

Senquip ORB-X1 Datasheet



Senquip manufactures rugged, programmable telemetry devices that connect to industrial sensors and system 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, Bluetooth, 4-20mA, pulse, frequency, thermocouple, 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 10 to 75VDC 4 x AA Long-life lithium: battery calculator can be downloaded from the Senquip website Pulse measurement, reporting daily, 1.6V Lithium, 7 years Pulse measurement, reporting daily, 3.6V Lithium, 10 years Hourly temperature measurement, reporting daily, 1.6V Lithium, 7 years Supplying 4-20mA sensor hourly, reporting daily, 1.6V Lithium, 6 years Solar - typical 12V 10W, with regulator and backup battery internal to the Senquip ORB Internal rechargeable 3.7V, 1800mAh LiPo backup battery
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	GNSS (GPS, GLONASS, BeiDou, and Galileo), for position, speed, and heading Bluetooth 4.2 for receiving and sending BLE advertising messages Accelerometer for pitch, roll, vibration Temperature for ambient temperature measurement Pressure for ambient pressure measurement and height estimation Supply, AA battery, and internal LiPo voltage monitoring Tamper detection through use of internal light sensor
Inputs	3 x Analog or digital inputs (0 to 72VDC) 2 x Digital inputs (0-12VDC) 1 x Pulse input (1-10kHz)
Outputs	1 x open collector rated at 500mA (72V max load voltage) 2 x current source outputs (max 100mA per pin)
Current	2 x 4-20mA current sources 12V source voltage backed up by internal LiPo
Thermocouple	K, J, T, N, S, E, B and R-Type thermocouple interface
Serial	RS232, RS485, MODBUS

Technical Specification

- Network** 4G LTE CAT-M1 (ORB-X1-G) / 4G LTE CAT-1 (ORB-X1-H)
SIM card holder for Micro-SIM (internal soldered SIM optional)
Wi-Fi
- Protocols** Send data to the Senquip Portal and or the server of your choosing
MQTT(S)
HTPP(S)
UDP
Standard data format is JSON or script your own
- Mechanical** 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** -40°C to 85°C operating temperature
Charging of internal rechargeable LiPo will be throttled above 40°C
IP67 (tested to IP68 4m for 4 days with correct gland)
- Warranty** 1 year from date of purchase

Part Number	Network Features
ORB-X1-W	Wi-Fi
ORB-X1-G	Wi-Fi, 4G LTE CAT-M1, GNSS
ORB-X1-H	Wi-Fi, 4G LTE CAT-1, GNSS

