# ASSET IoT Gateway


## ABAX FM230 Datasheet

### OVERVIEW

The ABAX FMM230 IoT Gateway is ideal for monitoring of all types of vehicles, vans, trailers, heavy equipment and high-value mobile assets and is designed for rapid return of investment.

FMM230 is a water and dust resistant real-time GPS-tracker with a backup battery when needed. It enables improved operating efficiency, asset recovery, and streamlined regulatory compliance.

It is part of ABAX IoT global network that combines asset tracking, fleet management, and compliance solutions in a single platform.

### TYPICAL APPLICATIONS

- Vehicles - all brands and types
  - Corporate vehicles
  - Company vehicles
  - Private vehicles with mileage claim
- Machinery tracking with a power source or 1 usage log
  - Construction equipment diggers, backhoes, bulldozers, cranes, etc.
  - Forklifts, lifts, dumpers,agriculture
- Single usage logging for all powered assets
- Service and maintenance for heavy equipment and high-value mobile assets

### DESIGNED TO ACCESS THE IOT NETWORK

A gateway of the ABAX global IoT network.

Advanced positioning system simultaneously reads from multiple independent satellite systems including GPS, Glonass, Galileo and BeiDou global navigation satellite systems.
Internal antenna for discreet installation.

Cat-M1 LTE with 2G fallback world wide connectivity to ensure the unit are always online.

Real-time GPS location with live updates.

Automatic OTA (Over The Air update).

### PRODUCT HIGHLIGHTS

- External alternate supplier to serve both vehicle and equipment
- Ensure your corporate vehicles are tax compliant
- A flexible solution for heavy equipment
- Monitor and increase asset utilization
- Optimize asset pool inventory and location
- Recover lost assets
- Get an overview over your drivers driving behaviour

ABAX Simply Connected

# ABAX FMM230 Datasheet

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Dimension | 70,5x67,0x25,6 mm<br>85,0x67,0x25,6 mm (length with connector socket) |
| Weight | 55g |
| Storage temperature | -20ºC to +85ºC (without battery)<br>20ºC to +45ºC (with battery) |
| Operating temperature | -20ºC to +85ºC (without battery)<br>-20ºC to +45ºC (with battery) |
| Sensors | Accelerometer |
| Inpute voltage range | 10 - 30 v DC with overvoltage protection |
| Power consumption | At 12V < 3 mA (Ultra Deep Sleep)<br>At 12V < 5 mA (Deep Sleep)<br>At 12V < 11 mA (Online Deep Sleep)<br>At 12V < 18 mA (GPS Sleep)<br>At 12V < 34 mA (nominal with no load)<br>At 12V < 2A Max. (with full Load / Peak) |
| Internal Back-up battery | 170 mAh Li-Ion battery 3.7 V (0.63 Wh) |
| Cellular | LTE CAT M1/NB-IoT/GSM<br>LTE: Max. 588Kbps (DL)/Max.1119Kbps (UL)<br>GPRS: Max. 107Kbps (DL)/Max. 85.6Kbps (UL) |
| Postion updates | Every 30 second when powered and in movement, once a day still and once a day when not powered |

## ENVIRONMENTAL DATA, RELIABILITY, CERTIFICATION

| | |
|---|---|
| Approvals | CE-RED, E-mark, RCM, Reach, RoHS |
| IP Grade | IP67 |

## GNSS SPECIFICATIONS

| |
|---|
| GPS, GLONASS, GALILEO, BEIDOU, QZSS, AGPS |
| Reciever Tracking: 33 |
| Tracking sensitivity -165dBM<br>Accuracy <2.5 m CEP<br>Velocity accuracy <0.1m/s (within +/- 15% error)<br>Hot start <1 s<br>Warm start < 25 s<br>Cold start <35 s |

## MOBILE CONNECTIVITY SPECIFICATIONS

| |
|---|
| LTE CAT M1/NB-IoT/GSM connectivity supporting bands B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 with 2G fallback |
| GSM network positioning based on antenna site identification |
| Global support for antenna site triangulation and positioning |
| Ca. 97% coverage for Europe's GSM network (in terms of GSM positioning) |
| Timing advance support |

## INTERFACES

| | |
|---|---|
| Radio communication frequency | 4.0 + LE. Temperature and Humidity sensor, OBDII dongle, Inateck Barcode Scanner, Universal BLE sensors support |
| Usage logging or general input | 10 - 30 V DC with overvoltage protection. Trigger value is >8 Volt DC to start usage logging |
| Configuration | Automatic OTA (Over The Air update) firmware and configuration updates |
| Sensors | Accelerometer |