



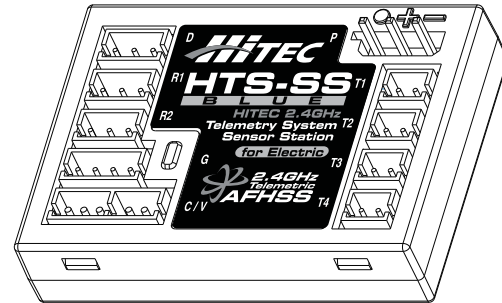
# HTS-SS

BLUE

Electric Aircraft Sensor Station

 **2.4GHz** ADAPTIVE  
Telemetric FREQUENCY HOPPING  
**AFHSS** SPREAD SPECTRUM

# Installation Manual



## Introduction

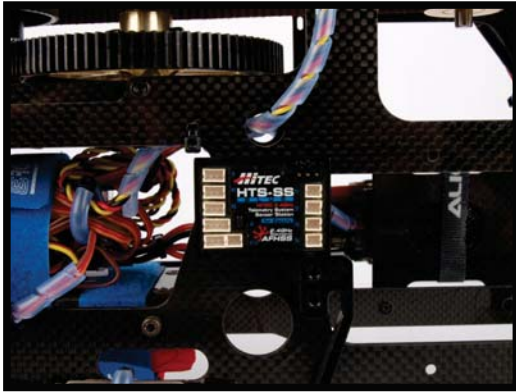
Welcome to the Hitec 2.4GHz Telemetry System experience! Hitec's 2.4GHz Telemetry System (HTS-SS) is the next step in RC evolution. Now you can fly your aircraft AND know the current status of your model's RPM, Voltages, Temperatures and GPS information including Speed and Altitude.

This system can be installed in almost any aircraft including helicopters, gliders, and electric powered planes. We made the Hitec Telemetry System easy to use and simple to install. That being said, we still advise you to read through this manual in its entirety to familiarize yourself with the proper installation and usage procedures.



## 1.HTS-SS BLUE Electric Aircraft Sensor Station

Collects sensor data and relays it to the Optima series receivers. The data can be viewed on the Aurora 9 or Eclipse 7 Pro, heard on the HTS-Voice or displayed on a PC using the HPP-22 or HTS-Navi.



Do not install the Sensor Station right away.



Note

Before permanently mounting the Sensor Station, take into consideration the length of the sensor wire leads. Don't install the Sensor Station right away. You should use the supplied double-sided tape when it is time to permanently install the Sensor Station.

## 2.HTS-ORPM Optical RPM sensor

Uses light to measure prop or rotor RPM.



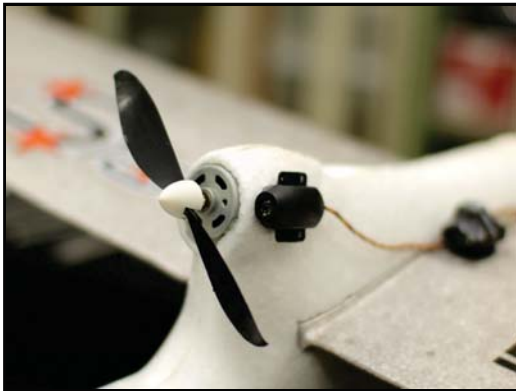
-Installation Example for Helicopters-

The HTS-ORPM can be installed easily using a cable tie (see picture)



Note

If you wish to include the stabilizers in the measurements, install the HTS-ORPM near the stabilizers and then select 4 Blade Type in the radio menu.

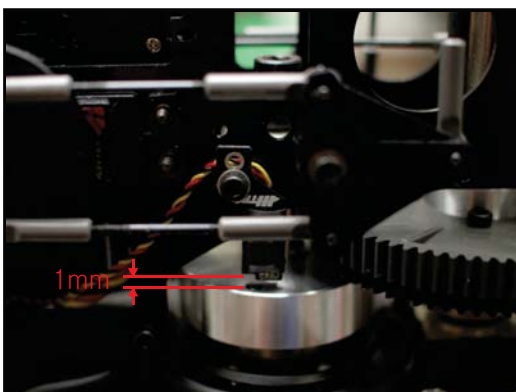


-Installation Example for Airplanes-

If you wish to install the HTS-ORPM as shown in this picture, use the supplied double-sided tape.

## 3. HTS-MRPM Magnetic RPM sensor

Uses a magnetic sensor and magnets to measure RPM.

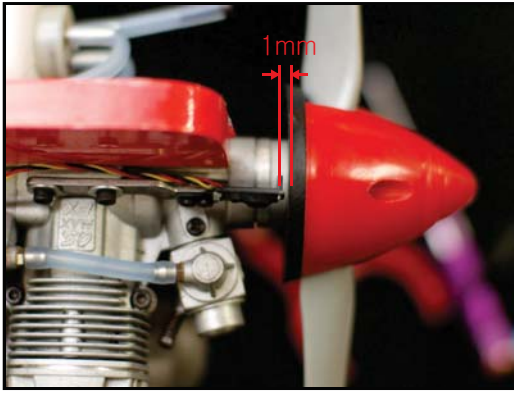


-Installation Example for Helicopters-



Caution

The HTS-MRPM sensor has to be installed within 1mm of the sensing magnets.

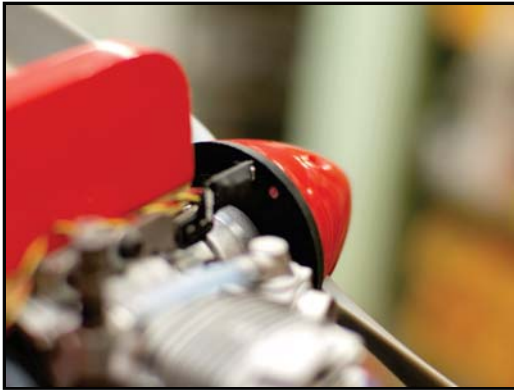


-Installation Example for Airplanes-  
When using a scratch built bracket, install the HTS-MRPM as shown.



Caution

The HTS-MRPM sensor has to be installed within 1mm of the sensing magnet.



The marked side of the sensing magnet must be face to face with the HTS-MRPM sensor.

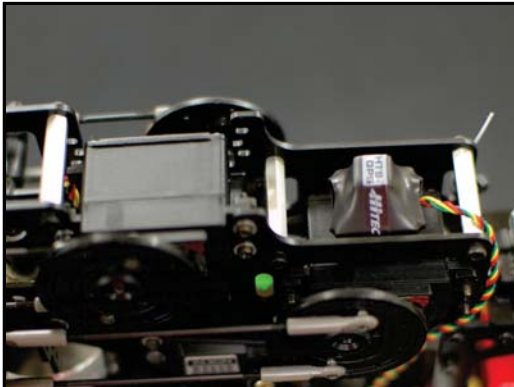


Caution

If you install the HTS-MRPM on the other side of a sensing magnet, no data will be shown.

## 4.HTS-GPS

Hitec's GPS sensor is specifically designed for RC applications. Unlike conventional single dimension GPS sensors, such as for car navigation, the five dimensional cube antenna has been implemented to cover the dynamic movement of RC aircraft. As a result, it can receive consistent GPS information even during 3D flight.



-Installation Example for Helicopters-

The GPS sensor will provide GPS data such as speed, altitude and location.

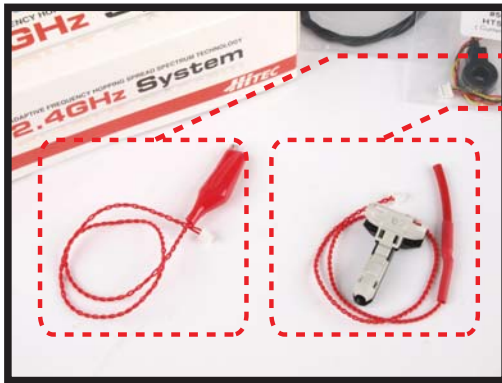


-Installation Example for Airplanes-

The GPS sensor should be installed in as much open space as possible in order to receive the most accurate GPS data.

## 5. HTS-VOLT Voltage Sensor

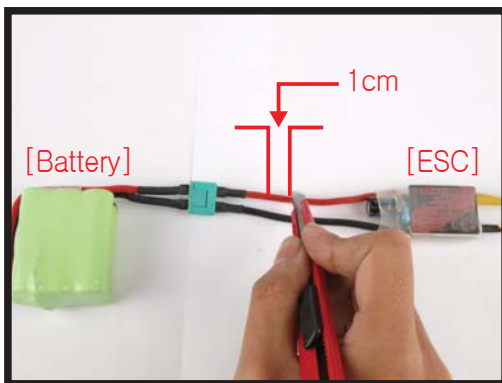
Measures battery voltage by directly coupling sensor to wires.



Alligator clamp type

T-connector type

Two types of voltage sensors are included in this set-up: a T-clamp and an Alligator clamp. The T-clamp can be connected to the HTS-SS Blue without soldering. The Alligator clamp is useful on thicker wiring.

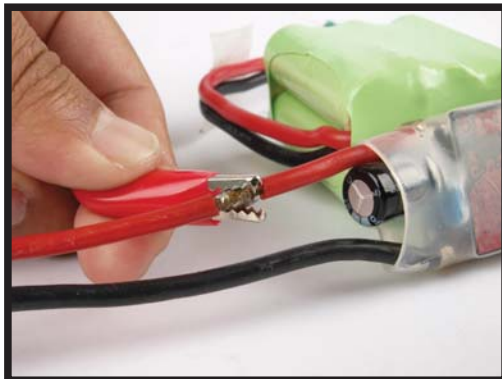


[Battery]

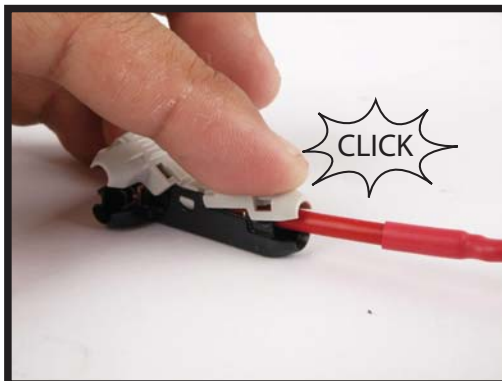
[ESC]

-Alligator Clamp Installation-

You will need to strip the red (positive +) wire about 1cm, as shown in the picture.

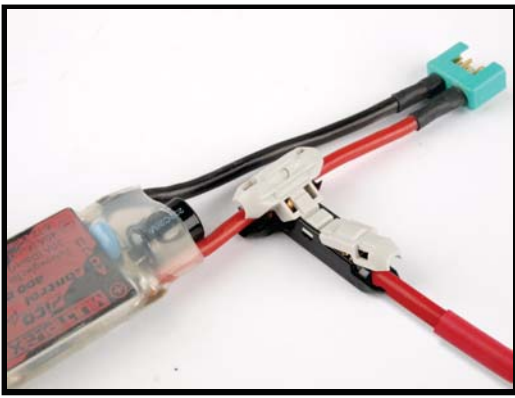


Solder on the stripped spot then clamp the Alligator clamp to the soldered spot.



-T-Clamp Installation-

Connect the sensor wire to the T-clamp as shown and push down the plastic clip until you hear it click.



Connect the other side of the T-clamp to the red (positive "+") ESC wire.



The T-clamp connector can be connected to the wire without stripping the wire.



Use a wire thickness that is compatible with the T-clamp type connector.

## 6. HTS-C50/C200 Current Sensors

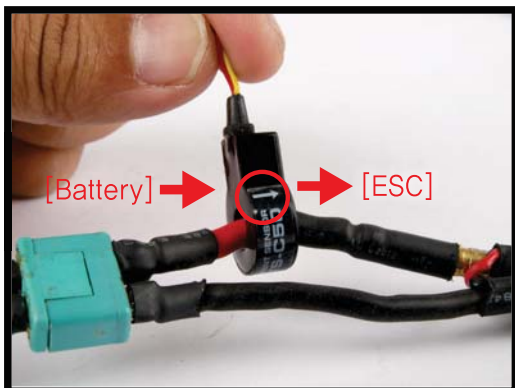
Measures the current being used in real time.



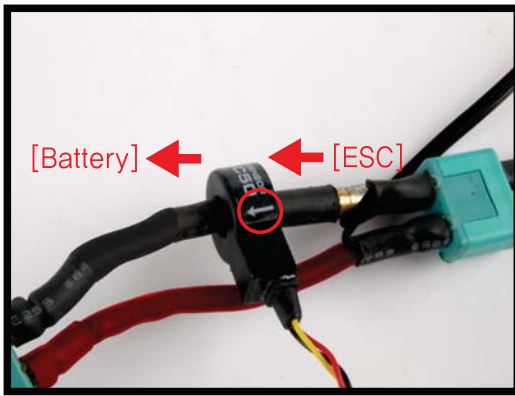
HTS-C50 Sensor

HTS-C200 Sensor

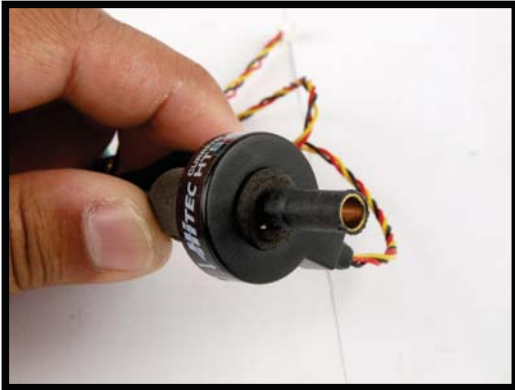
The two types of current sensors included with this set-up are the HTS-C50 and the HTS-C200. The HTS-C50 measures current up to 50 amps. The HTS-C200 measures current up to 200 amps. Use the sensor most suited to your model.



When you install the current sensor on the ESC's positive "+" wire, note the direction of the arrow on the current sensor. It should be pointing away from the battery and toward the ESC as shown in the picture.



When you install the current sensor on the ESC "-" wire, note the direction of the arrow on the current sensor. It should be placed from the ESC to the battery as shown in the picture.



When you install the current sensor, fit the wire as tight as possible to the current sensor. This will ensure you receive the most accurate data.

## 7. HTS-TEMP

With the HTS-SS Blue sensor station, you can use up to four temperature sensors at one time. Wrapped with high-temperature, heat resistant shrink tubing, these sensors can read temperatures from  $-40^{\circ}\text{C}$  to  $200^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $392^{\circ}\text{F}$ ). These sensors can be used almost anywhere.

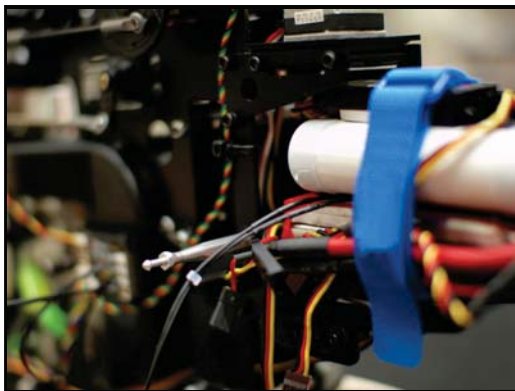
Ex 1 - Measure Muffler Temp



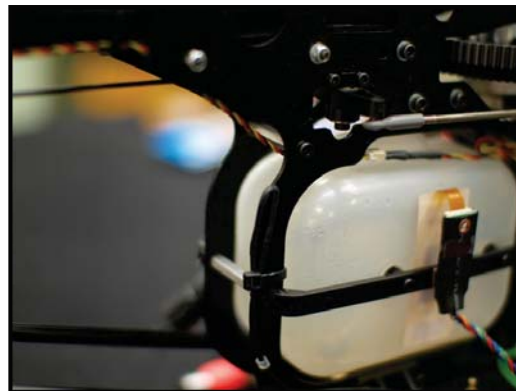
Ex 2 - Measure Exhaust Temp



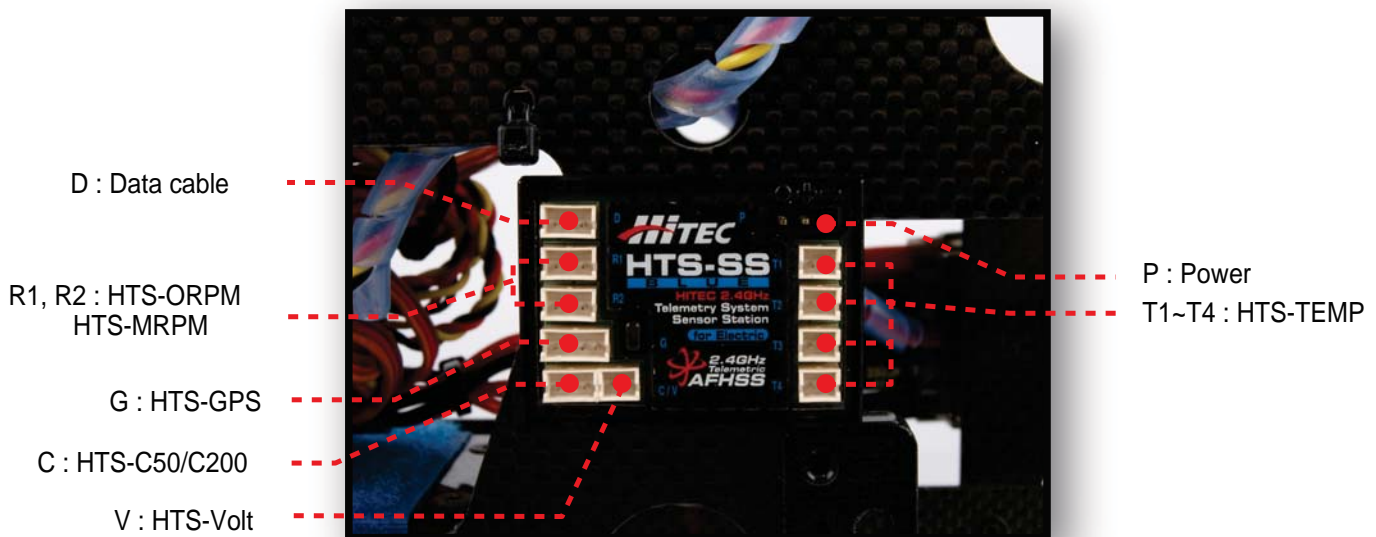
Ex 3 - Measure Battery Temp



Ex4 - Measure Air Temp



## 8. Wiring



If all connections are correct, the BLUE LED will be flash on the HTS-SS BLUE.  
Please use a cable tie for safe wiring .

### HTS-SS System Support

While every attempt was made to make the HTS-SS system easy and simple to use, some users will require systematic and/or installation help at some point. There are several options available to you to get you the help you need.

### Hitec Customer Service

Help is available from Hitec customer service through phone support and e-mail inquiries. Our US office is open Monday thru Friday, 8:00AM to 4:30PM PST. These hours and days may vary by season. We make every attempt to answer all incoming service calls; should you reach our voicemail, please leave your name and number and a staff member will promptly return your call.

### Hitec Website ([www.hitecrd.com](http://www.hitecrd.com))

We invite you to regularly visit our website at [www.hitecrd.com](http://www.hitecrd.com) for specification information and descriptions of our entire product line. Our FAQ pages provide valuable information about all Hitec products.

### The RC Community

One of the benefits of the extensive RC on-line community is the vast wealth of archived information available. Hitec sponsors forums on most of the popular RC websites where a Hitec staff member or representative answers product-related questions. Bringing together strangers with common interests is proving to be one of the greatest gifts of the internet. If past history is any guide to the future, we are certain forums will be started about the Hitec Sensor Station creating valuable archived information for future access.

### Warranty and Non-Warranty Service

All Hitec products carry a two-year warranty against manufacturing defects from date-of-purchase. Our trained, professional service representative will determine if the item will be repaired or replaced. Please complete and include the repair form at [www.hitecrd.com](http://www.hitecrd.com) when you return your item so that we may administer your repair.

### **Safety Information**

Flying models can be dangerous if proper safety precautions are not followed. Here are a few critical safety suggestions to keep you and others safe. Are you Experienced? Flying models is not an intuitive process. Most accomplished model pilots were taught by another modeler. We encourage you to seek help during your early flight experiences and if necessary, during the building and gear installation processes as well. Unlike some other hobbies, model airplane flying has evolved into a social event. There are approximately 2,500 model aircraft clubs in America. Ask your local hobby shop about clubs in your area.

### **Where to Fly**

Having enough land for your own model airport is rare. Most of us fly at club-administrated model fields. The local ball field can be tempting but rarely has the space needed, plus your liability is high should you damage property or hurt an innocent person. We recommend you fly at a sanctioned model aircraft field.

### **Join the AMA**

In America, the Academy of Model Aeronautics (AMA) is an organization of model enthusiasts that provide resources and insurance to modelers. The AMA also lobbies the US Government, concerning legislation that impacts modelers.

Visit their website for more information: [www.modelaircraft.org](http://www.modelaircraft.org)

#### **Hitec Service**

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