

Vaisala HUMICAP® Humidity and Temperature Transmitters in Automotive Paint Booth Applications

Modern automotive paints are sensitive to environmental conditions during application. Humidity control in the air house and paint booth assures an efficient process and a high quality finish. Vaisala HUMICAP® Humidity and Temperature Transmitters provide accurate humidity readings with extremely low long term drift, flexible installation options, and chemically durable sensors. The sensor probes are silicone-free and do not pose a contamination risk for the paint booth. In addition, Vaisala offers the HMT360 Series, a family of intrinsically safe humidity instruments for hazardous locations.

Humidity and Temperature Transmitter Installation in Paint Booth Ventilation Systems

Humidity and temperature transmitters are typically installed in the air supply house or the make-up air systems of the paint booths. In the air supply house, ambient air is pre-conditioned prior to entering the paint booth. Since toxic fumes are not present in the air supply, the HMT330 series is an ideal choice for humidity and temperature monitoring. In the make-up air unit, outside air is sometimes mixed with re-circulated air for energy conservation. The return air may still contain some toxic gases from the paint process. In this case, intrinsically safe humidity and temperature instrumentation, such as the HMT360 series, is recommended. If the humidity and temperature are monitored directly within the paint booth, the HMT360 series is required.

Benefits of Using Vaisala HUMICAP® Humidity and Temperature Transmitters

The HMT330 and HMT360 Series both have an accuracy rating of $\pm 1\%$ RH and incorporate the Vaisala HUMICAP® 180R sensor. The HUMICAP® 180R is a capacitive humidity sensor which has been developed especially to cope with chemical interference. Unlike chilled mirror dew point technology, the HUMICAP® 180R sensor is insensitive to dust, particulate dirt, most chemicals, and has a fast response time. Standard outputs include humidity and temperature, with optional parameters such as dew point, absolute humidity, wet bulb, enthalpy and mixing ratio. A quick, one-point field calibration of the HMT330 Series can be performed with a Vaisala HM70 hand-held meter.

Also recommended are the HMT120/130 Series and HMD60/70 duct mount transmitters. The HMT120/130 Series incorporates the HUMICAP® 180R sensor, offers flexible installation and choice of outputs, including humidity, dew point, enthalpy, and wet bulb temperature. Both the HMT120/130 Series and HMD60/70 have an accuracy rating of $\pm 2\%$.

The intrinsically safe HMT360 Series is ideal for measuring humidity and temperature in hazardous areas. The entire transmitter can be installed directly in explosive areas: Division 1 and 2 (USA, Canada), Categories 1G / Zone 0 and 1D / Zone 20 with protection cover (EU). The humidity and temperature probes are interchangeable to allow for fast and easy removal or re-installation when required. All calibration coefficients are included in the probe unit itself. Probes can be switched between transmitter bodies without losing accuracy or requiring re-calibration.

Learn more at www.vaisala.com/HMT330, www.vaisala.com/HMT360, www.vaisala.com/HMT120, and www.vaisala.com/HMDW6070