GCSTV--C01

---Solar Remote transmission monitoring system

Manual

Goland Century Co., Ltd

Content

1. Introduction

Solar IP camera is a wireless CCTV device that is powered by solar panels and transmits one -one or one-many broadband through wireless network in long-distance. It's based on the standard of wireless communication, using OFDM(Orthogonal Frequency Division Multiplexing), MIMO(Multi-Input & Multi-Output) and other technologies. It supports allocations of several kind bandwidth(10MHz、20MHz etc), reducing the monitoring delay, improving transmit ability in long-distance and resisting interference. Meanwhile, it can transmit Ethernet through RS485 port simultaneously, applying in monitoring and inconvenient wire-installed place and off-grid area.

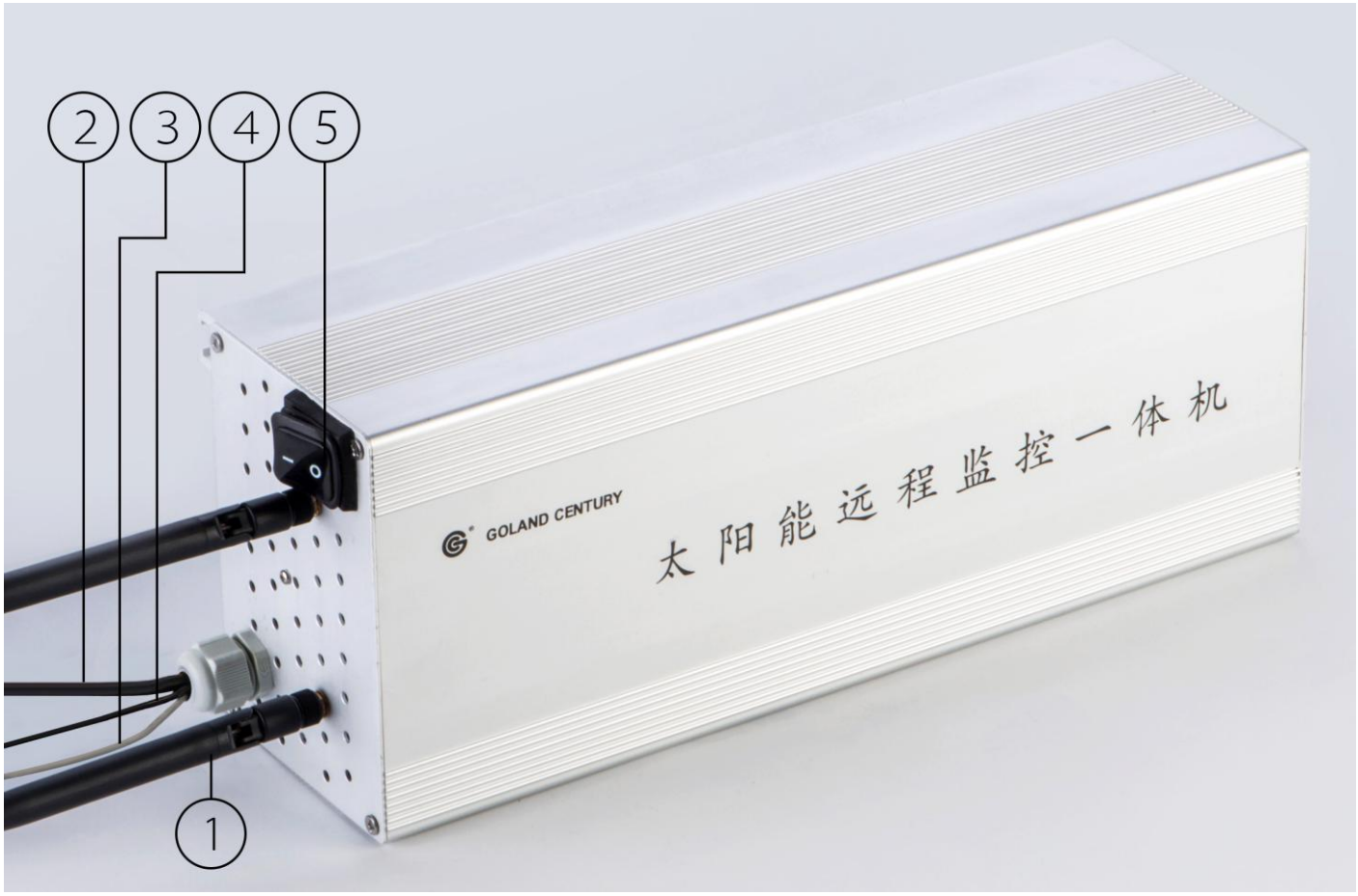


Image 1: transmitter

2. Introduction

① Antennas	② PV panel wire
③ IPC network cable, connecting transmitter	④ DC12V power wire
⑤ Power switch	

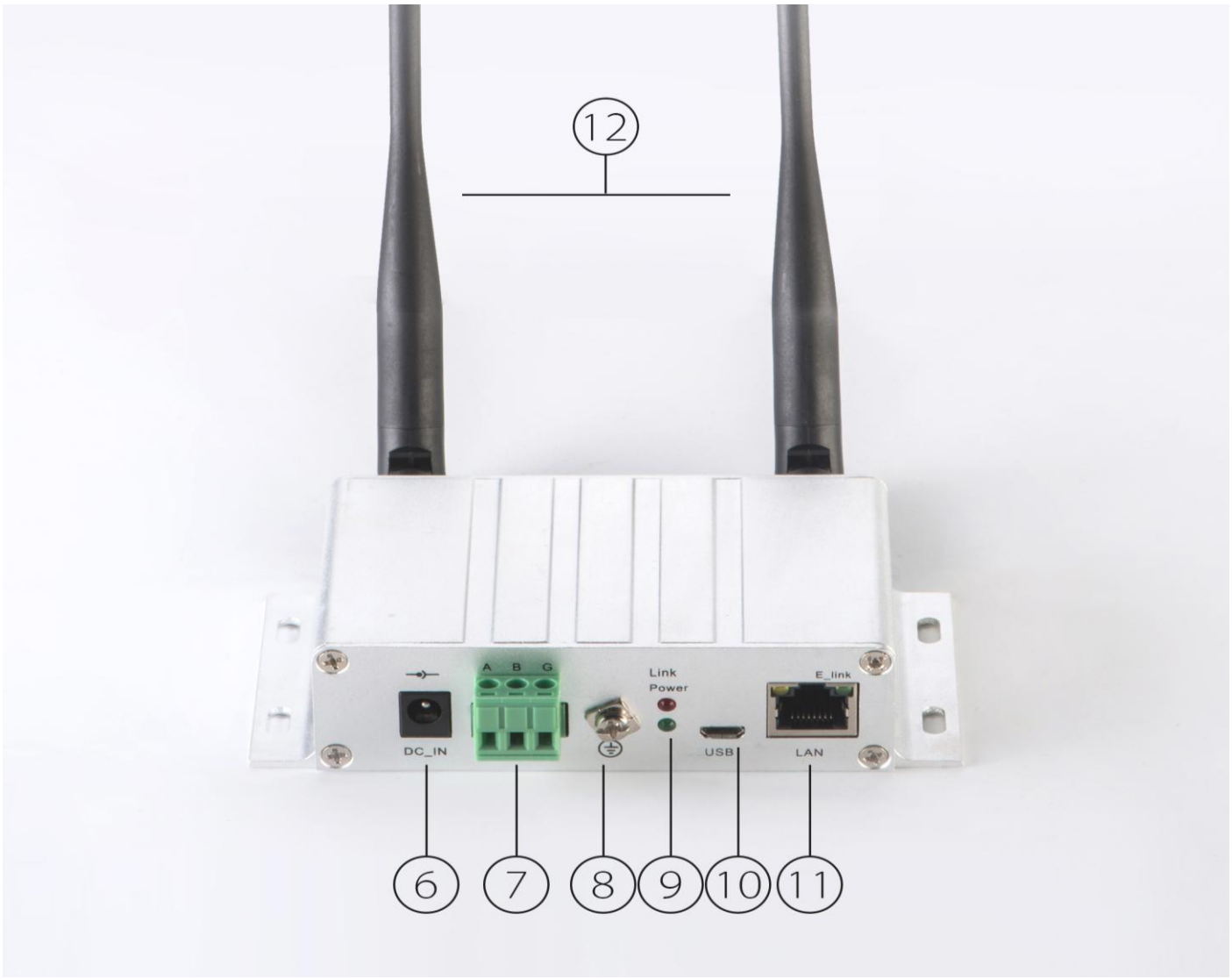


Image 2: receiver

As image 2 showed:

- ✓ Power interface: 2.1-5.5 DC Jack, voltage between DC9-36V, current 1A.
- ✓ RJ485 interface: 3 bits 5.08 pitch PHOENIX (A/B connects A/B of the 485 device, G connects earthing), transmitting 485 data(default setting 115200 bps and supporting 9600 bps).
- ✓ Earthing: M4 screw with gasket, connecting earthing with the environment.
- ✓ Signals: power signal lights on when power get connected, link signal lights on when matching device get connected.
- ✓ USB port: micro USB port, only for debugging.
- ✓ Network interface: standard RJ45 port, connecting network device and transmitting network data(E_link signal lights on when device get connected, E_link signal flickers when transmitting network data).
- ✓ Antennas

3. Main features

1) Long-distance transmission: high quality image transmission, longest transmitting distance 5km(visible distance)

2) Low consumption: highest working power below 3W.

3) Multinode: supporting one-one and one - many transmission, supporting MESH group network.

4) Multi bands optional: avoiding busy signal channel, using dedicated wireless channel, applying the wireless dynamic adaption technology, guaranteeing the reliability of transmission, and supporting channel encryption.

5) Matched transmitter and receiver: transmitter and receiver matched when packed in factory.

6) High quality Lithium battery: long operation life, low self-consumption, adapting to high or low working temperature and environmental protection.

7) Solar power supply assurance: guaranteeing continuous power supply for transmitter

8) Easy installation: easy and convenient installation, low installing cost.

4. Operation

1. Install the transmitter and receiver antennas.

2. Set the gateway of NVR(or PC): 192.168.1.xx(see ***image 3***, "xx" between 2-14, same as the gateway of the receiver) .

3. Connect IP camera and NVR(or PC) with a network cable, enter the IP address of the IP camera, modify the IP address into 192.168.1.xx(refer to the factory label of transmitter, note: "xx"should be in the same IP address section of the transmitter, 16-29, 32-44, 46-59, 61-74……, ***image 4*** showed the modified place).

4. Connect the modified IP camera with the network cable and DC power cable of the transmitter.

5. Switch on the transmitter, the IP camera starts monitoring and the yellow signal(between IP camera and transmitter) lights on.

6. Connect the receiver to the NVR (or PC), also connect receiver power interface(DC 12V), the receiver gets connected if yellow signal lights on, green signal flickers.

7. Check the yellow signal (network) of the transmitter and the receiver, if both signals flicker, it means they get matched successfully.

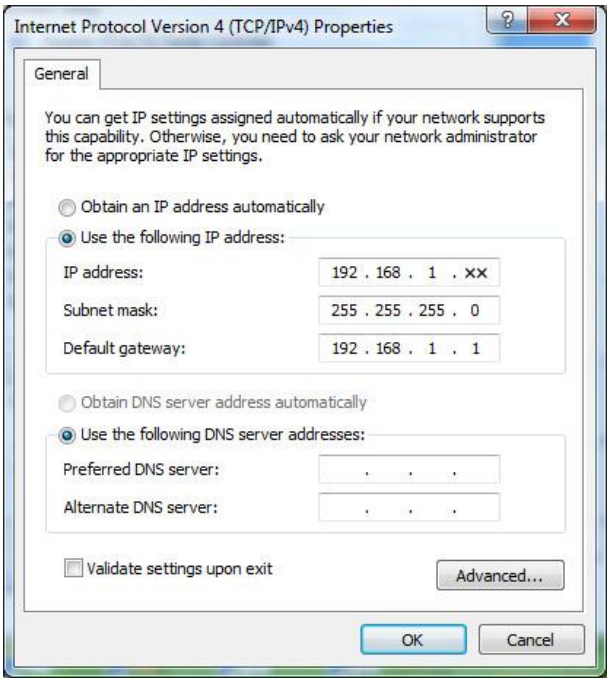
8. Check monitoring video on NVR (or PC).

9. Monitoring software: Search the IP address of IP camera and add it into monitoring on the monitoring software of NVR or PC. (For the operation of monitoring software, please follow the Guidance of IP camera brand.)

10. PC and mobile remote monitoring: install the software for IP Camera of original factory if you want to see the monitoring video on your PC or Mobile(logo on with account and password on the software).

Note: When you first time connect the IP camera and PC, the browser maybe remind you to install the plug-in, please download related plug-in first.

image 3



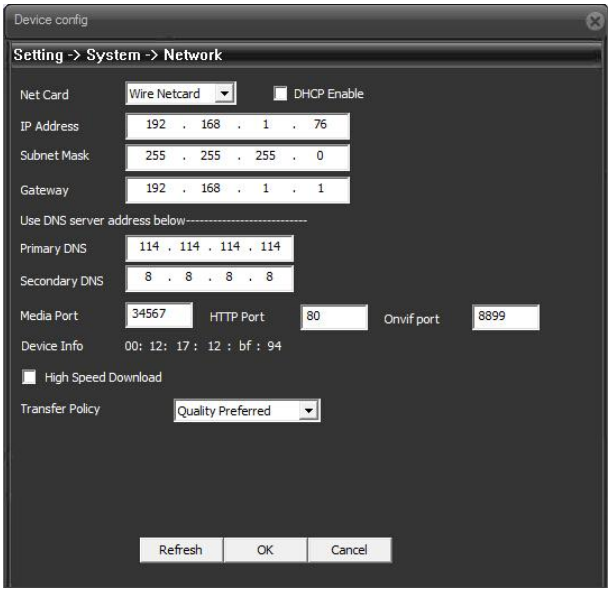


image 4

Note: For more than one IP camera, setting refers to the following (take 4 IP cameras as example):

Set IP address of software(NVR or PC)into 192.168.1.X (“X”between 2-14)
Set IP address of Transmitter 1(connecting IP camera 1) into 192.168.1.X(“X”between 16-29)
Set IP address of Transmitter 2(connecting IP camera 2) into 192.168.1.X(“X”between 31-44)
Set IP address of Transmitter 3(connecting IP camera 3) into 192.168.1.X(“X”between 46-59)
Set IP address of Transmitter 4(connecting IP camera 4) into 192.168.1.X(“X”between 61-74)

5. Specifications

1) Receiver

Function Module	Function	Description	Specification
Parts	RF	Frequency range	2408-2480MHz 1430-1444MHz 806-825 MHz
		Rate	2.4G/1.4G/800M 23dBm
		Sensitivity	2.4G: 20MHz/5Mbps -97dBm 20MHz/10Mbps -94dBm 10MHz/10Mbps -91dBm
			1.4G:10MHz/5Mbps -96dBm 10MHz/10Mbps -91dBm 800M:10MHz/5Mbps -96dBm 10MHz/10Mbps -91dBm
	interface	RS485	1
		RJ45	1

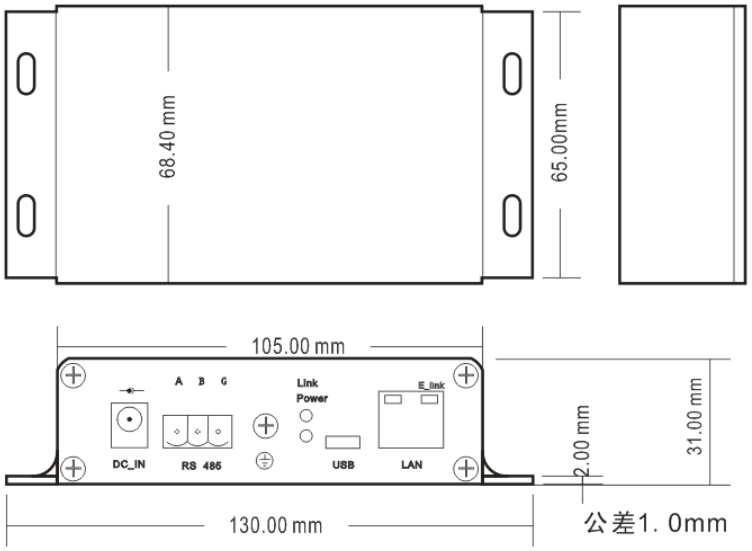
Wireless features	Transmit method	Antennas	One antenna send, two antennas receiver
	Working bandwidth	2.4GHz	10MHz/20MHz
		800MHz	10MHz
		1.4GHz	10MHz
	Performances	Speed	settable/support max 30Mbps
		Transmitting distance	Max visible distance 5km

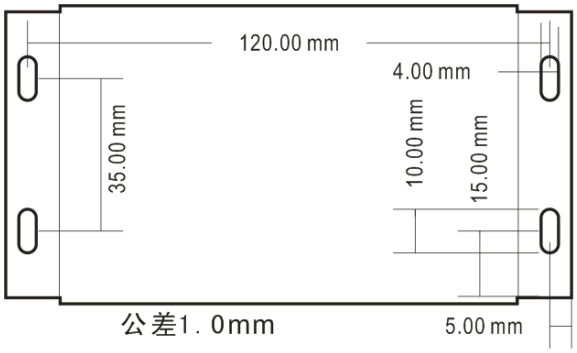
	Time delay	Data transmitting delay	Delay ＜=100ms
Parameters	Power	Input	DC9V-36V/1A
	Appearance	Size	130*68.4*31mm
		color	Silver
		wight	190g
	Environment conditions	Working temperature	-20℃~70℃
		Humidity	0-95%
		Storage temperature	-40℃~85℃

2) Transmitter

Product Model	GCSTV40C01	GCSTV55C01
Solar panel	80WP-200WP	
Battery	40Ah	55Ah
Max current	20A	
System voltage	DC 12V	
Work temperature	-20℃～+50℃	
Waterproof	IP63	
IP camera	Decides and selects by user self	
Transmitter size	155*120*420mm	155*120*520mm

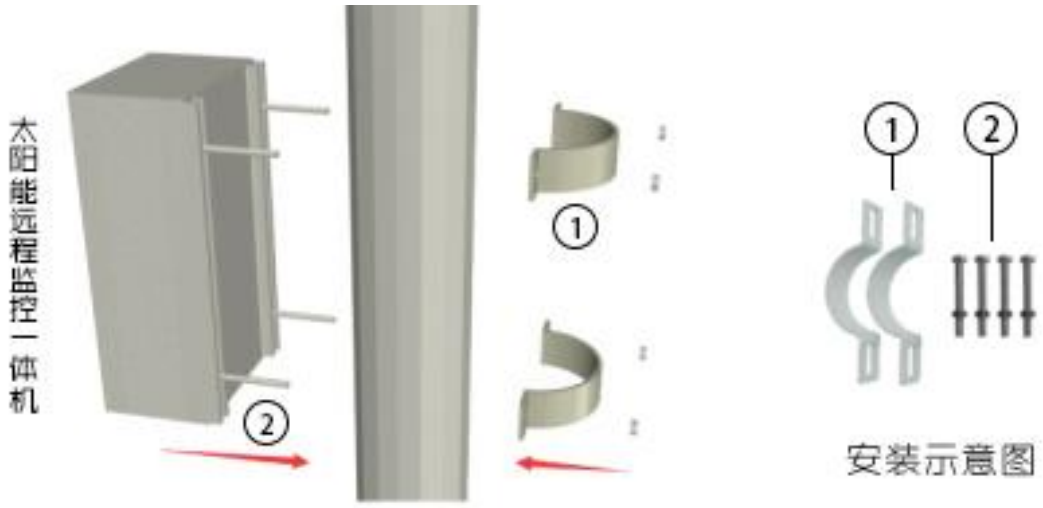
6. Dimension:





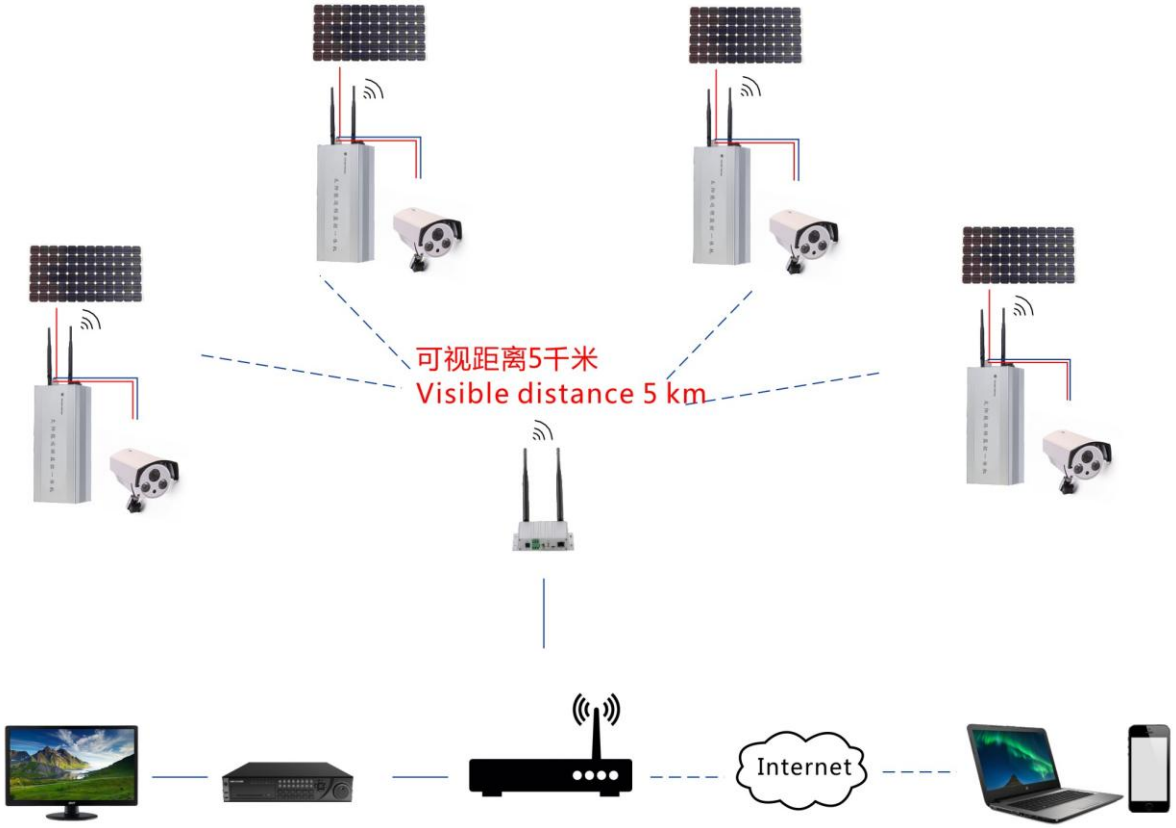
Receiver dimension

Transmitter dimension



Installation diagram

7. Connecting diagram:



8. Disclaimer

We does not accept responsibility for any damage resulting from following situations:

1. Damage caused by improper operation or not using in a right place
2. Damage caused by ignoring the max voltage/current/power and using over-voltage, over-current and over-power parts in the system.
3. Damage caused by using the product in over-temperature environment.
4. Damage caused by unauthorized tampering or repairing with the product.
5. Damage caused by force majeure.

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