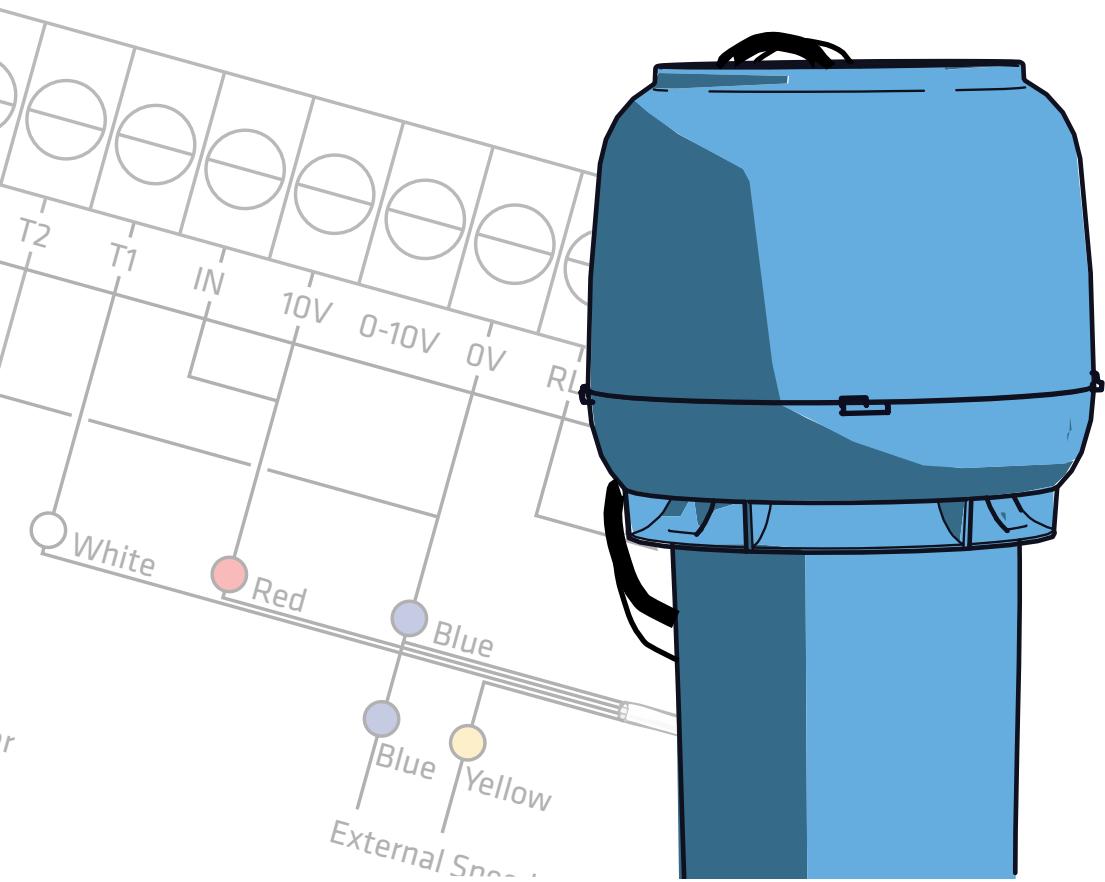


VILPE[®] ECo Monitor



Summary

The VILPE® ECo Monitor is a printed circuit board (PCB) for controlling the operation of VILPE® ECo Roof Fan.

The VILPE® ECo Monitor can be used to control from 1 to 5 fan tachometer signals.

Boards can be linked to allow monitoring of more fans.

Isolated alarm output, with LED identification of faulty fan, e.g. if Fan 3 triggers an alarm the LED flashes three times.

Rotation speed 300 RPM, 15–20 second alarm threshold for one tachometer pulse per revolution.

On board potentiometer to adjust 0–10 V Fan Speed control output voltage.

Optional 0–10 V External input to set Fan Speed, scaled down 0–100 % by on-board potentiometer.

Operates from 10 V 1 mA supply, may be powered by EC Fan (Patent 2431303).

The isolated alarm output contacts are closed for no alarm, or open for the tachometer alarm.

Specification

| | |
|-------------------------------------|---|
| Product | VILPE® ECo Monitor |
| Supply Voltage | 10V + 10% DC |
| Supply Current | Up to 1 mA |
| Isolated Alarm Output rating | Contacts 100 mA, 60 V, 100 mW Max |
| Tachometer Inputs | Open Collector fan Tachometer (1 – 5) |
| External Control Input | 0–10 V, 100 kOhm load |
| Control Output | Fan speed control signal, 0–10 V, 2 kHz PWM |
| Operating Environment | -20 °C to +60 °C, 90 %RH at 40 °C max. |

Installation

Four fixing holes are available for mounting.

Keep control wiring separate from mains supply wiring.

The board must be fitted within the user's equipment to prevent access, or an enclosure / cover provided.

The 4-way Molex connector F1-F5 (Fan 1 – Fan 5) mating half part number: 50375043, crimp 08-70-1039.

The 5-way Molex connector CON (External Controller) mating half part number: 50375053, crimp 08-70-1039.

If the screw terminal block is used for fan connection, a daisy-chain type cable harness will be required. Use of the individual connectors 'F1' - 'F5' allow use of simpler point-to-point cables.

Mechanical Outline

PCB 80 x 45mm, maximum height (not including potentiometer spindle) 17 mm

Fixing hole centres 72 x 37 mm, diameter 4 mm

EMC Compliance

BS EN61000-6-3 (emissions), BS EN61000-6-2 (immunity)

ESD

Many modern electronic components are susceptible to damage from electro static discharge (static electricity). PCB's which are static sensitive should be stored and transported in anti-static packaging until they are required to be installed. The board must be mounted in an enclosure or cover to prevent access.

Safety

Installation must be by qualified personnel in accordance with local applicable standards.

This appliance is intended to be enclosed in the equipment and not accessed by the user.

Access is limited to service personnel only.

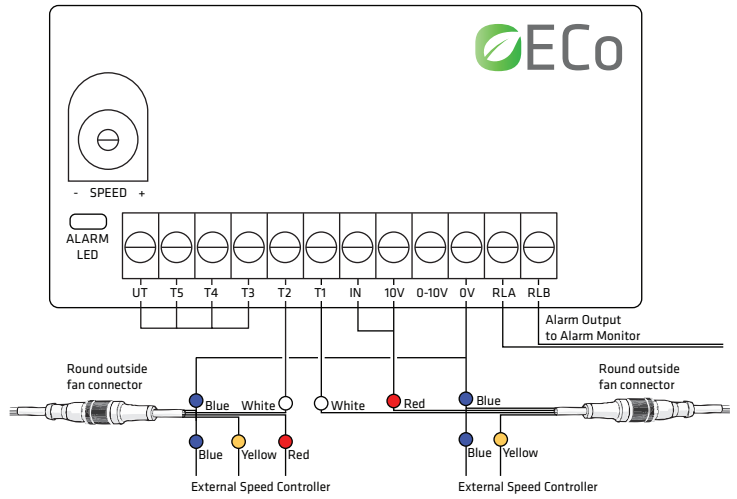
Residual risk of contact with fan. Maintenance personnel should take due care and attention.

Transport and Storage

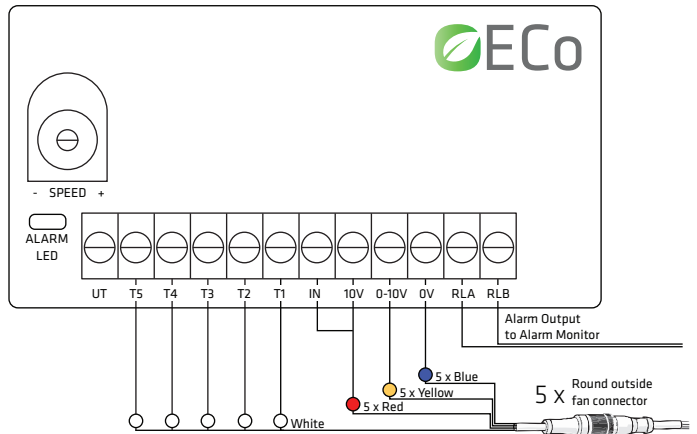
PCBs should be transported in anti-static packaging as supplied.

Store in a dry environment, storage temperature -30 °C to +70 °C.

**Example wiring:
2 fan monitor,
no on-board speed control**



**Example wiring:
5 fan monitor,
on-board speed control**



| | | |
|-------|---|---|
| UT | Unused Tachometer link terminal | If fewer than 5 fans, then link unused Fan(s) T1–T5 input(s) to this terminal |
| T1 | Tachometer Open Collector signal from Fan 1 | Connect to Fan 1 tachometer or UT if unused |
| T2 | Tachometer Open Collector signal from Fan 2 | Connect to Fan 2 tachometer or UT if unused |
| T3 | Tachometer Open Collector signal from Fan 3 | Connect to Fan 3 tachometer or UT if unused |
| T4 | Tachometer Open Collector signal from Fan 4 | Connect to Fan 4 tachometer or UT if unused |
| T5 | Tachometer Open Collector signal from Fan 5 | Connect to Fan 5 tachometer or UT if unused |
| IN | 0–10 V External Control Input | Optional. If unused then must be linked to PCB 10 V supply. If used, an external 0–10 V speed control signal connected to this input will be scaled down 0–100% as set by the on-board potentiometer. |
| 10V | 10 V supply to PCB | 10 V to EC Fan(s) 10 V output or alternative 10V supply. |
| 0–10V | 0–10 V Speed Control Output | Connect to Fan(s) 0–10 V speed control input. |
| 0V | Circuit Ground reference | Connect to Fan(s) 0 V, also External Controller 0 V if External 0–10 V control input is used. |
| RLA | Alarm Output Contact A | Isolated Alarm Output, connect to alarm monitor. |
| RLB | Alarm Output Contact B | |



Innovative and Easy

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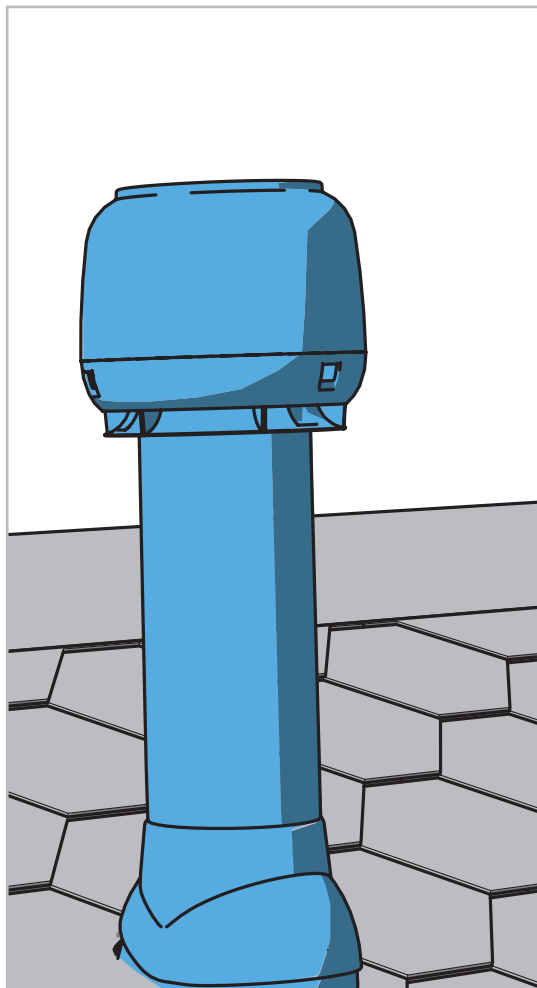
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Please, refer to VILPE.COM for the Installation and operation instructions in other languages.