

FOX5 – Edge-to-Cloud Made Simple



SECURE INTELLIGENT SERIAL GATEWAY



FOX5 unlocks visibility and control for assets once constrained by cost and integration hurdles, seamlessly transforming data from generators, HVAC systems, fuel tanks, air compressors, and other vital equipment into actionable insights that drive smarter decisions. When integrated with Lantronix PercepXion™ software, it delivers effortless device management with true zero-touch provisioning, accelerating deployment while slashing operational complexity and boosting efficiency.



Simplified IoT Solution – Hardware, connectivity, and PercepXion™ for centralized monitoring and accelerated deployment.



Flexible Integration – Native fieldbus, MQTT, and hardware interfaces power fast, direct connectivity to the cloud.



Reliable Connectivity – Cellular 4G LTE and enhanced GNSS for remote monitoring and location-based services.



Edge Intelligence – Local tag data normalization with report-by-exception cuts latency and cellular cost.



Engineered for Harsh Environments – Reliable in industrial or urban settings with internal and external antennas.

Feature highlights

- Highly optimized internal antenna for superior RF performance
- 4G LTE Cat 1 bis global connectivity
- RS-485 interface and serial industrial protocols, Modbus, CAN, BACNet
- 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
- Integrated GNSS for highly accurate positioning

Markets:



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 AT&T FirstNet		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	GLONASS
GPS	1.5m	1.5m	1.5m	1.5m
Acquisition / Sensitivity	GPS	GLONASS	GPS	GLONASS
Cold Start	<32s	<32s	<32s	<32s
Tracking	-162 dBm	-162 dBm	-162 dBm	-162 dBm
Sensitivity	-145 dBm	-145 dBm	-145 dBm	-145 dBm
GPS Operational Limits	GPS	GLONASS	GPS	GLONASS
Velocity	515 m/s	515 m/s	515 m/s	515 m/s
Altitude	18,000 m	18,000 m	18,000 m	18,000 m
Update Rate	10 Hz	10 Hz	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		-30°C to +85°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

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