

TinyTelemetry

A miniature telemetry solution for your FPV plane

- Self contained EzTelemetry solution with GPS.
- Small, light weight, fits on the smallest of FPV planes.
- 10Hz GPS receiver, offering 10Hz positional data updates.
- Requires 5V/6V power, for example from a spare servo channel.
- No interference with sensitive RC equipment by design.
- Optional current sensor offers 6S pack voltage and 50A current monitoring.
- Real time tracking on a PC equipped with Google Earth and on the iPhone with the iTelemetry application.
- Industry standard USB connector allows for simple upgrades and setting changes.
- Weight: 12-grams, optional current sensor: 2-grams.
- Size: 55 x 15 x 10 mm.

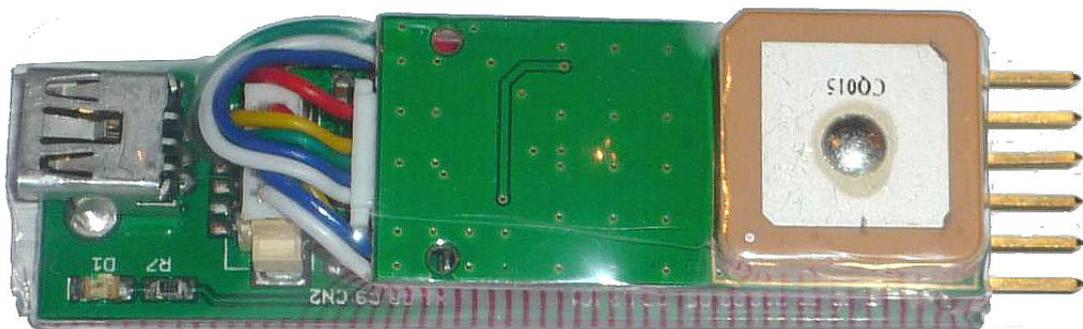
Conventional OSDs offer a host of features, some of which you don't need if you're just flying FPV around your local field or have a small and light FPV plane that can't really carry a full OSD. All you really want in those cases is for your tracking antenna to point at the plane accurately and have GPS positional data along with vital statistics such as battery voltage and current consumption.

The TinyTelemetry does just that. It sends the EzTelemetry data required for the EzAntennaTracker down one of the audio channels on the audio/video transmitter. The EzAntennaTracker will then track the plane and offer battery statistics on its LCD display as well as other telemetry data such as positional info etc. The new v2.0 EzAntennaTracker will also offer audible warnings for battery voltage and total current consumption.

Equipped with its optional miniature current sensor the TinyTelemetry will handle up to 6S pack voltage and 50A of current. However for the lightest of planes the current sensor can be omitted and the battery will be monitored for voltage alone.

Hooking the TinyTelemetry up is trivial, all you need is to supply it with 5V (power from a servo channel will do fine) and route the output to an audio channel on your audio/video transmitter. It comes supplied with a cable that plugs right into the ImmersionRC transmitter's JST connector, which already supplies a regulated 5V. In that case the TinyTelemetry is ready for use in a mere few seconds.

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Installation

Installing the TinyTelemetry on your FPV plane is straightforward. If you are using a ImmersionRC audio/video transmitter (any type or frequency) all you need to do is connect the supplied cable to the transmitter and to the TinyTelemetry. If you also want to monitor voltage and current, please follow the instructions outlined below.

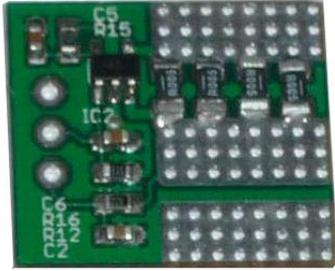
If you're using a different brand of audio/video transmitter installation might require you to cut and splice the TinyTelemetry into your wiring. The simplest means of powering the TinyTelemetry is by using a spare servo channel and route 5V and GND to the appropriate pins. The audio output pin needs to be connected to the audio/video transmitter's audio input, please consult the below picture for your reference. On ImmersionRC transmitters the right audio channel is used by default for EzTelemetry data. The left channel can then be used for a microphone or a vario. Unfortunately you cannot use a microphone or another device that generates an audio signal on the same channel as the TinyTelemetry.



The bottom three pins are labelled 'battery voltage', 'current' and 'gnd'. Battery voltage allows monitoring of the flight pack battery voltage. Route this pin to the positive terminal (+) of the battery pack. If current sensing isn't required no other connections need to be made.

If the optional current sensor is to be used its cable has to be connected to the TinyTelemetry with the right orientation. The bottom three pins (battery voltage, current, gnd) correspond with the pins on the current sensor (carefully observe printing on the PCBs). Obviously the battery voltage pin will now automatically be connected to the flight pack.

In order to keep weight down to the minimum the current sensor comes without wires or connectors installed. It is intended to be soldered into your FPV plane and shrinkwrapped after proper operation has been verified. Take notice that proper soldering is required to make a good and reliable connection and that shrinkwrap is required to prevent shortcircuits.



+ TO ESC

+ FROM FLIGHTPACK

GND FLIGHTPACK

Setting up and use

When installing the TinyTelemetry in your plane make sure the GPS receiver has a clear view of the sky with nothing blocking its view and that is placed far away from the audio/video transmitter. Failure to do so can cause for long delays in acquiring a GPS lock, faulty GPS data or simply the GPS not being able to acquire a lock. Also make sure that the TinyTelemetry module is not placed near battery, motor or ESC wires that carry large currents and thus generate strong EM fields.

Once the TinyTelemetry is installed properly it'll start flashing its LED when powered up indicating it is acquiring a GPS lock. Depending on your position and the view of the sky this can take up to a few minutes. When a GPS lock has been acquired, more than six satellites, the LED will slow down the flash rate and you're ready to launch your FPV plane.

Your EzAntennaTracker needs no settings changed for either the EzOSD, or the TinyTelemetry, it'll automatically decode the EzTelemetry and move the antenna accordingly, provided it is set up properly.

That concludes the installation and setup procedure for the TinyTelemetry, if you need further information or assistance, please contact the retailer from which you purchased the product. As a last resort, please send a message to info@immersionrc.com

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