PRODUCT FACT SHEET

FM TRACER

OVERVIEW

The FM Tracer solution is powered by the FM 3310i on-board computer which includes an internal GPS receiver and GSM modem. The GPS receiver allows for the recording of highly accurate position information. The GSM modem enables the transmission of data, making real-time vehicle tracking and immediate event notifications possible.

The optional Garmin FM Interface allows for the connection of a Garmin Portable Navigation Device to FM Protector to which jobs can be dispatched, which can route the driver to the exact job location, as well as facilitating the sending and receiving of text messages.

Two-way voice communication is possible when using the optional FM Voice Kit in combination with the internal GSM modem.

Features

ACTIVE TRACKING	
Tracking and Route Replay	Track the vehicle position in real-time, or view and replay historic routes taken on a digital map.
GPS Data Recording	A variety of information is recorded with every GPS position such as vehicle and driver ID (optional), date and time, latitude and longitude, altitude, heading, speed and the number of visible satellites.
Manage Locations	Add, delete or edit user-defined locations such as customer, supplier, no-go zone etc. The entry and exit from locations are recorded along with the date and time of the occurrence and the duration spent at each location.
Active Events	Active events are based on active locations, GPS speed and 2 user inputs. Immediate event notifications can be sent via SMS whenever a critical event is recorded. Such events could be when entering or exiting a Zone, Panic / Assist button pressed (optional), Battery disconnect, etc.
Backup Battery	As an additional layer of security the FM 3310i is equipped with a Backup Battery, making tracking possible even if the vehicle's main battery has been disconnected. The Backup Battery starts to operate as soon as the supply to the main vehicle battery is cut.
COMMUNICATIONS	
Downloading from / Uploading to vehicle	The GSM modem is used to download data from and upload data to the FM 3310i via GPRS, SMS or CSD Data call. This allows for real-time tracking and immediate SMS event notifications. It is possible to upgrade firmware or update the configuration remotely over-the-air using the GSM modem, thus reducing the need to remove the vehicle from duty when performing maintenance.
Satellite Communication	Satellite communication allows limited data download from and upload to the FM 3310i when using the optional FM Sat Comms transceiver. This provides real-time tracking and event monitoring when out of GSM coverage. FM Sat Comms provides global coverage except at the extreme poles of the earth.
Voice Calls	Two-way voice communication is possible when using the optional FM Voice Kit, which allows for hands-free operation.

VEHICLE AND DRIVER MANAGEMENT	
Trip Data Recording	The following data is recorded: date and time, distance travelled, journey duration, vehicle speed, journey departure and arrival time, location entered / exited, driver name (optional), driver ID (optional) and vehicle ID.
Driving Violations	Over speeding events are triggered when exceeding a preset speed limit.
Input Events	Two user-configurable digital inputs are available which can be employed to trigger custom events such as cargo door open and panic / alert button pressed.
Servicing and Licensing	Set reminders for your vehicle's next service or for your vehicle/driver license expiry.

General information

Ignition input	Used to monitor the ignition switch status.
Positive drive output	Used to power external devices. Battery voltage -2V DC. It can supply current up to 1A.
Buzzer output	Audio signaling device.
Audio interface	This interface allows the user to make voice calls using an optional FM Voice Kit.
FM 3310i Includes:	• GSM/GPRS Antenna • GPS Antenna • Main harness with integrated buzzer (2x frequency input, 2x digital input) • Backup Battery • FM on-board computer user manual • FM300 code-plug harness and socket • Optional: Blue driver's plug (Driver ID) • Optional: FM Voice Kit • Optional: Garmin FM Interface (Jobs & Messaging) • Optional: FM Sat Comms

Technical description

Voltage range	9V DC – 33V DC
Input Protection	Automotive 24V load dump (160V, 2 Ohm, 400mS); short duration low-energy & high-energy transients).
Clock	Real-time with independent battery back-up.
Inputs & Events	Highly configurable inputs and events.
Firmware	Re-programmable firmware and configuration over wireless media (or optional wired interface).
2 Digital inputs (configurable)	2 X digital inputs (I1 & I2) can be configured by the user to monitor any device that generates a change in voltage in the range of 0 – 38 volts.
2 RS232 Serial Ports	2 X RS232 serial ports operating at 57600 Baud rate (higher rates possible with hardware flow control) for connecting supported serial devices using an optional serial harness.
Buzzer and LED	The FM 3310i has a buzzer to warn the driver and provide feedback of the vehicle's status.
I²C Bus	Intended for use with optional code-plugs used to identify drivers, calibrate, diagnose faults, upload firmware and new configurations, and to download unit specific configuration information. This bus can also be used to drive the optional FM Keypad, which allows the driver to make voice calls when used together with the optional FM Voice Kit.
Backup Battery	The backup battery is powered by a rechargeable Li-Ion Battery Pack. When fully charged, the backup time is typically 4 hours if the GSM is active in low power mode and the GPS is disabled.

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Technical specifications

ENVIRONMENT	
Temperature	(Storage) -20°C to +70°C (Operating) -20°C to +55°C (Charging) 0°C to +45°C Limited GSM functionality extends to -25°C and +70°C
Circuit Protection	Conformal coating over the PCB and all components (excluding connectors).
SUPPLY	
Current	(Operating) <42mA at 28V (typical)* (Sleep) <20mA at 28V (typical)* (Operating) <70mA at 12V (typical)* (Sleep) <30mA at 12V (typical)* (Powered down) <2mA at 12V (typical)* (Powered down) <3mA at 28V (typical)* * The signal strength on the GSM affects the current consumption. The firmware running on the FM 3310i micro processor affects the current consumption of the unit.