VAISALA News

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Long-Term Stability and Low Maintenance:

Dewpoint Measurement at Its Best

Measuring dewpoint temperature in low dewpoint applications requires accurate and reliable dewpoint measurement. A low maintenance need is a must for industrial applications, to keep costs at a reasonable level. Unfortunately low maintenance requirements and good accuracy do not often go together. Vaisala DRYCAP® technology caters for these requirements and many more.

Vaisala DRYCAP® technology was launched in 1997. Since then the new technology has been adopted in dewpoint applications, like dry air and other dry gas monitoring. The main advantage of DRYCAP® technology is its small drift. This in turn means low maintenance as the instruments do not need recalibrating as frequently as other technologies on the market.

A variety of instruments - a variety of performances

Many different technologies exist on the market for dewpoint temperature measurement. Some technologies can offer very good accuracy, but are sensitive to drift and may require even daily maintenance. Other technologies have a wider accuracy specification for more industrial use, and can keep the specified accuracy longer - or at least claim to. From the users' point of view it is unfortunate that the maintenance interval to keep the specified accuracy varies dramatically, depending on the technology in question. Vaisala DRYCAP® polymer sensor technology is on top of the performance charts in this category, and can maintain the specified accuracy for years.

Accuracy and long-term stability

Long-term stability is an important consideration when talking about accuracy in industrial applications. This means the accuracy of the instrument not only at the time of manufacture, but in actual application for months and years to come. A reasonable drift of some degrees can be accepted in most applications, and calibration at certain intervals is normal procedure to maintain accuracy. However, in too many cases the drift during the manufacturer's recommended calibration interval is several times the specified accuracy, which results in poor performance. With DRYCAP®, the measurement technology takes care of the accuracy, so that the drift is kept at minimum. Measurement accuracy with long-term stability is the basic requirement for all instruments Vaisala develops and manufactures.

Vaisala DRYCAP® dewpoint products cater for a wide range of different measurement needs.

Dewpoint measurement with polymer technology is a very reliable method for the widest range of applications. At ambient level dewpoints, polymer sensors like the Vaisala HUMICAP® have been used for decades to calculate the dewpoint directly from the measured Relative Humidity and temperature.

At low dewpoints, like in dry compressed air measurement, sensitivity and long-term stability are more critical issues. Many instruments lack the required sensitivity with the necessary stability. Vaisala DRYCAP® technology measures low dewpoint accurately for years. ●

Polymer sensors in low dewpoint measurement

Some years ago, polymer sensors were accused of having poor accuracy at low dewpoints. This was true until a suitable technology was developed and launched in 1997 to use polymer sensors in low dewpoint measurements. This patented method is called Vaisala DRYCAP® technology. It offers the required sensitivity for low dewpoints. Its main advantage is its excellent long-term stability resulting from its combination of polymer material and automatic self-diagnostics: Autocalibration. DRYCAP® technology provides measurement results within the specified accuracy, month after month and even year after year. ●