The active timer controls the ESC to regulate motor RPM in flight based on data received from the accelerometer sensor. The system can minimize flight speed variation or allow for increase or decrease of rpm based on accelerometer input. In addition nose up climb may simulate 4-2-4 type motor speed changes. Flight start delay and flight time may be user selected. All parameters are set using the Jeti Box.

An LED signals the start and end of the flight so a stopwatch is not needed. The plane can be positioned for landing based on the 10 second warning from the LED.

A new feature of the timer is RPM tuning of a second ESC/motor, useful for twin engine or counter-rotating systems. Retractable landing gear control has also been added. Features are summarized below

- Signalling: Blue LED >15000MCD visible at Day light;
- Pre-flight time: 30 to 90 seconds;
- Flight time: 60 to 420 seconds;
- Active motor RPM control (accelerometer);
- Independent RPM fine tunning betwen ESC's;
- Retractable landing gear option;
- Warning before motor stop: 10 seconds;
- Power supply 5Vcc (máx. 5,5Vcc);
- ESC control pulse PWM: 1.200ms to 2.000ms;
- Finish Plate for fuselage installation;
- Weight: 0.27oz

Programming

Your Timer comes with a pre-set program for initial flights. To change the parameters, **make sure the timer is disconnected from power**, then plug it into the JETI BOX as shown, and then connect power.



To navigate through the screens press the horizontal arrows $\blacktriangleleft \triangleright$ and to change parameters use vertical $\blacktriangle \blacktriangledown$



First screen

On the left you have the total of flights done. To change it, hold **START** pressed and use the arrows to set value $\blacktriangle \nabla$. The number on the right is the firmware version.

Delay Time 35 sec.

Flight Time 05:20 [mm:ss]

(Delay Time) Pre-flight

Adjust start delay for 30 – 90 seconds. At least 45 seconds is recommended to for first flights.

Flight Time

Flight time can be set to a minimum of 1:00 min. and maximum 7:00 min.

For first flights 1:00 min. ils recommended, until you find the optimum flight speed. After the desired flight speed or lap time is determined, slowly raise the flight time and check the battery level. Avoid going below 20% or 3.7V per cell.

110 1.420 ms

(RPM ESC1) Engine RPM

Adjust the RPM steps to set the lap time, or to set the RPM. For Castle ESC 110 is suggested for starting, for Jeti Spin ESC 230.

The value on the left is a reference of steps. The range is from 0 to 400. On the right, the corresponding PWM signal is shown in milliseconds, betwen 1.200 and 2.000ms. 1200ms is the timer initial point to run and it may shut off below.

RPM Increase PWM Nose_Up 20us

(Nose_Up) Climb RPM Increase

You can adjust the RPM to increase when the plane is in a climb or crosses overhead.

The range is 0 to 50µs, initially set at 20µs and be

changed as needed. This function is not limited by settings below.

Sensitivity Acc 12

(Sensitivity Acc) Accelerometer Sensitivity

Start with a value of 10 or less. Sensitivity will affect variations in acceleration and deceleration. Sensitivity does not affect Climb RPM above.

A higher adjusted value allows more RPM variation.



(RPM Max) Maximum RPM

The Max setting limits the RPM increase allowed by the sensitivity setting. The actual number should be between RPM ESC1 value and to 2.000ms.



(RPM Min) Minimum RPM

The MIN RPM limits RPM decrease from the sensitivity setting. Adjust between 1.200ms to RPM ESC1 value.

G-Force in V6.4

The measured G force is shown on the screen when G force is turned on. The function will increase or decrease RPM to help maintain that force. It is active in an overhead arc, and may be active at the up wind position to accelerate and in the down wind position to decelerate.

G-Force		3.00G
D030%<	Cal	1045%

G-Force in V6.5

The function is similar to the description in V6.4 but in addition the settings for RPM increase and decrease may be adjusted individually.

In both versions, calibration is carried out automatically with the function active and the "RPM ESC1" setting is changed. Note that "Cal" will be indicated on the screen. Fly level after takeoff and the LED will flash quickly for about 20 seconds indicating calibration. After calibration, the normal flash every second will resume.

To carry out the recalibration when without RPM change, press and hold the START button to begin the flight (instead of the usual press and release) until the LED flashes quickly.

Landing Gear Ch2 Dir Normal 10s

(Landing Gear) Landing Gear

You can control the activation time to raise the gear, and the working direction.

Adjust acativation time or blocking (Off) using arrows $\blacktriangle \, \pmb{\nabla} \, .$

Adjust direction Normal or Reverse by pressing START.

Landing gear will close within the set time after flight starts and will open 10 secs before end of flight.

Safety Gear Ch2 0.50G

(Safety Gear) Landing Gear Safety

This is a safety function to lower the gear based on G force instead of time. It may be useful in in a low battery voltage event. Note that it will not work in battery voltage failure or disconnect, as the gear need the electrical connection to operate. A value of G Force may be selected at which the landing gear will lower. If the value

selected is too low, the gear may not open soon enough before landing. If the value is too high, then the gear may lower in some maneuvers, This safety feature will function even if the G force function is not being used to signal the timer and is set to off. Also note that it has to measure the low value for 2 seconds before activating the gear. If the gear lower in a maneuver, they will likely retract as the maneuver ends.

(RPM ESC2) 2nd Engine RPM

You can fine tune 2nd engine RPM based on ESC1 settings up to PWM +/- 0.100ms. This feature is usefull for twin engines to achieve proper flight trimming.



RPM ESC2 PWM Ch3

0.025ms

(Accel Status) Accelerometer Status

Here you can check to verify that the sensor is working properly and leveled. The "C" value is sensor constant set to a leveled Surface.

Sensor installation:

Level the plane on your bench, preferably using an incidence meter.

Place the sensor on your mount so that "Y" is equal to or very close to "C".

To check sensor level, place the plane upside-down and level again. The "Y" value should again equal or very close to "C".

Make sure "Y" value is the same with the plane leveled on both flight conditions. If they are not the same shim the sensor until you achieve it.

"X" should also match upright and inverted if the wings are level in roll axis.

Sensor recalibration:

The sensor that came with the timer should not need calibration as the "C" value is recorded.

If you choose to change sensors and use the timer with another sensor, then the new sensor "C" value must be recorded or calibrated to the timer. You can achieve this by placing the sensor on a carefully levelled table. With the sensor level and attached to the timer, connect the system to the Jeti box, scroll to Acc Status and notice the new "Y" value. Press the START button on the timer and the "Y" value will be recorded as the new "C". Install as above.

An alternate install method with sensor change and calibration is to carefully level the plane with the new sensor installed. When you are confident of level, then attach to the Jeti box and scroll to Acc Status, and notice the "Y" and "C" values. Press the Start button to change and record the current sensor "C".

Signal	ing DZ	Ľ
On	Hyste	er. 10

(Signalling D/I) V6.5 Only

With Signalling off, the timer will give the usual light sequence. After about 10 seconds of run, the blink once per second is on until 10 seconds before the end of the flight, then the solid light. When the timer is calibrating for G force, the rapid blinking will occur for about 3.5 laps or 20 seconds, then the blink once per second until the last 10 seconds.

With Signalling on, the single blink per second is off, but the solid light will come on for the last 10 seconds. Signalling will give the rapid blink when acceleration occurs, and a solid light when deceleration occurs. The solid light of deceleration can run into the solid 10 second warning lights. Exercise caution near the end of the flight.

Sensor Position Normal

Sensor Position:

You have 2 options to install the sensor:

Normal – Sensor flat side pointing down.

Reverse – Sensor flat side pointing up.

To change option press START.

Note that with either option the wiring must run toward the model nose and sensor should be aligned parallel to the fuselage.

If the installed sensor position is inverted from its functional position, your accelerometer will not work properly and you will notice that the light continues to flash even after landing, until the battery is disconnected. You will need to change the sensor position setting.

Hints:

Use high quality material on installation;

The sensor detects minimal angle variation of the model and vibration from engine, propeller and spinner. We strongly recommend the use of 3 blade propellers to achieve best performance and to carefully balance them.

Do not invert connections as this will damage the system. Do not misalign connectors with the pins shifted as this will damage the timer. Use of a 3 wire extension on the timer programming Jeti box port may help to avoid these mistakes when the timer pins are not in direct clear vision.

Safety:

Keep away from the propeller, most speed controllers ESC's have a safety feature to cut engine when overload happens, but this won't prevent injuries from misuse.

Request help to hold your model until you have the safety strap in your wrist and ready to start flight

Warranty:

12 months.