FALCOM

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.

FOX3(2G)

TACHO (FMS) 98,00 km/h	RPM (x1000)(FMS) 2.123	TEMPERATURE (FMS) 79 °C	FUEL (FMS) 89 Litre

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

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

GSM/2G	GNSS	TCP	SMS/E-MAIL	LOGGING	MONITORING	SECURITY	ECO-DRIVE	INPUT/OUTPUT
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	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
Sensitvity:	-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...115200bps (default=115200 bps)

GSM / GNSS Antennas

Internal and external [2] with automatic/manual switch

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 [2] [5])

1 x 10pin Mini-USB connector (for IOBOX-MINI [1], IOBOX-CAN [1] or IOBOX-BLE [1])

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 Interface[2] [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

RTC + Calendar

8 MB Flash(History / Firmware / Configuration

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

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/CAN

FALCOM PFAL programming language

Passive/active RFID connectivity via RS-232

- Customizable firmware configuration
- Multi-function I/Os
- Optional battery back-up[1]
- Display connectivity (JAZZ2)
- Audio interface (SPK+MIC)
- Data-Logger functionality
- CAN/FMS, CAN-OBDII interface [5]

- Hardware expandable via IOBOX-MINI [1], IOBOX-CAN [1], IOBOX-BLE [1]
- Internal GSM/GNSS antennas with connectors for optional external antennas[1]
- Communication via USB 2.0 interface
- Support connection with Garmin devices
- E1/CE approved

FIRMWARE

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
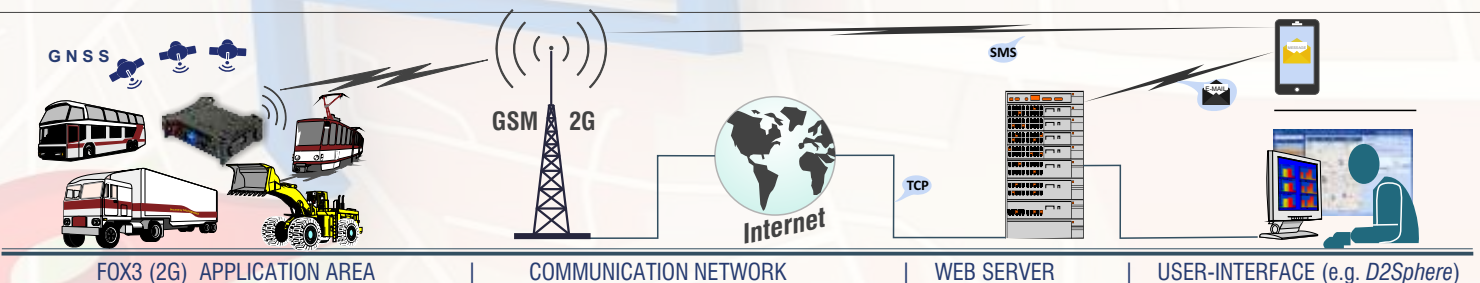- Over-the air-access (OTA)

APPS

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

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 ist functionalities. This kit consists of:

1 - FOX3 (2G) standard unit, pre-configured

2 - PREMIUM-FEATURES (all activated)

3 - Control-Box

4 - Backup battery

5 - FAL-ANT-11

8 - USB to Serial Converter

9 - CA31 - Main port installation cable + UCOM

10 - CA69 - Accessory port cable + UCOM

11 - AC/DC Power adapter 12V-1A

12 - UK/US Plug travel adapter

13 - Instruction sheet

14 - Info-sheet with access data to online documentation and *D2Sphere* server

15 - Pre-paid SIM card. Service fee includes 10MB of data transfer and 3 months access to the *D2Sphere* server for evaluation purposes

16 - 8 hours free technical support

D2Sphere SERVER

| FOX3 (2G) APPLICATION AREA | COMMUNICATION NETWORK | WEB SERVER | USER-INTERFACE (e.g. *D2Sphere*) |

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