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Temperature sensor / Dual Temp+Humidity

Introduction

Temperature sensors are important where optimum temperature control is paramount. If there is an air conditioning malfunction or abnormal weather conditions, damage to information, delicate electronic equipment or warehouse stock may occur.

Temperature sensors can be purchased with 15, 60, or 100 feet of cable, allowing the sensors to be positioned in hot spots. As with all our intelligent sensors its presence will be automatically detected by the unit. Each sensor has its own SNMP OID so that data can be collected over the network and graphed.

Important Note: We offer both temperature and dual temperature humidity sensors in two types, the fixed one foot type and the remote type. The fixed one foot type or TMP01 and THS01 are not designed to be extended. If you need to extend these sensors then you need to use the TMP00 or THS00 (remote type).

We also do not recommend you trying to connect any of our AKCP sensors including the temperature and dual temp humidity sensors though patch panels or using the RJ-45 couplers to extend them. You may find that this works, however it will be very inconsistent and this is due to the signal strength from the sensor to the base unit. The resistance of the extra connectors in a patch panel, or couplers is often enough to prevent the sensor from working.

A commonly used SNMP OID for the temperature sensor is the number of degrees. This information can be used for graphing the sensor.

The SNMP OID for the temperature sensor degrees on RJ45#1:
.1.3.6.1.4.1.3854.1.2.2.1.16.1.3.0

Specifications & Features:

- Measurement range Celsius:-55°C to +75°C
- Measurement resolution Celsius: 1°C increments.

- Measurement accuracy Celsius: ±0.5°C accuracy from -10°C to +75°C
- Measurement range Fahrenheit: -67°F to +167°F
- Measurement resolution Fahrenheit: 1°F increments.
- Measurement accuracy Fahrenheit: ±0.9°F accuracy from +14°F to +167°F
- Communications cable: RJ-45 jack to temperature sensor using UTP Cat 5 cable.
- Sensor type: semiconductor microprocessor controlled
- Power source: powered by the securityProbe. No additional power needed.
- The securityProbe auto detects the presence of the temperature sensor
- Measurement rate: one reading every second
- Up to 8 temperature sensors per securityProbe
- Full Autosense including disconnect alarm
- The securityProbe Temperature Detail page allows you to set and get the working parameters of a specific temperature sensor.

Configuring the Temperature 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.

Now we will cover the settings that are specific to your sensor.

Current Reading: The number of Degrees is displayed in this read-only field. This is an integer SNMP OID field which has a precision of 1 degree. The value can be polled via SNMP, and the data can be used to graph the temperature variations. The value displayed can be in Fahrenheit or Celsius. If communication to the temperature sensor is lost, the sensor value -512 will be returned by a *snmpget*.

Hint: The actual precision for the temperature sensor is 0.9°F (0.5°C). Nevertheless, the Current Reading field only displays the temperature with an increment/decrement of 1 degree. To retrieve the actual reading from the temperature sensor, another SNMP OID must be used; it is:

.1.3.6.1.4.1.3854.1.2.2.1.16.1.14.0 *for the sensor on RJ45#1.*

However, since this is an integer SNMP OID, the temperature must be multiplied by 10 before polled via SNMP. Therefore, the returned value has to be divided by 10 to become the actual temperature.

Status: If at any time communications with the temperature sensor are lost, the status of the temperature sensor is changed to **sensorError**. If communications with the temperature sensor are re-established the status will be formed by comparing the Degree to the high and low thresholds.

Degree Type: The Degree Type can be set to Fahrenheit or Celsius. When the Degree Type is changed all the threshold fields will change their values automatically. The securityProbe stores the thresholds for both Celsius and Fahrenheit independently allowing you to switch between the two.

Reading Offset: The Reading Offset parameter can be used to calibrate temperature and humidity sensors. If for example the actual reading of a sensor is 28 degrees Celsius and the Reading Offset is set to 2 the temperature will be displayed as 30 degrees Celsius.

Dual Temperature/Humidity Sensor

The dual sensor has both temperature and humidity measuring capabilities in a single sensor. This means a single port can have two sensors, saving ports for additional sensors.

A specially designed CAT 5 cable assures a correct reading up to 1000 feet ONLY REMOTE TYPE TMP00 or THS00). You should not extend the fixed one foot type sensor (TMP01 or THS01) or run through patch panels as already mentioned.

When the dual sensor is plugged into the RJ-45 port, the system will auto detect the sensor, and it will display Temperature and Humidity for each port to which a dual sensor is connected. A built in graph option is available on the system for graphing temperature and humidity variations over a period of time.

The SNMP OID for the temperature sensor on RJ45#1 is **.1.3.6.1.4.1.3854.1.2.2.1.16.1.3.0**

The SNMP OID for the humidity sensor on RJ45#1 is **.1.3.6.1.4.1.3854.1.2.2.1.17.1.3.0**

Specifications & Features:

Temperature

- Measurement range Celsius: -40°C to +75°C
- Measurement resolution Celsius: 1°C
- Measurement accuracy Celsius: ±0.2°C accuracy from -10°C to +75°C
- Measurement range Fahrenheit: -67°F to +167°F
- Measurement resolution Fahrenheit: 1°F increments.
- Measurement accuracy Fahrenheit: ±0.4°F accuracy from +14°F to +167°F

Humidity

- Measurement range: 0 to 100% Relative humidity
- Sensor element wettable without damage
- Resolution: 0.5 %
- Accuracy at 25°C ±5%,
- Working Range -20°C +60°C
- Communications cable: RJ-45 jack to dual sensor using UTP Cat 5 cable.
- Power source: powered by the securityProbe. No additional power needed.
- The securityProbe auto detects the presence of the dual sensor
- Up to 8 dual sensors per securityProbe
- Full Autosense including disconnect alarm

Configuring the Dual sensor

Since all of AKCP's intelligent sensors are configured similarly, not every field is described below. The descriptions below describe the fields which are specific to the humidity sensor.

Temperature

A commonly used SNMP OID for the temperature sensor is the number of degrees. This information can be used for graphing the sensor.

The SNMP OID for the temperature sensor on RJ45#1 is **.1.3.6.1.4.1.3854.1.2.2.1.16.1.3.0**

Current Reading: The number of Degrees is displayed in this read-only field. This is an integer SNMP OID field which has a precision of 1 degree. The value can be polled via SNMP, and the data can be used to graph the temperature variations. The value displayed can be in Fahrenheit or Celsius. If communication to the temperature sensor is lost, the sensor value -512 will be returned by a *snmpget*.

Hint: The actual precision for the temperature sensor is 0.9°F (0.5°C). Nevertheless, the Current Reading field only displays the temperature with an increment/decrement of 1 degree. To retrieve the actual reading from the temperature sensor, another SNMP OID must be used; it is:

.1.3.6.1.4.1.3854.1.2.2.1.16.1.14.0 for the sensor on RJ45#1.

However, since this is an integer SNMP OID, the temperature must be multiplied by 10 before polled via SNMP. Therefore, the returned value has to be divided by 10 to become the actual temperature.

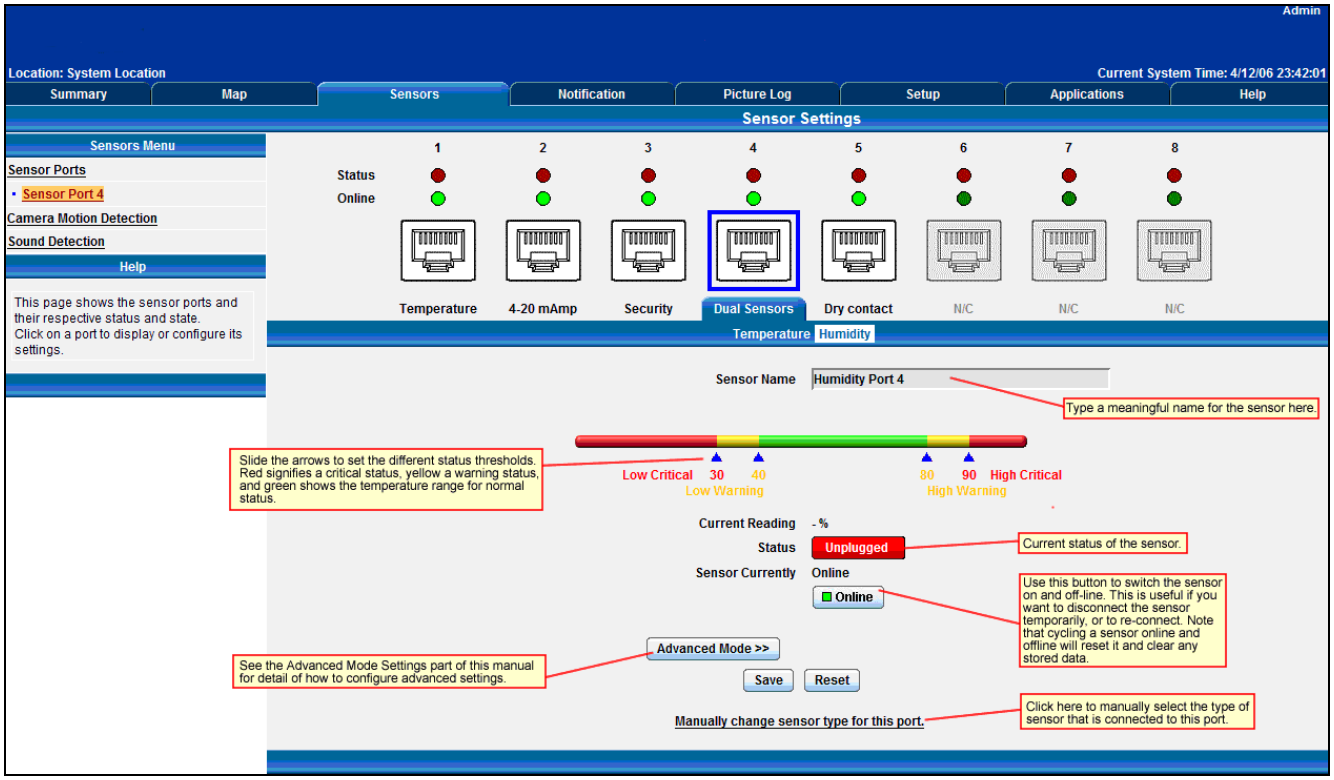
Status: If at any time communications with the temperature sensor are lost, the status of the temperature sensor is changed to sensorError. If communications with the temperature sensor are reestablished the status will be formed by comparing the Degree to the high and low thresholds.

Degree Type: The Degree Type can be set to Fahrenheit or Celsius. When the Degree Type is changed all the threshold fields will change their values automatically. The system stores the thresholds for both Celsius and Fahrenheit independently allowing you to switch between the two.

Reading Offset: The Reading Offset parameter can be used to calibrate temperature and humidity sensors sensors . If for example the actual reading of a sensor is 28 degrees Celsius and the Reading Offset is set to 2 the temperature will be displayed as 30 degrees Celsius.

Humidity

Please see the annotated screenshot below describing the fields for the Humidity sensor setup tab.



A commonly used OID for the Humidity sensor is the percentage, this can be graphed.

The SNMP OID for Humidity sensor on RJ45#1 is **.1.3.6.1.4.1.3854.1.2.2.1.17.1.3.0**

Current Reading: The relative Humidity Percent is displayed in this field. This is a read-only field. This integer OID and can be polled. The data can be used to graph the Humidity.

Status: If at any time communications with the humidity sensor are lost, the status of the Humidity sensor is changed to sensorError. When communications with the humidity sensor are re-established the status will be formed by comparing the percentage to the high and low thresholds.