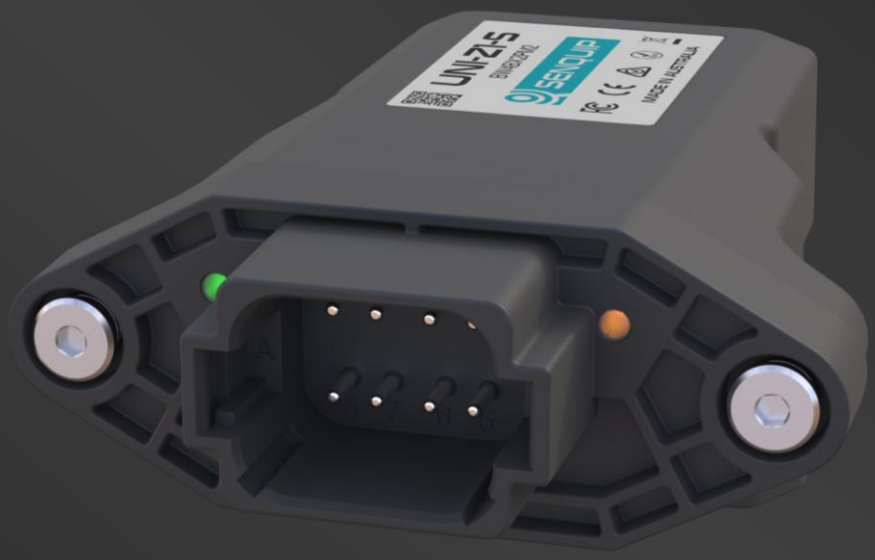
Senquip UNI-Z1 Datasheet

Capability at scale



Cost-effective telemetry for OEMs and fleets. Ideal for repeatable machine designs deployed at scale.

PURPOSE: Cost-effective monitoring and control for high-volume and OEM equipment.

SENSING: GNSS, pitch/roll, vibration, Bluetooth, Wi-Fi, voltage ,temperature, pulse, frequency, 1-wire, CAN / RS485 with configurable termination, Modbus, open-collector outputs, tamper, system health.

NETWORK: Wi-Fi and 4G LTE to the Senquip Portal, your server, or SCADA. Direct-to-Cell Satellite ready.

POWER: Solar or 10–32 VDC with long-life, safe, LTO battery backup.

EDGE PROCESSING: JavaScript engine for data processing, alerts, control, and custom payloads.

Technical Specification

Power	External supply: 10VDC to 32VDC Solar: typical 24V 10W, with regulator and backup battery internal to the Senquip UNI Internal LTO backup battery: 7.2V, 500mAh , -30°C to 80°C charge and discharge, 5000 cycles Typical current draw (LTO): 45uA (sleep), 40-70mA (measure), 100mA (Wi-Fi), 120mA (4G LTE)
Configuration	Local via embedded webserver or Senquip Connect App for Android and iOS 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 LTO battery monitoring Tamper detection with mechanical switch
Multi-purpose Inputs/Output	2 multi-purpose input outputs Input : Digital, voltage, frequency, duty cycle, pulse counting (up to 10kHz) Output: 2 x Switch to ground 250mA
Serial	RS485 (2-wire) with configurable termination Serial capture or MODBUS RTU Master or CAN Bus with configurable termination resistor J1939, CANopen, or arbitary CAN protocol 1-wire for iButton keys or low-cost sensing
Network	Global 4G LTE CAT-1 bis - USA Qualcom chipset SoftSIM, SIM card holder for Nano-SIM, eSIM available on request Wi-Fi (2.4GHz) Direct to Cell Satellite ready Internal Wi-Fi, LTE, Satellite, and GNSS antenna Endpoint: Senquip Portal and 3rd party MQTT(S), HTTP(S), UDP servers Data format: JSON or custom
Mechanical	Dimensions: 72mm wide, 118mm height, 37mm depth Weight: 300g Enclosure material: UV stabilised, fire retardant, glass filled nylon Stainless lid screws, spring mounted and captive Mating connector: Socket: DT06-08SA, Wedge: W8S, Socket: 0462-201-16141 (not included)
Environmental	Operating temperature: -30°C to 80°C Water Ingress: IP67
Warranty	1 year from date of purchase

Part Number	Network Features
UNI-Z1-S	Wi-Fi, 4G LTE-CAT-1, Satellite Ready