

# FOX3 Series

Telematics Gateway



## ADVANCED TELEMATICS GATEWAY

Lantronix, Inc., a 30 year storied M2M and IoT specialist, designs, manufactures and sells worldwide 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, 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, ConsoleFlow™; for device performance, location and real-time notifications of critical events.

### A Large Choice Of Hardware Interface To Connect Your Vehicle Globally

FOX3 Series gateways are customizable, compact all-in-one devices combining cellular data connection with the latest GNSS technology, along with a variety of 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 as well as dead reckoning mode, which dramatically simplifies logistics, the installation process and the post-installation support.

### Protect and Process in the Edge; Do Your Own Customization

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

### ConsoleFlow™ Centralized Device Management Platform

Monitor, manage, and control your devices from anywhere, at any time with the ready-to-use software platform web application. The easy-to-use platform provides software-defined automation with zero-touch provisioning across all of your devices and the capture of device telemetry data for event management and analytics.

### Connectivity Services - IoT Cellular Platform

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

### Perfect For



### FOX3 Highlights

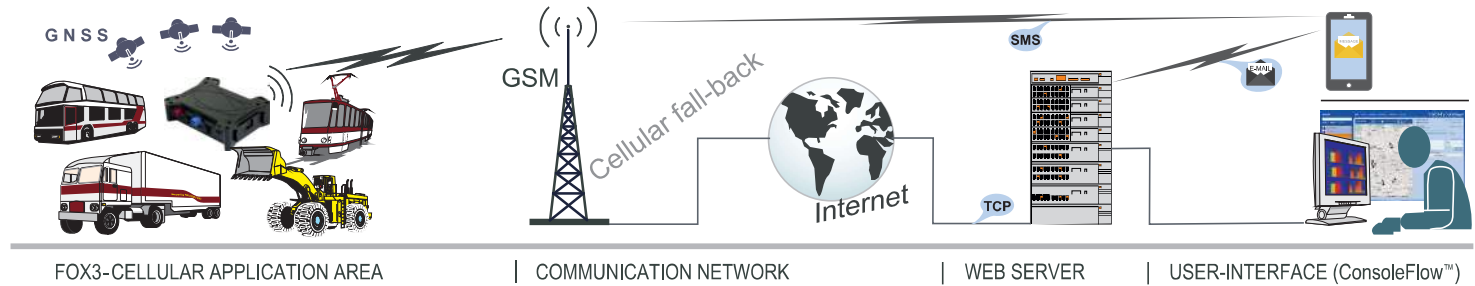
- Send to the cloud only what you need with the FOX3 edge processing and local data storage to reduce your recurring cost and ensure the fastest response time from your device.
- Keep critical data safe from cyber attack by using advanced encryption such as AES, SSL/TLS.
- Collect vehicle information such as tachograph (FMS), RPM (x1000), temperature, fuel level, with high accuracy using Lantronix "Premium Features."
- Collect ID, buzz, magnetic detection, movement, temperature, using BLE sensors "approved by Lantronix" or bring your own.

<b>General</b>		<b>Electrical Characteristics</b>		<b>Interfaces</b>	
4G /3G / 2G bands: (refer to the table below)		Power supply: +10.8 V~ 60 V DC		3 x Digital/analog IO ports (user-configurable)	
Internet (TCP/UDP/HTTP/SMTP)		Internal 1000 mAh rechargeable battery <sup>1)</sup>		1 x Predefined digital input (Ignition)	
Multi channel GNSS		<b>Average Power Consumption</b>		3 x LED indicators (user-configurable)	
(GPS/Galileo/GLONASS/BeiDou)		Normal operation: 50mA @ 12 VDC		2 x RS-232 Ports (1xV.24 level;1xRS-232/RS-485 <sup>2)5)</sup> )	
A-GPS (online / offline / autonomous)		Sleep mode: < 1mA @ 12 VDC		1 x 10pin Mini-USB connector (for IOBOX-MINI <sup>1)</sup> , IOBOX-CAN <sup>1)</sup> or IOBOX-WLAN <sup>1)</sup> )	
Protocols: NMEA, FALCOM (binary)		<b>Environmental Data</b>		1 x 1-Wire interface (incl. 5V Phantom Power)	
Accuracy:	<b>GPS</b> <b>GLONASS</b>	Operating temp.: -40°C to +85°C		1 x I <sup>2</sup> C interface	
Position:	2.5 m      4.0 m	Storage temp.: -40°C to +85°C		1 x 4pin audio jack interface (2.5mm) <sup>6)</sup>	
Acquisition / Sensitivity:		GSM <sup>3)</sup> : -40°C to +85°C		1 x CAN-Bus Interface <sup>2)5)</sup> (uses 2 of 3 I/Os)	
Cold Start:	29 s      30 s	Battery <sup>4)</sup> Discharging temp.: -20°C to +60°C		1 x Inside SIM card holder for 1,8/3 V SIM cards	
Tracking:	-161 dBm      -158 dBm	Charging temp.: 0°C to +45°C		1 x USB 2.0 interface	
Sensitivity:	-148 dBm      -145 dBm	<b>Physical Characteristics</b>		<b>Sensor / Measurement Range</b>	
GPS Operational limits:		Dimensions (LxWxH): 105 mm x 83 mm x 28 mm		3-axis Acceleration/Temperature	
Velocity:	500 m/s (972 knots)			- 3DG: ± 8g (programmable)	
Altitude:	50.000 m			- Temperature: - 50 to + 120°C (programmable)	
Update rate:	1 Hz			<b>Processor Core</b>	
<b>GSM / GNSS Antennas</b>				RTC	
Internal and external <sup>2)</sup> with automatic/manual				8 MB Flash (History / Firmware / Configuration)	

1) Optional / Accessory.      2) The GSM/GPRS module is fully functional (-20°C to + 55°C meets the 3GPP specifications).      3) Hardware Premium Features: CAN-interface.  
 2) Activation with PFAL-Command.      4) Applicable with backup battery. Storage and using conditions of the device with battery option are limited to the battery temperature range.      5) Available on FOX3-3G-AU and FOX3-2G only.  
 6) Available on FOX3-3G-AU and FOX3-2G only.

- 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<sup>1)</sup>
- Hardware expandable via IOBOX-MINI<sup>1)</sup>, IOBOX-CAN<sup>1)</sup> or IOBOX-WLAN<sup>1)</sup>
- PROMOTION KIT providing all necessary hardware, software, documentation, SIM Card and trial access to the ConsoleFlow™ centralized management platform including 8h technical training support
- ConsoleFlow device management platform to monitor, diagnose, control and update your 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 ConsoleFlow centralized management and easily adaptable to other tracking servers



MODEL NAME	GEOGRAPHICAL AREA	CELLULAR TYPE <sup>1</sup>	BANDS <sup>2</sup>	FALLBACK MODE(S) <sup>1</sup>	BANDS <sup>2</sup>	SPECIAL FEATURE	CERTIFICATIONS <sup>3</sup>			FCS <sup>4</sup>	ORDER CODE
							COMPLETED	IN PROGRESS	UNDER CONSIDERATION		
FOX3-3G	World <sup>5</sup>	3G <sup>1)</sup>	5/8/2/1	2G <sup>2)</sup>	5/8/3/2	×	E-Mark   CE; ISED; FCC	ISO 7637-2:2011 <sup>7</sup> ISO 21848:2005 <sup>8</sup>		Jun. '15	F35H00FS
FOX3-3G-AU						Audio					F35H01FS
FOX3-3G-DR						Dead Reckoning					F35R00FS
FOX3-3G-BLE						Bluetooth <sup>9</sup> 4.0 <sup>6</sup>					F35HGZFS
FOX3-M1	World	LTE-M1	12 <sup>2)</sup> /28/13/20/26/8/3/4/2	2G <sup>3)</sup>	8/3	×	E-Mark   CE; ISED; FCC		Oct. '19	F33H002S	
FOX3-M1-BLE						Bluetooth <sup>9</sup> 4.0 <sup>6</sup>				F33HGZ2S	
FOX3-C1	EMEA	LTE cat. 1	20/3/7	3G <sup>4)</sup> 2G <sup>4)</sup>	5/8/4/2/1 5/8/3/2	×	E-Mark   CE		Nov. '17	F38H002S	
FOX3-C4	The Americas	LTE cat. 4	17/5/4/2/7							E-Mark   CE; ISED; FCC	Mar. '17

Please consult us regarding the models or features shown in grey, which are subject to MOQ and other considerations.

<sup>1</sup> Uplink / Downlink maximum data rates  
 - 2G: (A1) 42<sup>5</sup> / 85<sup>5</sup>; or (A2) 236<sup>6</sup> / 236<sup>6</sup>; or (A3) 236<sup>6</sup> / 296 kbps  
 - 3G: (A1) 5<sup>7</sup> / 7<sup>7</sup>; or (A2) 5<sup>7</sup> / 42<sup>2</sup> Mbps  
 - LTE-M1 (NB1): 375 / 300 [31<sup>25</sup> / 27<sup>2</sup>] kbps  
 - LTE cat. 1: 5<sup>7</sup> / 10<sup>3</sup> Mbps  
 - LTE cat. 4: 50 / 150 Mbps

<sup>2</sup> Ranked by increasing frequencies  
<sup>3</sup> incl. NTT docomo's B19, itself incl. Japan's B6  
<sup>4</sup> incl. North America's B17  
<sup>5</sup> incl. KDDI's B18 as well as North America's B5 - cf. note<sup>8</sup>  
<sup>6</sup> Not available on the European model, American model only

<sup>7</sup> Please consult us, should any other certification be required  
<sup>8</sup> First customer shipment [date of]  
<sup>9</sup> A special software build is available for NTT docomo  
<sup>6</sup> Please consult us for a BLE/ID variant  
<sup>7</sup> By the Bluetooth<sup>9</sup> Special Interest Group ("SIG")  
<sup>8</sup> And even more stringent ISO 7637-2:2004, @12 V and @24 V, by TÜV  
<sup>9</sup> @48 V, by QuieTek