

FOX-EN

The Advanced Vehicle Tracking System

PRODUCT OVERVIEW

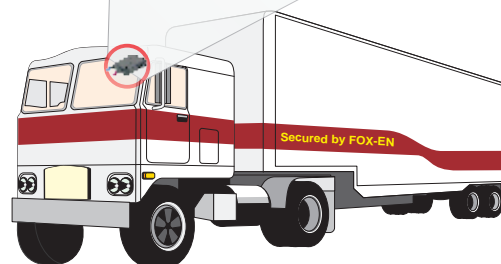
FOX-EN is a free configurable smart tracking device which can be fully adapted to user requirements. Its main purpose is to act as a mobile client for various system solutions like AVL, fleet management, vehicle security and recovery. The device can operate fully autonomous and it is able to interact using sensors and actors.

It can be adapted to existing tracking solutions and can be easily configured to gather or exchange relevant information with servers or users directly. An often used example is to send status reports or verbose alert messages directly via SMS to users and/or via TCP to tracking servers. Users benefit most from combining comfort and security aspects - for example having regular voice calls as well as spy calls in emergency cases. Drivers logbook and data logging functionalities are combined in the history feature.

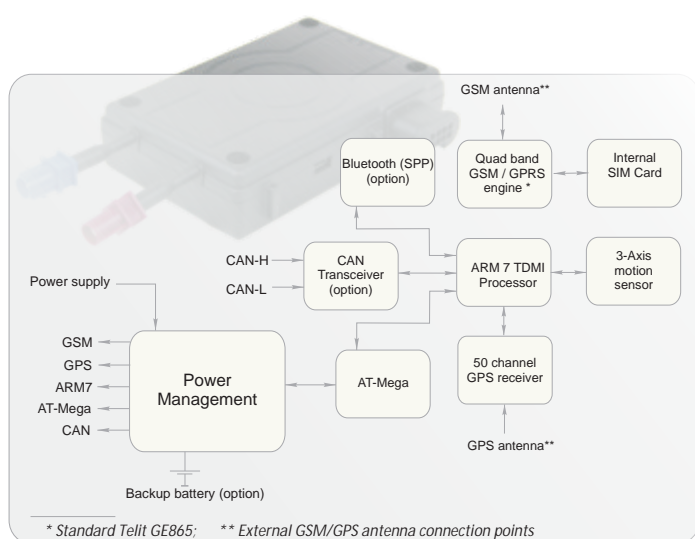
Geofencing can be used to report violations of predefined routes or areas (for example if a car enters or leaves a specific area/no-go-zones). All of these features are perfectly integrated in a device concept which significantly reduces time-to-market and provides low cost tracking and security solutions.



FOX-EN



FOX-EN-AU/US BLOCK DIAGRAM



PRODUCT HIGHLIGHTS

- State-of-the-art GSM/GPRS technology for 2-way communication
- Latest GPS technology for positioning
- Compact, low-cost, low power and light-weight unit
- Delivers high performance and very flexible applications
- Customized firmware configuration
- Different communication channels
- Multi-function I/Os
- 3D accelerometer detecting movements of assets
- Wide variety of events and states for sending reports
- Allows to create customized protocols
- Data-Logger functionality
- Powered from vehicle main battery
- Backup battery* to back up the main power supply
- Custom housing and packaging design possible
- RFID and sensor-based application
- Wireless communication via Bluetooth® (SPP)*
- CAN/FMS interface*, OBD II (On-Board Diagnostics)*
- Expandable via MINI IO BOX*
- Connection points for using different GSM/GPS antennas
- E1/CE approved

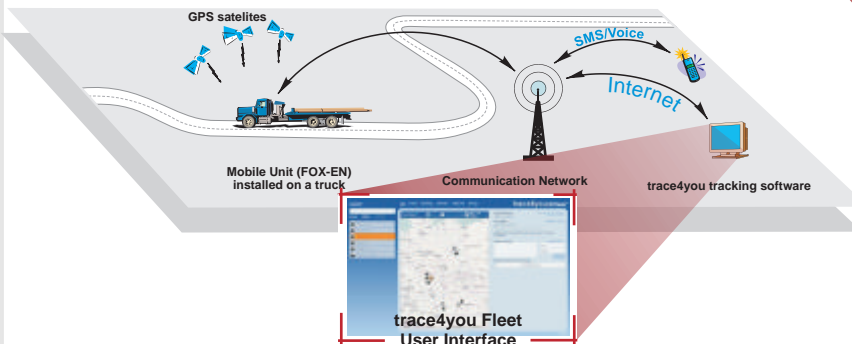
FIRMWARE FEATURES

- Embedded TCP/IP stack for client-server application
- FALCOM protocols: IOP, GSM, AREA, 3DP, BIN
- Supports SMS, CSD, Voice call
- Locally and remotely firmware update
- Multi power-saving modes and wake up conditions
- 20 programmable Timers, Triggers, Counters
- 100 programmable Geofences and 32 Areas
- Programmable Geo-fencing and Parking alerts
- Detect changes of digital inputs
- Forward messages from one channel to another
- Customized reports, sending intervals
- Report by distance, time, bearing and on demand
- Drivers Logbook / History / Trip management
- Locally/Remotely accessible via PFAL commands
- Device configuration via Serial port, TCP and SMS
- Intelligent and flexible configuration alarms
- RFID and sensor-based application
- Connection with external alarm systems

APPLICATIONS

- Real time online tracking
- Fleet management / monitoring
- Security / emergency services
- Real time satellite navigation
- Territory management
- Personalized drivers logbook
- Route verification
- Trip management / distance calculations
- Theft protection
- Toll collection / pay as you drive
- Compatible with FALCOM trace4you server
(also configurable for most of TCP/IP server-based tracking applications)

trace4you - online tracking server



TECHNICAL SPECIFICATION

General	Physical characteristics
Quad-Band GSM/GPRS engine - Telit GE865	Dimensions (LxWxH): 100 mm x 65 mm x 24 mm
GSM frequency bands: 850/900/1800/1900 MHz	Weight: approx. 105 g
GPRS class 10, Class B	
Internet (TCP/IP/UDP/HTTP/SMTP)	Air humidity
50 channel u-blox 6 engine (UBX-G6010)	5% up to 95% non-condensing
A-GPS online/offline support	Interfaces
Protocols: NMEA, FALCOM (binary)	3x digital/analog IO ports free-programmable
Accuracy: Position: 2.5 m	1 x predefined digital input (Ignition)
SBAS: 2 m	3 x LED indicators free-programmable
Acquisition: TTFF: 29 sec. average	1 x RS232 port V.24 level (RX, TX and GND)
Sensitivity: Tracking: -162 dBm	Mini-USB 10pin with 2 hardware options
Cold start: -148 dBm	(Audio or SPI with I/O Extension)
GPS Operational limits:	Audio interface (available in basic version)
Velocity: 500 m/s (972 knots)	1 x RS232 port 3.3V (available in basic version)
Altitude: 50.000 m	CAN-Bus Interface* (uses 2 of 3 I/Os)
Update rate: 1 Hz	Inside SIM card holder for 1,8/3 V SIM cards
Electrical characteristics	Internal Bluetooth® interface* (SPP)
Power supply: +10,8 V to +32 V DC	Serial Data Rates
Internal Li-Polymer 500 mAh rechargeable battery ¹⁾ *	4800...115200 bps (default=57600 bps)
Average Power Consumption	Antenna Connection
Normal operation: 86 mA @ 12 VDC	GSM: FAKRA Female connector, 50 ohms
Power saving (IGN): 860 µA @ 12 VDC	GPS: FAKRA Female connector, 3V active antenna
Environmental data	Motion sensor
Operating temp.: -40 °C to +85 °C	3-axis motion sensor (software-controlled features)
Storage temp.: -40 °C to +90 °C	Processor core
GSM** *: -40 °C to +85 °C	ARM7/TDMI
Battery option: -20 °C to +60 °C	8 MB Flash (History / Firmware / Configuration)
Charging temp.: 0 °C to +45 °C	

* Optional.

** The GSM/GPRS module is fully functional (-20 °C to +55 °C meets the 3GPP specifications).

¹⁾ Storage and using conditions of the device with battery option are limited to the battery temperature range.

FOX-EN EVALKIT CONTENTS

EVALKIT offered by FALCOM provides all the necessary hardware, software, and documentation to effectively operate and evaluate the performance and suitability of the FOX-EN device. The EVALKIT is shipped pre-configured allowing system integrators and developers to test the device and see how it works. The KIT contains:

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|-----------------------------------|---------------------------------|
| 1 - FOX-EN-CH-B1-AU(US) unit | 7 - UK/US Plug travel adaptor |
| 2 - FOX-EVALBOARD | 8 - RS232 serial cable |
| 3 - FAL-ANT-7 | 9 - Headset |
| 4 - KA-FOX-LT-FOX-EAVL cable | 10 - Vehicle installation cable |
| 5 - FOX-LT-KFZ-1.5M install cable | 11 - Info-sheet |
| 6 - AC/DC Power adapter 12V-1A | 12 - Pre-paid SIM card |
| | 13 - Documentation |

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