

## Features

- Ultra smooth servo traversing
- Mirrored outputs
- HH Gyro compatible
- Fully programmable
- Extremely light: 4g
- Low current consumption: 5mA
- Wide input voltage: 2.7V to 6.0V

## Applications

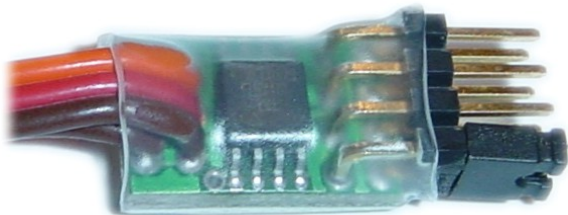
- Camera pan and tilt systems

## 1 Description

TraverseLock is designed for camera pan and tilt applications where the panning or tilting (traversing) is locked when the control stick is centred and only moves when the stick is moved, with the traverse speed being proportional to the amount of stick deflection. There is also a park input which moves the servo to a user-programmed position. The end points (which allow up to 180° servo travel), park position and traverse rates are fully programmable. There is also a selectable gyro mode for use with heading hold gyros.

## 2 Connections

The image below shows the programming jumper inserted across the programming pins. The remaining 2 rows are the servo output pins with the negative (brown or black) wire being closest to the programming pins.



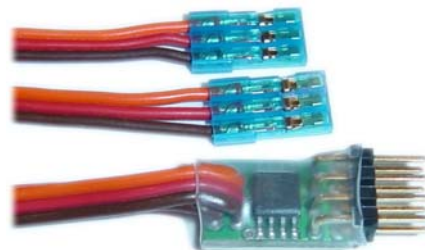
The 3-way lead closest to the edge of the board is the control input and must be connected to the desired channel on the receiver. The second lead is the 'Park' lead and is used to park the servos in a user-programmable position when the 2 outer wires (orange and brown) are connected. This may be connected directly to a switch e.g. RC Switch (see <http://www.firmtrionics.com/rc-products/rcswitch.php> for more details).

**FIRMTRIONICS**

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## TraverseLock User Guide



### Absolute Maximum Ratings

Operation cannot be guaranteed outside the absolute maximum ratings.

Minimum Input Voltage.....	2.7V
Maximum Input Voltage.....	6.0V
Operating Temperature Range...	-25°C to +85°C
Storage Temperature Range.....	-65°C to +150°C

### 3 Programming

Programming mode allows servo trim, gyro mode, end points, traverse rate and park position to be programmed. Programming mode requires the use of the jumper. In each programming mode, the transmitter stick is used to select one of 2 options. Moving the stick one way selects one option while moving it the other way selects the other option. Once the desired selection has been made, release the stick (to centre). The jumper is then removed or inserted to get to the next programming mode. To program the device, please follow these instructions:

1. With power off, connect servos, programming jumper and insert the control lead into the desired channel of the receiver.
2. Turn transmitter on then receiver (thereby powering on the TraverseLock). You're now in Programming Mode 1 – Setting the mirror servo trim.
3. PM1: Move the stick one way or the other to trim out the mirror servo (only the mirror servo moves). When it's at the desired position, remove the jumper to get to Programming Mode 2 – Gyro Mode.
4. PM2: If the stick is moved one way and the servos follow the stick input it means gyro mode is selected. If the stick is moved the other way the servos won't move which indicates that normal mode is selected. When the desired mode is selected, insert the jumper to get to Programming Mode 3 – Set end point 1.
5. PM3: Move the stick one way or the other until the desired first end point is reached. Remove jumper to get to Programming Mode 4 – Set end point 2.
6. PM4: Move the stick one way or the other until the desired second end point is reached. Insert jumper to get to Programming Mode 5 – Set maximum traverse rate.
7. PM5: The servos will track back and forth from one end point to the other. Move the stick one way or the other to increase or decrease the maximum traverse rate. This is the maximum traverse rate the servos will attain during normal operation (at full stick deflection). Remove jumper to get to Programming Mode 6: Set park position.
8. PM6: Move the stick one way or the other to get the desired park position. This is the position the servos will move to when the park pins (see Connections) are connected together. To end programming mode, insert jumper then power off the receiver (thereby removing power to TraverseLock) and REMOVE JUMPER before powering back on.

### 4 Operation

Normal Mode:

Moving the input stick one way or the other will cause the servos to proportionally track one way or the other. The more stick deflection there is, the faster the servos will track – up to the maximum traverse rate set during programming mode. The servos will stop at the programmed end points. When the park pins are shorted together, the servos will move to the programmed park position where they will remain as long as the pins are shorted. This can be useful for take-off and landing to ensure the camera lens is clear of the ground. The mirror output is optional and is used for platforms where 2 servos are used in the drive train. The mirror trim (set during program mode) is for making minor adjustments to the mirror servo to overcome servo contention.

Gyro Mode:

This mode is only useful when a heading hold gyro (e.g. GY401) is used. The gyro is connected between the receiver and TraverseLock. The gyro must be in standard (not digital) mode. Gain and other parameters are set by the transmitter. TraverseLock will provide the gyro output with mirror trim settings to the servos.

#### **WARRANTY**

FirmTronics guarantees this product to be free from defects in materials and workmanship for a period of 90 days from the original date of purchase, verified by a sales receipt. This warranty does not cover incorrect application, incorrect installation, components worn by use, reversed voltage, improper voltage, tampering, misuse or shipping. Our warranty liability shall be limited to repairing the unit to our original specifications and in no case shall liability exceed the original cost of the product. By the act of installing or operating this product, the user accepts all resulting liability. We reserve the right to modify the provisions of this warranty at any time without notice.