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Introducing Vaisala HUMICAP® Humidity and Temperature Transmitter Series HMT100

New Flexibility in Demanding HVAC Applications

Several different applications require reliable humidity measurement. Stability rooms and chambers come in many sizes, all of which require vigilant monitoring of temperature and humidity. The trend in greenhouses is towards room-specific humidity sensors. Fruit and vegetables are stored and ripened in specially built rooms that contain systems for controlling humidity. Outside air measurements are needed in weather reporting and forecasting but also in many other applications, such as building automation.

The Vaisala HUMICAP® Humidity and Temperature Transmitter Series HMT100 has been introduced for humidity and temperature monitoring, especially in demanding HVAC (heating, ventilation and air conditioning) applications. Several optional features make it a flexible solution for the user, who can order a transmitter that optimally fits their specific application.

Alternative output parameters and output signals

The HMT100 can measure relative humidity or dewpoint alone, or either one of these together with temperature. Relative humidity is the most commonly measured parameter, for example, when the effects of humidity on storage, use and consistency of materials and products need to be monitored. On the other hand, dewpoint provides a temperature-independent humidity parameter such as when incoming air is supplied into an air conditioning network or the temperature where condensation would occur needs to be known.

Different controllers and peripherals work using various types of input signals. The HMT100 outputs the measurement results as either a loop pow-



ered 4...20 mA signal or as a linear voltage signal.

Choice of probes and displays

The HMT100 comes with either a fixed humidity probe for mounting the unit on a wall or with a cable probe that enables the probe to be installed at a distance from the transmitter body. A separate duct installation kit enables the probe to be installed in an air channel, where the exact installation depth of the probe can be adjusted. Three different cable lengths are available and a separate extension cable allows a maximum 20 m distance between the probe and the transmitter.

The HMT100 can also be or-

dered with a local LCD display which instantly shows the user the observed humidity and temperature levels.

Interchangeable probe - flexibility in calibration

As a new feature, the HMT100 series incorporates a model with an interchangeable probe. This probe can also be bought separately as a spare unit for the HMT100 transmitter. When adjusting the transmitter, the adjustment result is stored in the HMP100 probe. The probe can therefore be adjusted in a calibration laboratory using another HMT100 body.

The interchangeable probe provides the user with a new way



to re-adjust the HMT100 transmitter at the measurement site. The probe can easily be changed to another HMP100 probe, which is either supplied directly from the factory or calibrated elsewhere. Alternatively, the transmitter can be adjusted using a system such as the Vaisala HUMICAP® Hand-Held Humidity and Temperature Meter HM70 and a suitable connection cable. The HM70's indicator shows the readings of both the HMT100 and the reference probe simultaneously, and the adjustment can be made quickly and easily.

The HMT100 can also be calibrated in a conventional way using the Vaisala Humidity Calibrator HMK15, or by sending the unit to a Vaisala service center.

Reliable performance in dusty and humid environments

The transmitter cover is dust and water spray resistant and meets the IP65 requirements. This makes the HMT100 particularly suitable for wet and humid environments that are regularly cleaned with sprayed water. A separate weather shield and a radiation shield are available for installing the HMT100 outdoors. In addition, the sensor elements can be protected either with a plastic grid, with a membrane filter, or with a durable sintered filter.

The HMT100 incorporates the Vaisala HUMICAP® sensor, which has excellent stability and is insensitive to dust, particulate dirt and most chemicals. ●