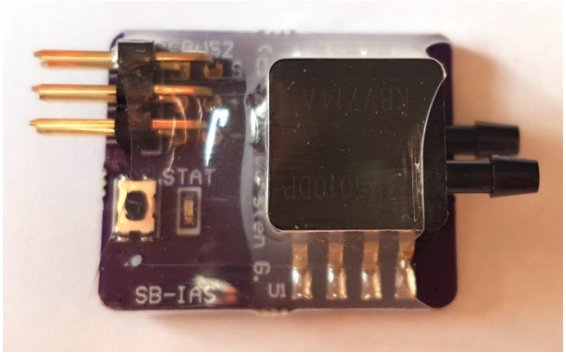
SB-IAS Airspeed sensor for Futaba SBUS2 or Jeti EX Bus

native support for Futaba 18MZ, FX-22, 14SG and Jeri EX Bus devices

2017-10-11



Introduction:

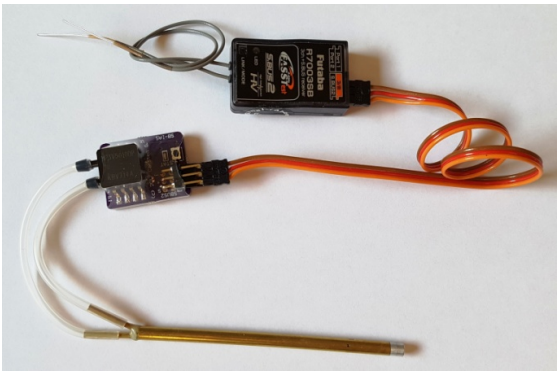
The SB-IAS Air speed sensor is a small device that connects to the SBUS2 connector of a Futaba receiver or to the EX Bus connector of a Jeti receiver. This allows you to get the instantaneous air speed of your model airplane shown on your transmitter and/or to have the current speed announced to you from the transmitter's speaker or earplug. This will help you during landing phase and other critical maneuvers.The SB-IAS will need to be connected to a Pitot tube, this can be a traditional Pitot tube (many different types available, for example from the company EagleTree) with a dynamic and a static port, or it can be in the form of a simple piece of brass tube that sits in the (un-obscured) air, typically in the nose of the plane or on the leading edge of one of the wings. If you choose to use a simple brass tube as the dynamic port, please make sure that there is no vacuum or pressure buildup where the SB-IAS is mounted inside the fuselage; otherwise there will be a large measurement error in the shown airspeed!

Specifications:

Parameter	Min	Max
Supply voltage	4.5 V	12 V
Supply current	12 mA	15 mA
Measurement range	10 km/h	480 km/h 1030 km/h
Accuracy of SB-IAS	Approx +/- 2 %	
Size	L26 x W22 x H13mm	
Weight	Less than 5 gram	

Connections:

The SB-IAS device has two 3 pin "servo connector" type SBUS2/EX Bus connectors. These two connectors are connected in parallel, it does not matter which of the two connectors you use. You connect one of these using a female to female servo cable to the receivers SBUS2/EX Bus connector. The other connector on the SB-IAS can be used to connect other SBUS2 sensors (not for Jeti). The SB-IAS has also two ports for 2 or 3 mm Festo tubing. The upper port is the "dynamic port" and the lower port is the "static port". Connect these to your Pitot tube.



Transmitter, Jeti:

Use the JetiBox menu to change between metric (Km/H) and imperial (mph) data. The sensor will present itself as one single telemetry value (SB-IAS: Airspeed). After changing imperial/metric you need to do a "Auto" on the "Sensors/Logging Setup" page to update the sensor.

The SB-IAS only supports the new EX Bus system from Jeti!

Order code:

SB-IAS –X-Y-Z

X: S=Futaba SBUS2, J=Jeti EX Bus

Y: N=max 480 Km/H, H=max 1030 Km/H

Z: When Futaba: 1=True Airspeed sensor, 2=TEMPERATURE sensor, 3=Simulate GPS sensor.

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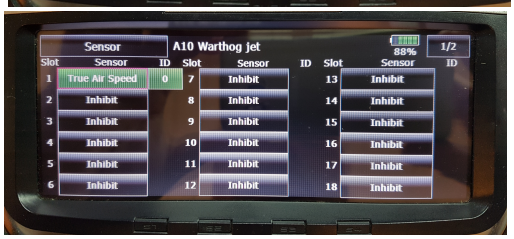
Transmitter, Futaba:

The SB-IAS sends the airspeed number out on telemetry slot 1 as default. This can be changed using the small button and LED on the device (see later).

In order to use the SB-IAS you need to configure your transmitter. On the 18MZ (or 14 SG), select the sensor type “True Air speed” on Slot 1. Please read the transmitter manual for instructions on how to do this.



When the SB-IAS is powered on it will show the current slot number configured using flashes on the red LED (1 flash= slot 1 etc). After the slot number has been shown the device will proceed to “calibration”)

The sensor can also be delivered so that it will send the airspeed as the “speed” of a Futaba F1675 GPS receiver (emulates the GPS speed value). This is useful for 18SZ, FX32 etc.

Configuration, Futaba:

Default the SB-IAS will deliver the airspeed value on slot 1 to the Futaba transmitter. The slot number can be changed using the small button and the LED on the device. To change the slot number please follow this procedure strictly!

1) Switch off power to SB-IAS
2) Activate the button (and keep activated)
3) Apply power to SB-IAS
4) The SB-IAS will now show the current slot number on the LED using flashes (1 flash=slot 1 etc)
5) When solid light in LED, release button
6) The current slot number will be shown with a number of flashes)
7) If you press the button within 10 seconds of the last flash the slot number will increment (when reaching 31 it will start with 1 again).
8) Repeat step 6 and 7 until correct slot number is shown.
9) Once you have reached the correct slot number, let the SB-IAS sit idle for 15 seconds.
10) SB-IAS will then go thru its normal startup procedure (show its slot number and calibrate for zero airspeed)

Calibration:

The SB-IAS has no calibration procedure. However, during power-on it will use the first 5 seconds for setting the zero value for the airspeed.

It is therefore important that you do not allow wind to blow into the Pitot tube during this phase; otherwise your measurements will be wrong!