FOX3 Series

Telematics Gateway

LANTRONIX **Connectivity Services**

ADVANCED LTE TELEMATICS DEVICE WITH GNSS

FOX3 is a compact, all-in-one cellular telematics gateway combining a rich connectivity choice with our powerful Edge intelligence. Now offered with Percepxion, our secure cloud platform that provides comprehensive device life cycle management, application integration and analytics through a single pane of glass. The FOX3 telematics gateway series is ideally suited to numerous applications, including fleet management, car-sharing, usage-based insurance, asset and workforce tracking and security, precision farming, and more.

The Complete Package to Successfully Deploy Your Telematics Projects

Many projects fail due to the lack of integration between hardware, connectivity from service providers, critical accessories such as antennas, and the lack of adaptation to the field. Lantronix provides a versatile telematics gateway that connects the featured scenarios, connectivity, advanced support, and a device management platform, Percepxion™; for device performance, location, and real-time notifications of critical events.

A Large Choice Of Hardware Interface To Connect Your Vehicle Globally

The FOX3 Series gateways are customizable, compact all-in-one devices combining cellular data connection with the latest GNSS technology and various inputs and outputs. Want to deploy in a complex industrial environment or urban canyon? The FOX3 is designed to operate with internal or external antennas and dead reckoning mode, which dramatically simplifies logistics, installation, and post-installation support.

Protect and Process in the Edge; Do Your Own Customization

Connect the FOX3 gateway to any telematics platform with powerful PFAL scripting language or the highly popular LUA. The FOX3 also supports MQTT, Azure, and REST API to ease your hardware integration and shorten your time to market.

Percepxion™ IoT Edge Solution Platform

Percepxion™ IoT Edge Solution is pre-installed in all telematics devices. This secure cloud platform provides comprehensive, ready-to-use device life cycle management, application integration and analytics through a single pane of glass.

Connectivity Services IoT Cellular Platform

Lantronix's cloud-based Connectivity Services platform allows users to activate, monitor and manage connectivity for all devices. The easy-to-use dashboard and analytics tools provide critical insights into connectivity solution operations. In addition, extensive diagnostics help troubleshoot any connectivity issues that may arise.

Perfect For

Fleet Management	Car-sharing	Commercial Vehicle
Asset & Workforce Tracking	Precision Farming	Logistics

FOX3 Highlights

- Send to the cloud only what you need with the FOX3 edge processing and local data storage to reduce your recurring cost and ensure the fastest response time from your device.

- Keep critical data safe from cyber-attacks using advanced encryption such as AES, SSL/TLS.

- Collect vehicle information such as tachograph (FMS), RPM (x1000), temperature, and fuel levels with high accuracy.

- Collect ID, buzz, magnetic detection, movement, and temperature using BLE sensors "approved by Lantronix" or bring your own.

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TECHNICAL SPECIFICATIONS

General
4G /3G / 2G bands: (refer to the table below)
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

Electrical Characteristics
Power supply: +10.8 V~ 60 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

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])
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)
1 x I²C interface
1 x 4pin audio jack interface (2.5mm)[6]
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
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.
   Storage and using conditions of the device with battery option are limited to the battery temperature range.
5) Hardware Features: CAN-interface.
6) Available on FOX3-3G-AU and FOX3-2G only.

OPTIONS

- 3000 programmable Geofences
- 2000 programmable Waypoints
- 250 programmable Alarms
- ECO-Drive-GPS functions
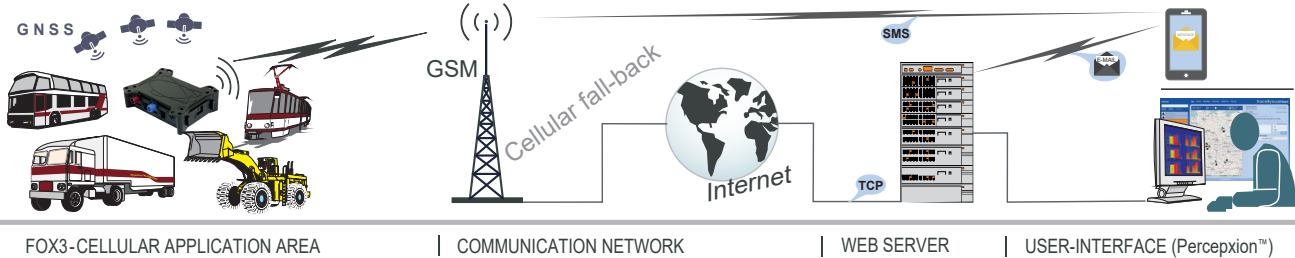- Customizable firmware configuration

- Passive/active RFID based applications
- NFC based applications
- Internal GSM/GNSS antennas & connectors for optional external antennas[1]
- Hardware expandable via IOBOX-MINI[1], IOBOX-CAN[1] or IOBOX-WLAN[1]

- PROMOTION KIT providing all necessary hardware, software, documentation, SIM Card and trial access to the Percepxion™ centralized management platform including 8h technical training support
- Percepxion device management platform to monitor, diagnose, control and update your devices

APPLICATION AREAS

- 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 behavior / Eco-Drive monitoring
- Security / Emergency / Insurance services (UBI)
- Toll collection / Pay-As-You-Drive (PAYD)
- Compatible with Percepxion centralized management and easily adaptable to other tracking servers

| FOX3-CELLULAR APPLICATION AREA | COMMUNICATION NETWORK | WEB SERVER | USER-INTERFACE (Percepxion™) |

AVAILABLE MODELS

Part Number	Description
F33H002S	FOX3 4G M1 FB - Worldwide - 4G CatM1/NB1 Bands 2, 3, 4, 5, 8, 12, 13, 20 -2G FB - GNSS - Accelerometer, int & ext ant - Mini Sim - 2 X RS232 - 3 I/O - I2C - RTC - 1 Wire - Mini USB - AVL Software
F33H007S	FOX3-4G-M1-Worldwide-4G CATM1/NB1 Bands Japan Version GNSS Accelerometer, INT/EXT ANT-MINI SIM-2 X RS232-3 I/O-I2C-RTC-1 Wire-Mini USB-AVL Software BAT-01 1000 MAH LI-ION Battery
F33H502S	FOX3-4G M1 FB Worldwide-4G Cat M1/NB1 Bands 2, 3, 4, 5, 8, 12, 13, 20-2g FB - GNSS - Accelerometer, Int/Ext Ant-Mini SIM-2 X RS-485-3 I/O-I2c-Rtc-1 Wire-Mini USB-AVL Software Bat-01 1000 Mah Li-Ion Battery
F33HGZ2S	FOX3 4G M1 FB BLE-WORLDWIDE-4G CATM1/NB1 BANDS 2, 3, 4, 5, 8, 12, 13, 20-2G FB - GNSS - Accelerometer, INT/EXT ANT-BT LE 4.1 -MINI SIM - 2 X RS232 -3 I/O - I2C - RTC - 1 WIRE - MINI USB - AVL SOFTWARE

Learn More at lantronix.com/fox3-series

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