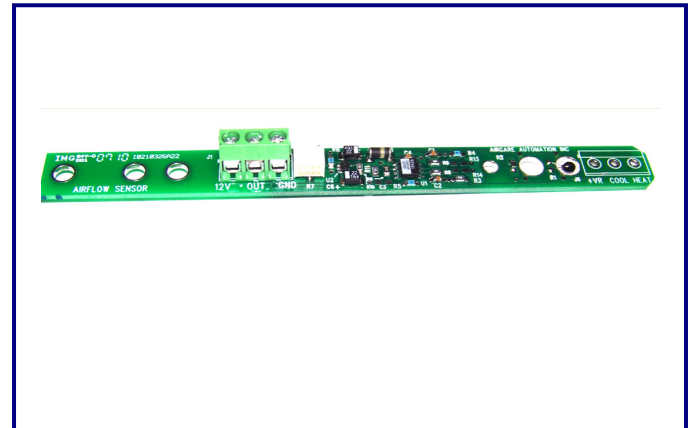


## Overview

AirCare's ACM1016H Temperature Sensor Module provides a 0-5 volt output relative to a temperature at the sensor surface. The ACM1016H, along with the AirCare VariPhase™ (ACV1xxx) can provide either closed-loop, regulated temperature for fan-controlled systems or open loop primary set point control. Once configured, the system will automatically adjust fan speed in response to changing temperatures.

**The ACM1016H may be used only in air or nonconductive gas environments; Liquids or corrosive gases will damage the unit.**



## Product Description

The ACM1016H uses a thermistor bridge control circuit to provide a 0-5 volt analog signal to the controller based upon the measured temperature. The unit adjusts the dc output voltage around the mid-point setting of the sensor. The ACM1016H provides small size, ruggedness and excellent stability with reduced drift. The ACM1016H can be powered from the 12V output of AirCare VariPhase or from any 12Vdc source.

The ACM1016H range can be customized from 0°C to 50°C with the pre-mounted thermistor on the PCB. Higher temperatures can be accommodated using an off-board thermistor. The ACM1016H provides linear control over +/- 50% of the mid-point temperature, which is designed to provide 2.5 volts output. A 1 degree change in temperature equates to 50mV change to the output of the ACM1016H. Custom ranges can also be accommodated.

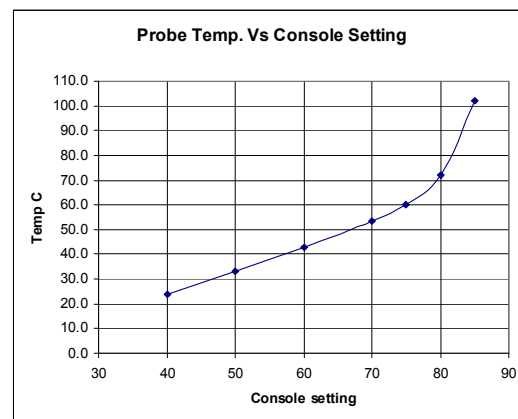
## Specification

- Local power supply : 9.5-15Vdc
- Simple connections:  
Screw Terminals for output
- Open-frame PCB with mounting bracket or optional rugged enclosure
- Operating Temperature:
  - PCB Mounted:
    - 0-50°C
  - External Thermistor
    - Higher temp. available
- 5.5" x .5" x .06" (board only)
- Current Draw: 50mA (max)
- Mid-Point and Range customized.
- Typical 1% change in temperature = <2% change in full range dc voltage (output)

## Installation

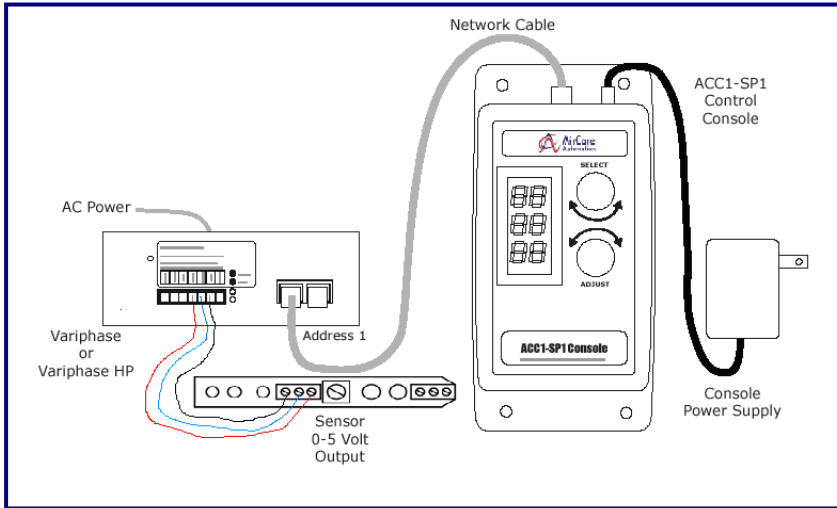
The ACM1016H is provided with a mounting bracket to allow easy placement. A three wire cable is provided that will connect to the terminal strip and the controller. The unit can also be provided in a protected casing for greater board protection. Place the ACM1016H in a stable environment for best results.

The ACM1016H dc output can be used to either set the controller speed (analog control) or be used for closed loop control (feedback control signal) of temperature using an external setting. The ACM1016H is not linear over the full range (0-100%); It is quite linear over mid-point range. The curve below shows the setting output (on a 0-100% scale) vs. Temperature.

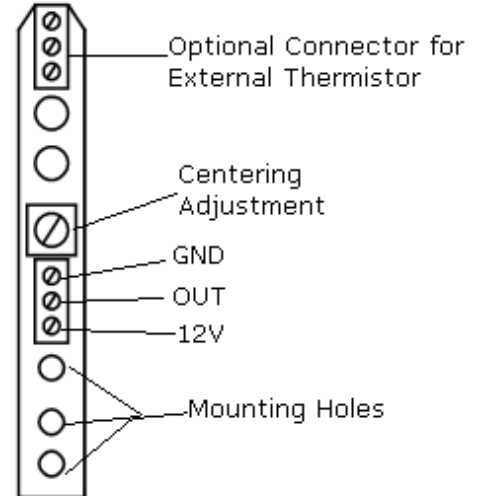


**Figure 1 Analog output from Sensor as % of full voltage for temperatures shown.**

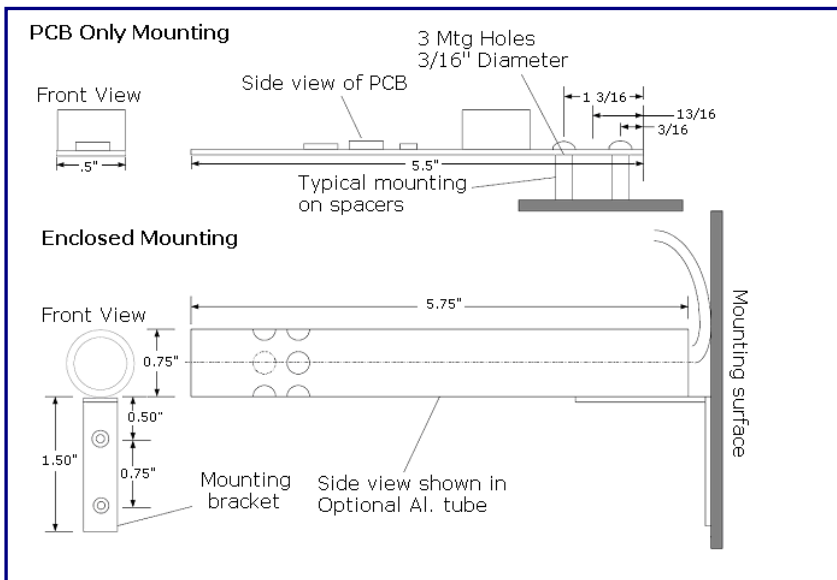
## System Diagram



## Wiring Diagram



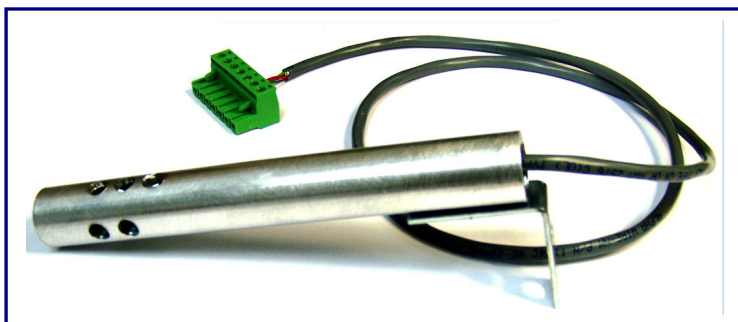
## Mechanical Dimensions



The ACM1016H Temp. Sensor, is a 3 Wire Circuit, the three terminals have designations 12V, OUT, and GND.

- 12V is connected to the positive terminal of a 8-15Vdc power supply.
- OUT is an 0-5Vdc output signal from the ACM1006.
- GND is connected to the reference for the power supply.

The ACM1016H's centering adjustment is used to adjust the calibrated temperature to 2.5V.



ACM1016H with optional cover and cable