

Cellular Gateway

GeoCloud sensors and nodes transmit measurements to the internet via a cellular gateway. The gateway has two radio modems, one for the network of sensors and one for the cellular communications.

The cellular gateway includes an internal battery that can be recharged by solar panel or mains power.

Sensor Network

Configuration: GeoCloud sensors and nodes automatically optimize communication paths to the gateway.

Protocol: FlatMesh v3 Mesh, IEEE 802.15.4 compliant.

Frequency Band: 2400 – 2485 MHz.

Max Transmit Power: 6.2dBm (EN 300 328 v1.8.1).

Max Antenna Gain: 4dBi. Range Up to 300m.

Max Capacity: Each gateway can accommodate up to 100 nodes.

Cellular Network

Modem: Five band UMTS/HSPA+ and quad band GSM/GPRS/EDGE.

Max Antenna Gain: +3.94dBi (850MHz), +1.81dBi (1900MHz).

Sim Cards: 3V and 1.8V.

RF Module: Gemalto PH8, FCC Identifier QIPPH8.

Internal Battery

Battery Type: Lithium Ion, rechargeable.

Nominal Voltage: 3.6V

Nominal Capacity: 8800mAh

Typical Runtime: 21 days without charging.

Operating Temperature: -20 to +60°C

Charging Temperature: 0 to +40°C

Solar Panels

Requirements vary according to the environment.

Panel Type: 12V, 20W.

Target Voltage for MPPT: 15 V.

Max Input Voltage: 32 V.

Dimensions & Materials

Dimensions including antennas: 15 x 2.7 x 5 inch (390 x 68 x 126 mm).

Weight: 2.4 lb (1.1 kg).

Housing: Die cast aluminium, with polymer lid.

Weather rating: IP67.



Cellular Gateway

USB Gateway

The USB Gateway provides direct local communications with GeoCloud sensors and nodes and connects to a PC or tablet via USB.

Sensor Communications

Configuration: GeoCloud sensors and nodes automatically optimize communication paths to the gateway.

Protocol: FlatMesh v3 Mesh, IEEE 802.15.4 compliant.

Frequency Band: 2400 – 2485 MHz.

Max Transmit Power: 6.2dBm (EN 300 328 v1.8.1).

Max Antenna Gain: 4dBi. Range Up to 980 feet (300m).

Max Capacity: Each gateway can accommodate up to 100 nodes.

USB Interface for PC

Standard: USB 2.0

Connector: Standard A plug.

Cable Length: 39 inches (1 m).

Type of Device: Virtual COM port

Power: 5V, 500mA max from PC.

Dimensions & Materials

Size: 5 x 2.6 x 1.6 inches (125 x 66 x 41 mm).

Weight: 0.8 lb (0.35 kg).

Housing: Die cast aluminium.

Connector: Metallised plastic

Operating Temperature: -40 to 185°F (-40 to +85°C).

Software



USB Gateway