

FOX5 – Edge-Powered Telematics



SECURE INTELLIGENT TELEMATIC GATEWAY



FOX5 gateways combined with Perception™ software elevate vehicle telematics to the next level with high-performance connectivity, edge intelligence, and fleet management built for scale. By processing data locally, enforcing end-to-end security, and automating provisioning, this unified solution cuts deployment time and powers major gains in operational efficiency.



Accelerated Deployment – supporting CAN, RS-232, RS-485, 1-Wire, plus Bluetooth sensor integration.



Accurate Tracking – advanced GNSS and dead reckoning for dependable precision where conditions are toughest.



Edge Intelligence – executing local filtering, data normalization, and processing to cut data usage costs and maintain integrity.



Enhanced Security – Secure boot and TLS 1.3 to protect critical vehicle and telemetry data.



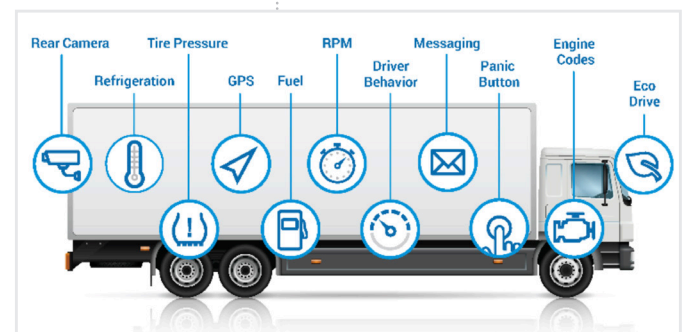
Simplified Management – powered by Perception's zero-touch provisioning and real-time monitoring.

Markets:



Feature highlights

- Highly optimized internal antenna for superior RF performance
- 4G LTE Cat 1 bis global connectivity
- Highly accurate positioning with advanced GNSS and dead reckoning
- 32/64 MB RAM/Flash for edge intelligence programming
- Cryptographic co-processor
- Programmable I/Os & LEDs
- Internal and external antenna options
- BLE 5.4 for peripheral & sensor connectivity



Specifications

Model	F54R000S	F54R00FS
Cellular		
Cellular technology	4G LTE Cat 1 bis	4G LTE Cat 1 bis
Cellular band support	B2,4,5,12,13,14,66	B1,2,3,4,5,7,8,12,13,18,19,20,25,26,28,66,34,38,39,40,41
Certifications	FCC, IC, PTCRB, AT&T, UL	CE, UKCA, PSTI, CB, E-Mark, Telec
Multi-Channel GNSS		
Dead Reckoning	Yes	Yes
A-GPS (online/offline/autonomous)	Yes	Yes
Accuracy	GPS	GLONASS
GPS	1.5m	1.5m
Acquisition / Sensitivity	GPS	GLONASS
Cold Start	<32s	<32s
Tracking	-162 dBm	-162 dBm
Sensitivity	-145 dBm	-145 dBm
GPS Operational Limits	GPS	GLONASS
Velocity	515 m/s	515 m/s
Altitude	18,000 m	18,000 m
Update Rate	10 Hz	10 Hz
Antennas	Internal & External w/ automatic/manual switch	Internal & External w/ automatic/manual switch
Input Power	+10.8 V – 60 V DC	+10.8 V – 60 V DC
Battery	Internal 1000 mAh rechargeable battery	Internal 1000 mAh rechargeable battery
Power Consumption		
Normal Operation	60 mA @ 12 VDC	60 mA @ 12 VDC
Sleep Mode	<2.2 mA @ 12 VDC	<2.2 mA @ 12 VDC
Environmental Data		
Operating Temperature	-30°C to +85°C	-30°C to +85°C
Storage Temperature	-30°C to +85°C	-30°C to +85°C
Cellular Temperature	-30°C to +85°C	0°C to +45°C
Battery Discharging Temperature	-20°C to +60°C	-20°C to +60°C
Charging Temperature	0°C to +45°C	0°C to +45°C
Interfaces		
Configurable Digital/ Analog I/O	3	3
Pre-defined Digital Input	1 (Ignition)	1 (Ignition)
Programmable LEDs	3	3
Serial Ports	1x RS-485 & 1x RS-232 or 2x RS-232	1x RS-485 & 1x RS-232 or 2x RS-232
1-Wire	1	1
CAN-bus	1	1
USB 2.0	1	1
10-pin Mini-USB	Yes, for IOBOX accessories	Yes, for IOBOX accessories
Sensor		
Accelerometer	Yes	Yes
3DG	± 8g (programmable)	± 8g (programmable)
SIM Card	2x Nano-SIM Holder	2x Nano-SIM Holder
Security		
Cryptographic co-processor	Yes	Yes
Secure Boot	Yes	Yes
Bluetooth	BLE 5.4	BLE 5.4

Model	F54R000S	F54R00FS
System Feature		
RAM / Flash	32 MB / 64 MB	32 MB / 64 MB
Real-time Clock	Yes	Yes
Edge Programming	LUA Scripts & PFAL Programming Language	LUA Scripts & PFAL Programming Language
Protocols		
Modbus	Yes	Yes
CAN	Yes	Yes
1-Wire	Yes	Yes
J1939	Yes	Yes
MQTT	Yes	Yes
TCP/UDP	Yes	Yes
HTTP	Yes	Yes
SMTP	Yes	Yes
Software Features		
Programmable Geofences	3000	3000
Programmable Waypoints	2000	2000
Programmable Alarms	200	200
Device Management	Lantronix PercepXion™	Lantronix PercepXion™
Warranty	2-Year Limited	2-Year Limited

Ordering Information

Region	Part Number
North America	F54R000S
Rest of World	F54R00FS

Accessories

Model	Description
60100	IOBOX-MINI: I/O Port Extender, 13 Additional I/Os
60149	IOBOX-CAN: CAN-Bus and I/O Extender. Additional CAN Interface, DB Interface & 8 I/Os
60338	1.5m 8-pin Open-Ended Installation Cable with 2A Blade Fuse
60036	1.5m 8-pin Open-Ended Installation Cable
60039	1.5m 6-pin Open-Ended Installation Cable
60347	1.5m 16-pin Open-Ended Installation Cable for IOBOX-MINI and IOBOX-CAN
60286	1.5m OBDII Installation Cable with Ignition Wire

©2026 Lantronix, Inc. Lantronix is a registered trademark of Lantronix, Inc. PercepXion is a trademark of Lantronix, Inc. All other trademarks are the property of their respective owners. Specifications subject to change without notice. All rights reserved. MPB-0336 Rev A

[Learn more at lantronix.com/vehicle-telematics](https://www.lantronix.com/vehicle-telematics)