

Keywords: fan, fan failure, supervisor, microprocessor supervisor, supervisory circuit,  $\mu$ P, watchdog timeout

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APPLICATION NOTE 3289

## Supervisor IC Indicates Fan Failure

*Abstract: A fan is monitored for valid rotation by a single IC. The solution is accurate, reliable, small, and inexpensive.*

A similar article appeared in the November, 2003 issue of *EET*.

The brushless DC fans found in many types of equipment can be crucial to the performance and longevity of that equipment. A quick indication of fan failure, moreover, can be essential in preventing major damage. Among the many approaches for identifying and indicating stalled fans, the circuit of Figure 1 is very simple and reliable.

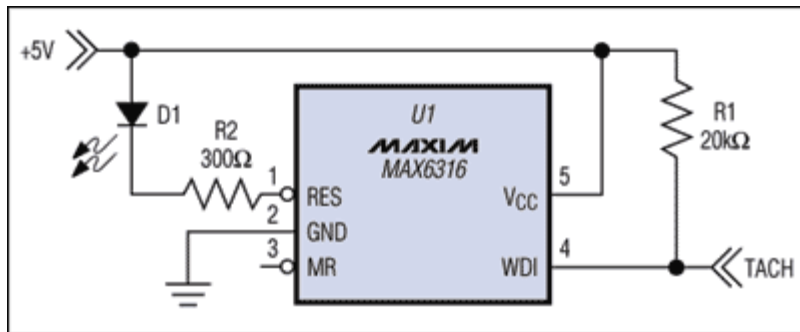


Figure 1. The MAX6316  $\mu$ P supervisor monitors a fan's tachometer output.

The fan's tachometer output connects to the watchdog input of a  $\mu$ P supervisor (U1). The LED remains off during normal operation. If the tachometer does not change state within a watchdog timeout period, U1 lights the LED by asserting its reset output. As a result, the LED pulses on and off as the supervisor goes through its watchdog/reset cycle. The LED in this example has a 200ms on-time and flashes with a period of 1.6s, which is suitable for most purposes.

### Related Parts

[MAX6316](#) 5-Pin  $\mu$ P Supervisory Circuits with Watchdog and Manual Reset -- [Free samples](#)

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