

# Vaisala's Humidity, Temperature, and Carbon Dioxide Transmitters for the Food and Beverage Industry



**VAISALA**

Vaisala's transmitter portfolio includes products for measuring humidity, temperature, dew point, carbon dioxide (CO<sub>2</sub>), and barometric pressure. Our products are suitable for:

- proofers in bakeries
- drying processes
- optimization of process conditions
- industrial ovens
- compressed air networks
- monitoring CO<sub>2</sub> levels
- warehouses or other storage facilities
- manufacturing facilities
- manufacturing and packaging facilities of meat and fish products
- hazardous areas

Our products are manufactured under strictly controlled conditions at our manufacturing facility in Finland, which is also home to our service support function. Even the most high-performance measurement instruments require regular calibration and maintenance to ensure they can continue to provide accurate data. A Calibration agreement from Vaisala is an economical way to ensure regular calibration of your instruments for the long term, while our more comprehensive PremiumCare agreement also includes repair services and selected spare parts.

## Measuring Relative Humidity and Dew Point

In many high-temperature baking and drying processes, measuring humidity requires specialist instruments that are not only stable, reliable, and accurate, but are also easy to use and provide flexibility in terms of configuration.

For example, the drying of demineralized whey can be optimized using Vaisala's humidity and temperature transmitters to measure



*Vaisala's measurement instruments are suitable for use in pasta drying processes.*

humidity and temperature in the dryer inlet and outlet air. The inlet air humidity data is used to control the process, while the outlet air humidity data correlates with the moisture content of the powder and thus can be used as an indicator of final product quality. This saves time and energy by avoiding overdrying.

Our product portfolio includes a wide range of reliable and stable relative humidity and dew point meters for different applications, based on our proven HUMICAP® and DRYCAP® technology.

## Measuring CO<sub>2</sub>


Vaisala CO<sub>2</sub> meters, detectors, and indicators are suitable for a wide range of applications, from fermentation and fruit storage to safety and ventilation control. Carbon dioxide is used, for example, to carbonate soft drinks. While the containers are being filled during the bottling process, large volumes of CO<sub>2</sub> can escape from the fillers into the surrounding atmosphere.

Because CO<sub>2</sub> is twice as heavy as air, carbon dioxide sinks into the bottom of the room and in areas with poor ventilation. As CO<sub>2</sub> is colorless and odorless, it can only be detected using appropriate measurement devices. By using such devices manufacturers can ensure that the level of CO<sub>2</sub> does not exceed set workplace exposure levels.

Vaisala has over 80 years of experience in designing and manufacturing high-quality, reliable industrial measurement instruments. Our CO<sub>2</sub> measurement devices are based on our unique, second-generation CARBOCAP® technology, which ensures exceptional stability, and are delivered with a NIST-traceable calibration certificate. They are easy to use, require little maintenance, and have a low total cost of ownership.

# Products and Applications




## Continuous Monitoring System

	<p><b>Vaisala viewLinc Continuous Monitoring System for logging measurement data from processes, warehouses, or manufacturing areas</b></p> <ul style="list-style-type: none"> <li>- Collects data via a logger or transmitter</li> <li>- Automatic data back-up</li> <li>- Real-time monitoring and alarms</li> <li>- Easy to install in an existing network</li> <li>- Mobile optimized</li> <li>- Software included</li> </ul>
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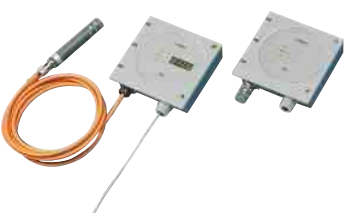

## Relative Humidity (RH) and Temperature (T) measurement

	<p><b>Vaisala HMT120/130 for proofers in bakeries and for manufacturing and packaging facilities of meat and fish products</b></p> <ul style="list-style-type: none"> <li>- Humidity and temperature measurement</li> <li>- 2-wire loop-powered or 3-wire voltage output configurations</li> <li>- Interchangeable probe for easy field calibration</li> <li>- Accurate, reliable, and resistant to dust and most chemicals</li> <li>- Optional LCD display</li> <li>- IP65 enclosure</li> </ul>
 	<p><b>Vaisala HMT330 for proofers in bakeries, drying processes, process optimization, or demanding industrial applications</b></p> <ul style="list-style-type: none"> <li>- Full 0 ... 100 %RH measurement, temperature range up to +180°C (+356°F) depending on model</li> <li>- Six probes for different applications</li> <li>- 10-year warranty when calibrated annually at a Vaisala Service Center</li> <li>- Optional LCD display and keypad</li> <li>- IP65/66 enclosure</li> <li>- Analog outputs, RS232/485, WLAN/LAN</li> <li>- ModBus protocol support (RTU/TCP)</li> </ul> <p><a href="#">Download our customer story about optimizing a drying process</a></p>
	<p><b>Vaisala HM70 for calibration and spot-checking</b></p> <ul style="list-style-type: none"> <li>- RH measurement range 0 ... 100%</li> <li>- Three probes with temperature measurement ranges between -70 and +180 °C</li> <li>- Multi-probe operation; dew point and CO<sub>2</sub> probes can also be connected</li> <li>- Data can be logged and transferred to a PC via MI70 Link software</li> </ul>
	<p><b>Vaisala HM40 for quick inspections and spot-checking</b></p> <ul style="list-style-type: none"> <li>- Compact, portable, and easy to use</li> <li>- Four probe options</li> <li>- Intuitive user interface</li> <li>- A wide measurement range and multiple calculated parameters</li> </ul>

## Dew point ( $T_d$ ) measurement

	<p><b>Vaisala DMT345/346 for baking ovens and high-temperature processes</b></p> <ul style="list-style-type: none"> <li>- Vaisala DRYCAP® sensor provides accurate, reliable measurement with excellent long-term stability and fast response time</li> <li>- Two-year warranty (transmitter), two-year calibration interval</li> <li>- Measures humidity at temperatures up to 350 °C (+662 °F)</li> <li>- Condensation resistant</li> <li>- Graphical display with keypad for convenient operation</li> <li>- Optional mains power supply module and alarm relays</li> <li>- IP65 enclosure</li> </ul> <p><a href="#">Download our application note on special demands in bakery applications</a></p>
	<p><b>Vaisala DMT143 for pressurized systems</b></p> <ul style="list-style-type: none"> <li>- Features Vaisala DRYCAP® technology with auto-calibration</li> <li>- Long calibration interval reduces maintenance costs</li> <li>- Accuracy: <math>\pm 2</math> °C (<math>\pm 3.6</math> °F)</li> <li>- Condensation resistant</li> </ul>
	<p><b>Vaisala DM70 for calibration and spot-checking</b></p> <ul style="list-style-type: none"> <li>- Dew point measurement</li> <li>- Two probes with a measurement range of -60 ... +20 °C</li> <li>- Multi-probe operation; relative humidity and CO<sub>2</sub> probes can also be connected</li> <li>- Data can be logged and transferred to a PC via MI70 Link software</li> </ul>

## Carbon dioxide measurement

	<p><b>Vaisala GMT221/2 for versatile CO<sub>2</sub> measurement, for manufacturing and packaging facilities of meat and fish products</b></p> <ul style="list-style-type: none"> <li>- Measurement range: 0 ... 10,000 ppm / 0 ... 20% CO<sub>2</sub></li> <li>- Wall-mounted, fixed probe, or cable</li> <li>- Outputs: 0 ... 20 mA / 4 ... 20 mA or 0 ... 10V</li> <li>- LED indicators and optional LCD display</li> <li>- Two predefined or user-defined relay outputs</li> <li>- IP65 enclosure</li> </ul>
	<p><b>Vaisala GM70 for calibration and spot-checking</b></p> <ul style="list-style-type: none"> <li>- CO<sub>2</sub> measurement</li> <li>- Two probes with a measurement range of 0 ... 20% CO<sub>2</sub></li> <li>- Multi-probe operation: relative humidity and dew point probes can be connected</li> <li>- Data can be logged and transferred to a PC via MI70 Link software</li> </ul>

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[www.vaisala.com](http://www.vaisala.com)

Please contact us at  
[www.vaisala.com/requestinfo](http://www.vaisala.com/requestinfo)



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Kenelec Scientific Pty Ltd  
1300 73 22 33  
[sales@kenelec.com.au](mailto:sales@kenelec.com.au)  
[www.kenelec.com.au](http://www.kenelec.com.au)



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