A or higher
Output voltage (V)	**Output Terminals**	- 15EDGK-3.81 (3pin) - 15EDGRC-3.81 (3pin)
	Output voltage range	AC 0V ~ 60V Dimming
Control	**External buttons**	ON/OFF and 4-step control with external buttons
	RF Remote Control	ON/OFF and 4-step control
		Control Distance : Approx. 25 meters (Open Space)
Addition	**Operating temperature range**	-20℃ ~ 60℃
	Operating humidity range	0~90
	SURGE Immunity	1KVA, IEC 61000-4-5

- Multi-protocol 2.4GHz radio

- 32-bit ARM Cortex – M4F processor

- 512KB flash programmed memory and 64KB RAM

- Programmable output power from +4dBm to -20dBm

- Low cost external crystal 32MHz ± 40ppm for Bluetooth ; ± 50ppm for ANT Plus

- Low power 32MHz crystal and RC oscillators

- Wide supply voltage range 1.7V to 3.6V