

WigWag2 Installation and Wiring

Location

The WigWag controller should be mounted in a dry location away from heat sources. Do not mount it on the engine side of the firewall.

Mounting

Use 6-32 hardware. A template is provided for drilling mounting holes.

Switch Selection

The WigWag controller has been designed to work with any single-pole double-throw (SPDT) 3-position switch that uses an ON-OFF-ON sequence, which is the most common and least expensive configuration. The more expensive OFF-ON-ON sequence switch is not required. Electrical current for the lamps does not pass through the switch so a heavy duty switch is not required. A full size toggle, miniature toggle or rocker switch can be used. The switch supplies signals to the internal logic of the controller which then drives the appropriate electronic switches located inside the box.

Connections

All connections to the WigWag controller are through a 30-inch wiring pigtail. The wires are color coded as follows:

Red (14AWG) - Power
Yellow (14AWG) - Light 1
White (14AWG) - Light 2
Black (20AWG) - Ground
Orange (20AWG) - Switch top contact
Blue (20AWG) - Switch bottom contact

Wiring

Installing WigWag2 requires the following:

- Connect the red 14AWG wire to the aircraft main bus through a fuse or breaker. The breaker should be sized depending on the total power draw of the lights and the bus voltage. While WigWag2 can operate from 10V to 32V input please note that it does not convert voltage. If you are using 14V lights you must connect to a 14V bus. If you are using 28V lights you must connect to a 28V bus. See below for fuse/breaker recommendations.
- Connect the yellow 14AWG wire and the white 14AWG wire to the lights, one to each light. If HID's are being used it is strongly recommended to use 14AWG wire all the way out to the lights due to the large initial current surges required by HID's. Ground the lights using the same gauge wire to either the airframe or a common ground point in the electrical system.
- Connect the black 20AWG wire to the electrical system ground. Note that this wire does not carry any of the current to or from the lights and so does not require a high current connection.
- Connect the orange 20AWG wire to the top contact of the SPDT switch.
- Connect the blue 20AWG wire to the bottom contact of the SPDT switch.
- Connect the center contact of the SPDT switch to the electrical system ground.
- Along with the 30-inch pigtail there is a small loop of 20AWG white wire protruding from the WigWag2 box. Leaving this wire as is will cause the lights to wig-wag when the switch is in the center position, and to be on continuously when the switch is up. Cutting the wire will reverse this order, i.e. the lights will be continuously on when the switch is in the center position and wig-wag when the switch is up. In either case the lights will be off when the switch is in the down position. If the wire is cut it is recommended to insulate the ends with a small piece of heat-shrink tubing.

Fuse/Breaker Considerations

On a 14V bus the maximum light wattage that can be used is 100W per side (200W total) which requires a 20A fuse/breaker between the WigWag and the main bus. If total wattage is 150W or less a 15A fuse/breaker can be used.

On a 28V bus the maximum light wattage that can be used is 200W per side (400W total) which requires a 20A fuse/breaker between the WigWag and the main bus. If total wattage is 300W or less a 15A fuse/breaker can be used.