

AVIATION

Humidity sensor with $\hat{A}\pm 1,5$ % accuracy

Ametek Sensors & Fluid Management Systems (USA) has developed a humidity sensor for aircraft environmental control systems. According to the company, it is the most accurate sensor of its kind.

The 8TJ315AAA1 humidity sensor has a range of 10 % to 90 % humidity and an accuracy of ± 4 % from 0 °C to 50 °C humidity and $\pm 1,5$ % from 0 °C to 40 °C. The sensor contains a sensing element and electronics that convert the water concentration in the air to a standard CAN output. The sensor's time response is a function of airflow and typically is under six seconds. The humidity sensor uses a capacitance technique with specialized signal processing to measure the water content. The CAN output has labels for duct humidity and temperature as well as built-in-test status. The internal built-in test capability indicates detected failures with the sensor and its internal processing circuits.

*The sensor offers an operating temperature of -55 °C to +85 °C
(Photo: Ametek)*

Qualification for transport jet application is complete. The humidity sensor has passed tests in accordance with DO-160, substantiating all of the requirements for its location on transport aircraft. The sensor is intended for air ducting where humidified air is carried to seating areas.