

# Hardware Installation



Please read the entire contents of this document before commencing installation.

Installation should only be carried out by a competent person familiar with aircraft systems and electronic instrumentation.

## In the Box:

- AeroSpy TemperatureSpy control unit
- LED Warning module
- Setup module
- Double-sided sticky pad for fixing LED
- Velcro to fix the control box
- Optional second LED module and cable

## Not in the box, but may be required

- Power switch
- Fuse
- Buzzer (5V dc, max 250 mA)
- Wire to extend any leads as necessary
- Cable ties to retain wires and possibly the control box
- Crimps to connect to your Thermistor / temperature sender as needed for your installation

## Tools

- 5mm drill bit
- Electric drill
- Crimpers
- Cutters
- Wire strippers
- Connectors as required

**Disconnect power from the aircraft.**

## Stage 1 – Power Connection

1. Connect the TemperatureSpy control box to a suitable switch and fuse.
2. Plug the LED board into the control unit using the 3-pin JST-PH plug marked PI. If necessary, connect the optional LED extension lead first.
3. If you are using the optional second LED, connect it to the PO plug on the first LED module and the PI plug on the second LED module.
4. Briefly power the unit on and confirm it flashes Red, Green, Blue, and White in sequence, followed by a Red flashing.
5. Note: If using two LEDs, only one may flash Red at this stage, but both will display the startup sequence.
6. **Assuming all is working, proceed to Stage 2.**

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## Stage 2 - Sensor connection

Re-isolate the power to the aircraft.

1. Connect channel 1 (Water) — yellow wire — to the sensor input on the back of the Water temperature gauge.
2. Connect channel 2 (Oil), if used — yellow wire with a black ring — to the sensor input on the back of the Oil temperature gauge.
3. You may wish to delay fitting the LED until after calibration to confirm compatibility with your system.
4. Drill a 5mm hole in the panel at your chosen location, ensuring the area behind is clear. Catch all swarf during drilling.
5. The LED will fit into the hole and can be secured using the supplied double-sided pad or a small drop of glue, if preferred.
6. Secure the control box and cables as required.

## Stage 3 – Preparing for configuration and calibration

### Test Module Setup and Initial Calibration

AeroSpy comes preloaded with default settings suitable for a Rotax 912 engine. However, these must be confirmed and calibrated to your specific installation. Since overheating the engine for testing is not acceptable, a small test module is supplied to simulate temperature inputs safely.

**Important:** The test module must be removed and the original sensor connections restored before any flight or ground run testing.

1. The test module wires are short; you may extend them to suit your installation.
2. Connect the black wire to a solid ground point on the engine.
3. Disconnect the single lead from each thermistor or temperature sender (Water and Oil). Each sender should have only one wire.
4. Connect sensor 1 (yellow wire) to the water sensor lead.
5. Connect sensor 2 (red wire) to the oil sensor lead.
6. Power up the aircraft electrics — ensure magnetos are OFF. Do not start the engine.
7. Carefully and slowly turn each potentiometer. There is no risk of shock; the system operates at a maximum of 12V.
8. You should observe the temperature gauges sweeping through their full range.
9. Now, carefully turn both potentiometers so that both gauges read zero — the lowest temperature.

## Optional Buzzer Connection

1. The optional buzzer is powered from the +5V buzzer output from AeroSpy.
2. The buzzer's negative should be connected to the switched ground output from AeroSpy.
3. Maximum current draw must not exceed 250mA.

Ensure the buzzer is securely mounted and that wiring is protected from vibration and abrasion. Confirm correct operation during system simulation or warning condition testing.

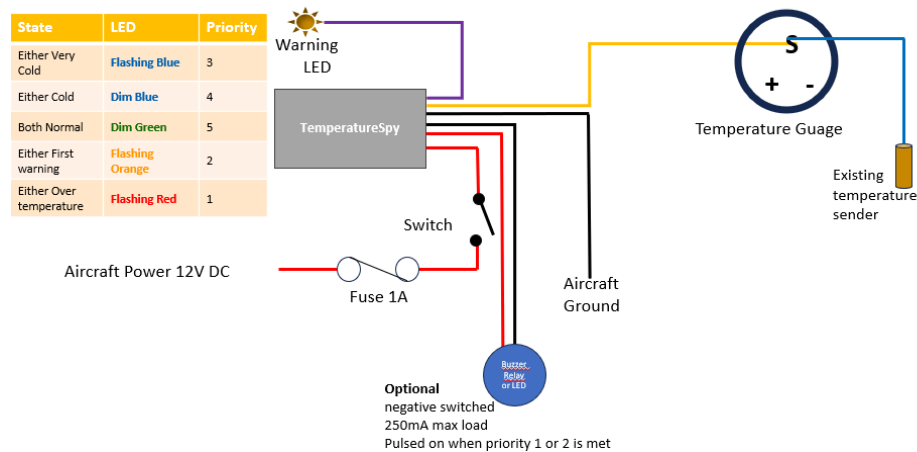
**You are now ready to begin system configuration.**

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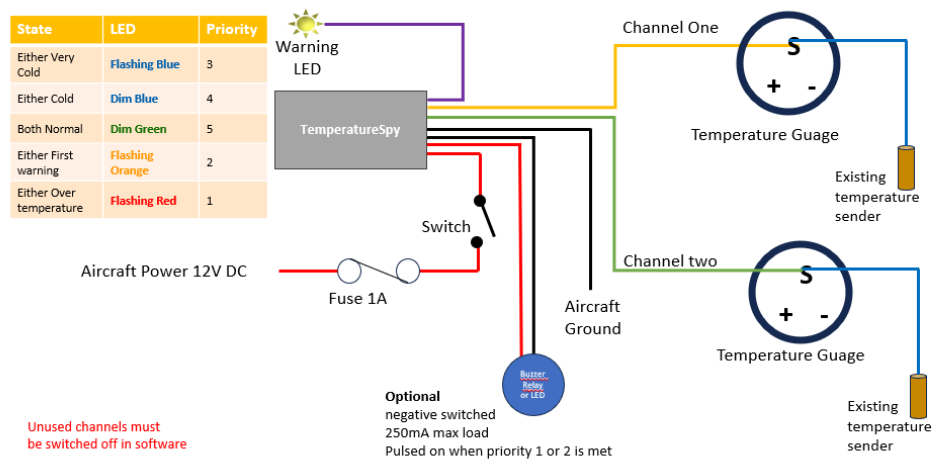
## Electrical Diagrams:



Example wiring diagram single channel



Example wiring diagram two channel



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Example wiring diagram two channel with two warning LEDs

