

VAISALA

# HVAC transmitters

Catalogue



# Excellence in measurements

## Unrivaled performance

Vaisala is a global leader in environmental and industrial measurements. Our sensors and transmitters are renowned for their unrivaled performance, reliable results, and low total cost of ownership. You can rest assured that our products will ensure the highest precision and reliability for your controlled processes.

## For cutting-edge solutions

When reliability matters, sensors matter. Control of your HVAC systems and processes, and consequently, your building's performance, can only be as precise and reliable as your measurements. The more critical your building, the more important your sensors become. Precision and reliability are required in every link of the chain, starting with sensors.



## Sustainable buildings

Sustainability in buildings means taking every measure to improve energy efficiency and reduce emissions of the facility. Accurate sensors with reliable measurement capabilities are essential for optimizing building performance and improving the energy efficiency of the facility. Additionally, precise measurements also support achieving optimal indoor conditions for various types of spaces and creating more efficient and comfortable indoor environments.




## Peace of mind throughout the life cycle



As the trusted provider of measurement instruments, we offer you peace of mind. Our top-of-the-line products offer an exceptionally long lifetime, require minimal maintenance, and provide excellent measurement stability. Our transmitters for building automation are covered by a 5-year warranty. Although sensors represent a small investment, it is a strategic one with the potential to unlock huge long-term value.

# Room transmitters

## Accuracy that lasts.

Future-proof design combined with unbeatable measurement stability – the secret of low total cost of ownership of our products.

|                   | HMW90 SERIES<br>Humidity and Temperature Transmitters  | TMW90 SERIES<br>Temperature Transmitters  | GMW90 SERIES<br>Carbon Dioxide, Humidity and Temperature Transmitters   |
|-------------------|--|---|---|
|                   |   |    |    |
| INSTALLATION      | Wall-mount   | Wall-mount  | Wall-mount  |
| OUTPUT PARAMETERS | Relative humidity<br>Temperature<br>Dew point / frost point temperature<br>Wet bulb temperature<br>Enthalpy<br>Mixing ratio<br>Absolute humidity<br>Dew point depression | Temperature   | Carbon dioxide<br>Relative humidity<br>Temperature<br>Dew point/frost point temperature<br>Wet bulb temperature<br>Enthalpy<br>Mixing ratio<br>Absolute humidity<br>Dew point depression  |
| OUTPUT OPTIONS    | 4...20 mA loop powered<br>0...5/0...10 V, optional relay<br>Modbus RTU   | 4...20 mA loop powered<br>0...5/0...10 V, optional relay  | 4...20 mA<br>0...5/0...10 V<br>Modbus RTU   |
| DETAILS           | Accuracy $\pm 1.7\%$ Rh, $\pm 0.2^\circ\text{C}$ ( $\pm 0.36^\circ\text{F}$ )<br>Display option<br>IP30 enclosure<br>Calibration certificate included                    | Accuracy $\pm 0.2^\circ\text{C}$ ( $\pm 0.36^\circ\text{F}$ )<br>Display option<br>IP30 enclosure<br>Calibration certificate included | Accuracy $\pm 1.7\%$ Rh, $\pm 0.2^\circ\text{C}$ ( $\pm 0.36^\circ\text{F}$ )<br>$\pm 50$ ppm at 1000 ppm CO <sub>2</sub><br>CO <sub>2</sub> range 0...5 000 ppm<br>Display option<br>LED CO <sub>2</sub> indication option<br>IP30 enclosure<br>Calibration certificate included |
| READ MORE         | <a href="#">» DATASHEET</a>  | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>   |

|                   | HMW82/83<br>Humidity and Temperature Transmitters  | TMW82<br>Temperature Transmitters   | GMW83/84/86<br>Carbon Dioxide, Humidity and Temperature Transmitters   |
|-------------------|--|---|--|
|                   |           |  |   |
| INSTALLATION      | Wall-mount   | Wall-mount  | Wall-mount   |
| OUTPUT PARAMETERS | Relative humidity<br>Temperature   | Temperature   | Carbon dioxide<br>Relative humidity<br>Temperature   |
| OUTPUT OPTIONS    | 4...20 mA loop powered<br>0...10 V   | 4...20 mA loop powered  | 4...20 mA<br>0...10 V  |
| DETAILS           | Accuracy $\pm 3\%$ Rh, $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )<br>IP30 enclosure | Accuracy $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )<br>IP30 enclosure      | Accuracy $\pm 60$ ppm at 1000 ppm CO <sub>2</sub> ,<br>$\pm 3\%$ Rh, $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )<br>CO <sub>2</sub> range 0...2000 ppm<br>Display option (GMW83)<br>LED CO <sub>2</sub> indication option (GMW83A)<br>IP30 enclosure |
| READ MORE         | <a href="#">» DATASHEET</a>  | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>  |

# Wall transmitters

When reliability is a priority.

Transmitters designed for demanding environments  
- prestigious for reliability and unrivaled measurement performance.





|                   | HMT120/130 SERIES<br>Humidity and Temperature Transmitters  | TMT120/130 SERIES<br>Temperature Transmitters   | HMW110 SERIES<br>Humidity and Temperature Transmitters  |
|-------------------|---|---|---|
|                   |   |    |   |
| INSTALLATION      | Wall-mount, duct-mount, outdoor   | Wall-mount, duct-mount, outdoor   | Wall-mount  |
| OUTPUT PARAMETERS | Relative humidity<br>Temperature<br>Dew point / frost point temperature<br>Wet bulb temperature<br>Enthalpy<br>Mixing ratio   | Temperature   | Relative humidity<br>Temperature<br>Dew point temperature<br>Wet bulb temperature<br>Enthalpy   |
| OUTPUT OPTIONS    | 4...20 mA loop powered<br>0...1/0...5/0...10 V  | 4...20 mA loop powered<br>0...1/0...5/0...10 V  | 4...20 mA loop powered<br>Modbus RTU  |
| DETAILS           | Accuracy $\pm 1.5\%$ Rh, $\pm 0.1$ °C ( $\pm 0.18$ °F)<br>Display option<br>IP65 enclosure<br>Interchangeable probes<br>Cable probe option<br>Duct mounting kit option<br>Calibration certificate | Accuracy $\pm 0.1$ °C ( $\pm 0.18$ °F)<br>Display option<br>IP65 enclosure<br>Interchangeable probes<br>Cable probe option<br>Duct mounting kit option<br>Calibration certificate | Accuracy $\pm 2\%$ Rh, $\pm 0.2$ °C ( $\pm 0.36$ °F)<br>Display option<br>IP65 enclosure<br>M12 connector option<br>Calibration certificate |
| READ MORE         | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>   |





|                   | TMW110 SERIES<br>Temperature Transmitters   | HMW88/89<br>Humidity and Temperature Transmitters   | TMW88<br>Temperature Transmitters  | GMW87/88<br>Carbon Dioxide Transmitters   |
|-------------------|---|---|--|---|
|                   |   |           |  |                       |
| INSTALLATION      | Wall-mount  | Wall-mount  | Wall-mount   | Wall-mount  |
| OUTPUT PARAMETERS | Temperature   | Relative humidity<br>Temperature<br>Dew point temperature<br>Wet bulb temperature<br>Enthalpy | Temperature  | Carbon dioxide  |
| OUTPUT OPTIONS    | 4...20 mA loop powered<br>Modbus RTU  | 4...20 mA loop powered<br>0...10 V  | 4...20 mA loop powered   | 4...20 mA, 0...10 V<br>Modbus RTU (GMW87)   |
| DETAILS           | Accuracy $\pm 0.2$ °C ( $\pm 0.36$ °F)<br>Display option<br>IP65 enclosure<br>M12 connector option<br>Calibration certificate | Accuracy $\pm 3\%$ Rh, $\pm 0.3$ °C ( $\pm 0.54$ °F)<br>Display option<br>IP65 enclosure      | Accuracy $\pm 0.3$ °C ( $\pm 0.54$ °F)<br>IP65 enclosure                             | Accuracy $\pm 60$ ppm at 1000 ppm CO <sub>2</sub><br>CO <sub>2</sub> range 0...5000 ppm<br>IP64 enclosure |
| READ MORE         | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>  | <a href="#">» DATASHEET</a>   |

# Duct/immersion transmitters

For the premium performance.

With our top-of-the-line sensors you can always trust the measurement. It is the best possible input to your control loop.





|                   | HMD60 SERIES<br>Humidity and Temperature Transmitters   | TMD60 SERIES<br>Temperature Transmitters  | HMD110 SERIES<br>Humidity and Temperature Transmitters   | TMD110 SERIES<br>Temperature Transmitters  |
|-------------------|---|---|--|--|
|                   |    |    |                  |         |
| INSTALLATION      | Duct-mount  | Duct-mount  | Duct-mount   | Duct-mount   |
| OUTPUT PARAMETERS | Relative humidity<br>Temperature<br>Dew point temperature<br>Wet bulb temperature<br>Enthalpy<br>Absolute humidity<br>Mixing ratio  | Temperature   | Relative humidity<br>Temperature<br>Dew point temperature<br>Wet bulb temperature<br>Enthalpy      | Temperature  |
| OUTPUT OPTIONS    | 4...20 mA loop powered<br>0...10 V<br>Modbus RTU<br>BACnet MS/TP  | 4...20 mA loop powered  | 4...20 mA loop powered<br>Modbus RTU   | 4...20 mA loop powered<br>Modbus RTU   |
| DETAILS           | Accuracy ±1.5% Rh, ±0.1 °C (±0.18 °F)<br>Metal enclosure & probe<br>IP66 (NEMA4X) enclosure<br>Optional probe lengths 25 cm / 10 cm (10" / 4")<br>Calibration certificate | Accuracy ±0.1 °C (±0.18 °F)<br>Metal enclosure & probe<br>IP66 (NEMA4X) enclosure<br>Optional probe lengths 25 cm / 10 cm (10" / 4")<br>Calibration certificate | Accuracy ±2% Rh, ±0.2 °C (±0.36 °F)<br>Display option<br>IP65 enclosure<br>Calibration certificate | Accuracy ±0.2 °C (±0.36 °F)<br>Display option<br>IP65 enclosure<br>Calibration certificate |
| READ MORE         | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>  | <a href="#">» DATASHEET</a>  |

|                   | GMD110 SERIES<br>Carbon Dioxide Transmitters  | TMI110 SERIES<br>Temperature Transmitters  | HMD82/83, TMD82<br>Humidity and Temperature Transmitters                                      | PDT101<br>Differential Pressure Transmitters  |
|-------------------|---|--|---|---|
|                   |    |                                     |            |                                |
| INSTALLATION      | Duct-mount  | Immersion type (in thermowell), or duct-mount  | Duct-mount  | Wall-mount / DIN-rail   |
| OUTPUT PARAMETERS | Carbon dioxide  | Temperature  | Relative humidity<br>Temperature<br>Dew point temperature<br>Wet bulb temperature<br>Enthalpy | Differential pressure (air)   |
| OUTPUT OPTIONS    | 4...20 mA<br>0...10 V<br>Modbus RTU   | 4...20 mA loop powered<br>Modbus RTU   | 4...20 mA loop powered<br>0...10 V  | 4...20 mA<br>0...5/10 V   |
| DETAILS           | Accuracy ±40 ppm CO <sub>2</sub><br>CO <sub>2</sub> ranges 2000/5000/10000 ppm<br>IP65 enclosure<br>Calibration certificate | Accuracy ±0.1 °C<br>Probe lengths 100/150/200 mm<br>Thermowells available<br>IP65 enclosure<br>Calibration certificate | Accuracy ±3% Rh, ±0.3 °C (±0.54 °F)<br>Display option<br>IP65 enclosure                       | Accuracy 0.4% / 1% of span<br>Unidirectional / bidirectional models<br>Optional pressure ranges<br>IP40 enclosure |
| READ MORE         | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>  | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>   |



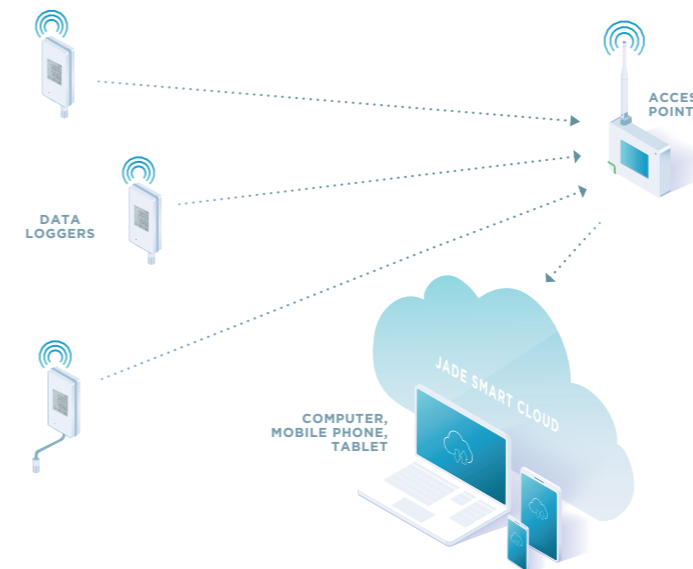
# Outdoor and weather transmitters

# Wireless monitoring system

|                   | HMS110 SERIES<br>Humidity and Temperature Transmitters   | HMS82/83 & TMS82<br>Humidity and Temperature Transmitters   | GMP252<br>Carbon Dioxide Probe with DTR250 Radiation Shield  | WXT530 SERIES<br>Weather Transmitters   |
|-------------------|--|---|--|---|
|                   |   |                              |                    |    |
| INSTALLATION      | Outdoor model with integrated radiation shield   | Outdoor model with integrated radiation shield  | Outdoor model with radiation shield  | Outdoor model with integrated radiation shield  |
| OUTPUT PARAMETERS | Relative humidity<br>Temperature<br>Dew point temperature<br>Wet bulb temperature<br>Enthalpy  | Relative humidity<br>Temperature<br>Dew point temperature<br>Wet bulb temperature<br>Enthalpy                 | Carbon dioxide   | Air pressure<br>Temperature<br>Humidity<br>Rainfall<br>Wind speed<br>Wind direction   |
| OUTPUT OPTIONS    | 4...20 mA loop powered<br>Modbus RTU   | 4...20 mA loop powered<br>0...10 V  | 4...20 mA<br>0...10 V<br>Modbus RTU  | Modbus RTU  |
| DETAILS           | Accuracy $\pm 2\%$ Rh,<br>$\pm 0.2\text{ }^\circ\text{C}$ ( $\pm 0.36\text{ }^\circ\text{F}$ )<br>IP65 rating<br>Calibration certificate | Accuracy $\pm 3\%$ Rh,<br>$\pm 0.3\text{ }^\circ\text{C}$ ( $\pm 0.54\text{ }^\circ\text{F}$ )<br>IP65 rating | Accuracy $\pm 40$ ppm at 400 ppm CO <sub>2</sub><br>CO <sub>2</sub> ranges<br>0...3000/3000/5000 ppm | Accuracy $\pm 0.5$ hPa,<br>$\pm 0.3\text{ }^\circ\text{C}$ ( $\pm 0.54\text{ }^\circ\text{F}$ ), $\pm 3\%$ Rh,<br>$\pm 3\%$ at 10 m/s |
| READ MORE         | <a href="#">» DATASHEET</a>  | <a href="#">» DATASHEET</a>   | <a href="#">» DATASHEET</a>  | <a href="#">» DATASHEET</a>   |

## Jade Smart Cloud

Vaisala Jade Smart Cloud combines high-class industrial measurements with easy-to-use cloud-based remote monitoring to enable new levels of competence and flexibility for professionals.



### System hardware

The Jade Smart Cloud hardware selection contains data loggers, access points, and measurement probes. Simply choose the number of measurement points you want, add the probes to match, and start measuring. The system is always delivered ready to use.

### Jade Smart Cloud application

Get insights easily in real-time. You can choose to see an overview of readings from all your connected loggers or drill down to view data from a specific site or measurement group. Accessing the system couldn't be easier – all you need is a laptop, tablet, or smartphone with an internet connection.

[» Vaisala.com/jade](https://www.vaisala.com/jade)

# Measurement solutions where it truly matters

## Data Centers & Mission-Critical Buildings

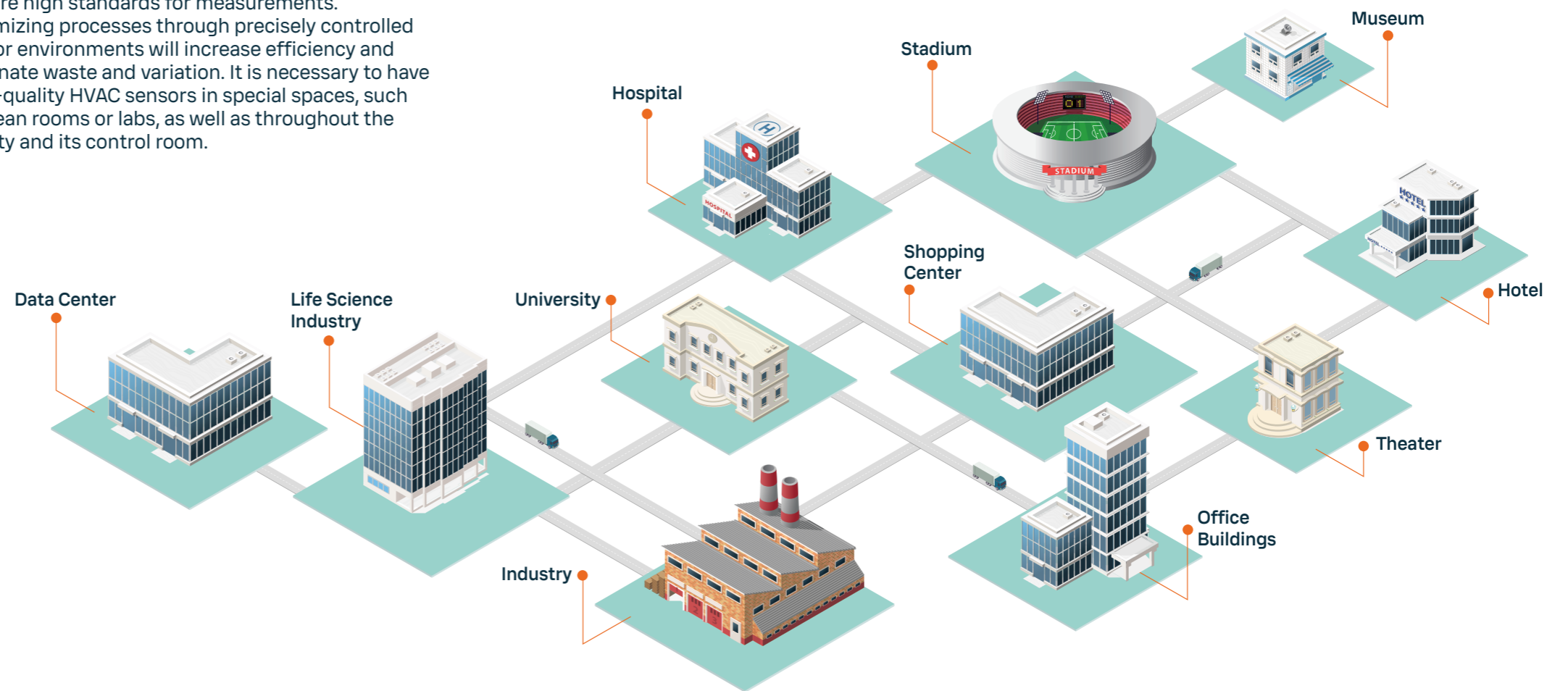
HVAC sensors constitute an integral component in the management of building systems. In mission-critical facilities, such as data centers, the importance of these sensors becomes even more pronounced, given their potential to impact energy consumption and efficiency. The reliability of these sensors is critical to ensuring optimal control of building systems, be it in data halls or control rooms.

## Commercial Buildings

In the realm of commercial buildings, reliable measurements play a critical role in ensuring optimal operations. Of paramount importance in these structures are energy efficiency, sustainability, as well as comfortable and healthy indoor conditions. This necessitates the use of high-reliability instruments with minimal drifting, as they serve to mitigate maintenance requirements and ensure smooth operation of all building systems. It is crucial to prioritize reliable measurements and invest in high-quality instruments to achieve optimal efficiency and minimize operational costs.

## Manufacturing & Industrial Facilities

Manufacturing facilities and industrial facilities require high standards for measurements. Optimizing processes through precisely controlled indoor environments will increase efficiency and eliminate waste and variation. It is necessary to have high-quality HVAC sensors in special spaces, such as clean rooms or labs, as well as throughout the facility and its control room.







## Sustainability in the heart of our business

Vaisala's premium measurement solutions enhance safety, efficiency, and decisionmaking – for a sustainable future on our planet.

The heart of Vaisala's sustainability lies in the positive impact of our products, as they help our customers, for example, to increase energy efficiency and reduce emissions.

» [Learn more about our sustainability.](#)



## Global coverage with local presence

As a global leader in industrial, weather and environmental measurements, we provide reliable, accurate and innovative products and solutions that enabling better decision-making, increased productivity, and improved safety and quality.

Customers all over the world and in a multitude of industries use our measurement solutions. Everywhere from forecasting weather and making sure it is safe for your flight to take off, to staying ahead of power outages or monitoring incubators for premature children in hospitals, you can find Vaisala's premium measurement solutions in action all over the world.

» [Find your local contact.](#)



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