

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



FOX3-3G

OVERVIEW

ADVANCED VEHICLE TELEMATICS AND DATA LOGGING SYSTEM WITH HIGH SPEED DATA CONNECTION

FOX3-3G is a compact all-in-one device combining 2G/UMTS/HSPA+ high-speed data connection with the latest GNSS technology to completely satisfy customer's need. FOX3-3G 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-

3G is an advanced and fully customizable vehicle tracking device. FOX3-3G 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 four models of the FOX3-3G available: FOX3-3G standard, FOX3-3G-LITE, FOX3-3G-AUDIO and FOX3-3G-BTLE. All device models are expandable via IOBOX-MINI, IOBOX-CAN and IOBOX-BLE.

KEY FEATURES

LOCATE AND CONTROL MOBILE ASSETS OF ANY KIND

GSM/2G/3G/4G	GNSS	TCP	SMS/E-MAIL	LOGGING	MONITORING	SECURITY	ECO-DRIVE	INPUT/OUTPUT
CAN-FMS CAN-OBDSII 2 x CAN BUS	AES-TCP	AUDIO	SPEED	D. TACHOGRAPH	REAL-TIME	ANTI-THEFT	DISTANCE	START-STOP
GEOFENCE	DIRECTION	CRASH Det.	ALERTS	BLE	1-WIRE	RFID DRIVER-ID	RS-485	RS-232

General

3G bands: 900/2100 MHz (EU); 850/1900 MHz (US)	
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 battery ¹⁾

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 ³⁾ :	-40 °C to +85 °C
Battery ⁴⁾ 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...115200 bps (default=115200 bps)
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GSM / GNSS Antennas

Internal and external ²⁾ with automatic/manual switch
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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^{2b)})
- 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)⁶⁾
- 1 x CAN-Bus Interface^{2b)} (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)

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) .

⁴⁾ Applicable with backup battery

⁵⁾ Hardware Premium Features: CAN-interface, RS-485 port

⁶⁾ Storage and using conditions of the device with battery option are limited to the battery temperature range.

⁷⁾ FOX3-3G-AUDIO only

- 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/CAN
- FALCOM PFAL programming language
- Passive/active RFID connectivity via RS-232
- Customizable firmware configuration
- Multi-function I/Os
- Optional battery back-up¹⁾
- Display connectivity (JAZZZ2)
- Audio interface (SPK+MIC)
- Data-Logger functionality
- CAN/FMS, CAN-OBDDII interface⁵⁾
- Hardware expandable via IOBOX-MINI¹⁾, IOBOX-CAN¹⁾ or IOBOX-BLE¹⁾
- Internal GSM/GNSS antennas with connectors for optional external antennas¹⁾
- Communication via USB 2.0 interface
- Support connection with Garmin devices
- Certificates in preparation

- 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)

- Real time online tracking
- Fleet management / monitoring
- Car sharing
- Waste management
- Public transportation
- Security / Emergency / Insurance services (UBI)
- Real time satellite navigation
- Territory management
- Route verification
- Trip management / distance calculations
- 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 FOX3-3G 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:

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|---|--|---|
| 1 - FOX3-3G standard unit, pre-configured | 9 - CA31 - Main port installation cable + UCOM | 14 - Info-sheet with access data to online documentation and D2Sphere 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 D2Sphere 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-12 | 13 - Instruction sheet | |
| 8 - USB to Serial Converter | | |



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