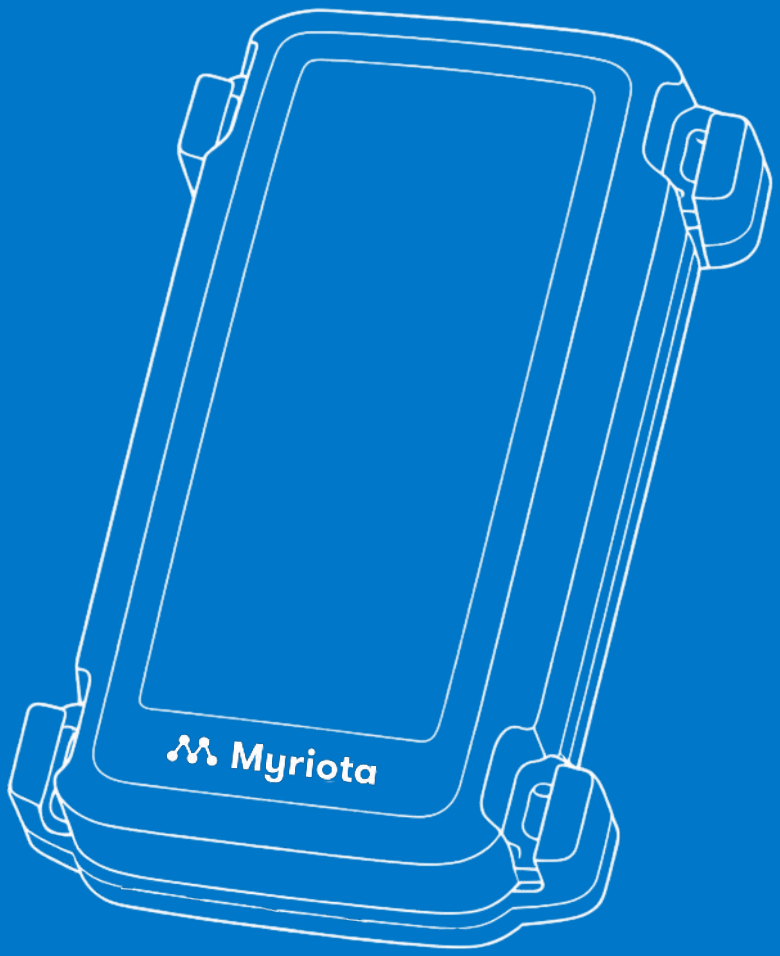
April 2026

Myriota

Myriota AssetHawk™ User Guide

XAN1108-02



Revision History

Rev	Date	Description of Change
01	Jan 2026	Initial version
02	Apr 2026	Added - Bluetooth support - Device configuration

Related Documentation

Find the latest versions of all Myriota documentation at support.myriota.com

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AssetHawk™ Basics

Overview

AssetHawk™ is Myriota's next-generation "Just Works" IoT tracking solution, built for reliable, global asset visibility.

It offers a rugged, low-risk, low-cost solution, giving you confidence that your assets remain connected wherever they go.

Designed for flexibility, AssetHawk™ integrates Myriota HyperPulse 5G NTN satellite connectivity and, in the near future, BLE connectivity in a single device, enabling seamless operation across diverse environments and applications. Out of the box, it delivers location and status reporting with one-click activation and deployment.

When enabled, AssetHawk™ can collect and report data from compatible BLE beacons to monitor asset conditions.

With its ultra-low power design, AssetHawk™ runs on two AA lithium batteries, delivering years of autonomous, maintenance-free operation.

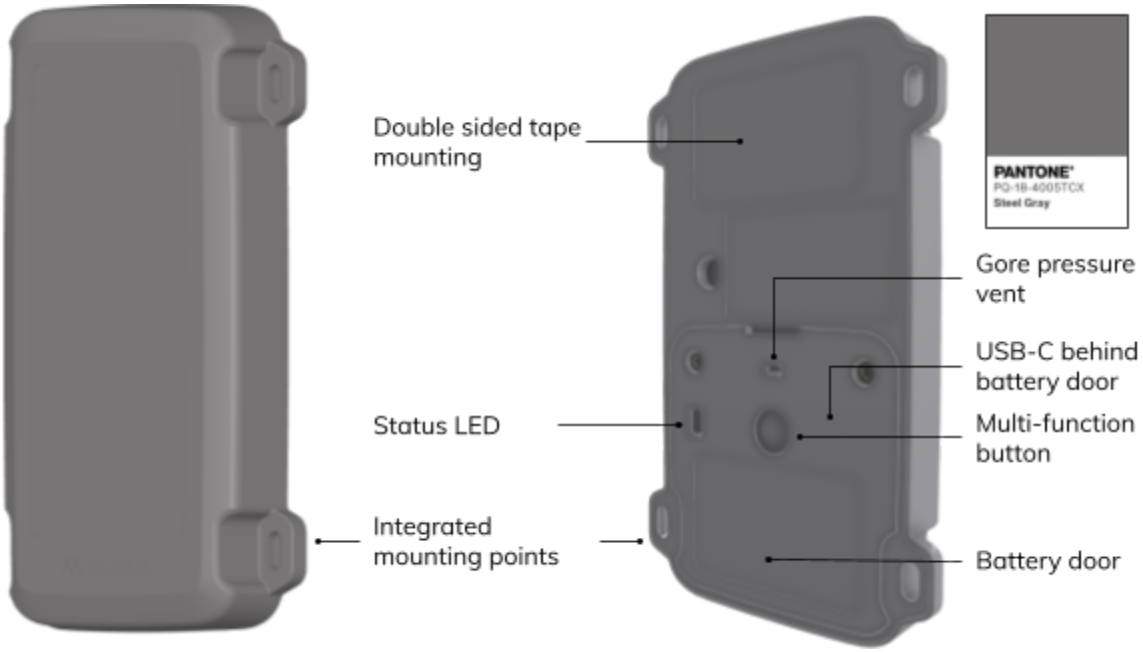
Key Features

- **Reliable Global Connectivity:** Integrates Myriota HyperPulse 5G NTN satellite and future terrestrial (LTE-M/NB-IoT) connectivity for seamless global coverage.
- **Long Battery Life:** Provides a 10-year+ in-field lifetime with daily reporting on just two replaceable AA lithium batteries.
- **Rugged and Compact:** Features a durable, IP68-rated, UV-resistant enclosure to survive harsh environments and elements.
- **Accurate Location Tracking:** Powered by high-precision GNSS with superior location accuracy down to a few meters.
- **BLE Gateway Capability:** Supports compatible Bluetooth Low Energy (BLE) sensors for additional asset condition monitoring.

AssetHawk™ In Depth

Device Features

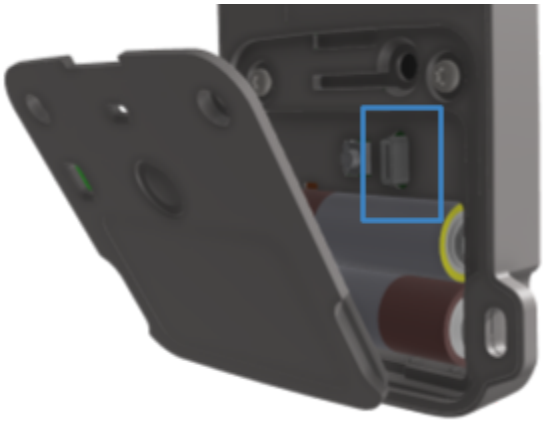
Diagram 1: AssetHawk™ Features



USB-C Port

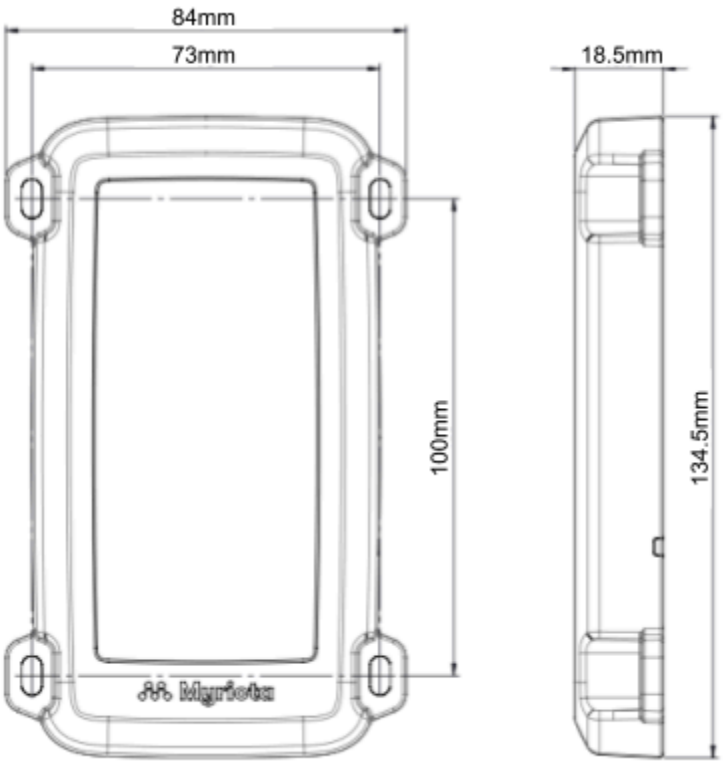
The USB-C port, located behind the battery door, is for programming only and does not support charging.

Diagram 2: USB port



Dimensions

Diagram 3: Dimensions



Weight excl batteries	0.15kg
Weight incl batteries	0.17kg

Technical Specifications

Table 1: AssetHawk™ Technical Specifications

Environmental	Operating temperature	-40°C to +60°C (-40°F to 140°F)
	IP Rating	IP68
Connectivity	Satellite	Myriota HyperPulse 5G NTN (3GPP Rel 17)
	Terrestrial[1]	All major global bands for LTE-M and NB-IoT. LTE-M (Cat-M1) supported bands: B1-B5, B8, B12, B13, B18-B20, B25, B26, B28, B65, B66, B85 NB-IoT (Cat-NB1/NB2) supported bands: B1-B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B65, B66, B85
	Bluetooth	Bluetooth 6.0, IEEE 802.15.4-2020, 2.4 GHz transceiver
	Satellite & Terrestrial Antennas	Internal
Location	Accuracy	Up to 4m[2]
	Environment	Outdoor location tracking
	Constellations	GPS, GLONASS, Galileo, BeiDou
Batteries	Input Voltage	2.2V - 3.8V
	User-Replaceable Batteries [3]	2 x AA. *Batteries not included
	Supported Battery Types	- L91 Lithium (LiFeS2) – recommended for best performance - Alkaline
	Battery Life Estimates	Daily location reporting – 10 years Movement-based reporting - 5 years[4] Hourly location reporting– 1 year
Onboard Intelligence	Adaptive Tracking	Device location reporting is configurable based on multiple criteria, including: • Fixed time interval • Movement based
	Sleep Mode	Between reporting intervals and when stationary, the device enters a low-power mode to conserve battery life and data usage.
	Message Buffering	Store messages for later reporting if the device cannot connect via TN or NTN

[1]Future functionality accessible via software updates.

[2]The positioning accuracy values stated are based on specifications provided by the GNSS module supplier under ideal test conditions. Actual performance may vary depending on device configuration, installation method, surrounding environment, availability of augmentation services, and other external factors.

[3] Please dispose of batteries safely and responsibly.

[4] Movement-based estimates are based on L91 Lithium batteries, 2 hours of movement, occurring 5 days a week, with location updates every 5 minutes, uploads every 30 minutes, and daily reporting when not in motion.

Getting Started

Required Items

Laptop or Desktop Computer

A laptop or desktop computer running Windows, macOS, or Linux operating systems that will be used to update your AssetHawk software.

AssetHawk Desktop App

The AssetHawk Desktop App, required to update firmware and configure your AssetHawk device, can be downloaded from the support site.

USB-C Cable

A USB-C cable is required to update the software for your AssetHawk using the AssetHawk Desktop App.

Phillips-head Screwdriver

A Phillips #1 screwdriver is required to insert and remove the battery cover screws when replacing batteries or connecting to the USB-C port of AssetHawk.

Batteries

Due to shipping restrictions, the AssetHawk is not shipped with batteries.

For battery selection requirements, see the Battery Selection section.

BLE Beacons (Optional)

For applications that require additional asset condition data, AssetHawk can be used with compatible BLE beacons. AssetHawk currently supports passive scanning for battery-efficient, broadcast-only data capture and beacons using the EddyStone format. If you are unsure if your BLE beacon is supported, please raise a support request.

Device Manager Onboarding

A device manager account will be automatically created when you purchase AssetHawk if you don't already have one. Follow the instructions received via email to log in to your account and reset your password.

Once logged in, you will see your AssetHawk devices registered to your account after you have received the shipping notification.

For any Device Manager-related issues, raise a support request.

Battery Selection

Two AA batteries power AssetHawk™. For optimal performance and the longest in-field lifetime, Myriota highly recommends using **two AA lithium batteries,** specifically Energizer L91 AA Lithium Batteries or similar local batteries, as shown below.

Alkaline and other primary batteries with 1.5V nominal voltage are not recommended for use with the AssetHawk™.

These battery options **may not work, or only work for a short time period**. Rechargeable batteries **will not work** due to their low voltage.

Appropriate battery selection is critical to realising the longest possible device lifetime.

Diagram 4: AssetHawk™ battery requirements

The desirability of upfront cost savings from lower-quality batteries is understandable. However, their use will result in significant underperformance in expected battery life, and the operational costs of remote infield replacement will outweigh any initial savings.

Note that Lithium-Thionyl Chloride (Li-SOCl2) batteries, e.g. SAFT LS14500, are not supported by AssetHawk™ as these have a higher voltage of 3.6V and will damage the device, and void the warranty. For any assistance with battery selection, raise a support request.

Battery Insertion

On your AssetHawk™, remove the Phillips-head battery door screws (Philips #1) and lift the battery door.

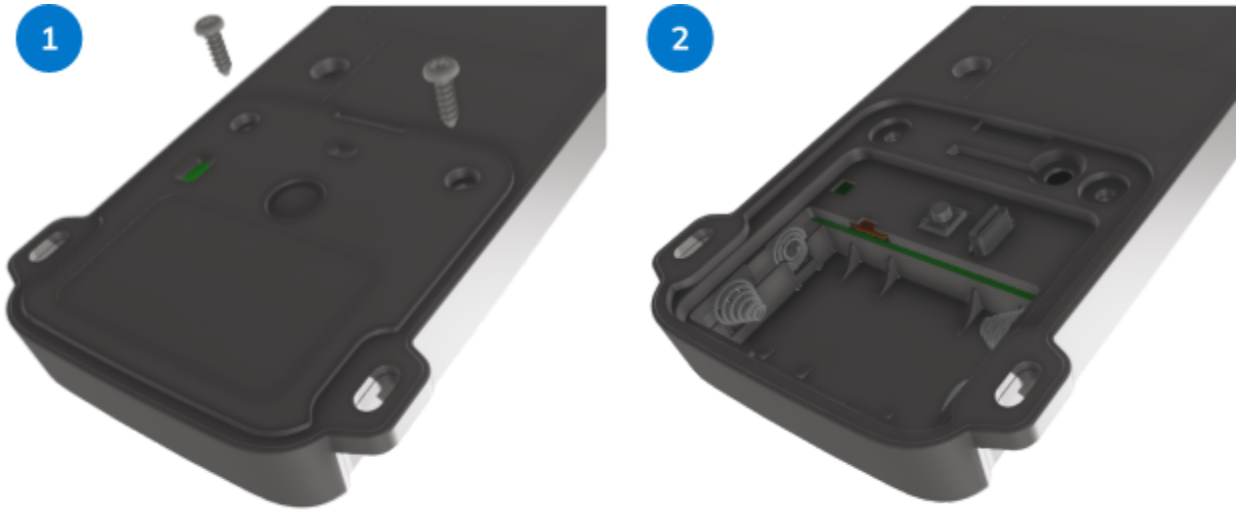
Note the + and - symbols on the holder for correct battery orientation, then insert two new batteries.

Refer to the Updating Software section if a software upgrade or configuration change is planned before deployment.

Replace the battery door and fasten it with the Phillips-head battery door screws, being careful not to over-tighten.

If the original screws are lost, do not use countersunk screws, as these will damage the plastic enclosure.

Diagram 5: Removing the AssetHawk™ battery door

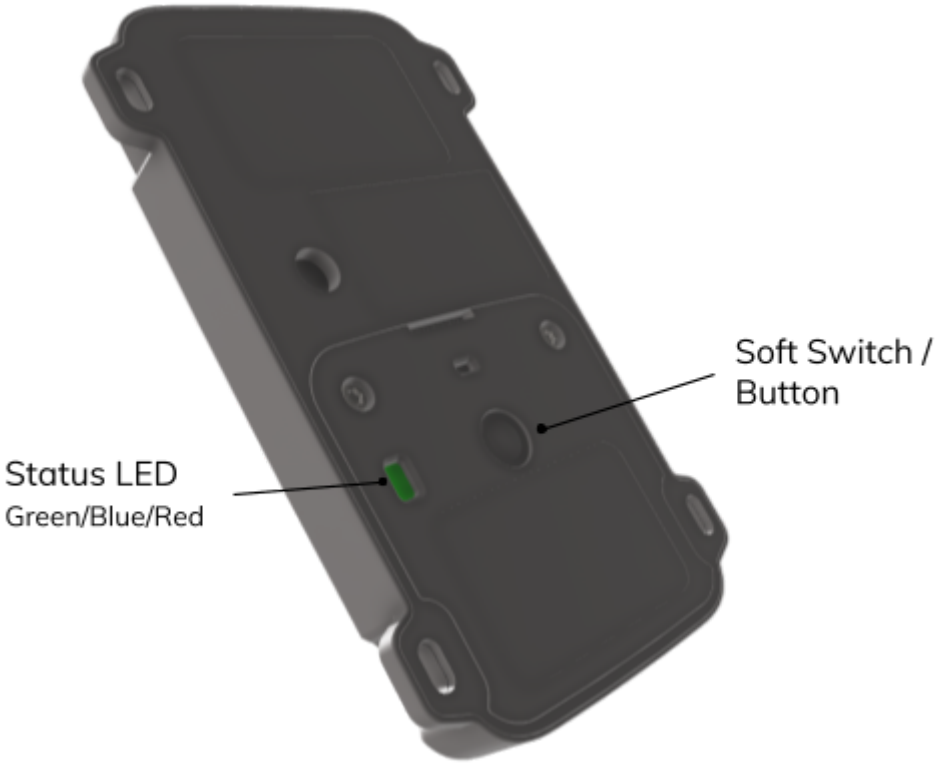


Updating Software and Configurations

Firmware and configuration updates can be performed via Myriota's AssetHawk Desktop app, available for Windows, and coming soon to Mac and Linux. Please refer to the AssetHawk Tools page on the support site to download the app, along with its user manual, which details the firmware and config update procedures.

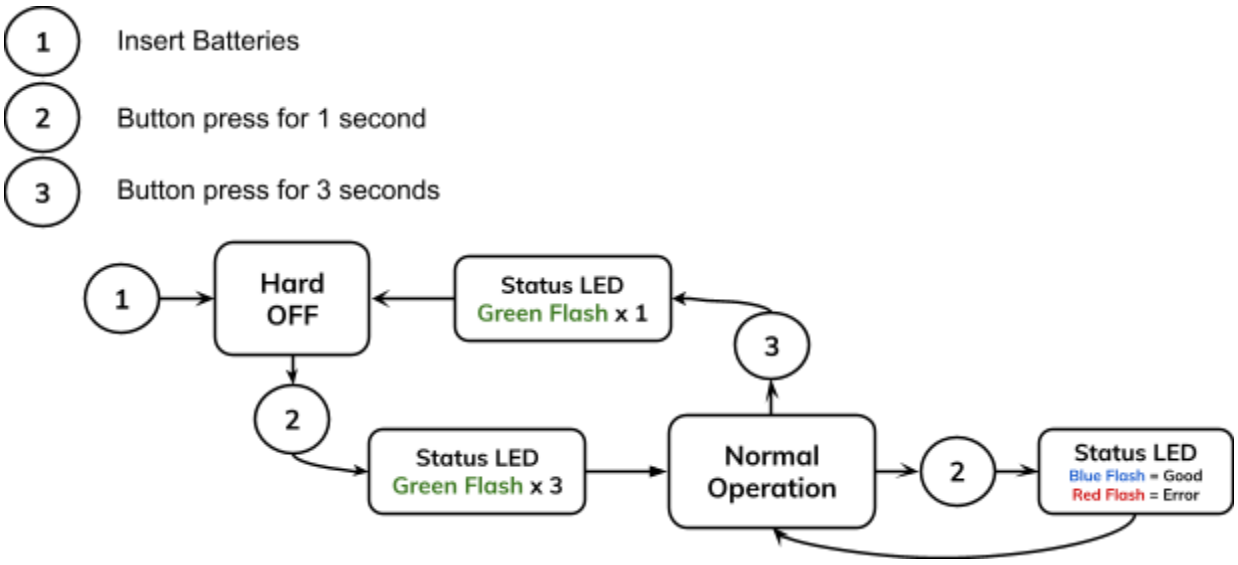
Soft Switch/Button Operation

Diagram 6: Button and Status LED



The button functions, status LED indications, and default startup sequence are illustrated in Diagram 7.

Diagram 7: Startup behaviour



When AssetHawk™ is in the Hard OFF state, it consumes minimal power and only detects button presses. During normal operation, high-power components are powered as needed, resulting in increased battery consumption.

The following table describes the behaviour of the Status LED:

Table 2: Status reporting LED

LED Indicator	Device State		
	Onboard I/Cs	Connectivity	GPS
Blue Flash Once	No issue	Obtaining a GNSS fix	No issue
Blue Flash Twice	No issue	Configured for Satellite communication	No issue
Red Flash Once	No issue	No issue	Failed to obtain a GNSS fix
Red Flash Twice	No issue	Failed to send a message via Satellite	No issue

Factory Configuration

The AssetHawk™ is configured by default to schedule messages every 6 hours when stationary and every 2 hours when moving.

The default factory configuration can be changed through the AssetHawk Desktop tool to suit different applications.

Supported configuration settings include:

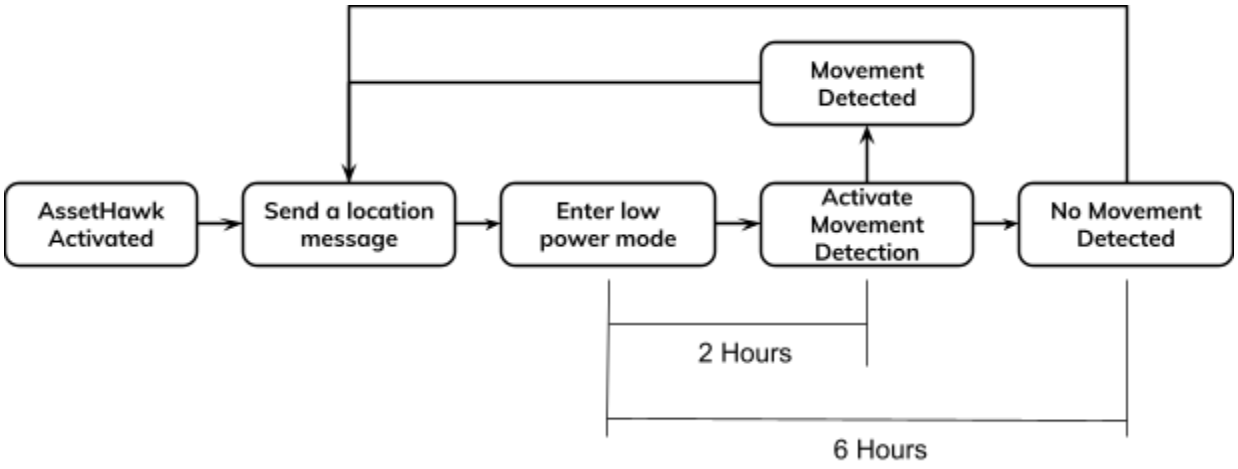
- Message sampling intervals
- Tamper detection mode and message intervals
- BLE sensing

AssetHawk Message Behaviour

To maximise battery life, AssetHawk operates on a smart cycle described below and visually represented in Diagram 8.

1. **Sends a message:** AssetHawk reports its current location.
2. **Sleep Mode (2 Hours):** AssetHawk enters a deep sleep to save power. Note: Movement is not detected during this time.
3. **Active Monitoring:** After 2 hours, the motion sensor turns on.
    - If Moving: The device reports its location when movement is detected
    - If Stationary: The device performs a routine location message 6 hours after the last report.
4. Either outcome from the Active monitoring step returns the device to step one and restarts the timing cycle.

Diagram 8: AssetHawk™ Message Behaviour

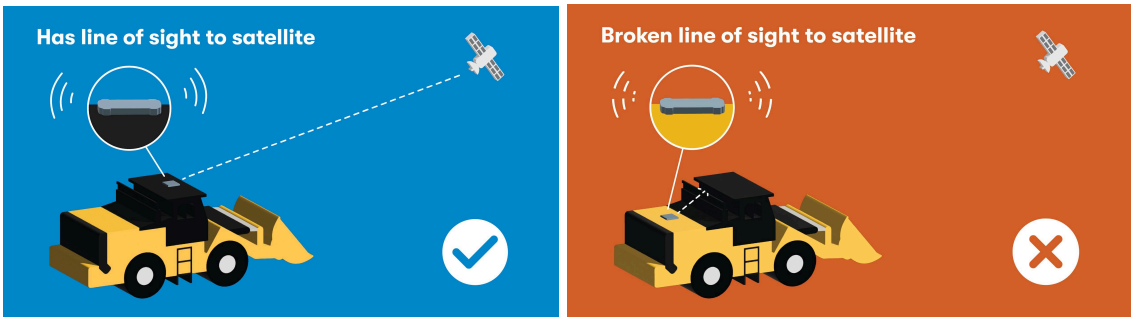


Deploy AssetHawk

Critical Deployment Considerations

AssetHawk requires a view of the satellites, which are stationary directly above the equator, for successful communication. Furthermore, when the Asset being tracked is moving, the Satellite view will vary. Deploying with as much sky view as possible for all deployments is critical for the best communication performance.

Diagram 9: AssetHawk™ Deployment Considerations



The Locate the Satellite Section describes how to ensure that AssetHawk has a clear view of the satellite at the time of deployment, so that your AssetHawk can communicate as soon as possible. However, this step is not necessary for each device, especially if the Asset being tracked will move, and AssetHawk has maximum Sky view.

Locate the Satellite

To ensure optimal communication performance, follow the steps below using Myriota's HyperPulse DeployAssist mobile app to locate the HyperPulse satellites at the point of install and ensure a clear line of sight to each satellite. A suboptimal deployment may significantly impact message delivery. Links to download the Android / iOS app and the user guide are available here.

Mount AssetHawk

- DO mount AssetHawk outdoors in a secure location.
- DO mount the AssetHawk horizontally, with the Myriota logo facing up to the sky.
- DO elevate AssetHawk where possible.
- DO ensure AssetHawk has a line of sight to the satellite - See Locate the Satellite.
- DON'T mount AssetHawk indoors.
- DON'T mount AssetHawk vertically, even if it's facing the satellite. The antenna is designed for horizontal mounting.
- DON'T mount AssetHawk where buildings, trees, or other obstructions block the line of sight to the satellite.
- DON'T mount AssetHawk near strong sources of RF or electrical interference (e.g., radios, high-voltage equipment).

Diagram 10: AssetHawk™ Mounting Orientation

Mounting Options

Magnetic Mount

Suitable for ferromagnetic surfaces, and best suited for when you need to relocate or move the device between assets. Provides 25kg of holding force - secure enough for the majority of applications.

Diagram 11: AssetHawk insertion into the Magnetic Mount

Adhesive Pads

Adhesive pad locating features have been provided on the rear face of the AssetHawk, suitable for double-sided adhesive tape. Please thoroughly clean both AssetHawk and the mounting surface before applying tape for best results. Recommended tape size is 25 x 44mm (1.0 x 1.7 in).

Diagram 12: Adhesive Pad Mounting

Screws

The fastening points are designed for M4 bolts or 8G screws with a cap or button head. Countersunk heads will damage the unit:

Diagram 13: Screw Mounting

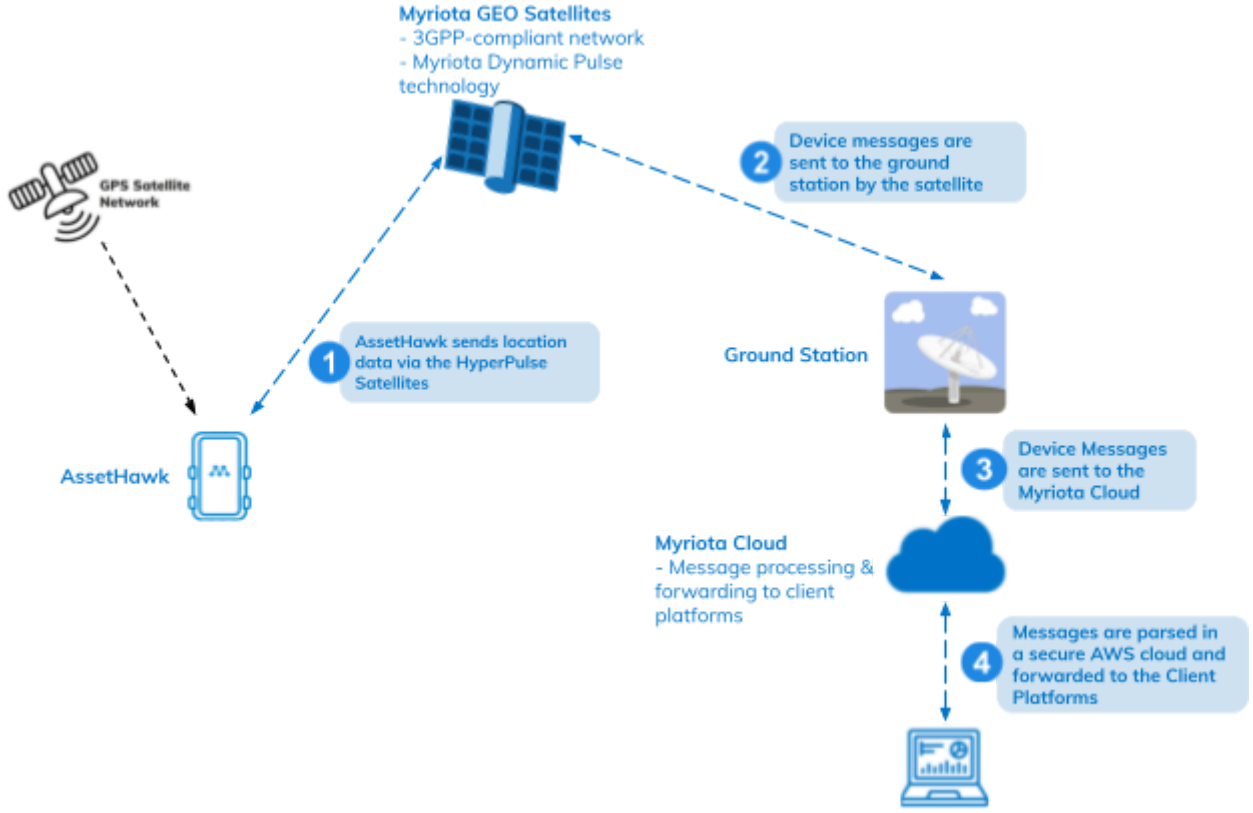
Data Visualisation

Message Communications

AssetHawk™ communicates data to and from the field via the Myriota HyperPulse Network, as shown in Diagram 14. If you would like to understand more about the behaviour and architecture of the Myriota Network, please reach out to Myriota Support.

Where BLE sensing is enabled, compatible beacon measurements are included in AssetHawk™ message data in addition to location information.

Diagram 14: Myriota Network architecture



Visualisation Platform

AssetHawk does not include a dedicated visualisation platform and is designed to integrate with existing customer or third-party platforms that will accept the forwarded data. The format of the data forwarded to visualisation platforms by AssetHawk is further described on the support site.

The platform recommended for testing device operability is TagoIO. A guide to setting up your AssetHawk device on the TagoIO platform is available on the support site.

Regulatory Approvals

The AssetHawk™ satellite communication operates in the UHF band B255 between 1626.5 MHz and 1660.5 MHz, with a bandwidth of 34 MHz and a power output of 26.31 dBm.

The AssetHawk has the following regulatory approvals:

- ACMA/RCM (pending)
- FCC (pending)
- Industry Canada (pending)
- CE/RED (pending)
- UKCA (pending)
- ANATEL (pending)
- ENACOM (pending)
- IFETEL (pending)
- SUBTEL (pending)
- MTC (pending)

The AssetHawk contains the following modules:

FCC ID: 2ANPO00NRF9151, IC: 24529-NRF9151

FCC ID: SH6AN54LQ, IC: 8017A-AN54LQ

General warnings

Warning – Modifications: Changes or modifications to the device not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Warning - Battery: User must set charge/discharge limits according to the battery manufacturer's Safety Data Sheets (SDS) for safety concerns.

Warning - Disassembly: The unit is not intended to be disassembled.

Warning - Battery: User must avoid exposing the unit to temperatures above 60°C to prevent damage to the battery.

Warning – Blasting Area: To avoid interference with blasting operations, turn your device off when in a "Blasting Area" or in areas posted "Turn off two-way radio." Obey all signs and instructions.

Warning – Potential Explosive Atmosphere: Turn off the device when in any area with a potentially explosive atmosphere and obey all signs and instructions. (End products specifically designed to work in Explosive Atmospheres are to follow their certification guidelines.)

Warning – Pacemakers: The Health Industry Manufacturers Association recommends that a minimum separation of six (6") inches be maintained between the device and a pacemaker to avoid potential interference with the pacemaker.

Warning – Hearing Aids: Some digital wireless devices may interfere with some hearing aids. To prevent such interference, you may want to consult the manufacturer of your hearing aid.

Warning - Specific Absorption Rate (SAR): a separation distance of at least 20 cm from the radiating structure and the body of the user or nearby persons must be maintained to comply with MPE (Maximum Permissible Exposure) requirements.

NOTE: If concerned about RF exposure during use, place the AssetHawk™ device away from your body. The RF exposure level drops off dramatically with distance from the device antenna.

Warranty

Myriota's Manufacturer's Warranty ("Manufacturer's Warranty")

Myriota offers a Product manufacturer's warranty for a period of 12 months from delivery. To the extent permitted by law, this warranty is limited to rectification of manufacturing defects and/or non-compliance with the Product Brief.

Myriota will undertake in-warranty service for Products subject to verification of proof of purchase and purchase date.

To the maximum extent permitted by law, Myriota accepts no liability for any defect or failure not caused by Myriota (including Customer accident, misuse and non-observance of operating instructions), or for Products which have been repaired by a person other than Myriota or used for purposes other than for which they are intended or deterioration due to normal use and exposure, including environmental conditions.