

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, pressure, 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.

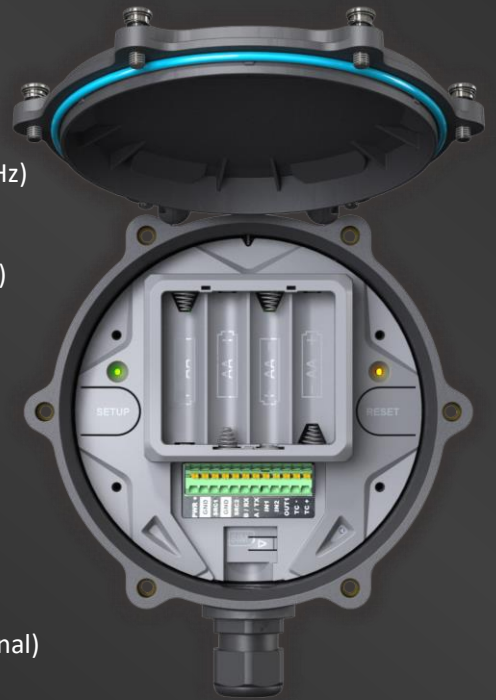
NETWORK: Data measured is transmitted via Wi-Fi or 4G LTE4 and can be delivered to the Senquip Portal or to your own server or SCADA system.

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 $\pm 5m$ (<2.5m CEP-50), speed $\pm 1km/h$. Time to first fix typically < 60 sec Bluetooth version 4.2: receive and transmit BLE advertising messages Accelerometer: 3-axis, $\pm 16G$. Pitch and roll accuracy $\pm 1^\circ$, vibration Ambient temperature: -40 to 85°C, accuracy $\pm 1^\circ C$ Ambient pressure: 300 – 11 hPa, accuracy ± 1 hPa 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 $\pm 60V$
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: -40°C to 85°C Water Ingress: IP67, IP68* *Contact Senquip for alternate gland
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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

