

SysCool™

Thermal Management Board



SYSTEMS ENGINEERED TO PERFORM®

The SysCool™ Intelligent Adaptive Fan Controller provides both fan RPM control and fan failure detection as well as chassis over temperature detection. Running the fans at a lower but optimum speed to cool the chassis electronics provides for longer fan life, longer air filter life, and much quieter operation.

Chassis temperature is monitored at two points using thermistors. Unique to the SysCool is the use of lower cost 2-wire fans instead of the more expensive and harder to get 3- or 4-wire fans. The SysCool circuitry monitors absolute fan current and pulses in the current to determine fan RPM and fan health. Fan RPM is controlled by Pulse Width Modulating the current driving the fans. The fan speed profile is a linear ramp from 30% to 100% over a range of 25-45 deg C, not a step function as in other controllers. Thus speed hunting is eliminated and fan life is maximized.

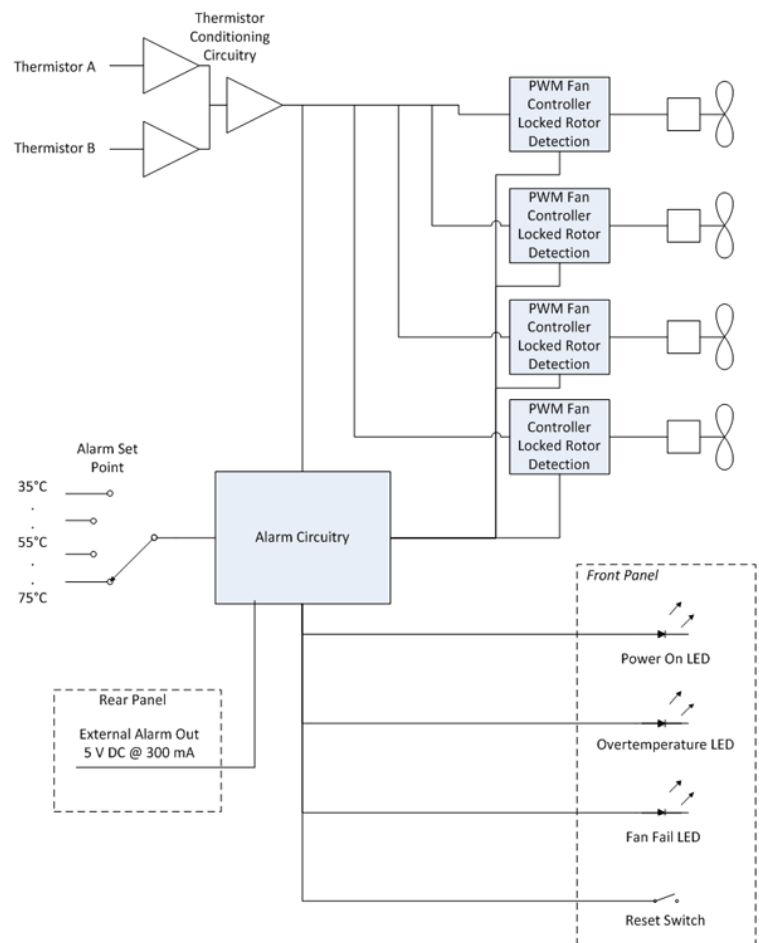
The SysCool provides front panel LED notification as defined in ANSI/VITA 40-2003 for clear, unambiguous alarm state notification to the system operator. In addition, a remote alarm indicator output is provided which is capable of sinking 300mA at 5V in order to activate a relay or other external alarm device.

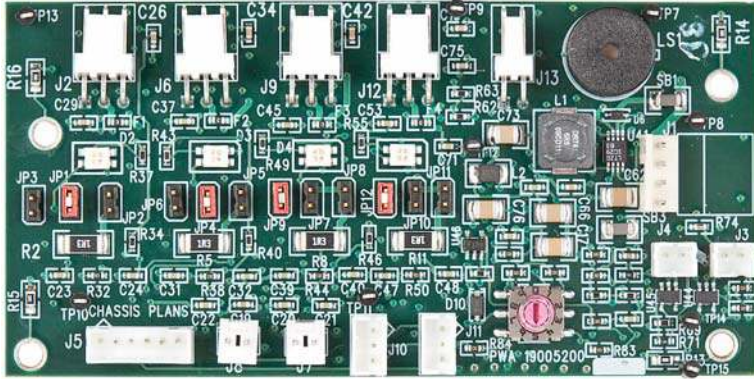
The SysCool can be daisy chained to allow control and monitoring of up to eight fans and two additional temperature points.

There are ten chassis over-temperature alarm set points selectable via rotary switch between 35 and 71 deg C. These are alarm set points and do not effect the fan RPM ramp function.

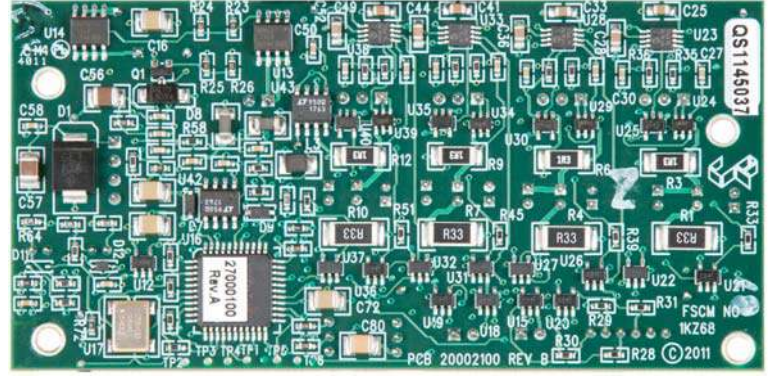
FEATURES

- Adaptive PWM fan controller
- Four fans controlled
- Supports 2-wire fans for lower cost
- Support for various fan configurations
- Pulse width modulation (PWM) fan speed control
- Fan soft start
- Fan locked rotor alarm
- Audible and visual alarm indications
- Remote reset
- Connection for external alarm indicator
- Status indication per ANSI/VITA 40-2003

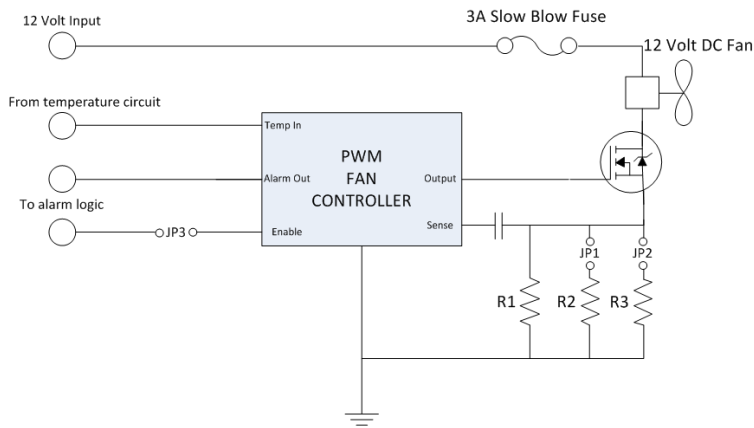




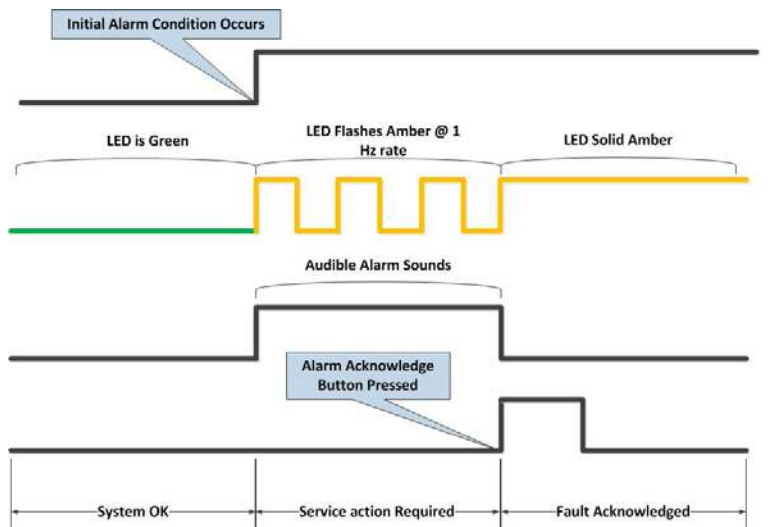
Top View



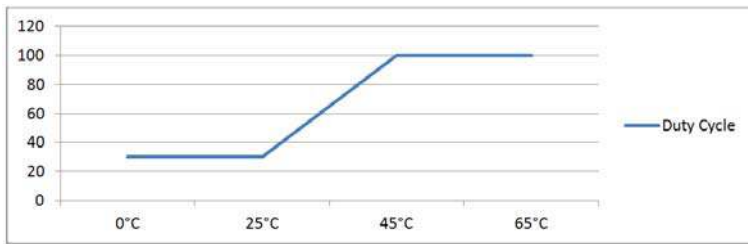
Bottom View



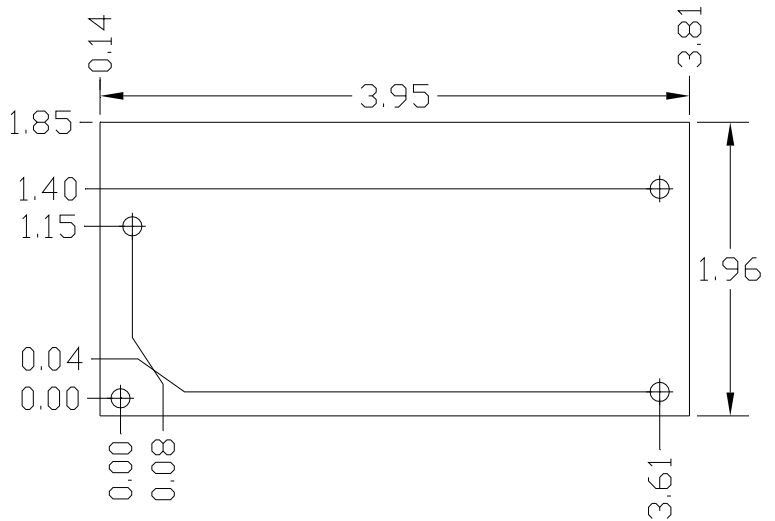
Simplified Fan Control Block Diagram



Alarm State Diagram



Fan Speed Profile



Mounting Details