RMS-I-AF

Airflow Sensor

Content

1. Introduction

The Airflow Sensor is a device that registers airflow in areas where consistent flow is needed; for example, in cabinets and racks where the consistent operation of a fan is critical to the operational safety of electronic equipment.

The Airflow sensor is placed in the air stream, where the user can monitor the status and the amount of flowing air. In addition to an on/off indication, it also graphs the analog values over a period of time. Although this is not a precision airspeed measurement device, it can be used, for example, to indicate if a fan slows down the user will be given an indication of the change over time. This may happen if the fan is close to failure or the air filter is clogged.

The recognized OID for the air flow sensor on RJ45#1 is **.1.3.6.1.4.1.3854.1.2.2.1.17.1.3.0**

1.1. Features

- On/Off alarm signal of airflow
- Airflow data graphically displayed over time
- Accurate, cost effective flow sensing
- 2 LEDs indicate the status of Airflow and that the sensor is securely plugged into the unit
- Power source: powered by the unit. No additional power needed.
- The unit auto detects the presence of the airflow sensor.
- Full Autosense including disconnect alarm

1.2. Specifications

- Data graphically displayed via a web page
- Data collection possible via any SNMP based network management system
- Measurement rate: one reading each second, data logging once per minute

- Communication cable: RJ-45 jack to the unit
- Sensor type: Thermistor
- Trap information: Status, Sensor number, Sensor description, Airflow (%)

Important: *Each airflow sensor uses 100 mAs. If you use 8 of them, that is close to 1 amp. You should make sure that you have a power supply that can provide sufficient current.*

2. Configuring the airflow sensor

a) Plug the sensor into one of the RJ45 ports on the rear panel of the unit.

b) Now point your browser to the IP address of the unit (default, 192.168.0.100). Next you need to login as the administrator using your administrator password (default is "public"). You will then be taken to the summary page.

c) From the summary page you need to select the sensors tab. The layout of the next page will vary depending on your unit so please refer to your units manual.

d) You should now be able to setup the thresholds for your sensor. The low critical, low warnings, normal, high warnings, high critical values can be set from this page.

Current Reading: The percentage of airflow is displayed in this field. This is a read-only field. It is an integer SNMP OID field. This value can be polled via SNMP and the data can be used to graph the air-flow. The values range is from 0 to 100 %.

Status: If the sensor is offline, the status shows "No Status". If the sensor is online, the status will be formed by comparing the readings to the low thresholds. If at any time communications with the Airflow Sensor are lost, the status of the Airflow Sensor is changed to "sensorError".

3. FAQ:

How does the airflow sensor work?

The way the air flow sensor works is there are two thermistors, one internal and one external. A thermistor changes resistance based on air temperature. The internal thermistor is the reference point and the external thermistor changes when the airflow is blown across the top of the sensor, the difference is this raw output reading. Then the raw output reading is calculated into the percentage of airflow.

How accurate is your airflow sensor? Does it matter where I have the sensor placed?

The airflow sensor is not a precision measuring instrument. This device is meant to measure the presence or the absence of air flow. The placement of the sensor is very important as well as this should be placed so that the airflow flows over the top of the sensor.

Can I extend the airflow sensor, if yes, how do I do that and how far can I extend it?

Yes, you can extend the airflow sensor using standard CAT5 LAN cable. The total run length of this sensor is 30 meters.