

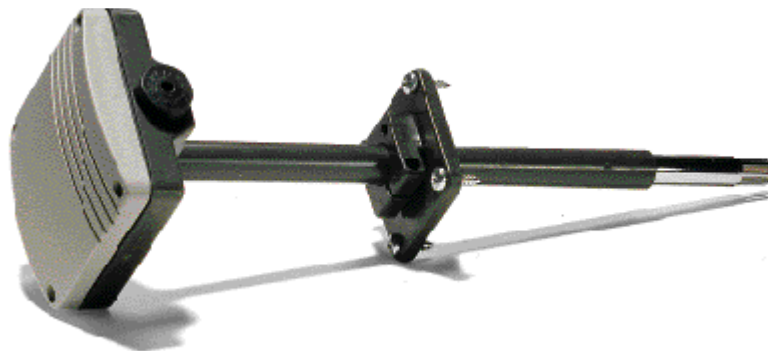
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Safeguarding the databases of the Danish Meteorological Institute

Climate-Control for Supercomputers



Klavs Allerslev Jensen works as a Software Engineer for the Danish Meteorological Institute.



Vaisala's duct-mounted HMD50 transmitters are designed for use in air conditioning systems. They are ideal for measuring the humidity in computer rooms.

In Denmark, all meteorological information and databases are stored in the Danish Meteorological Institute's supercomputers. To keep these computers operative at all times, specially ventilated rooms and strict compliance with humidity and temperature limits are essential. DMI relies on Vaisala instruments to ensure optimal conditions in its computer rooms. Vaisala transmitters are also used to check the sensors in its observation network.

The Danish Meteorological Institute (DMI) is the nerve center of the Meteorological Institute, the Aeronautical Meteorological Service for civil aviation and the Danish Defence Weather Service. The databases of all three are stored in the DMI's NEC SX4/16 supercomputers, which require a specially ventilated room where the temperature must be kept between 16–18 °C and the humidity between 55–70 per cent.

Keeping computers cool

Software Engineer Klavs Allerslev Jensen works in the Technical Division of DMI's Observation Department. He joined the institute staff in 1976, and since then Mr. Jensen has accumulated several years of experience in the field with Vaisala products.

Mr. Jensen explains the demands that supercomputers place on air conditioning systems: "We use NEC SX4/16 supercomputers, which require a specific temperature and humidity to work properly. This is why we use a modern comput-

erized control system to monitor the cooling system in our computer room."

The DMI control system includes four Vaisala HMD50 transmitters and one QLI50 data collector. Both are connected to a PC, which collects and displays the data. Supported by the LabVIEW function, the presentation system is programmed by DMI's staff.

Vaisala's duct-mounted HMD50 transmitters are designed for use in air conditioning systems. They combine excellent stability with easy installation and reliable operation. In addition, the transmitters are fitted with the interchangeable INTERCAP® sensor, so no adjustments are needed if the sensor is changed. The instruments were installed in May 1997.

According to Mr. Jensen, quality is their first priority when purchasing new instruments. He comments: "So far, the computer department has been very satisfied with our Vaisala instruments. The system has already provided an early warning of a cooler breakdown. We chose Vaisala's sensors because they

are easy to install and maintain. Their low cost was an another advantage."

Ideal for on-site checking and calibration

"Our Observation Department uses Vaisala instruments to check and calibrate the sensors in our weather stations," comments Mr. Jensen. "The HMP233 humidity and temperature transmitter, for example, is utilized in the calibration of our other humidity sensors, and we use the HM31 and HM34 for on-site checking of the humidity and temperature sensors in DMI's weather stations.

The pressure sensors in DMI's observation network are checked and calibrated against Vaisala sensors, using the PTB220 barometer as a travelling standard.

According to Klavs Allerslev Jensen, the Vaisala instruments were chosen primarily because of their ease-of-use. "The quality of the sensors is generally high, and the PTB220 barometer is particularly well suited for use as a traveling standard." ■