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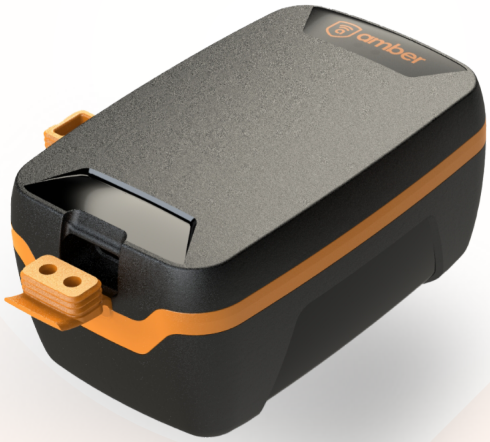
Amber Swift A100

Motion Detection

Smart Motion-based Tamper Alert



Battery Level Monitoring

Impact Detection

Low-power Design

Long Battery Life

GPS Tracking

Onboard Temperature

Peer-to-peer Wireless Communication

Sigfox Certified for RC1

IP66

IP66 Tested

A FULLY INTEGRATED SOLUTION TO MONITOR, TRACK AND MANAGE A SMART NETWORK OF ASSETS OR SENSORS IN FIXED AND MOBILE INDUSTRIES

The Amber Swift A100 was designed to be an ultra-low power wireless tracking device. It operates on the Sigfox IoT platform in the 868 MHz frequency range. It also has support for proprietary RF protocols and allows for peer-to-peer communication without needing to go through a base station. The product also has a very sensitive multi-constellation global navigation satellite system (GNSS) receiver for accurate location of the device. The product can intelligently detect motion using an onboard accelerometer and determine a vehicle's ignition status using an algorithm on the sensor inputs. The product has configurable inputs and outputs to attach external sensors and controllers and has rechargeable battery option.

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OPTIONAL ACCESSORIES


Rechargeable


USB and high-voltage charging


Solar powered


Valve or solenoid controller

USB data streaming


Easy magnetic mounting


Customisable cloud monitoring platform


Customisable Android and iOS apps


LED indicators

Product Features

Supply voltage - charging	6 to 36 VDC or 5V USB (for rechargeable version only)
Battery voltage	3.4 to 4.6 VDC
Average power consumption	Sleep mode: < 20 µA Run mode with GPS receiver on: < 35 mA Transmit mode with GPS receiver on: < 60 mA
RF Power	Sigfox Class 1u (12 dBm > EIRP > 7 dBm)
Other available inputs and outputs	Three breakout pins (discrete inputs or outputs), one of which can be configured for the valve (solenoid) switch
Analogue input	One analogue input (3 VDC reference)
External wake-up	An external input that can be configured as a system wake-up
Geo-location	Built-in GNSS receiver for accurate device location featuring the following: Support for GPS and GLONASS 72 acquisition and tracking channels Time to fix From cold start: 26 s Reacquisition time: 1 s Sensitivity for GPS / GLONASS Cold start: -148 dBm Tracking and navigation: -167 dBm
Serial port	One USB-to-serial USART bi-directional serial port that can interpret a comprehensive set of AT commands for board control and configuration.
Motion detection	Accelerometer full scale configurable to ±2 g / ±4 g / ±8 g / ±16 g Power consumption: 50 nA in power-down mode, below 1 µA in active low-power mode Data rates between 1 and 1.6 kHz

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Sigfox Specification

Communication system	Sigfox
Sigfox frequency	868MHz
Certified configured region	RC1 - ETSI
RF max power	Class 0u
Other RF capabilities	Proprietary RF – 868MHz band

GNSS Specification

Supported GNSS constellations	GPS, GLONASS, BeiDou and Galileo
Assisted GNSS	AssistNow™ Autonomous
Frequency	GPS 1575.42 MHz & GLONASS 1602 MHz
Receiver type	72-channel
Horizontal position accuracy	2.5m
Tracking sensitivity	-167dBm
Acquisition sensitivity	-148dBm
TTFF	Avg. hot start ≤ 1sec Avg. cold start ≤ 26sec Avg. aided start ≤ 2sec

Motion Detection Specification

Full scale configuration	±2g / ±4g / ±8g / 16g
Power consumption	50nA in power-down mode <1uA in active low-power mode
Data rates	Between 1Hz and 1.6kHz

Function and package

Switch	Power switch for battery saving
LED indicator	2 enclosure LEDs for configurable information
Power type	Self-powered with both rechargeable and non-rechargeable variants
Working voltage/current	3.6V / 3mA (GNSS and RF off)
Theoretical lifespan (30 location messages / day)	2 years (8000mAh battery)
Battery	8000mAh non-rechargeable / 4800mAh rechargeable lithium batteries
Dimensions	83mm by 41mm by 54mm
Addition optional features	Magnets, Tamper Detection, Valve/Solenoid switch, High-Voltage Input (up to 36V), Digital and Analogue IOs

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