# 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

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|---|---|
| **Power** | External supply: 10VDC to 75VDC<br>4 x AA Long-life lithium: battery calculator can be downloaded from the <u>Senquip website</u><br>Solar: typical 12V 10W, with regulator and backup battery internal to the Senquip ORB<br>Internal rechargeable backup battery: 3.7V, 1800mAh LiPo<br>Typical current draw (LiPo): 65uA (sleep), 40-70mA (measure), 100mA (Wi-Fi), 120mA (4G LTE) |
| **Configuration** | Local via embedded webserver<br>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 ±5m (<2.5m CEP-50), speed ±1km/h. Time to first fix typically < 60 sec<br>Bluetooth version 4.2: receive and transmit BLE advertising messages<br>Accelerometer: 3-axis, ±16G. Pitch and roll accuracy ±1°, vibration<br>Ambient temperature: -40 to 85°C, accuracy ±1°C<br>Ambient pressure: 300 – 11 hPa, accuracy ±1 hPa<br>Supply, AA battery, and internal LiPo voltage monitoring<br>Tamper detection through use of internal light sensor |
| **Multi purpose Inputs/Output** | Input 1: Analog + Digital (0-72V), pulse counting (up to 10kHz)<br>Input 2: Analog + Digital (0-72V)<br>Output 1: Open collector (500mA, 72V max)<br>      Alternate function, Input 3: Analog + Digital (0-72V)<br>Source 1: 12V, 100mA max (battery backed) , 4-20mA<br>      Alternate function, Input 4: Digital (0-12V)<br>Source 2: 12V, 100mA max (battery backed) , 4-20mA<br>      Alternate function, Input 5: Digital (0-12V) |
| **Serial** | RS232 (3-wire), RS485 (2-wire)<br>Serial capture or MODBUS RTU Master<br>CAN Bus: High Speed CAN FD (4Mbps), Line Faults to ±60V |
| **Network** | 4G LTE CAT-M1 (ORB-C1-G) / 4G LTE CAT-1 (ORB-C1-H)<br>SIM card holder for Micro-SIM (internal soldered SIM optional)<br>Wi-Fi (ORB-C1-W)<br>Endpoint: Senquip Portal and 3rd party MQTT(S), HTTP(S), UDP servers<br>Data format: JSON or script your own |
| **Mechanical** | Dimensions: 153mm wide, 174mm height (including cable gland), 50mm depth<br>Weight: 400g excluding AA batteries and mounting brackets<br>Enclosure material: UV stabilised glass filled nylon<br>Stainless lid screws, spring mounted and captive<br>Ships with stainless pole and wall mounting brackets<br>Terminal block wire size: 24 (min) to 16 (max) AWG |
| **Environmental** | Operating temperature: -20°C to 80°C<br> Water Ingress: IP67,IP68*<br>*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 |
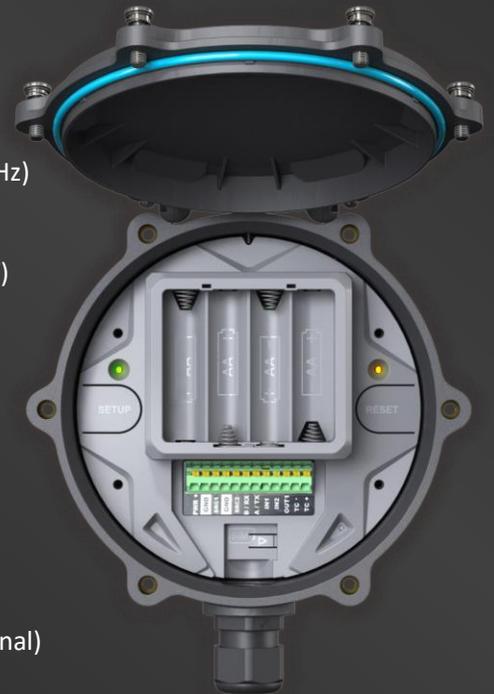
CE  RoHS COMPLIANT  AUSTRALIAN MADE  FCC

SENQUIP ORB