

Beam Weather Station for urban and industrial systems

Product Spotlight

Providing a unique combination of insights for weather resilience and air quality monitoring

Local air quality and weather measurements are essential for situational awareness in urban and industrial areas. Cities can make informed decisions to protect people from weather and environmental hazards and plan infrastructure to minimize exposure. Industrial businesses can take proactive measures to safeguard employees and reduce the risk of environmental hazards to the public.



Key benefits

Vaisala Beam Weather Station is a flexible, scalable platform that extends from standalone to a system-level station using accurate and reliable Vaisala sensors plus additional compatible sensors.

Take key measurements, including weather parameters, carbon dioxide (CO₂) and the six most important air pollutants.

Compact and easy-to-deploy, the Beam Station is suitable for a wide variety of locations.

Experience versatile integration and connectivity using Vaisala cloud or your own system, and Vaisala or your own sim card

Secure data transfers with encrypted wireless data transfer.

Beam Station features remote access and service with secure data communication.

Visualize data from the station for easy sharing with third-party systems.

Why Vaisala?

As the global leader in weather and environmental measurements, Vaisala empowers businesses and community leaders to build resilience to climate change and extreme weather events. Our 85+ years of expertise is grounded in science, innovation and our unwavering commitment to constantly evolving.

We boldly demonstrate that a culture of resilience and a connection to nature can create new ways of smarter, resilient living. We are champions for smarter, safer and more sustainable urban communities.

The powerful, flexible and compact Vaisala Beam Weather Station BWS500 provides the key measurements you need for timely and accurate decisions. Built to scale for your needs, Beam Station suits a wide variety of applications for enhancing weather resilience and air quality monitoring.

Wirelessly and securely transfer the measurements data directly from Beam Station to your own system, or visualize the measurements with Vaisala cloud services. Deploy as a standalone station or create a network of several stations for valuable insights on the most important weather parameters, air pollutants and other environmental parameters like precipitation depth.

Setup and communication options

- **Vaisala Weather Transmitter WXT530 Series:** Measures wind speed and direction, air pressure, temperature, humidity and rainfall
- **Vaisala Air Quality Transmitter AQT560:** Measures nitrogen dioxide (NO₂), nitrogen monoxide (NO), ozone (O₃), carbon monoxide (CO), particulate matter PM₁, PM_{2.5} and PM₁₀
- **Vaisala CO₂ Probe GMP252:** Measures ppm-level carbon dioxide (CO₂)
- **Additional compatible sensors:** Can include solar radiation, water and snow depth, or visibility and present weather
- **Vaisala cloud service (or customer data integration system):** Collects and visualizes measurement data from the station for easy sharing with third-party systems
- **Tripod or mast:** Provides stable, flexible mounting options
- **Vaisala Edge Gateway EGW501 (required):** Enables secure data transfer between Beam station and data collection and visualization system

