Humidity and Condition Monitoring for Data Centers

Data centers are the brains of almost any company whose success depends on efficient and reliable software operations. As there is quite a bit of powerful hardware sitting in one place, data centers must be safeguarded against both external and internal environmental influences, while the buildings also require sufficient cooling.

Data centers are often unmanned and located in remote areas, yet they are expected to run 99.999% (five nines) of the year – translating into a maximum permissible annual downtime of just 6.5 hours. Data center failures can be devastating to both service providers and end users. Maintaining environmental conditions conducive to computing is therefore critical.

Data center operators are continuously striving for higher operational efficiency. Huge improvements in power usage effectiveness have been gained using advanced air conditioning and cooling systems. Utilizing airside economizers and adiabatic cooling provides huge savings potential, but it also increases the requirements for air conditioning systems and reliable instrumentation to control them. Accurate and stable instrumentation allows the data center cooling system to be efficiently controlled, while maintaining temperature and relative humidity at the correct levels.

Vaisala has everything you need for measuring humidity, temperature, and CO_2. We have a wide range of sensors with different features, all of which provide equally reliable and stable long-term measurement data. Data centers are just one of the critical facility applications where Vaisala has provided both humidity and HVAC sensors worldwide.

Why Vaisala?

One of our core values is quality, and our aim is to provide our customers with products and services that best fulfill their needs, offering a mix of performance, reliability, and convenience.

We have complete control of the manufacturing quality of our sensors as they are designed by us and built in our own cleanrooms in Finland. We invented the solid state relative humidity sensor and have been producing these sensors for over 40 years with a proven track record of global product leadership. Vaisala HUMICAP® relative humidity sensor is so reliable that it is used on the NASA Curiosity Rover that was sent to Mars.

Our HVAC sensors and transmitters are the industry standard for use in achieving maximum energy efficiency, from the optimization of cooling towers to demand-controlled ventilation.

The Vaisala viewLinc Continuous Monitoring System (CMS) works independently from HVAC systems. It is a complete solution for measuring, monitoring, and documenting environmental conditions. The measurement devices can also be fully wireless, even when humidity control is provided by an HVAC system. The CMS is a valuable tool for monitoring conditions at precise locations, or mapping conditions in a large space.

Vaisala manufactures products that last.

Learn more at
www.vaisala.com/humidity
www.vaisala.com/hvac
www.vaisala.com/viewlinc
www.vaisala.com/wxt530

Vaisala Instruments for Data Centers

Continuous Monitoring System

Vaisala viewLinc Continuous Monitoring System for logging measurement data

- Collects data via a logger or transmitter
- Automatic data back-up
- Real-time monitoring and alarms
- Easy to install in an existing network
- Mobile optimized
- Software included

Relative Humidity (RH) and Temperature (T) measurement

Vaisala HMT120/130

- Humidity and temperature measurement
- 2-wire loop-powered or 3-wire voltage output configurations
- Interchangeable probe for easy field calibration
- Accurate, reliable, and resistant to dust and most chemicals
- Optional LCD display
- IP65 enclosure

Vaisala HMT330

- Full 0 ... 100 %RH measurement, temperature range up to +180°C (+356°F) depending on model
- Six probes for different applications
- 10-year warranty when calibrated annually at a Vaisala Service Center
- Optional LCD display and keypad
- IP65/66 enclosure
- Analog outputs, RS232/485, WLAN/LAN
- ModBus protocol support (RTU/TCP)

HVAC

Vaisala HMD112 for high accuracy measurements

- Humidity and temperature measurement in ducts
- 2-wire, current output
- Superior long-term stability minimizes maintenance needs
- IP65 enclosure

Vaisala TMW90 Transmitter Series for demanding HVAC applications

- Measures temperature
- Accurate measurement of actual air temperature due to good thermal design
- Configurable analog output model
- Current loop-powered 2-wire and 3-wire options
- Easy field adjustment without special tools

Outdoor Measurement

Vaisala WXT530

- Measures air pressure, temperature, humidity, rainfall, wind speed and direction through various combinations
- Easy to use and integrate
- Analog sensors can be added
- Compact, light-weight, Low power consumption
- mA output suitable for industrial applications
- IP66 enclosure

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measuring up

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