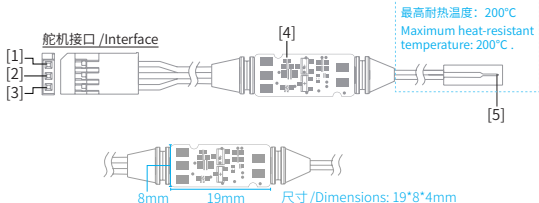## 产品介绍 Introduction

FS-iBT01 是一款采用 i-BUS2 协议适配富斯 AFHDS 3 增强版接收机的温度传感器。设计小巧，易安装，PPX6 级别防水，实时回传温度数据，测量温度可精确到 0.1° C，适配多种模型使用。

FS-iBT01 is a temperature sensor that adapts to Flysky AFHDS 3 enhanced receiver in compliance with i-BUS2 protocol. It features compact design, easy installation, PPX6 waterproof, real time temperature data return, high accuracy of measurement temperature (0.1° C), and adaption to a variety of models.

概览 Overview

舵机接口 /Interface

[1]
[2]
[3]
[4]
[5]

最高耐热温度: 200℃
Maximum heat-resistant temperature: 200℃ .

8mm   19mm   尺寸 /Dimensions: 19*8*4mm

[1] S(信号脚)	[1] Signal pin
[2] + (电源正极)	[2] + (Power anode)
[3] -(电源负极)	[3] - (Power cathode)
[4] LED 灯	[4] LED
[5] 温度探头	[5] Temperature detection element

产品规格 Product specifications

- **产品型号：** FS-iBT01
- **适配设备：** 支持 i-BUS2 协议系列接收机（如 FTr8B、FTr12B、INr6-HS 等富斯 AFHDS 3 增强版接收机）
- **适配机型：** 车、船、直升机、固定翼、格斗机器人、工程车等
- **协议类型：** i-BUS2
- **测量精度：** 0.1° C
- **测量范围：** -20℃ ~ +200℃
- **输入电源：** 3.5~9V/DC
- **工作电流：** 20mA（5 V）
- **在线更新：** 不支持
- **防水等级：** PPX6
- **外形尺寸：** 295mm（长度）
- **机身重量：** 4.0g
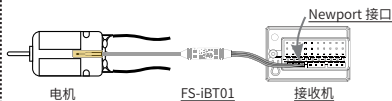- **温度范围：** -20℃ ~ +85℃
- **湿度范围：** 0 ~ 95%
- **安规认证：** CE，FCC

- **Product Type:** FS-iBT01
- **Compatible Devices:** Supports receivers that comply with i-BUS2 protocol series (such as FTr8B, FTr12B, INr6-HS and other Flysky AFHDS 3 enhanced receivers).
- **Compatible Models:** Cars, boats, helicopters, fixed-wing aircraft, fighting robots, engineering vehicles, etc.
- **Protocol:** i-BUS2
- **Measurement Accuracy:** 0.1° C
- **Measurement Range :** -20℃ ~ +200℃
- **Input Power:** 3.5~9V /DC
- **Working Current:** 20mA（5 V）
- **Online Update:** No
- **Water Proof:** PPX6
- **Dimensions:** 295mm（Length）
- **Weight:** 4.0g
- **Temperature Range:** -20℃ ~ + 85℃
- **Humidity Range:** 0 ~ 95%
- **Certifications:** CE, FCC

安装说明 Installation

温度传感器安装步骤如下：
1. 使用 3M 贴将温度传感器固定在模型合适位置处，注意固定的面需平整。也可使用扎带将其捆绑在模型上，注意力度，避免扎带勒坏产品；
2. 建议使用软胶将温度探头固定在模型需要检测温度的位置（如电机、电调或发动机上）；
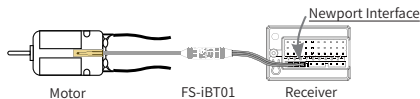3. 将舵机接口连接到接收机 Newport 接口，在与此接收机对码的发射机端，将接收机对应的 Newport 接口协议设置为 i-BUS2，即可在发射机端查看相关信息。

示意图：

电机   FS-iBT01   接收机
Newport 接口

注：
1. 不同应用对线材长度要求不同，如需加延长线，请注意 FS-iBT01 接口为舵机接口，针脚定义参考前面【概览】描述。
2. 适配支持 i-BUS2 协议的发射机：Noble （固件版本 V2.0.93 及以上）、Noble Lite（固件版本 V1.0.10 及以上）、Noble pro、PL18（固件版本 1.0.55 及以上）和 PL18 Lite（固件版本 1.0.65 及以上）；
3. 若温度传感器正常工作，此时 LED 灯常亮；
4. 若传感器已连接电源但未检测到 i-BUS2 信号，此时 LED 灯慢闪。

Follow the steps below to install the temperature sensor:
1. Use 3M stickers to fix the temperature sensor at the appropriate location of the model. It should be noted that the fixed surface should be flat. You can also use a cable tie to tie it to the model. In this case, you should control the force.
2. Use soft glue to stick the temperature detecting element on the parts to be detected, for example, motor, ESC or engine.
3. Connect the servo interface to the Newport interface of the receiver. Set the protocol of the corresponding Newport interface of the receiver to i-BUS2 at the transmitter side that binds this receiver. As a result, you can view the relevant information at the transmitter side.

Diagram:

Motor   FS-iBT01   Receiver
Newport Interface

Notes:
1. The cable length may vary to different applications. If you need to add an extension cable, please note that the FS-iBT01 interface is a servo interface, and for the pin definition, refer to the description in the previous Overview section.
2. The transmitters that support i-BUS2 protocol: Noble (firmware version V2.0.93 or later), Noble Lite (firmware version V1.0.10 or later), Noble pro, PL18 (firmware version 1.0.55 or later) and PL18 Lite (firmware version 1.0.65 or later).
3. If the temperature sensor is working properly, the LED is solid on at this time.
4. If the sensor is connected to power supply but no i-BUS2 signal is detected, the LED flashes slowly at this time.

⚠️ **注意事项：**
- 为防止损坏温度传感器，请确保与接收机正确连接。
- 使用温度传感器前，请确保与接收机的 i-BUS2 接口相连。
- 本传感器测量的最高温度为 200°C。
- 使用前，需先测试功能，测试完成后再使用。
- 请勿拉扯，弯折温度传感器的温度检测端。

⚠️ **Attentions:**
- Ensure that the sensor is connected properly to the receiver, failure to do so may result in damage to the sensor.
- Ensure that the sensor is connected properly to i-BUS2 interface of the receiver before use.
- The maximum temperature measured by this sensor is 200° C.
- To ensure that the sensor is functioning as desired, please test accordingly.
- Do not pull or bend the temperature detection terminal of the temperature sensor.

认证相关 Certification

FCC Compliance 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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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.

EU DoC Declaration

Hereby, [Flysky Technology co., ltd] declares that the Radio Equipment [FS-iBT01] is in compliance with RED 2014/53/EU.
The full text of the EU DoC is available at the following internet address: www.flysky-cn.com.

RF Exposure Compliance

The distance between user and products should be no less than 20cm.

Environmentally friendly disposal

Old electrical appliances must not be disposed of together with the residual waste, but have to be disposed of separately. The disposal at the communal collecting point via private persons is for free. The owner of old appliances is responsible to bring the appliances to these collecting points or to similar collection points. With this little personal effort, you contribute to recycle valuable raw materials and the treatment of toxic substances.

| 微信公众号 | Bilibili | Website | Facebook |

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