

# Retract Safety System

## From: Wike RC Products

### Overview:

The Retract Safety System monitors air pressure in the tank of the retract system. If the air pressure falls to or below a programmed value the landing gear are put down. This system is designed to put the gear down in the event of a leak or simply if your air pressure is too low. It also will not let you pull the landing gear up if your air pressure is too low. The retract safety system is a welcome addition to aircraft that may likely be damaged if attempted to land with the gear in the up position.

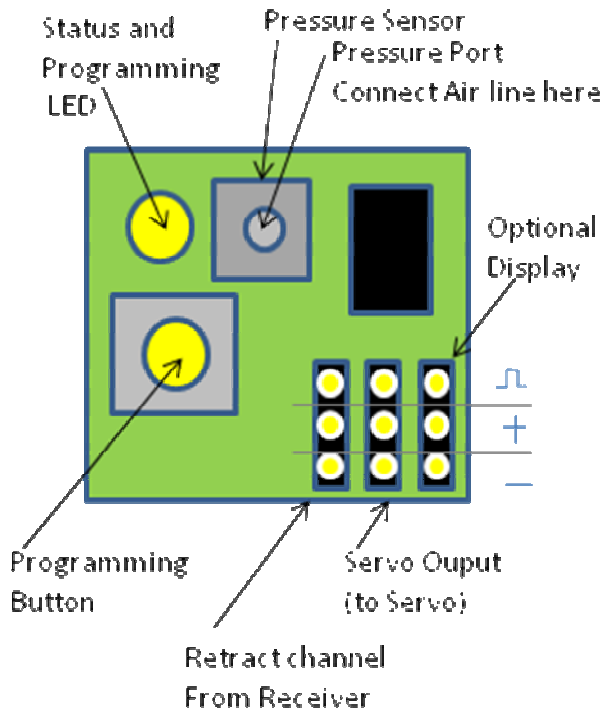
The retract safety system provided other fail safes as well. If the receiver is turned on without a transmitter signal the gear are held in the down position. Similarly, if transmitter signal is lost while the gear are up it will put the gear down. Also, if you turn on the receiver with the transmitter set for gear up position the gear will be held in the down position until the gear switch is moved to the down position. No more gear up situations at power on. Once the gear switch is moved to the down position (if turned on in the up position) the gear can be operated as normal.

### Installation:

The device is installed in the airplane between the receiver and the retract servo or retract electronic air valve. The device has a male plug that plugs into the receiver channel for the retracts. Then the retract servo or actuator plugs into the female plug on the device. A "T" should be installed near your air tank for the retracts and an air line should be run from the tank to the safety system. The optional connection is for the digital display. The display from the engine monitoring unit can also be plugged into the retract safety system and it will read out real time air pressure and the trip pressure programmed into the device. The device can be glued or mounted in place with double sided foam tape.

If an event occurs where by the unit is holding the gear down while the transmitter is in the up position the LED will flash constantly. This indicates that either the pressure is too low, unit was powered up with the gear switch in the up position, or no transmitter signal. If the unit holds the gear down because the pressure is too low the receiver power must be turned off and back on to reset the system. In other words, once air pressure goes too low the unit is going to hold the gear down until power is turned off and back on.

See figure below for connection details.



### Programming:

Three things must be programmed into the device (fail safe pressure, end point for gear down, and end point for gear up). To program these values first set the pressure in the retract system to the failsafe pressure (factory default is 50psi). Then power on the unit while holding down the button. Release the button. The led should flash once per second now. Press the button once for about ½ to 1 second and this pressure will be stored in the device. If pressure reaches that level or below the gear will be put down. The LED will then flash two times per second. Move the gear switch to the down position. Then press the button once again. This stores the down end position in the device. Now the LED should flash three times per second. Move the gear switch to the up position and press the button again. Now the up end point is stored in the device and programming is complete. If the pressure in the tank is at or below the trip pressure this will change the flash pattern during programming. So you may want to add some air back to the tank after setting the trip pressure for programming the end points.