



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 (2G) Series

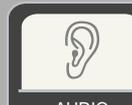
ADVANCED VEHICLE TELEMATICS AND DATA LOGGING SYSTEM WITH ALL OPTIONS IN ONE PRODUCT

OVERVIEW

FOX3 (2G) Series is a compact all-in-one device combining **2G 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** or **IOBOX-CAN**) can be used to extend the functionality of the FOX3 (2G) Series for the most flexible expansion options in the industry. FOX3 (2G) 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 (2G) Series is an advanced and fully customizable vehicle tracking device. FOX3 (2G) 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	 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	 AUDIO	 1-WIRE	 DRIVER-ID	 RS-485	 RS-232

General

Quad-Band 2G : 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 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⁾ 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)
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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-485 ²⁾⁵⁾⁶⁾)
1 x 10pin Mini-USB connector (for IOBOX-MINI ¹⁾ or IOBOX-CAN ¹⁾)
1 x 1-Wire interface (incl. 5V Phantom Power) ⁶⁾
1 x I ² C interface ⁶⁾
1 x 4pin audio jack interface (2.5mm) ⁶⁾
1 x CAN-Bus Interface ²⁾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 ⁶⁾
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) 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

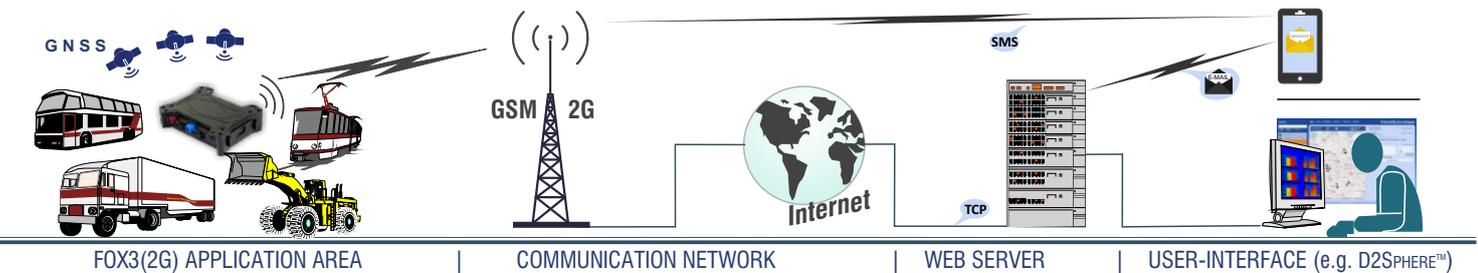
- Passive/active RFID based applications
- NFC based applications
- Internal GSM/GNSS antennas & connectors for optional external antennas¹⁾
- Hardware expandable via IOBOX-MINI¹⁾ or IOBOX-CAN¹⁾

- 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



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) ^{g)}	North America	4G North America, 3G & 2G World

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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