ORB User Guide

Release

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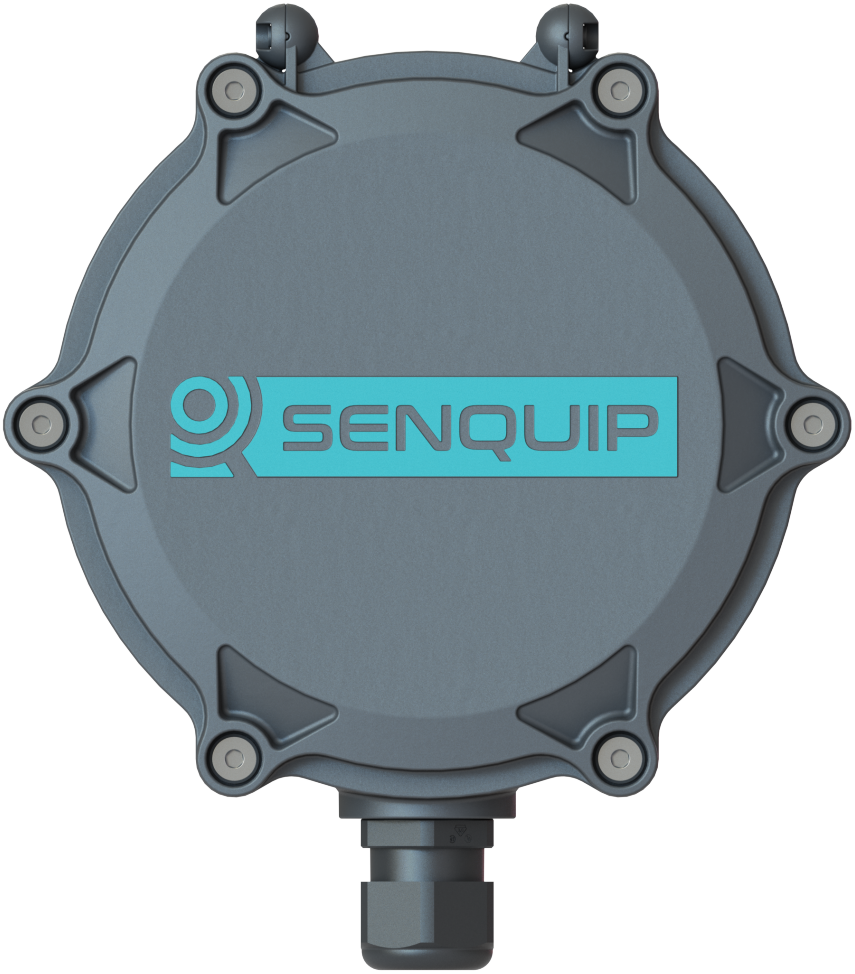
Sep 18, 2023

Chapter 1

Introduction

1.1 What is the Senquip ORB



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.

The Senquip ORB is a telemetry device designed for use in harsh outdoor environments; up a pole, on a wall or attached to a vehicle.

Built in sensors allow measurement of supply voltage, battery voltage, time, position, speed, ambient temperature, pitch, roll and pressure. Interfaces are provided for RS232, RS485, MODBUS, CAN bus, Bluetooth, 4-20mA, pulse, frequency, and voltage. Antennas, the typical failure point in a telemetry system are all internal.

Data measured by the Senquip ORB is transmitted to the internet via Wi-Fi or 4G LTE4 and can be delivered to the Senquip Portal or to your own server or SCADA system.

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.

Senquip telemetry devices are programmable with JavaScript. Users can write their own scripts to manipulate data, create combinational alerts, execute local control, or create customised payloads for sending to 3rd party servers.

Typical markets include mining, utilities, and transport.

1.2 Who can use the Senquip ORB

The extensive array of in-built sensors, ability to interface to any industrial sensor or system, programmability, versatile power supply and rugged enclosure mean that the Senquip ORB can be used in a wide variety of applications across many industries. Typical applications are found in:

Mining, monitoring plant and equipment such as lighting plants, pumps, water tankers and more. Measure utilisation, location, fuel level, engine speed, temperature and more to ensure reliability and optimal performance.

Water Services, ensuring that drinking water is of the highest possible quality. Detection of chemical leaks in factories and in water treatment plants. Measure level, flow, temperature, pH, chemical makeup and more.

Fleet, connecting to the vehicle and load to provide more than just telematics. Interface to CAN-bus and other available sensors on a vehicle.

Smart Cities, measuring temperature, sound, asset utilisation, service delivery and other parameters to enhance the daily lives of citizens.

Environment, monitoring air-quality pollution, dust and pollen levels to provide early warnings and improve the health of local populations.

Emergency Services, monitoring of water levels and other environmental factors to provide early warning of flood, fire and other natural disasters.

Industrial Installations, interface to sensors using industry standard protocols like 4-20mA, voltage, MODBUS, and RS232.

Agriculture, soil and water monitoring to ensure fast growing, high quality crops and maximum yield.

Aquaculture, measuring water quality and temperature to ensure optimum growth and health of fish populations.

Health Services, monitoring of fridges to ensure safe storage of temperature sensitive medicines.

1.3 You can rely on the Senquip ORB

The Senquip ORB has been designed from the ground up to offer a reliable, capable, flexible and secure remote monitoring platform for industrial users.

Reliability, the Senquip ORB has been designed for use in challenging environments where reliability is paramount. Where other devices fail, the Senquip ORB will continue to deliver data, reducing overall cost of ownership and an enhanced user experience.

Capability, the Senquip ORB has more on-board monitoring, allows connection to more external