Senquip QUAD-C2 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 QUAD 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, magnetic, 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 solar, or 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
Solar: typical 12V 10W, with regulator and backup battery internal to the Senquip QUAD
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 ±5m (<2.5m CEP-50), speed ±1km/h. Time to first fix typically < 60 sec
Bluetooth version 4.2
Accelerometer: 3-axis, ±16G. Pitch and roll accuracy ±1°, 100Hz vibration
Ambient temperature: -40 to 85°C, accuracy ±1°C
Supply, and internal LiPo voltage monitoring
Tamper detection through use of internal light sensor
Hall effect sensor for magnetic triggering

Multi-purpose Inputs/Output
5 multi-purpose input outputs
Input :   100Hz sampling with event capture
            Analog (0-72V), Digital with configurable threshold
            Frequency, Duty cycle, Pulse counting (up to 10kHz)
            4-20mA sink and source (2 and 3 wire devices)

Output: Switch to ground 250mA
            Switch to input power, 100mA
            Switch to internal boost, 100mA
            Boost configurable 5-25V, 100mA

Serial
RS232 (3-wire), RS485 (2-wire)
Serial capture or MODBUS RTU Master
2 x CAN Bus: High Speed CAN FD (4Mbps), Line Faults to ±60V

Network
4G LTE CAT-M1 (QUAD-C2-G) / 4G LTE CAT-1 (QUAD-C2-H)
SIM card holder for Micro-SIM (internal soldered SIM optional)
Wi-Fi (QUAD-C2-W)
Endpoint: Senquip Portal and 3rd party MQTT(S), HTTP(S), UDP servers
Data format: JSON or script your own

Mechanical
Dimensions: 147mm wide, 128mm height (including cable gland), 37mm depth
External FAKRA GPS and 4G LTE antenna with 3m cable (included)
Weight: 400g excluding antenna
Enclosure material: UV stabilised glass filled nylon
Stainless lid screws, spring mounted and captive
Terminal block wire size: 24 (min) to 16 (max) AWG

Environmental
Operating temperature: -20°C to 80°C
 Water Ingress: IP67

Warranty
1 year from date of purchase

Part Number	Network Features
QUAD-C2-W	Wi-Fi
QUAD-C2-G	Wi-Fi, 4G LTE CAT-M1, GNSS
QUAD-C2-H	Wi-Fi, 4G LTE CAT-1, GNSS