

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 | 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, D8 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-00335 Rev A

Learn more at lantronix.com/critical-asset-monitoring