



Features

- Allows extensibility with 3 sensor connectors
- Buffers data from sensors for transfer to cloud in case of connection loss
- Enables remote sensor and gateway management and monitoring
- Remote update of sensor and gateway software to maximize up-to-date secure operation
- Optional integrated SIM card and ready-made data plan
- Tested to endure extreme weather conditions
- LED indication for status and connection

Vaisala Edge Gateway EGW501 is a data collection and transfer solution that provides platform-level security for Vaisala Beam Weather Station BWS500. The integrated radio module and optional SIM card, together with the compact design, allow for speedy installation and commissioning.

Connection point for sensors

EGW501 has 3 dedicated connectors for sensor-to-gateway communication, a power connector, and a connector for local maintenance connection. EGW501 supports a selected set of Vaisala sensors and third-party sensors.

Data buffering and transfer

EGW501 handles data transfer between the sensors and a Vaisala cloud or a third-party data collection system. Additionally, it provides data collection and storage. EGW501 buffers the observation data for transmission at regular intervals. The local buffering capacity ensures that no data is lost and there are no communication breaks.

Remote update and diagnostics

Because of the Internet connectivity, the gateway firmware can be updated remotely. With the remote device management and monitoring service, there is less need for site visits.

Remote operations are supported with diagnostics to ensure speedy recovery from error situations.

Local management

In normal use, site visits are rare. When you need to visit the site to, for example, establish a direct connection to EGW501, simply connect your laptop to EGW501 using a USB-C cable and access the browser-based maintenance user interface.

Cellular connectivity

EGW501 operates as a secure gateway between the weather station and the outside world.

Using the integrated radio and the optional SIM card, the data is transferred over a secured cellular connection. The data plan is available as a service from Vaisala for a range of countries. Customers can also use their own SIM card with a data plan.

Technical data

Operating environment

Operating environment	Outdoor use
Use in wet location	Yes
Operating temperature	-40 ... +55 °C (-40 ... +131 °F) ¹⁾
Storage temperature	-40 ... +70 °C (-40 ... +158 °F)
Operating humidity	0-100 %RH
Pollution degree	2
Maximum operating altitude	2000 m (approx. 6500 ft)
IP rating	IP67

¹⁾ Cellular modem cold start at -25 °C (-13 °F).

Powering

Operating voltage	9-32 V DC
Current consumption, maximum	2 A
Mating connector (power input)	M12 A-coded 4-pin female

Processing system

Processor	ARM Cortex A9, 800 MHz
Memory	1 GB DDR3L RAM, 8 GB eMMC Flash
Operating system	Linux
Communications protocol	IPv4

Mechanical specifications

Weight	1 kg (2.2 lb)
Package dimensions (L × W × H)	306 × 184 × 156 mm (12.05 × 7.24 × 6.14 in)
Mating connectors (sensor input)	<ul style="list-style-type: none"> 1 × M12 8-pin male 2 × M12 5-pin male
Material, enclosure	Polycarbonate (PC)
Material, connectors	Nickel-plated brass

Mounting options and accessories

Mast mounting kit for pole masts Ø 60-200 mm (2.36-7.87 in), includes mounting brackets, steel band, accessories, and 5-mm Allen key	ASM213841
Tripod mounting kit, includes mounting brackets and accessories	ASM213954
Wall mounting kit, includes mounting plate, screws, and wall plugs	ASM213843
USB-C maintenance cable ¹⁾	-

¹⁾ Delivered with each gateway.

Communication options

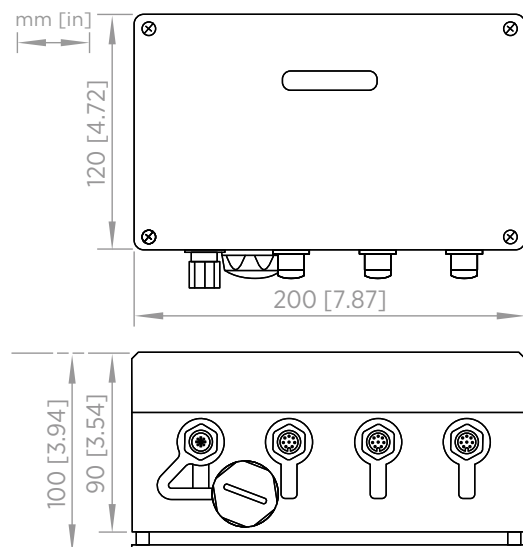
Wireless communication	4G LTE/3G/2G
Maintenance communication	USB 3.0 Web UI (locally)
Data collection and visualization	Vaisala cloud or directly to customer system
Data interfaces	<ul style="list-style-type: none"> PODS-MQTT interface for observations and device information WebSocket API from Vaisala cloud for real-time measurement data stream REST API from Vaisala cloud for measurement history data requests
Sensor interfaces	RS-485 Modbus and ASCII

Compliance

EU directives and regulations	EMC, LVD, RED, RoHS
Electromagnetic compatibility (EMC)	EN 61326-1, industrial environment CISPR 32 / EN 55032, Class B EN 301 489-1 FCC part 15 B, Class B ICES-3 / NMB-3 (Class B)
Radio compatibility	EN 301 908-1 EN 301 511 FCC part 22, 24, 27, 90
Electrical safety	EN 61010-1
Cold	IEC 60068-2-1
Dry heat	IEC 60068-2-2
Vibration	IEC 60068-2-6, IEC 60068-2-64
Change of temperature	IEC 60068-2-14
Damp heat, cyclic	IEC 60068-2-30
Rough handling	IEC 60068-2-31
Damp heat	IEC 60068-2-78
Corrosion and salt mist	VDA 621-415
Freezing rain	NWS 8.0
Compliance marks	CE, EAC/CE, FCC, IC, RCM, UKCA

Radio module

Acceptance	CE (Europe), EAC/CE (Ukraine), FCC (USA), IC (Canada), RCM (Australia and New Zealand), Giteki (Japan) <ul style="list-style-type: none"> FCC ID: 2AO39-EGW501 ICED ID: 23830-EGW501
SIM card type	Mini-SIM
Frequency bands	
LTE-FDD	B1/ B2/ B3/ B4/ B5/ B7/ B8/ B12/ B13/ B18/ B19/ B20/ B25/ B26/ B28
LTE-TDD	B38/ B39/ B40/ B41
WCDMA	B1/ B2/ B4/ B5/ B6/ B8/ B19
GSM	B2/ B3/ B5/ B8



EGW501 dimensions and connectors