# WATCHLOG **PRO ORB**

## CELLULAR / WI-FI CLOUD GATEWAY & CONTROLLER FOR REMOTE MONITORING OF MOBILE APPLICATIONS

**HYDROTECHNIK UK**
TEST ENGINEERING LTD

Designed for harsh industrial environments, dust–proof, waterproof, UV resistant and strong, Watchlog Pro is a programmable device which allows sensor data to be transmitted to our Watchlog cloud monitoring portal or a custom web server via 4G (SIM card) or Wi–Fi.

Powered by 10 to 75V DC or solar, the QUAD has GPS position, speed, temperature, angle, vibration, and tamper sensors built–in. External sensors such as pressure, temperature, flow, displacement and other sensors or machine data using common inputs such as 4–20mA, 0–10V, Frequency, Modbus, CANbus and RS232/RS485.
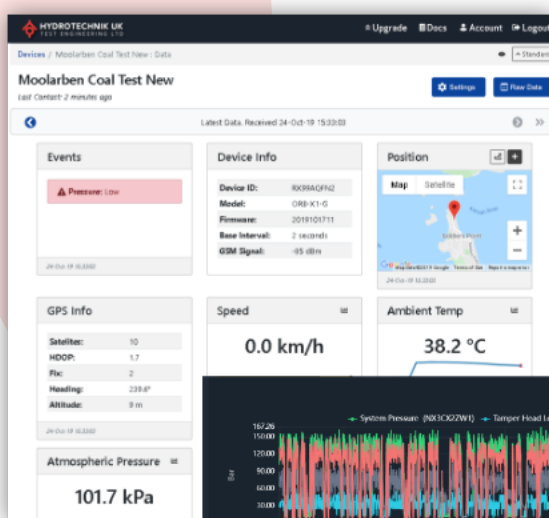
Our powerful cloud platform allows users to monitor and log sensor data on customisable dashboards. Optionally, the Watchlog Pro can push Sensor data to your own custom or 3rd party platform.
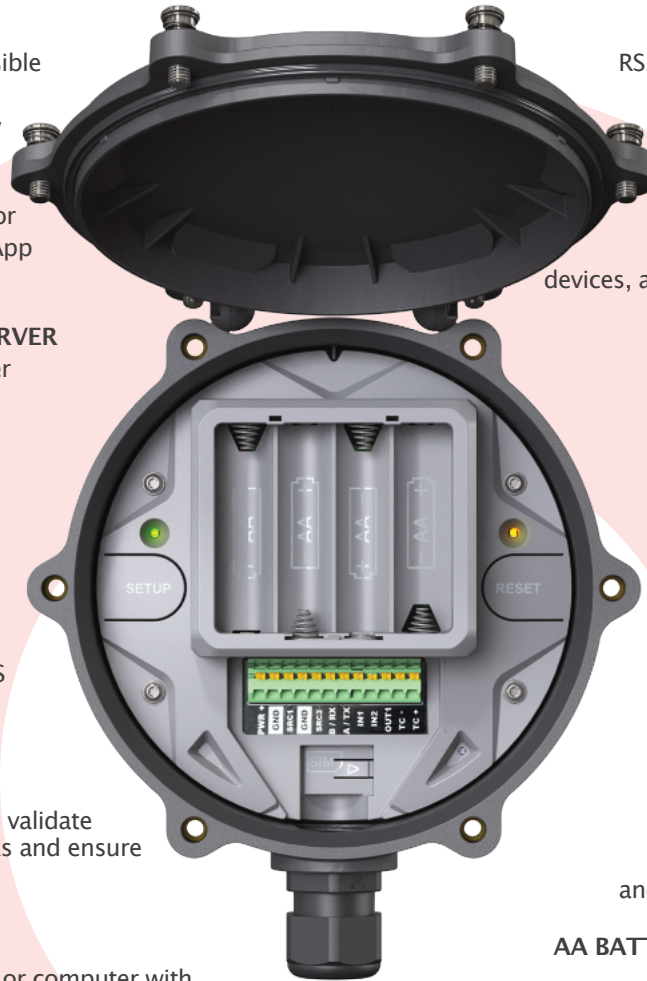
**TYPICAL APPLICATIONS**

**Machine utilisation** – create uniform metrics across a fleet.

**Engine diagnostics** – monitor for fault codes.

**Sensor monitoring** – MODBUS, NMEA, 4-20mA, voltage and more.

**Safety systems** – interlocks, gas concentration, liquid level.

**Driver safety** -monitor speed, pitch, roll, wind, air quality.

**Remote control** – write scripts to control attached systems.

**Level measurement** – calculate volume in odd shaped tanks.

**Complex sensors** – script power control and measurement timing.

**Reliabilty** - monitor oil condition, temperatures, pressure and more.

**Data consolidtaion** -send data to your preferred endpoint.

**Water management** -flow, level and quality with a single device.

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# WATCHLOG PRO ORB
## Features

**WiFi +4G LTE4**
CAT–M1 for best possible coverage. CAT–1 for global connectivity

**BLUETOOTH**
Monitor BLE beacons or send data to the BLE App

**DIRECT TO YOUR SERVER**
Send data to the server of your choice

**GPS+GNSS**
Accurate position and speed

**NOTIFICATIONS**
Receive email and SMS warnings and alarms

**SECURE**
Embedded certificates validate identities, encrypt links and ensure integrity

**SIMPLE SETUP**
Use any phone, tablet or computer with the integrated web server

**INTEGRATED ANTENNAS**
All antennas are internal for simple deployment and reliable operation

**FLEXIBLE SENSOR INTERFACE**
RS232, RS485, MODBUS, CANBus, Bluetooth, output, 4–20mA, pulse and voltage

**USER PROGRAMMABLE**
Write scripts to manipulate data, create alerts, control devices, and create customised payloads

**VERSATILE MOUNTING**
DIN rail, wall or panel mount

**IP67**
Waterproof and Dust proof

**BUILT TOUGH**
Glass filled nylon UV resistant and strong

**CLOUD SERVICES**
Use the Watchlog Portal to view and store data and configure and update devices

**AA BATTERIES + SOLAR +10 –72VDC**
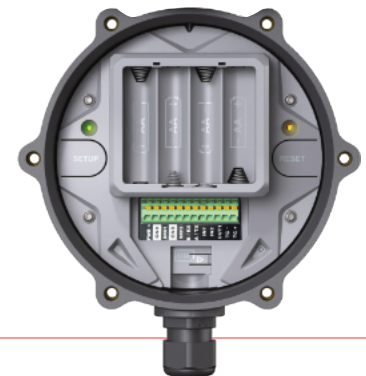Integrated solar regulator Internal backup battery

**INTERNAL SENSORS**
Accelerometer for pitch, roll and vibration. Tamper detection, temperature, and voltage monitoring

# Order Code

| Order Code | Network Features |
| --- | --- |
| ORB–C2–W | Wi–Fi |
| ORB–C2–G | Wi–Fi, 4G LTE CAT–M1, GNSS |
| ORB–C2–H | Wi–Fi, 4G LTE CAT–1, GNSS |

IP67  CE  RoHS

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# WATCHLOG **PRO ORB**
# Technical Specifications

| | |
|---|---|
| **Power** | External supply: 10VDC to 75VDC<br>4 x AA Long-life lithium: battery calculator can be downloaded from the Senquip website<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 web server<br>Remote via the Watchlog 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 <60s<br>Bluetooth version 4.2: receive and transmit BLE advertising messages<br>Accelerometer: 3-axis, ±16G. Pitch and roll accuracy ±1o, vibration<br>Ambient temperature: -40 to 85oC, accuracy ±1oC<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: Watchlog 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: -40°C to 85°C<br>Water Ingress: IP67, IP68 (Contact us for alternate gland) |