



Features

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

Vaisala Beacon Edge Gateway EGW501 is a data collection and transfer solution that provides platform-level security for Vaisala Beacon Station BWS500. The integrated radio module and 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, in the future, also third-party sensors.

Data buffering and transfer

EGW501 handles data transfer between the sensors and a Vaisala cloud. 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, the need for site visits decreases.

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

Local management

In normal use, site visits are rare. When a need for a site visit arises, for example a direct connection to EGW501 is needed, a local connection is simple to establish. Simply connect your laptop to EGW501 using a USB-C cable and access the provided Web UI tool.

Cellular data service subscription

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

It is plug and play out of the box. Using the integrated radio and SIM card, the data is transferred over a cellular connection. The cellular data plan is available as a service for a range of countries.

Technical data

Operating environment

Operating environment	Outdoor use
Use in wet location	Yes
Operating temperature	-40 ... +55 °C (-40 ... +131 °F)
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

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
Memory	1 GB DDR3L RAM, 8 GB eMMC Flash
Operating system	Linux
Communications protocol	IPv4

Radio module

Acceptance	CE (Europe), EAC/CE (Ukraine), FCC (USA), IC (Canada), RCM (Australia and New Zealand) <ul style="list-style-type: none"> FCC ID: 2A039-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

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⁾	-

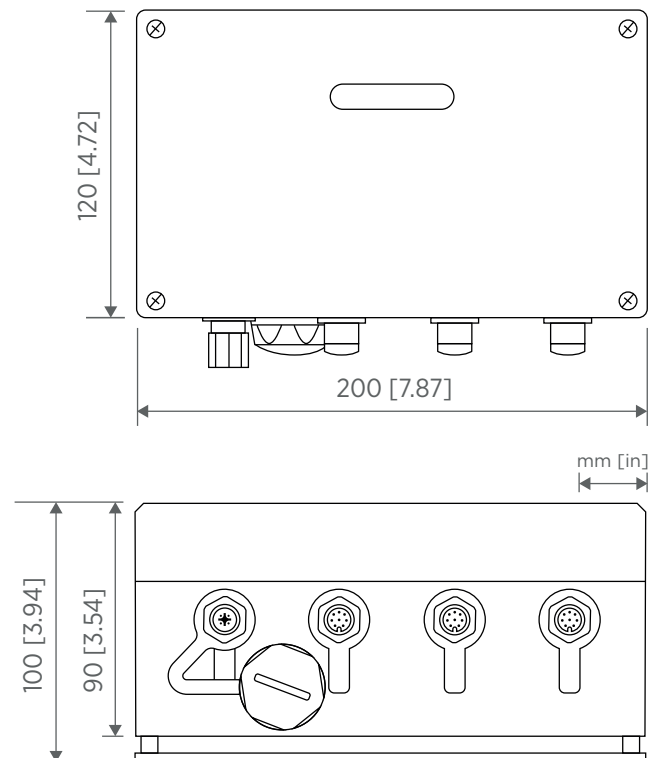
¹⁾ Delivered with each gateway.

Communication options

Wireless communication	4G LTE / 3G / 2G
Maintenance communication	USB 3.0 Web UI (locally)
Data interfaces	Lightweight machine-to-machine (LwM2M) interface
Sensor interfaces	RS-485 Modbus

Compliance

EU directives	EMC, LVD, RED, RoHS
EMC compatibility	EN 61326-1, industrial environment CISPR 32 / EN 55032, Class B EN 301489-1 FCC part 15, class B ICES-3 (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
Compliance marks	CE, EAC/CE, FCC, IC, RCM, UKCA



EGW501 dimensions and connectors