

Combination Temperature, Humidity & Air Flow Sensor

A multipurpose remote sensor for use with the WeatherGoose climate monitors. Up to 16 can be attached to the monitors.

Built to monitor internal computer cabinet or server room conditions, the RTAFH sensor contains a temperature, humidity and air flow sensor. Up to 16 RTAFH sensors can be attached to any of the WeatherGoose family of climate monitors.

Temperature and humidity are measured by industrial- grade digital sensors with excellent accuracy.

A Delrin plastic tube contains all the electronics - the sensor is powered by the WeatherGoose power. A nylon strap allows secure mounting. The sensor is supplied in 20' and 100' cable lengths, although the user can add or shorten the cable as required. Maximum cable length is 600' aggregate length.

Temperature Sensors:

Range: -40 to 40C (-40F to 140F)
Sensor: Maxim 18B20 semiconductor
Accuracy: +/-0.5C

Humidity Sensor:

RH Accuracy: $\pm 2\%$ RH,
Sensor: Honeywell HIH-3610
Repeatability: $\pm 0.5\%$ RH
Response time, 15s in slowly moving air @ 25 °C
Range: 0 to 100% RH, non-condensing

Air Flow Sensor:

Range: 0 - 100 relative air flow
Sensor: amount of heat change method (see below)
Repeatable accuracy: +/-20%
Scale: uncalibrated, zero air flow reads 20.
Operating range: 65 to 110F (18 to 43C)

Air Flow Detection:

Air flow is computed by comparing a periodically heated temperature sensor to a separate reference temperature. Faster air flow causes more rapid heat increase. The sensor's dynamic range approximates common computer cabinet internal air movement. The physical amount of air moving is not computed. Still air reads about 20 on the 0 to 100 scale. The sensor is immune to temperature change in cabinet and most room environments.

Installation:

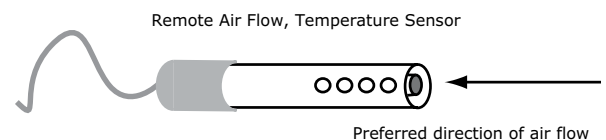
The air flow sensor's open end should face the air flow source for maximum sensitivity. Mounting the sensor perpendicular to air flow will reduce sensitivity and may cause air flow values to fluctuate due to turbulence. The sensor should be located in the hottest part of the cabinet or room. Rigid mounting is recommended to avoid movement in the air which can cause erratic readings.

Model Codes:

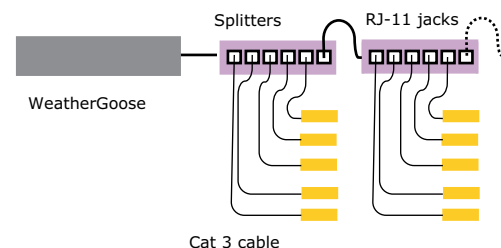
RTAF- 20 Temp and Air Flow, 20' cable
RTAF-100 same but 100' cable
RTAFH-20 Temp, Humidity, Air Flow, 20' cable
RTAFH-100 same but 100' cable



Each of the two varieties of the sensor is housed in a 4 inch Delrin plastic tube with ventilation holes. The nylon clamp permits the sensor to be screwed to a metal or wood surface. Cable lengths of 20 and 100 feet are available.



The air flow sensor has the maximum sensitivity when the open end faces the airflow. This method minimizes internal turbulence in the protective plastic tube.



Telephone-type splitter blocks permit up to 16 RTAFH sensors to attach to the WeatherGoose series of climate monitors. Punch-down blocks can also be used to connect the Cat 3 wires.