



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 Series

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

OVERVIEW

FOX3-3G Series is a compact all-in-one device combining **HSPA+/2G high-speed data connection** with the latest **GNSS technology** to completely satisfy customer's need. It is a highly **customizable vehicle telematics device** and it offers a variety of inputs and outputs to satisfy the most demanding requirements. A box (**IOBOX-MINI, IOBOX-CAN or IOBOX-WLAN**) can be used to extend the functionality of the FOX3-3G Series for the most flexible expansion options in the industry. FOX3-3G Series 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 Series is an advanced and fully customizable vehicle tracking device. FOX3-3G Series 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.

KEY FEATURES

| | | | | | | | | |
|--------------------------------------|-----------|------------------------------|------------|------------------------|------------|-------------------|-----------|--------------|
| GSM/2G/3G | GNSS | TCP/UDP/HTTP | SMS/E-MAIL | LOGGING | MONITORING | SECURITY | ECO-DRIVE | INPUT/OUTPUT |
| CAN-FMS CAN-OBDDII 2 x CAN BUS | AES-TCP | GSM GPS Jamming detection | SPEED | DTCO D. TACHOGRAPH | REAL-TIME | ANTI-THEFT | DISTANCE | START-STOP |
| GEOFENCE | DIRECTION | CRASH Det. | ALERTS | Bluetooth Smart BLE | 1-WIRE | RFID DRIVER-ID | RS-485 | RS-232 |

General

| | | |
|---|------------|----------------|
| 3G bands: 800/850/900/1900/2100 MHz (global coverage) | | |
| 2G bands: 850/900/1800/1900 MHz | | |
| Internet (TCP/UDP/HTTP/SMTP) | | |
| Multi channel GNSS (GPS/Galileo/GLONASS/BeiDou) | | |
| 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 | |

GSM / GNSS Antennas

 Internal and external ²⁾ with automatic/manual switch

Electrical characteristics

 Power supply: +10,8 V to +32,0 V DC
 Internal 1000 mAh rechargeable battery¹⁾
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⁾ Discharging temp.: -20 °C to +60 °C
 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)

Interfaces

- 3 x Digital/analog IO ports (user-configurable)
- 1 x Predefined digital input (Ignition)
- 3 x LED indicators (user-configurable)
- 2 x RS-232 Ports (1xV.24 level; 1xRS-232/RS-485²⁾⁵⁾⁷⁾)
- 1 x 10pin Mini-USB connector (for IOBOX-MINI ¹⁾, IOBOX-CAN ¹⁾ or IOBOX-WLAN ¹⁾)
- 1 x 1-Wire interface (incl. 5V Phantom Power)⁷⁾
- 1 x I²C interface⁷⁾
- 1 x 4pin audio jack interface (2.5mm)⁶⁾
- 1 x CAN-Bus Interface²⁾⁵⁾ (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)

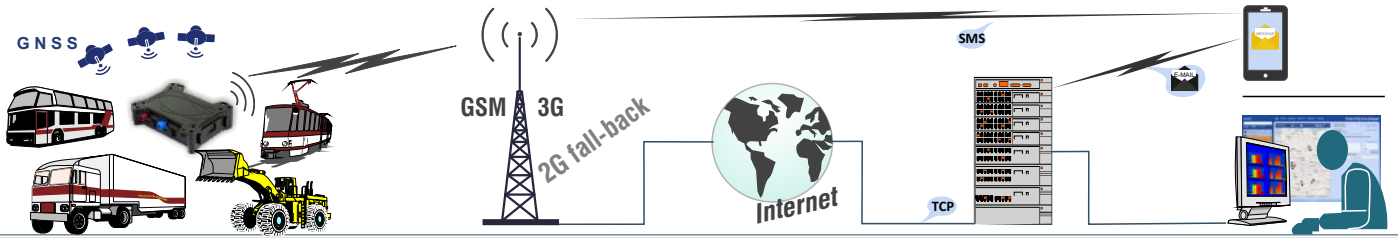
Processor core

- RTC⁷⁾
- 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) Available on FOX3-3G-AU only
 7) Not available on LITE model
 Storage and using conditions of the device with battery option are limited to the battery temperature range.

- 3000 programmable Geofences
- 2000 programmable Waypoints
- 250 programmable Alarms
- ECO-Drive-GPS functions
- Customizable firmware configuration
- Passive/active RFID based applications
- NFC based applications
- Internal GSM/GNSS antennas & connectors for optional external antennas¹⁾
- Hardware expandable via IOBOX-MINI¹⁾, IOBOX-CAN¹⁾ or IOBOX-WLAN¹⁾
- PROMOTION KIT providing all necessary hardware, software, documentation, SIM Card and 3 month access to the D2Sphere tracking platform including 8h technical training support
- D2SPHERE™ device management services to monitor, diagnose, control and update your FALCOM devices

- Real time online tracking
- Fleet management / monitoring
- Car sharing
- Waste management
- Theft protection
- Public transportation
- Real time satellite navigation
- Territory management
- Route verification
- Trip management/ distance calculations
- Driving behaviour / Eco-Drive monitoring
- Security / Emergency / Insurance services (UBI)
- Toll collection / Pay-As-You-Drive (PAYD)
- Compatible with D2SPHERE™ tracking platform and configurable for using other TCP servers



FOX3-3G APPLICATION AREA

COMMUNICATION NETWORK

WEB SERVER

USER-INTERFACE (e.g. D2SPHERE™)

| PRODUCT NAME | 4G ^{a)} BAND | 3G ^{b)} BAND | 2G BAND | CERTIFICATIONS | FEATURES | REGIONS |
|---------------------------|-----------------------|-------------------------|---------|-----------------------------------|---|---------------|
| FOX3 (2G) Std. | | | Quad | CE, E1 | Standard (with audio) | World |
| FOX3 (2G)-LITE | | | Quad | | No Audio, RTC, 1-Wire and 2 nd serial port | World |
| FOX3-3G Std. | | 1/2/5/8/19 | Quad | (CE,E1,ISED,FCC,BT) ^{e)} | Standard (no audio) | World |
| FOX3-3G-BLE | | 1/2/5/8/19 | Quad | | Bluetooth Low Energy | World |
| FOX3-3G-AU | | 1/2/5/8/19 | Quad | | Audio (Spk. + Micro.) | World |
| FOX3-3G-DR ^{d)} | | 1/2/5/8/19 | Quad | | Dead-Reckoning | World |
| FOX3-3G-BID ^{d)} | | 1/2/5/8/19 | Quad | | BlueID Technology | World |
| FOX3-3G-LITE | | 1/2/5/8/19 | Quad | | No RTC, 1-Wire and 2 nd serial port | World |
| FOX3-4G-NA | Cat 4: 2/4/5/7/17 | 1/2/4/8/5 ^{c)} | Quad | | CE,E1,ISED,FCC, Australia, (NZ) ^{f)} | North America |

^{a)} Cat 4 : 150 Mb/s DL, 50 Mb/s UL ^{b)} 5.76 Mb/s uplink, 7.2 Mb/s downlink ^{c)} 42 Mb/s downlink, 5.76 Mb/s uplink ^{d)} Planned for Q3/4 2017 ^{e)} Planned/In progress ^{f)} Pending

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