



Thermal Absolute humidity sensor TFS 11



Robust sensor for absolute humidity

In the industrial de-humidifier systems, robust and long term stable humidity sensors are required, which are resistant against chemical effects. Therefore, the capacitive polymer sensors are not suitable in certain applications.

The new type of humidity sensor TFS 11 works on the principle of thermal conductivity. In atmospheric air, the thermal conductivity (λ) in first line depends on the absolute humidity content. Two symmetric NTC's in bridge circuit are heated. One NTC is placed in the atmosphere and the second one is totally enclosed in dry reference gas. Corresponding to the thermal conductivity, an output voltage gets generated which is further evaluated.

The main advantage of the sensor is its robust construction and insensitivity to organic compounds and other air impurities, which otherwise results in a drift in case of conventional sensors. Because of this, the sensor is ideally suitable for industrial de-humidifying process, in agriculture for measurement of stall climate and also in the area of consumer applications, for example, in laundry dryers or microwave ovens.

The operating range of the sensor is right from 0 to 150 g H₂O/kg air in the temperature range of 0 to 150°C. Since this involves a mixed gas sensor, it is also suitable for evaluation in other gases.

An extensive evaluation set with component samples, detailed data sheet, application notes and evaluation circuits are available with the sensor.

Further information can be obtained from the manufacturer.