

# FOX3

most developed and advanced tracking and data logging system with all options in one product

## PRODUCT OVERVIEW

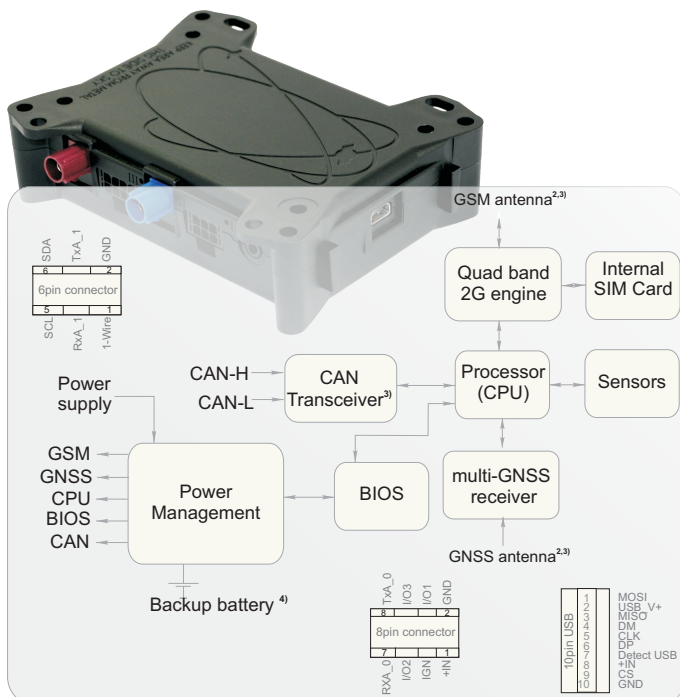
FOX3 is a compact, all-in-one device combining all features of the successful FOX-IN/EN family into one single unit. FOX3 is designed to operate with internal or external antennas. The built-in internal antennas are automatically turned off while external antennas are in use. This device will dramatically 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 is a configurable smart tracking / data logging device which can be fully adapted to user requirements.

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



## FOX3 BLOCK DIAGRAM



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

## PRODUCT HIGHLIGHTS

- State-of-the-art 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
- Passive / active RFID connectivity via RS-232
- 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>
- Internal GSM/GNSS antennas with connectors for optional external antennas<sup>3)</sup>
- Communication via USB 2.0 interface
- Support connection with Garmin devices
- E1/CE approved

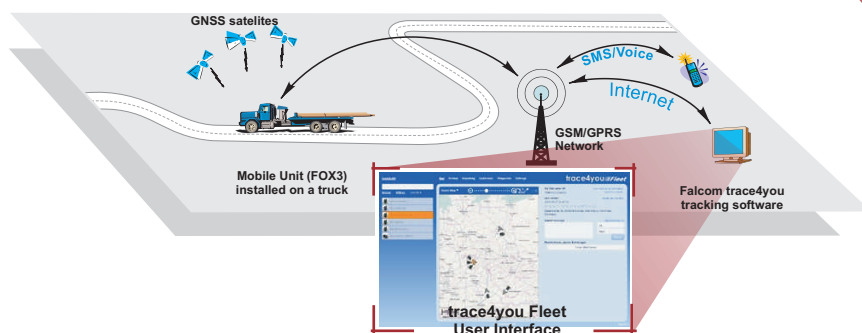
## FIRMWARE FEATURES

- 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
- Drivers Logbook / History / Trip management
- Intelligent and flexible configuration alarms
- RFID and 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)

## trace4you evaluation platform



## TECHNICAL SPECIFICATION

### General

Quad-Band	2G
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:	<b>GPS / GLONASS</b>
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
Internal 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 <sup>3)</sup> :	-40 °C to +85 °C
Battery <sup>4)</sup> discharging temp.:	-20 °C to +60 °C
Battery <sup>4)</sup> charging temp.:	0 °C to +45 °C

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

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

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

<sup>4)</sup> Applicable with backup battery

<sup>5)</sup> Hardware Premium Features: CAN-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

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 (1 x V.24 level; 1 x RS-232/RS-485 <sup>5)</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)5)</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)
---------------	--

### GSM / 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 PROMOTION KIT

PROMOTION KIT for FOX3/-3G devices provides all the necessary hardware, software, and access data to the online documentation and FALCOM trace4you server to easily and quickly evaluate these products and all their functionalities. This kit consists of:

- |  |  |
|--|--|
| 1 - FOX3 unit, pre-configured                  | 11 - AC/DC Power adapter 12V-1A  |
| 2 - PREMIUM-FEATURES (all activated)           | 12 - UK/US Plug travel adapter   |
| 3 - Control-Box                                | 13 - Instruction sheet   |
| 4 - Backup battery                             | 14 - Info-sheet with access data to online documentation and FALCOM trace4you server   |
| 5 - FAL-ANT-11 or FAL-ANT-12                   | 15 - Pre-paid SIM card. Service fee includes 10MB of data transfer and 3 months access to the trace4you server for evaluation purposes |
| 8 - USB to Serial Converter                    | 16 - 8 hours free technical support  |
| 9 - CA31 - Main port installation cable + UCOM |  |
| 10 - CA69 - Accessory port cable + UCOM        |  |

## CONTACT

FALCOM GmbH  
Gewerbering 6  
98704 Langwiesen  
GERMANY

Phone: +49 (0)3677 8042 0 (no support)  
Fax: +49 (0)3677 8042 256  
e-Mail: info1@falcom.de

Internet: <http://www.falcom.de/>



SARTELCO<sup>®</sup>  
SYSTEMI

systemi@sartelco.it  
[www.sartelco.it](http://www.sartelco.it)