

FALCOM, a storied M2M and IoT specialist from Germany, designs, manufactures and sells world-wide state-of-the-art devices, services and solutions ideally suited to numerous applications: fleet management, car sharing, usage-based insurance, asset and workforce tracking and security, precision farming.

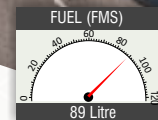
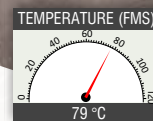
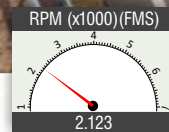


APPLICATION

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FOX3 (2G)



ADVANCED VEHICLE TELEMATICS AND DATA LOGGING SYSTEM WITH ALL OPTIONS IN ONE 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. 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, Eco-Drive/Behaviour, Data Logging, GSM/GPS jamming detection beside standard items like status reports, alerts messaging, audio call, spy calls or geofencing. There are two models of the FOX3 available: FOX3 standard and FOX3-LITE. Both models are expandable via IOBOX-MINI, IOBOX-CAN and IOBOX-BLE.

LOCATE AND CONTROL MOBILE ASSETS OF ANY KIND

KEY FEATURES

GSM/2G	GNSS	TCP	SMS/E-MAIL	LOGGING	MONITORING	SECURITY	ECO-DRIVE	INPUT/OUTPUT
CAN-FMS CAN-OBDII 2 x CAN BUS	AES-TCP	AUDIO	SPEED	DTCO D. TACHOGRAPH	REAL-TIME	ANTI-THEFT	DISTANCE	START-STOP
GEOFENCE	DIRECTION	CRASH Det.	ALERTS	BLE	1-WIRE	DRIVER-ID	RS-485	RS-232

General

Quad-Band 2G		
2G bands: 850/900/1800/1900 MHz		
Internet (TCP/UDP/HTTP/SMTP)		
Multi channel GNSS (GPS + Galileo/GLONASS ²⁾)		
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
 Internal Li-Polymer/Li-Ion 1000 mAh rechargeable battery¹⁾

¹⁾ Optional/Accessory
²⁾ Activation with PFAL-Command.
³⁾ The GSM/GPRS module is fully functional (-20 °C to + 55 °C meets the 3GPP specifications) .

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
 GSM³⁾: -40 °C to +85 °C
 Battery⁴⁾ charging temp.: 0 °C to +45 °C

Physical characteristics

Dimensions (LxWxH): 105 mm x 83 mm x 28 mm
 Weight: approx. 130 g

Air humidity

5% up to 95% non-condensing
Serial Data Rates
 Serial Ports: 4800...115200bps (default=115200 bps)

GSM / GNSS Antennas

Internal and external²⁾ with automatic/manual switch

Interfaces

- 3 x Digital/analog I/O 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-485²⁾³⁾)
- 1 x 10pin Mini-USB connector (for IOBOX-MINI¹⁾, IOBOX-CAN¹⁾ or IOBOX-BLE¹⁾)
- 1 x 1-Wire interface (incl. 5V Phantom Power)
- 1 x I²C interface
- 1 x 4pin audio jack interface (2.5mm)
- 1 x CAN-Bus Interface²⁾³⁾ (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

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)

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/CAN
 FALCOM PFAL programming language
 Passive/active RFID connectivity via RS-232

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

Real time online tracking
 Fleet management / monitoring
 Car sharing
 Waste management
 Public transportation

- Customizable firmware configuration
- Multi-function I/Os
- Optional battery back-up¹⁾
- Display connectivity (JAZZ2)
- Audio interface (SPK + MIC)
- Data-Logger functionality
- CAN/FMS, CAN-OBDDI interface³⁾
- 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

- Security / Emergency / Insurance services (UBI)
- Real time satellite navigation
- Territory management
- Route verification
- Trip management / distance calculations

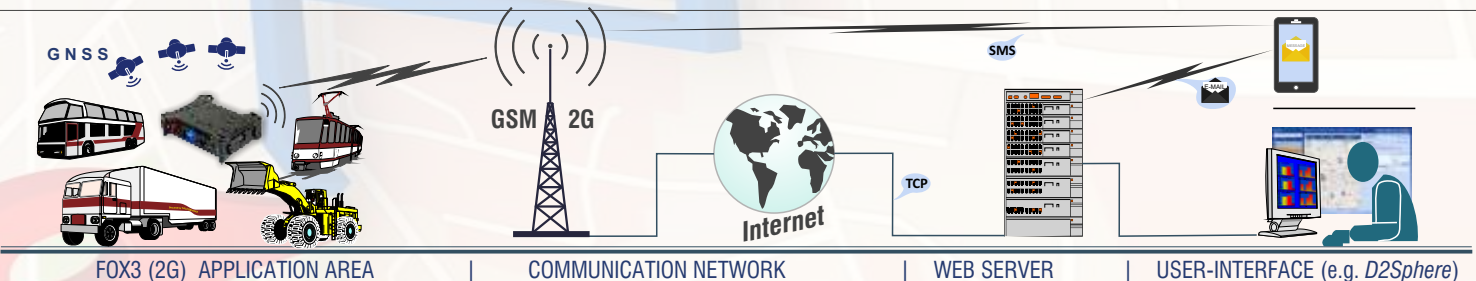
- Hardware expandable via IOBOX-MINI¹⁾, IOBOX-CAN¹⁾, IOBOX-BLE¹⁾
- Internal GSM/GNSS antennas with connectors for optional external antennas¹⁾
- Communication via USB 2.0 interface
- Support connection with Garmin devices
- E1/CE approved

- RFID and sensor-based application
- FALCOM PREMIUM feature supported
- Over-the air-access (OTA)

- Driving behaviour / Eco-Drive monitoring
- Toll collection / Pay-As-You-Drive (PAYD)
- Theft protection
- Compatible with *D2Sphere* server and configurable for using other TCP servers

PROMOTION KIT for FOX3-2G device provides all the necessary hardware, software, and access data to the online documentation and *D2Sphere* server to easily and quickly evaluate this product and all its functionalities. This kit consists of:

- | | | |
|---|--|--|
| 1 - FOX3 (2G) standard unit, pre-configured | 9 - CA31 - Main port installation cable + UCOM | 14 - Info-sheet with access data to online documentation and <i>D2Sphere</i> server |
| 2 - PREMIUM-FEATURES (all activated) | 10 - CA69 - Accessory port cable + UCOM | 15 - Pre-paid SIM card. Service fee includes 10MB of data transfer and 3 months access to the <i>D2Sphere</i> server for evaluation purposes |
| 3 - Control-Box | 11 - AC/DC Power adapter 12V-1A | 16 - 8 hours free technical support |
| 4 - Backup battery | 12 - UK/US Plug travel adapter | |
| 5 - FAL-ANT-11 | 13 - Instruction sheet | |
| 8 - USB to Serial Converter | | |



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