



SENQUIP ORB

Connects to industrial sensors and systems
and sends measured data to the Senquip Portal
or server of your choice.

Features

Designed for harsh industrial environments: dustproof, waterproof, UV resistant and strong.

Built in sensors: GPS position and speed, temperature, angle, vibration, and tamper.

External interface: RS232, RS485, MODBUS, CAN Bus, Bluetooth, output, 4-20mA, pulse and voltage.

Wi-Fi or 4G LTE4 connection to the Senquip Portal or the server of your choice.

Powered with replaceable AA batteries, solar, or 10-to 75V DC.

Upload your own scripts to manipulate data, create alerts, control devices, and create customised payloads.

Typical Applications

Machine utilisation – create uniform metrics across a fleet.

Engine diagnostics – monitor for fault codes.

Sensor monitoring – MODBUS, NMEA, 4-20mA, voltage and more.

Safety systems – interlocks, gas concentration, liquid level.

Driver safety - monitor speed, pitch, roll, wind, air quality.

Remote control – write scripts to control attached systems.

Level measurement – calculate volume in odd shaped tanks.

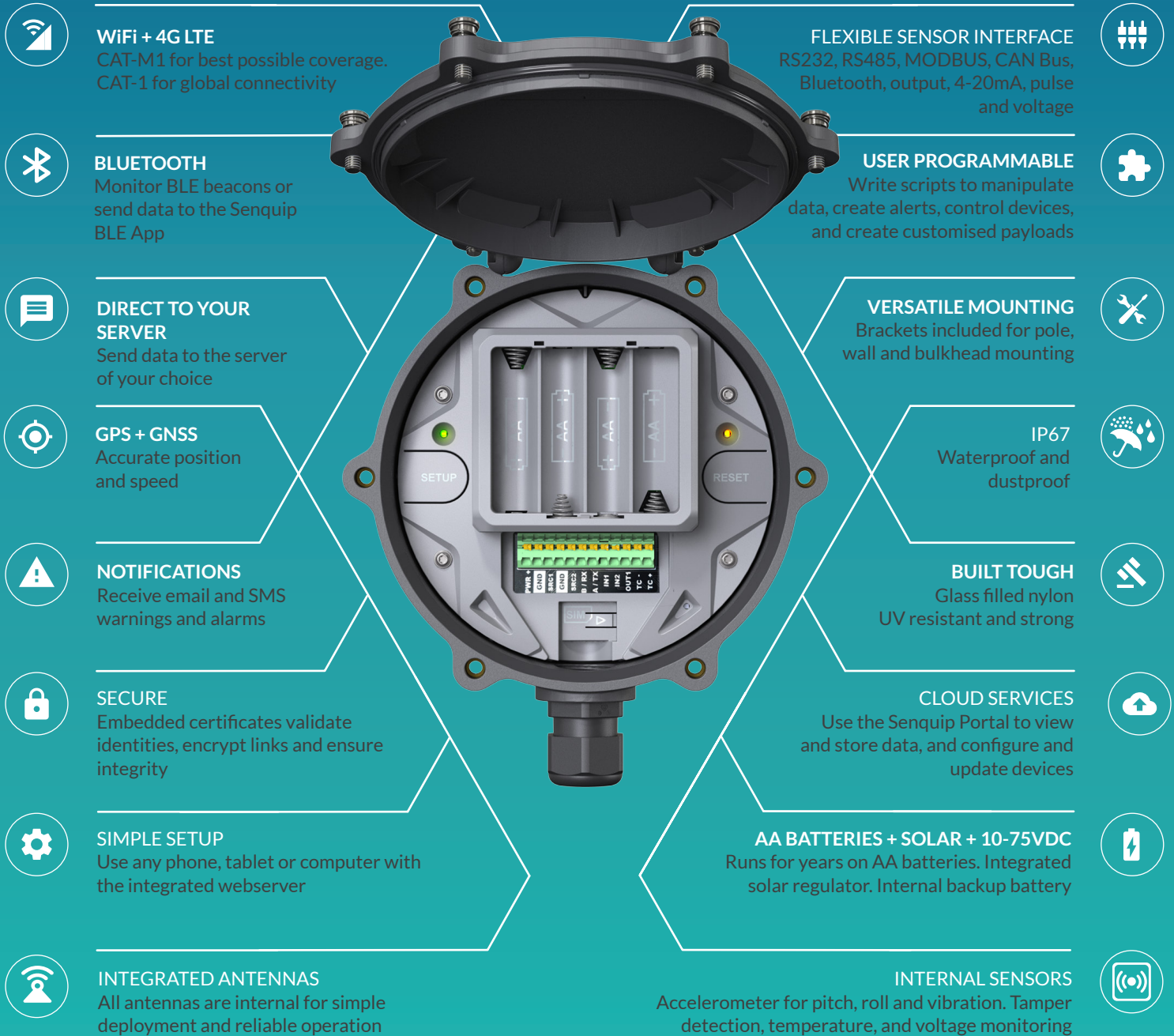
Complex sensors – script power control and measurement timing.

Reliability - monitor oil condition, temperatures, pressure and more.

Data consolidation - send data to your preferred endpoint.

Water management - flow, level and quality with a single device.

SENQUIP ORB



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DISTRIBUTOR:



SENSOR CONNECTIVITY MADE EASY

Senquip ORB-C1 Datasheet



Senquip manufactures rugged, programmable telemetry devices that connect to industrial sensors and systems and send the data measured to the Senquip Portal or a server of your choice.

RUGGED: The Senquip ORB is designed for harsh outdoor environments; up a pole, on a wall or attached to a vehicle.

SENSING: Built in sensors measure GNSS position and speed, temperature, pitch and roll, vibration, supply and battery voltage, and tamper. Interfaces are provided for RS232, RS485, MODBUS, CAN Bus, Bluetooth, 4-20mA, pulse, frequency, and voltage.

NETWORK: Data measured is transmitted via Wi-Fi or 2G/3G/4G/5G and can be delivered to the Senquip Portal or to your own server or SCADA system.

POWER: Power is supplied with replaceable AA batteries, solar, or with 10V to 75V DC. If a solar panel is used, an internal LiPo battery will keep the device powered during periods without sunlight.

EDGE PROCESSING: Users can write JavaScript to manipulate data, create combinational alerts, execute local control, or create customised payloads for sending to 3rd party servers.

Technical Specification

Power External supply: 10VDC to 75VDC
4 x AA Long-life lithium: battery calculator can be downloaded from the [Senquip website](#)
Solar: typical 12V 10W, with regulator and backup battery internal to the Senquip ORB
Internal rechargeable backup battery: 3.7V, 1800mAh LiPo
Typical current draw (LiPo): 65uA (sleep), 40-70mA (measure), 100mA (Wi-Fi), 120mA (4G LTE)

Configuration Local via embedded webserver
Remote via the Senquip Portal

Edge Processing Write and deploy JavaScript applications to manipulate data, create combinational alerts, execute local control, or create customised payloads for sending to 3rd party servers

Internal Sensors GPS: horizontal accuracy $\pm 5\text{m}$ ($<2.5\text{m}$ CEP-50), speed $\pm 1\text{km/h}$. Time to first fix typically $< 60\text{ sec}$
Bluetooth version 4.2: receive and transmit BLE advertising messages
Accelerometer: 3-axis, $\pm 16\text{G}$. Pitch and roll accuracy $\pm 1^\circ$, vibration
Ambient temperature: -40 to 85°C , accuracy $\pm 1^\circ\text{C}$
Supply, AA battery, and internal LiPo voltage monitoring
Tamper detection through use of internal light sensor

Multi Purpose Inputs/Output Input 1: Analog + Digital (0-72V), pulse counting (up to 10kHz)
Input 2: Analog + Digital (0-72V)
Output 1: Open collector (500mA, 72V max)
Alternate function, Input 3: Analog + Digital (0-72V)
Source 1: 12V, 100mA max (battery backed), 4-20mA
Alternate function, Input 4: Digital (0-12V)
Source 2: 12V, 100mA max (battery backed), 4-20mA
Alternate function, Input 5: Digital (0-12V)

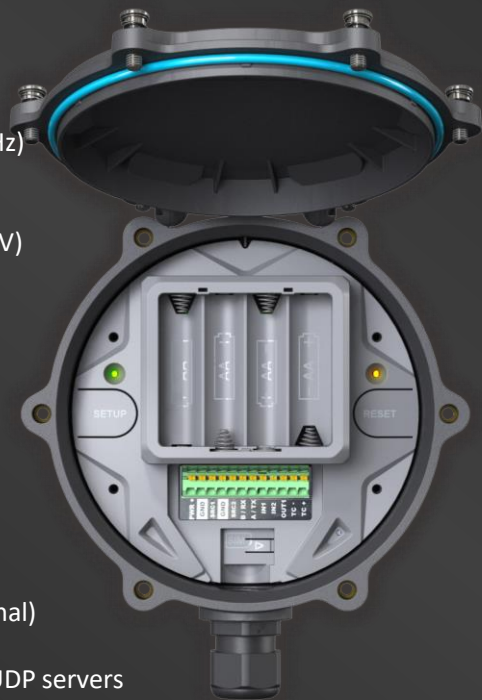
Serial RS232 (3-wire), RS485 (2-wire)
Serial capture or MODBUS RTU Master
CAN Bus: High Speed CAN FD (4Mbps), Line Faults to $\pm 60\text{V}$

Network 4G LTE CAT-M1 (ORB-C1-G) / 4G LTE CAT-1 (ORB-C1-H)
SIM card holder for Micro-SIM (internal soldered SIM optional)
Wi-Fi (ORB-C1-W)
Endpoint: Senquip Portal and 3rd party MQTT(S), HTTP(S), UDP servers
Data format: JSON or script your own

Mechanical Dimensions: 153mm wide, 174mm height (including cable gland), 50mm depth
Weight: 400g excluding AA batteries and mounting brackets
Enclosure material: UV stabilised glass filled nylon
Stainless lid screws, spring mounted and captive
Ships with stainless pole and wall mounting brackets
Terminal block wire size: 24 (min) to 16 (max) AWG

Environmental Operating temperature: -20°C to 80°C
Water Ingress: IP67, IP68*
*Contact Senquip for alternate gland

Warranty 1 year from date of purchase



Part Number	Network Features
ORB-C1-W	Wi-Fi
ORB-C1-G	Wi-Fi, 4G LTE CAT-M1, GNSS
ORB-C1-H	Wi-Fi, 4G LTE CAT-1, GNSS

