

RDC 100



- **General remarks:** The RDC100 controller is designed for use with all ebm-papst EC fans requiring a PWM speed control signal. The controller requires a DC supply and provides a visual fail signal where a speed sensor output is connected from the fan.
- 0-10V DC input
- Manual proportional control
- Compatible with ebm-papst products

Nominal data	Supply voltage	Max. amb. temp.
Type	VDC	°C
RDC100	10	40

Subject to alterations

Installation

1. Install in a dry sheltered position. Do not install in close proximity to heat sources.
2. The maximum ambient temperature for the monitor must not exceed +40°C.
3. Control is mounted on a metal plate, and in a plastic case. Can also be panel mounted.
4. More than one fan can be controlled by one controller.

Operation

1. The RDC 100 generates the PWM signal which tells our fans which speed to run at.
2. The output of the 'S' channel is an open collector signal. Some fans require o/c signal and some fans require TTL input. If TTL signal is needed, then the use of a pull up resistor (shown in fig. 2) is required. This should be connected between the positive fan supply (pin R) and the fan input speed control (pin S).
3. Once connected, adjusting the manual dial will control the speed of the fan.
4. Alternatively, connect a 0-10V signal input to the terminal (shown in fig 3) to control the motor electronically.
5. Different fans require different orientation of the PWM signal. Therefore, the fan may run at maximum speed when set at zero, provisions are made for the reversal of this signal, in the form of a jumper (shown in fig 3) on the circuit board. As a general rule, select position 'P' for ebm-papst and 'Z' for other motors.

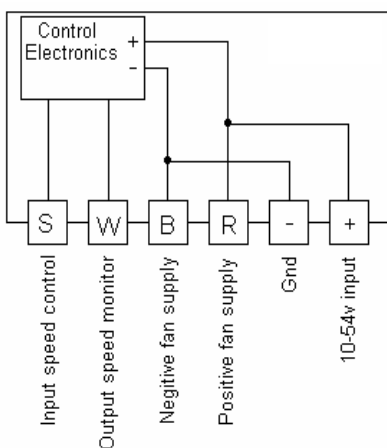


Fig 1
Circuit diagram

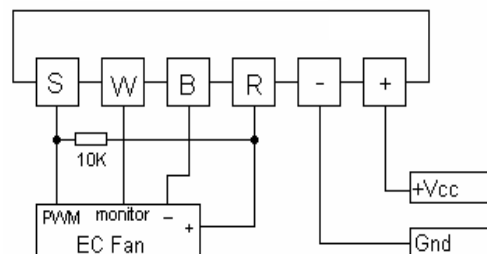


Fig 2
Connection diagram

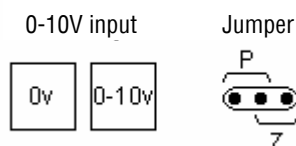


Fig 3

Fig 4
Dimensions

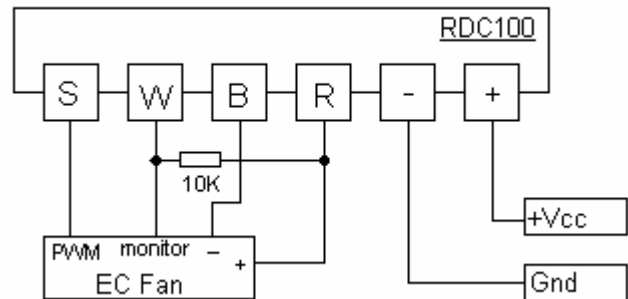
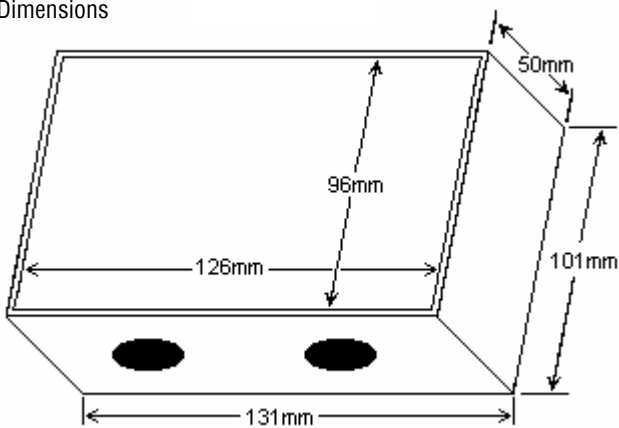


Fig 5
Connection diagram

Additional features

1. When using the 0-10V input, the manual dial becomes a minimum speed setting.
2. When the speed output wire from the fan is connected to the speed monitor input (W) the controller will monitor the activity of the fan. The LED on the front panel will indicate green when fan is good, and red when the speed of the fan drops below a set speed. The speed monitor is designed for TTL control, and so it may once again be necessary to make use of a pull up resistor (as shown in fig 5).
3. If the speed monitor function is not used, the LED will remain red and functionality of the controller is not affected.
4. When the controller is being used manually, the minimum speed of the fan can be set by adjusting the pre-set variable resistor, VR1 inside the controller.
5. On start up, the controller provides a boost to the fan to overcome the initial start up torque. This avoids excessive current drain by the motor.