

# FOX3-3G

*most developed and advanced vehicle tracking system with all options in one product*

## PRODUCT OVERVIEW

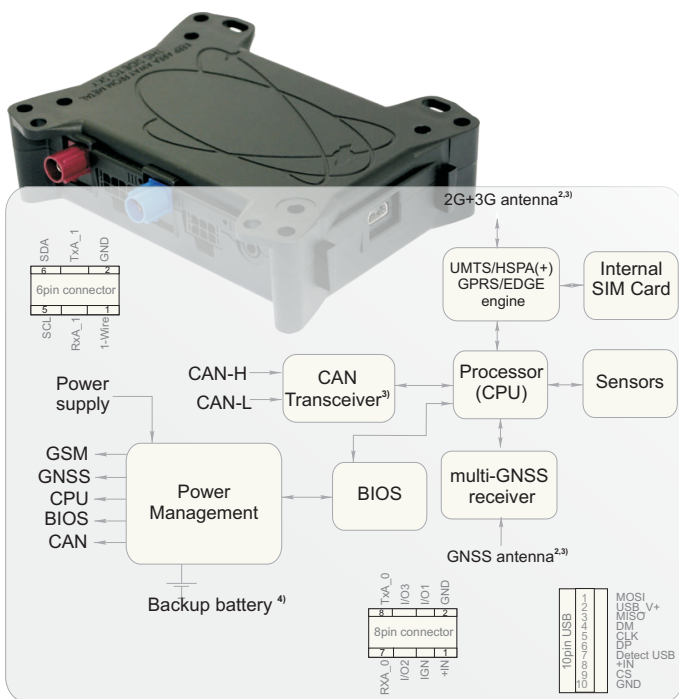
FOX3-3G is a compact, all-in-one device combining 2G/UMTS/HSPA+ high-speed data communication with the latest GNSS technology to completely satisfy customer's need. Depending on the requirements of the respective customer, the needed hardware options can be decided shortly before installation. FOX3-3G is designed to operate with internal or external antennas. The built-in internal antennas can be turned off while external antennas are in use. Based on its features, this device will dramatically simplify your logistics as well as the installation process and the post-installation support. Newly developed FALCOM „PREMIUM-Features“ show the way to the future of mobile data logging, storing, processing and sending.

FOX3-3G is a configurable smart tracking / data logging device which can be fully adapted to user requirements.

FOX3-3G offers new features like: DATA ENCRYPTION, several HISTORY MODES or ECO-DRIVE/BEHAVIOUR LOGGING beside standard items like status reports, alerts messaging, audio call, spk calls or geofencing.



## FOX3-3G BLOCK DIAGRAM



## PRODUCT HIGHLIGHTS

- State-of-the-art 3G/2G and GNSS technology
- 3-axis acceleration, internal temperature sensors
- Gyro / Magnetic sensors (external only)
- Drop-in replacement of previous FOX-generation
- Sensor interfaces via RS-232 / RS-485 / 1-Wire / I<sup>2</sup>C / CAN
- FALCOM PFAL programming language
- Delivers high performance and very flexible applications
- Customizable firmware configuration
- Multi-function I/Os
- Optional battery back-up<sup>4)</sup>
- Display connectivity (JAZZ2)
- Audio interface (SPK+MIC)
- Data-Logger functionality
- CAN/FMS interface<sup>3)</sup>, CAN-OBDDII (On-Board Diagnostics)<sup>3)</sup>
- Hardware expandable via IOBOX-MINI<sup>4)</sup> and IOBOX-CAN<sup>4)</sup>
- Internal 2G+3G/GNSS antennas and external antenna ports<sup>3)</sup>
- Communication via USB 2.0 interface
- Support connection with Garmin devices
- CE approved

<sup>1)</sup> Optional  
<sup>2)</sup> Internal/External 2G+3G/GNSS antennas  
<sup>3)</sup> Activation with PFAL-Command  
<sup>4)</sup> Accessory

## FIRMWARE FEATURES

- Embedded TCP/IP stack for client-server application
- FALCOM protocols: IOP, GSM, AREA, 3DP, BIN
- Supports SMS/USSD/Voice call/TCP/IP/UDP/SMTP/HTTP
- Local and remote firmware update and configuration
- Multi power-saving modes and wake up conditions
- 20 programmable Timers, Triggers, Counters, nvCounters
- 3000 programmable Geofences, 32 Areas, 2000 Waypoints
- Report by distance, time, bearing and on demand and more
- Drivers Logbook / History / Trip management
- Intelligent and flexible configuration alarms
- RFID and 1-Wire sensor-based application
- FALCOM PREMIUM feature supported
- Over-the air-access (OTA)

## APPLICATIONS

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

## TECHNICAL SPECIFICATION

### General

3G (UMTS/HSPA+) and 2G (GSM/GPRS/EDGE) engine:  
 - 3G bands: 800/850/900/1700/1900/2100 MHz  
 - 2G bands: 850/900/1800/1900 MHz

Internet (TCP/UDP/HTTP/SMTP)

Multi channel GNSS (GPS+Galileo/GLONASS<sup>2)</sup> receiver

A-GPS (online / offline / autonomous)

Protocols: NMEA, FALCOM (binary)

Accuracy: **GPS** **GLONASS**

Position: 2.5 m 4.0 m

Acquisition / Sensitivity:

Cold Start: 29 s 30 s

Tracking: -161 dBm -158 dBm

Sensitivity: -148 dBm -145 dBm

GPS Operational limits:

Velocity: 500 m/s (972 knots)

Altitude: 50.000 m

Update rate: 1 Hz

### Electrical characteristics

Power supply: +10,8 V to +32,0 V DC

Optional Li-Polymer 1000 mAh rechargeable battery<sup>1)</sup>

### Average Power Consumption

Normal operation: 50mA @ 12 VDC

Sleep mode: < 1mA @ 12 VDC

### Environmental data

Operating temp.: -40 °C to +85 °C

Storage temp.: -40 °C to +85 °C

GSM: -40 °C to +85 °C

Battery<sup>3)</sup> discharging temp.: -20 °C to +60 °C

Battery<sup>3)</sup> charging temp.: 0 °C to +45 °C

<sup>1)</sup> Optional / Accessory

<sup>2)</sup> Activation with PFAL-Command.

<sup>3)</sup> Applicable with backup battery

<sup>4)</sup> Hardware Premium Features: CAN-Bus-interface, RS-485 port

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

### Physical characteristics

Dimensions (LxWxH): 105 mm x 83 mm x 28 mm

Weight: approx. 130 g

### Air humidity

5% up to 95% non-condensing

### Interfaces

3 x Digital/analog IO ports (programmable)

1 x Predefined digital input (Ignition)

3 x LED indicators (programmable)

2 x RS-232 Ports (1xV.24 level; 1xRS-232/RS-485<sup>4)</sup>)

1 x 10pin Mini-USB connector (for IOBOX-MINI<sup>1)</sup>)

1 x 1-Wire interface (incl. 5V Phantom Power)

1 x I<sup>2</sup>C interface

1 x 4pin audio jack interface (2.5mm)

1 x CAN-Bus Interface<sup>2)</sup> (uses 2 of 3 I/Os)

1 x Inside SIM card holder for 1,8/3 V SIM cards

1 x USB 2.0 interface

### Serial Data Rates

Serial Ports: 4800...115200 bps (default = 115200 bps)

### 2G-3G / GNSS Antennas

Internal and external<sup>2)</sup> with automatic/manual switch

### Sensor / Measurement range

3-axis Acceleration/Temperature

- **3DG:** ± 8g (programmable)

- **Temperature:** - 50 to + 120 °C (programmable)

### Processor core

RTC + Calendar

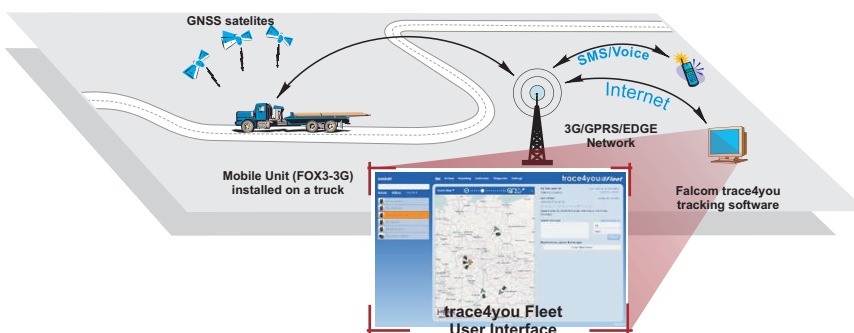
8 MB Flash (History / Firmware / Configuration)

## FOX3-3G EVALKIT CONTENT

EVALKIT provides all the necessary hardware, software and documentation (online) to effectively evaluate the FOX3-3G device. This plug & play starter kit consists of:

- |   |                                  |
|---|----------------------------------|
| 1 - FOX3-3G unit (pre-configured)                     | 8 - All PREMIUM features enabled |
| 2 - EVALBOARD + cable                                 | 9 - RS-232/RS-485 serial cable   |
| 3 - Backup battery                                    | 10 - Headset-uwT                 |
| 4 - CA68 + CA38 + CA69 installation cables            | 11 - Info-sheet                  |
| 5 - AC/DC Power adapter 12V-1A                        | 12 - trace4you server account    |
| 6 - UK/US Plug travel adapter                         | 13 - Pre-paid SIM card           |
| 7 - IOBOX-CAN (2 <sup>nd</sup> CAN interface + 8 IOs) | 14 - Technical support hotline   |

## trace4you evaluation platform (accessible via FALCOM Evaluation Kit)



## CONTACT

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