

Ethernet + Wi-Fi Stick (Goldfinch)

User manual

V220605-R

修订历史记/Revision History

Date	Author	Version	Description
2022/06/05	BW	V220605	初始版本/Initial version




1. 简述/Brief

1.1. 概述/Introduction

本手册对 Goldfinch 采集器的使用进行说明，以使用户能够快速使用该产品。本手册适用于当前软件及硬件版本。我们保留因产品升级对手册内容进行变更的权利。为防止不当操作，使用前请认真阅读本手册。

Goldfinch is an Ethernet + Wi-Fi gateway. This manual describes the use of Goldfinch so that users can quickly use the product. This manual applies to the current software and hardware version. We reserve the right to change the content of the manual due to product upgrades. To prevent improper operation, please carefully read this manual before use.

1.2. 符号说明

符号	含义
	“注意”表示有潜在风险，如果未能避免可能无法正常运行或造成损失的情况 “ Attention ” means there are potential risks, if not avoided, it may not operate normally or cause losses
	“危险”表示有潜在危险，如果未能避免会导致伤害情况 “ Danger ” means that there is a potential hazard, which will cause injury if not avoided
	“说明”用于重要或关键信息，对于如何更好的使用该产品做出说明 “ Tip ” is used for important or key information to explain how to better use the product


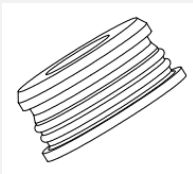
2. 产品特性/Feature

- RS-485 communication
RS-485 通信
- Wi-Fi support AP+STA dual mode
Wi-Fi 支持 AP+STA 双模式
- Ethernet and Wi-Fi dual mode
支持以太网和 Wi-Fi 双模式
- 10Mbps/100Mbps adaptive Ethernet
10Mbps/100Mbps 自适应以太网
- Automatic switch network between Wi-Fi and Ethernet
Wi-Fi 和以太网自动切换
- Automatic time synchronization when connected to internet
自动时间同步
- Support remote OTA for gateway
支持 OTA 升级采集器
- Support remote OTA for inverter
支持 OTA 逆变器
- Support local setting parameters for inverter by smart phone
支持通过智能手机本地设置逆变器参数
- Support remote setting parameters for inverter by smart phone
支持通过智能手机远程设置逆变器参数
- Support data breakpoint resume
支持工作数据断点续传
- Flame retardant grade: UL94 V-0
- 防火等级: UL94 V-0
- UV protection rating: F1
抗紫外线等级: F1
- Degree of protection: IP65
防护等级: IP65

3. 包装清单/Package list

Please check the scope of delivery for completeness and externally visible damage. Contact your distributor if the scope of delivery is complete or damaged.

请检查包装附件完整性及是否有可见的损坏。如果附件缺失或损坏，请联系经销商。

List/清单	Name/名称	Quality/数量
	Ethernet + Wi-Fi stick 以太网+Wi-Fi 采集器	1
	Sealing plug 防水塞	2

4. 产品指示/Indication

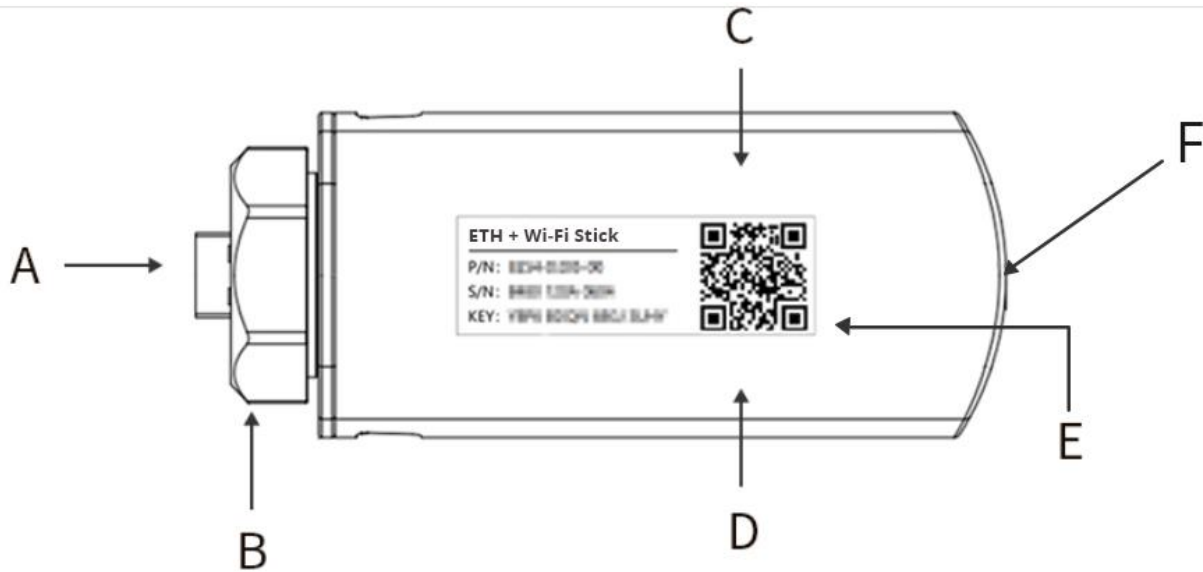


图 4-1-1 产品指示

A. USB-A interface: Connected to inverter

USB-A 接口: 用于连接逆变器

B. Hex nut: The connection between the collector and the inverter is fixed

六角螺母: 固定采集器与逆变器之间的连接

C. Red LED: Device communication indication

红色 LED: 设备通信指示灯

D. Green LED: Cloud server communication indication

绿色 LED: 网络通信指示灯

E. Product label: Display product information

产品标签: 展示产品信息

F. Cable hole: Network cable through this hole

网线插孔: 用于插入网线



1. LED 只有在采集器通电后才显示

LED glow only when the Goldfinch is powered on.

2. 采集器通电的时候, 绿灯持续点亮 3 秒, 作为上电指示

When the Goldfinch is powered on, the green LED glows for 3S, indicating that the Goldfinch is powered on.

3. 详细 LED 指示说明请参考【LED 指示与故障排查】章节

The more detail LED indication please refer "LED indication and trouble shooting" chapter.

5. 安装与拆卸/ Installation and removal

本章节将介绍如何将采集器安装到逆变器上及如何拆卸。Goldfinch 具有以太网及 Wi-Fi 通讯的功能，如果用户仅采用 Wi-Fi 通讯，而无需以太网通讯，可跳过“安装网线”章节。

This chapter will introduce how to install the Goldfinch on the inverter and how to remove it. Goldfinch has the function of Ethernet and Wi-Fi communication. If the user only uses Wi-Fi communication, you can skip the chapter "Install the network cable"

5.1. 安装网线/ Install the network cable

1> 拆卸外壳：如图所示，使用一字螺丝刀，按压外壳左右两边的卡扣。然后用手拔出 USB-A 接口部分。

Remove the shell: use a flat-blade screwdriver to press the buckles on the left and right sides of the shell, as shown in the following figure. Then pull out the USB-A interface part by hand.

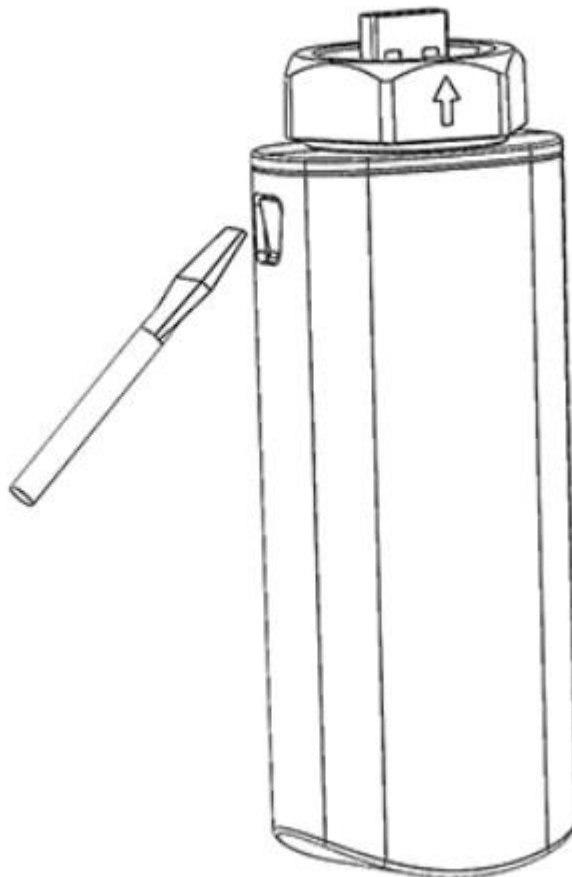


图 5-1-1 按压卡扣/ press the buckles

2>. 插入网线：将网线穿过外壳底部的网线孔，并将水晶头插入到 RJ45 座上，将带孔的防水胶塞卡在网线上，如下图所示。

Insert the network cable: Pass the network cable through the network cable hole at the

bottom of the shell, insert the RJ45 plug into the RJ45 socket, and place the sealing plug with the hole on the network cable, as shown in the following figure.

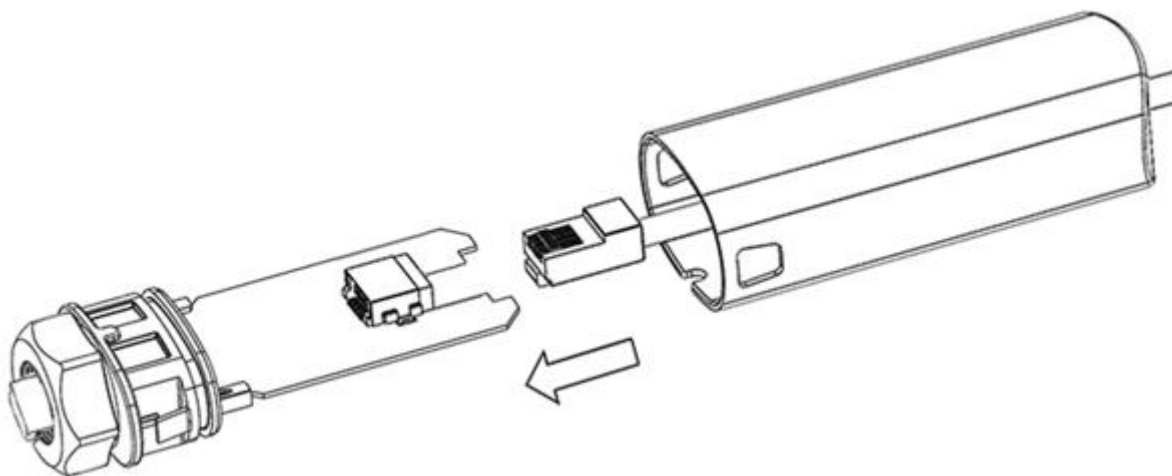


图 5-1-2 插入网线/ Insert the network cable



1. 连接采集器的网线建议采用 5 类或以上规格的网线。

It is recommended to use the CAT5 or above standard network cable to connect the Goldfinch.

2. 如果安装于室外请选择具有防水及防紫外线功能的网线。

If you install it in outdoor, please choose a network cable with waterproof and UV protection.

3>. 装配外壳: 将外壳插入 USB-A 接头部分, 直到外壳与 USB-A 接头完全衔接, 即可完成外壳组装, 如下图所示:

Assemble the shell: Insert USB-A interface part into the shell until the shell is fully connected, as shown in the following figure:

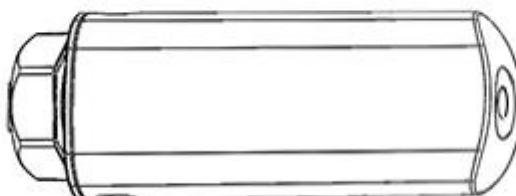


图 5-1-3 装配外壳/Assemble the shell

4>. 装防水胶塞：将防水胶塞塞入底部的网线孔，确保处于密封状态，如下图所示：

Install the sealing plug: insert the sealing plug into the network cable hole at the bottom of shell to ensure it is in a sealed state, as shown in the following figure:

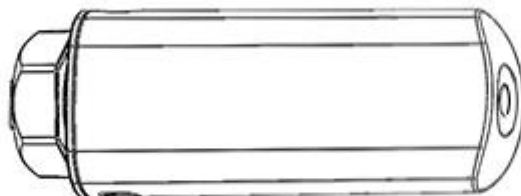


图 5-1-4 塞入防水塞/ install the sealing plug



如果不需要以太网通信时，请用无孔的防水塞塞住采集器底部的网线孔，保证产品处于密封状态。

If not use Ethernet communication, please use a non-porous sealing plug to plug the network cable hole at the bottom of the Goldfinch to ensure that the product is in a sealed state.

5.2. 安装采集器/Install the Goldfinch

1>.插入逆变器 USB-A 接口：将采集器插入到逆变器的 USB-A 接口上，如下图所示：

Insert into inverter's USB-A interface: insert the Goldfinch into the inverter's USB-A interface, as shown in the following figure:

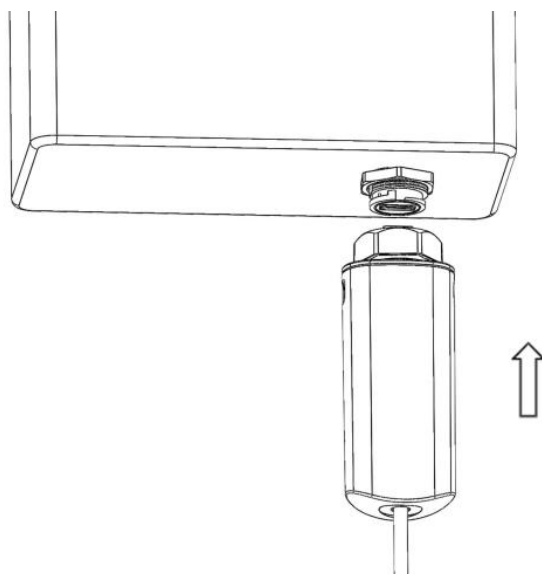


图 5-2-1 插到 USB-A 接口/Insert into the USB-A interface

2>. 拧紧螺母：如下图所示，沿顺时针方向旋转拧紧六角螺母，安装完成。

Tighten the nut: Rotate the hexagon nut clockwise as shown in the following figure to complete the installation.

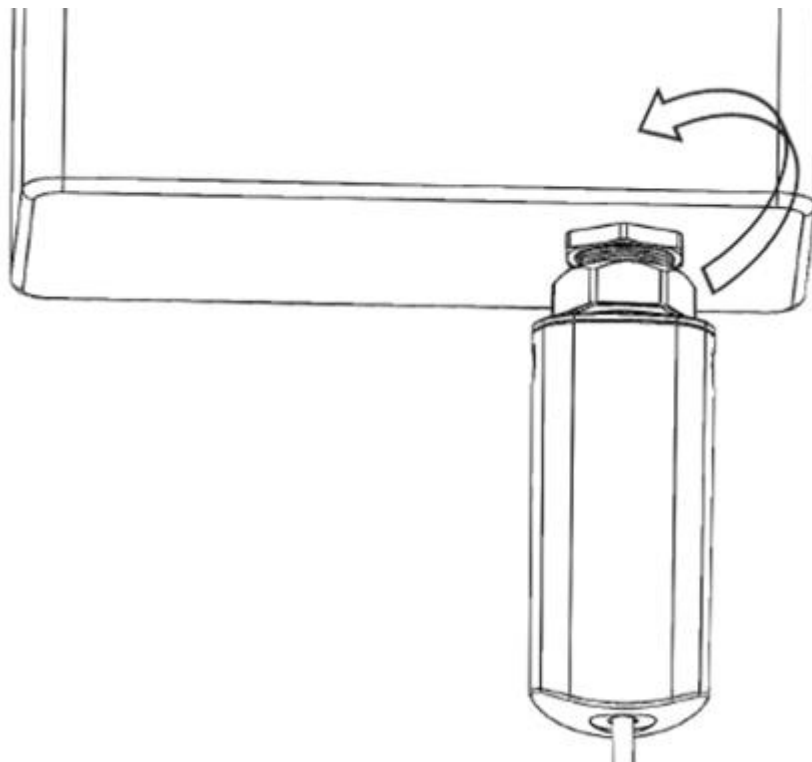


图 5-2-2 拧紧螺母/Tighten the nut

5.3. 拆卸采集器/Remove Goldfinch

1>. 松开螺母：如下图所示，沿逆时针方向旋转六角螺母至螺纹完全退出；

Loosen the nut: as shown in the following figure, turn the hexagon nut counterclockwise until the thread is completely withdrawn;

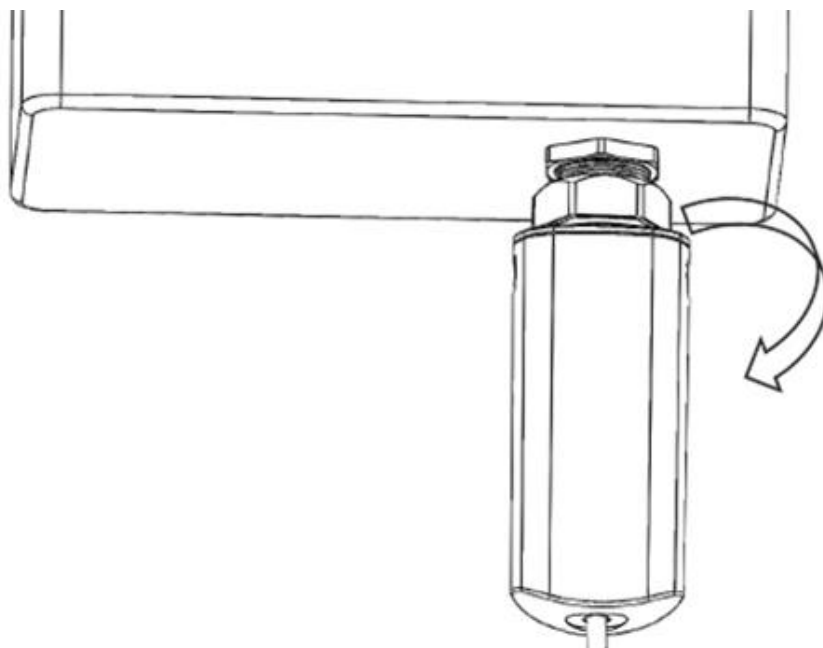


图 5-3-1 松开螺母/ Loosen the nut

2>. 拔出采集器：如下图所示，沿箭头方向拔出采集器，拆卸完成。

Pull out the collector: Pull out the collector in the arrow direction, as shown in the following figure.

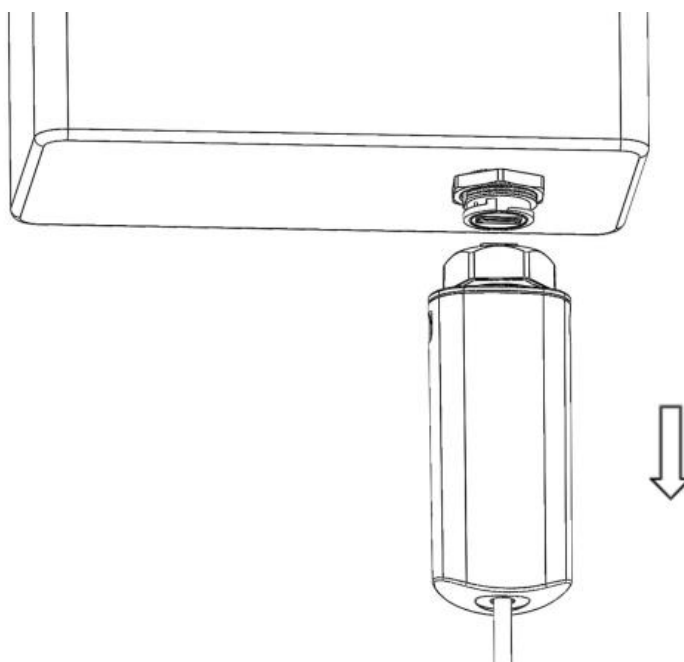


图 5-3-1 拔出采集器/ Unplug collector

6. 网络连接/Network connection

Goldfinch 采集器同时支持以太网及 Wi-Fi 通信，以太网及 Wi-Fi 通讯配置方法如下章节所述。

The Goldfinch supports both Ethernet and Wi-Fi communication. The configuration method of Ethernet and Wi-Fi communication is described in the following sections.



1. 进行网络连接时，逆变器需处于上电状态

When connecting to the network, the inverter must be powered on.

6.1. 以太网连接/Ethernet connection

Goldfinch 的以太网通讯示意如下图所示，如需手动设置网络参数，具体过程可按照章节 6【下载 APP】下载对应的 APP，按照 APP 的操作指引配置网络参数。

The Ethernet communication diagram of Goldfinch is shown in the following figure. If you need to manually set network parameters, the specific process can be in accordance with Chapter 7 "Download APP" to download the corresponding APP, and configure the network parameters according to the operation guide of the APP.

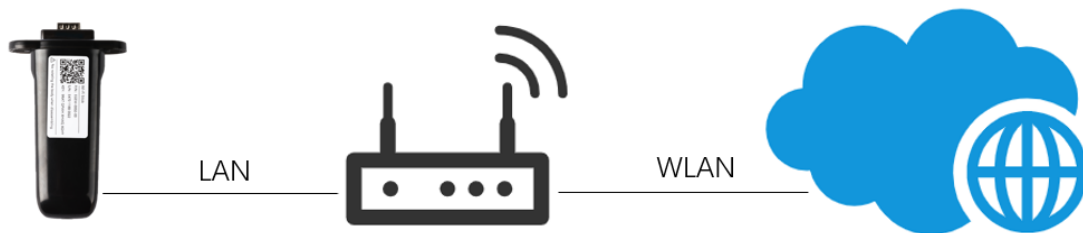


图 6-1-1 以太网连接示意图/ Ethernet connection diagram



1. 请确保路由器可正常连接到互联网

Make sure that the router has the internet access.

2. 建议开启路由器的 DHCP 功能。

It is recommended to enable the DHCP function of the router.

3. 为了确保采集器能正确连接到云服务器，远程服务访问端口：51100 和 80 端口须处于开放状态。

In order to ensure that the Goldfinch can connect to the cloud server, the remote service access port: 51100 and 80 must be enable.

6.2. Wi-Fi 连接/Wi-Fi connection

Goldfinch 的 Wi-Fi 通讯示意如下图所示，当用户需要采用 Wi-Fi 通信时，具体过程可按照章节 6【下载 APP】下载对应的 APP，按照 APP 的操作指引配置采集器连接到用户的路由器和云服务器。

The Wi-Fi communication diagram of Goldfinch is shown in the figure below. The specific process can be downloaded according to Chapter 7 "Download APP" to download the APP, and configure the network connection according to the operation guide of the APP.

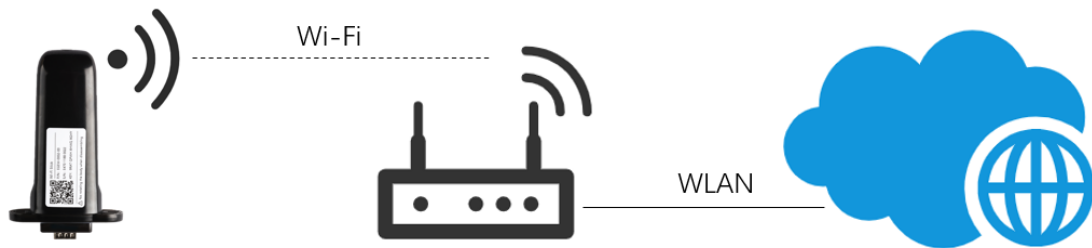


图 6-2-1 Wi-Fi 连接示意图/ Wi-Fi connection diagram



如果用户不需要以太网通信时，请用无孔的防水塞堵住采集器底部的网线孔，保证产品处于密封状态。

If the user does not need Ethernet communication, please plug the network cable hold with the holeless sealing plug, to ensure that the product is in a sealed state.

/Network connection

7. 下载 APP/Download APP

iPhone : search "PowerView ES" in Apple Store, or scan the image below with a QR code.

Android: search "PowerView ES" in Google Play, or scan the image below with a QR code.

苹果手机：可在苹果应用商店搜索 "PowerView ES" 进行下载。或者扫描下方二维码下载

安卓手机：可在 Google play 商店搜索 "PowerView ES" 进行下载。或者扫描下方二维码下载



Android



iOS

图 7-1 QR code for APP

/Network connection

8. 安装确认/ Installation confirmation

When the red LED and the green LED on the Goldfinch are always glowing, it indicates the Goldfinch is normal, and it flashes during data transmission. Otherwise, it needs to be corrected by referring to the LED indication and troubleshooting chapter.

当采集器红色和绿色 LED 长亮，表示采集器处于正常工作状态，此时可正常监控光伏电站信息。否则，需要根据【LED 指示与故障排查】查章节进行排查。

9. LED 指示与故障查/LED indication and trouble shooting



表示红色 LED，设备通信指示灯/Red LED: Device communication indication.





表示绿色 LED，网络通信指示灯/Green LED: Cloud server communication indication.


具体信息如下表格/The details as following table:

LED	状态/State	含义/Indication
	Flash every 2S and then glowing 每两秒闪烁一次然后长亮	Communication is normal 正常通信
	Not glow more than 20S 熄灭状态超过 20S	The power supply or device is abnormal: 1.Check the device DB9 supply whether is normal 2.Goldfinch abnormal, contact your distributor 采集器供电异常或者损坏: 请确认设备 DB9 接口供电是否正常或请联系经销售
	Flash every 2S and then does not glow 每两秒闪烁一次然后熄灭	Device communication failure: please check the Goldfinch connection with inverter whether is loose 设备通信异常: 请检查采集器与逆变器之间的连接是否松动或接触不良
	Continuously glows 3S when powered on and goes out 上电时持续点亮 3S 后熄灭	Power on indication 上电工作指示

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	Glow more than 5S 点亮时间超过 5S	communication is normal 通信正常
	Flash and then glow 长亮过程中闪烁	Network transmit data 网络收发数据
	Flash once every minute and then off 每分钟闪烁一次后熄灭	The route is not connected: 1.Please check the password whether is right 2.Please check the strength of the router 未连上路由器: 1.请检查路由器密码是否输入错误 2.请检查路由器信号是否偏弱
	Flash 3 times every minute and then off 每分钟闪烁三次后熄灭	Connect to the route, but can't connect to the cloud server: 1.Check whether has internet access. 2.Please check the firewall setting 连上路由器但无法连接到云服务器: 1.请检查路由器是否有上网权限 2.请检查是否有防火墙设置
	Flash 4 times every minute and then off 每分钟闪烁四次后熄灭	Device communication is error: Contact your distributor 设备信息错误: 请联系经销商
	Flash 2 times at the same time 红绿灯同时闪烁两次	Goldfinch found Ethernet cable inserted 采集器检测到插入网线

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	Flash 3 times at the same time 红绿灯同时闪烁三次	Goldfinch found Ethernet cable plugged out 采集器检测到网线被拔出
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/LED indication and trouble shooting

FCC Statement

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

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: 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 equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body