

F1 Fleet Management System



The F1 platform is a cost-efficient FMS solution for public, military, commercial, and private sector applications.

The F1 Fleet Management System features an internal 2G or 3G modem with support for an external LTE modem as well as for an Iridium satellite network fallback option. WiFi hotspot is also available as an option.

The F1 FMS includes on-board CAN Bus J1939 and supports OBD II via external transceiver to provide a robust set of fleet management and driver behavior events and alerts.



F1 Fleet Management System

F1 Main Features

- » Internal 2.5G, 3G GSM/GPRS, and external 4G LTE communications options. Supports optional Iridium satellite network modem
- » On-board functions include CAN Bus transceiver, immobilizer, buzzer, and accelerometer.
- » F1 includes LIN Bus and RS232 interfaces to support a variety of driver ID types including magnetic card reader, RFID, and keypad with private/business trip type
- » Supports Dallas 1-wire protocol
- » Fuel Level and alerts by CAN Bus, analog or digital fuel sensors
- » Fully integrated with WorldFleetLog to generate hundreds of reports

F1

Technical Specifications

Communications

- 2G Quad Band GSM/GPRS UBlox SARA-G350 02A
- 3G: HSPA 5-band, GSM UBlox SARA-U201-04A - 800 MHz, 850 MHz, 900 MHz, 1900 MHz, 2100 MHz; with automatic fallback to 2G 850 MHz, 900 MHz, 1800 MHz, 1900 MHz
- Supports user-initiated wake-up call and user-initiated SMS commands to activate or deactivate alerts
- Supports external Iridium network satellite fallback

GPS Module

- Receiver Type: UBlox M8030-KT 72-channel u-blox M8 engine
- Sensitivity: Tracking & Navigation -167 dBm; Reacquisition -160 dBm; Cold start -148 dBm; Hot start -157 dBm
- Acquisition: Cold starts: 26 s, Aided start: 2 s, Hot start: 1 s;
- GPS Patch Antenna, 1575MHz Center Freq 1575MHz +/- 3MHz Bandwidth 10 MHz, supports antenna disconnect and short circuit detection
- Built-in spoofing protection
- Anti Jamming: Active CW detection and removal
- Multi-GNSS Assistance: AssistNow Online; AssistNow Offline (up to 35 days); AssistNow Autonomous (up to 6 days)
- Horizontal Position Accuracy: 2.0 m CEP
- Navigation update rate up to 18 Hz for single GNSS, 10 Hz for 2 concurrent GNSS

On-board Functions

- MCU ARM 2048Kb flash 256Kb SDRAM
- Accelerometer: ST SPI 3-axes "nano" accelerometer
- Flash memory 64Mb
- EEPROM 512Kbit 20MHz
- Immobilizer
- Undervoltage Detection
- Over voltage protection

F1 Hub

Input/Output F1 Hub

- LIN Transceiver 20Kbps
- 2 RS-232 Interface - 12 V powered with On/Off
- 4 GPIO
- 2 managed outputs @12V



Current Consumption

- Vehicle Battery Operating Voltages: 12 VDC nominal [9—18 VDC]; 24 VDC capability
- Backup Battery Operating Voltage and Capacity: 3.7 VDC rechargeable 2000 mA Lithium Ion-Polymer battery
- Current Consumption from Vehicle Battery: Maximum (GPRS On): 128 mA
- Maximum (Backup Battery Charging): 228 mA; Full Power Mode: (GPRS Off): 63 mA; Standby Mode: 2.12 mA

Physical Characteristics

- Operating temperature range: -40°C to +85°C
- Operating conditions: Meets, or exceeds automotive standards for humidity, corrosion, salt mist fog test; salt spray, dust, drip water, and constant humidity under operation tests
- Dimensions: 100 x 57 x 32 mm (without bracket)
- Weight: 161 grams (without bracket)

Input/Output F1 Main Unit

- IGN
- Output 1 or A2D 1 with range from 0 to 30 VDC
- Output 2 or A2D 2 with range from 0 to 30 VDC
- Output 3 or binary Input 5, depending on configuration
- 4 additional binary inputs, input 3 can be used for odometer
- Dallas 1-Wire
- LIN Bus
- RS-232
- CAN Hi
- CAN Low