

Mtroniks microFAILSAFE

This intelligent servo signal failsafe system is based around a miniature RISC processor using sophisticated fuzzy logic control techniques. The failsafe takes an input signal from a receiver and monitors the quality of this input. A healthy signal is passed on to the failsafe output but a signal corrupted in some way (by a radio problem, range problem or flat rx battery) is rejected and a new signal generated according to a pre-set 'failsafe position' at the output.

Operation

The failsafe connects between a receiver output and a servo, or electronic speed controller input. The failsafe will not operate until it sees a valid signal on its input, the red LED will light until a good signal is seen.

The failsafe is programmed using its set up button. To enter set up, the button must be pressed as power is applied. If the button is not pressed at this point, normal operation will be assumed.

When programming (button pressed at power up)

The red LED will flash to indicate that failsafe position is required (default setting is a typical mid-point for most radio systems). Set the receiver signal to your chosen position using your transmitter and press the button again. The new failsafe position will be stored.

The green LED will now flash to allow you to set the low voltage sensing level, or to disable low voltage sensing (default setting for low voltage sensing is ON, 4 cell, 4.8V rx battery). If the button is not pressed, normal failsafe operation will begin using the last used setting. If the button is pressed, setting 1 (low voltage sensing ON, 4 cell, 4.8V rx battery) is selected.

The red LED will flash with green LED on. This indicates that setting 1 is selected. If the button is not pressed, normal failsafe operation will then begin. If the button is pressed, setting 2 (low voltage sensing ON, 5 cell, 6V rx battery) is selected.

The green LED will flash with the red LED on. This indicates that setting 2 is selected. If button is not pressed, normal failsafe operation will then begin. If button is pressed, setting 3 (low voltage sensing OFF) is selected.

The green and red LEDs will both light indicating that setting 3 is selected. Normal failsafe operation will then begin.

The failsafe's output will now 'follow' its input unless the signal is corrupt, or the rx battery is low (if this option is selected), then failsafe output will be used. If the failsafe's input signal recovers, its output will again follow the input. If failsafe mode is entered because the receiver battery is low, then the failsafe will remain in failsafe mode until power off.

Connections

The failsafe should be connected before any power is applied to any part of the model. Never connect or disconnect parts while power is applied. ALWAYS ensure that all connections are correct and of correct polarity before applying power.

CAUTION: The failsafe must be programmed correctly to function correctly with your model. The failsafe's default settings may not be suitable for use with your equipment.

1. Connect the failsafe's input to the receiver channel that you want to protect. Ensure that the signal (orange) wire goes to the receiver's signal connection (normally towards the centre of the receiver) Also be sure that the red (positive) and brown (negative) are in the correct positions for your receiver.
2. Connect the failsafe's output to the servo or speed controller that you want to control. Again ensure that all wires are correctly positioned for the servo/speed controller that you are using.
3. Power can now be applied. Remember that the failsafe may need to be programmed (see above). If operation is not as expected, remove power immediately and check connections.