



xPico[®] 250

Embedded Wi-Fi + Bluetooth IoT Gateway



THE BEST-IN-CLASS EMBEDDED SOLUTION FOR MANAGED INDUSTRIAL WIRELESS CONNECTIVITY

Highly Integrated Wi-Fi in a Compact Design

Dual-band Wi-Fi, Enterprise Wi-Fi security and robust wireless connectivity management deliver higher performance and scalable deployment within noisy industrial and enterprise settings. The xPico 250 embedded IoT gateway makes it easy to deploy robust Ethernet, Wi-Fi, and Bluetooth connectivity without writing complex drivers. The industry-leading compact SMT footprint of the xPico 250 allows it to fit it into any design and operate in extreme environments.

Robust Connectivity for Reliable Data Access and Management

Simplify embedded application development and go to market faster with the xPico 250 gateway's built-in network communications engine and flexible system integration modes. Completely offload IoT communications from your embedded microcontroller when operating as a network co-processor or use it as a wireless microcontroller with the provided SDK.

Field-tested TruPort[®] Serial supports transparent pass-through of hundreds of proprietary serial and standard Fieldbus protocols and TruPort[®] Socket enables complete control over multiple connections via TCP, UDP or TLS. Configure and control the gateway operation from the host microcontroller side using command mode or the network side with Web Service APIs and XML configuration data.

Comprehensive Device Security Framework

The xPico 250 embedded IoT gateway includes a comprehensive suite of built-in device security applications that offer robust and secure connections, data-at-rest protection for keys, configuration, secure boot and secure firmware-over-the-air (FOTA) updates, user role-based access control and fine-grained policy-based network service control.

Build End-to-End Applications Quickly with the MACH10™ Platform

Add scalable remote device management and data access from your machines via pre-integrated MACH10™ IoT software components. Provision xPico 250 gateways and connected machines with mobile apps for iOS and Android.

xPico[®] 250 Key Benefits



Faster Time to Market



Enterprise-Grade Security



Robust Data Handling



Highest Integration

xPico[®] 250 Highlights

- Dual-band Wi-Fi (802.11 a/b/g/n) and Ethernet
- Enterprise Wi-Fi Security (EAP/802.1X)
- Dual-mode Bluetooth Classic and Bluetooth Low Energy (BLE)
- Automatic network connection management
- Concurrent Soft AP + client mode for direct wireless service access without disrupting machine field operations
- Enables operation as network co-processor or wireless MCU
- Device Management via Lantronix Gateway Central™
- Pre-integration with MACH10™ IoT platform
- Global Certification (FCC, IC, ETSI, Japan, AU/NZS, China)
- Industrial-grade design for operation in extreme environments (-40 C to +85 C)



Features and Specifications

Network

Wireless LAN Specifications

- IEEE 802.11 a/b/g up to 54 Mbps; 802.11 n (1x1) up to 150 Mbps
- 20 and 40 MHz channel width with optional SGI
- Dual Band 2.4 GHz and 5 GHz, Channels 1-13, UNII-1, 2a, 2e and 3
- Supports IEEE 802.11 d/h/i
- Bluetooth/WLAN Coexistence

Ethernet Specifications

- IEEE 802.3 MAC, 10BaseT and 100BaseT (RMII)

Bluetooth Specifications

- Compliant to Bluetooth Core Specification version 4.2 (BR/EDR/ BLE)
- BLE Central and Peripheral Roles
- Support for Generic Access Profile (GAP), Generic Attribute Profile (GATT), Device ID Profile

Data Communication

- TruPort[®] Serial Technology— TCP and UDP Server Mode, TCP and UDP Client Mode, Multi-host Connect; TLS Client and Server
- TruPort[®] Socket— Multi-host Client and Server Modes, HTTP(S), Sockets, TLS
- Authenticated SMTP Support— Send email directly from device

Security and Authentication

- TruPort[®] Security Software
 - Secure Boot, Secure Firmware-Over-the-Air (FOTA) Updates
 - Secure Key Storage, Encrypted Configuration
 - Secure Connections with SSL/TLS, HTTPS
 - Software Controlled Network Service Ports Enable/Disable
 - Role Based Access Control
- AES/CCMP and TKIP encryption, WPA/WPA2 Personal
- WPA2 Enterprise (EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST)
- SSLv3/TLS 1.2 with PKI and X.509 Certificates (up to 4096-bit Keys)
- AES Algorithm, 256-bit, 192-bit, 128-bit

Management Interfaces

- Lantronix MACH10™ IoT Software Platform, REST, MQTT
- Lantronix Discovery Protocol (77FE)
- Serial Port, Internal Web Server (HTTP/HTTPS)
- XML Configuration and XML Status (CLI, API)
- Secure Firmware Upgrade via HTTP, MACH10 Gateway Manager
- Remote management with Lantronix Gateway Central™

Protocol Support

- DHCP Client, Server (Soft AP), HTTP Server/Client
- IPv4, TCP/IP, UDP/IP, ARP, ICMP, Auto-IP, DNS

Wireless Features

- Concurrent Soft AP + STA (Client), Client, Soft AP
- Up to 6 simultaneous client connections to Soft AP interface
 - Up to 4 in Concurrent Mode
- Connect to multiple WLAN networks, WLAN QuickConnect
- Ethernet to Wi-Fi Client Bridge (Single Host Mode), Auto-MAC ID

Power

- Input Voltage: 3.3VDC
- Max Current Consumption (Boot Peak): 600 mA

Operating Conditions

- Operating Temp: -40°C to +85°C; Storage Temp: -40°C to +100°C
- Vibration (Operational): 40G; Non-operational Shock: 65G
- Storage Humidity: 5% to 85% relative humidity, non-condensing

Host Interfaces

- Serial: UART Port TTL
 - Data Rates: 9600 bps to 4 Mbps (software selectable)
 - Control signals: DTR/DCD; Flow Control: RTS/CTS; XON/XOFF
- USB (Host)
- 12 Programmable I/O Pins
- System Pins: RESET, DEFAULT, WAKE

Dimensions & Packaging

- Dimensions: 17mm x 25mm x 2mm (LGA); 22mm x 35.5mm x 2.73 mm (Edge Card)
- For LGA: Tape and Reel, MSL3
- For Edge Connector: Tray

Certifications & Compliance

- Type Approvals: USA (FCC Part 15), Canada (IC RSS), EU (RED), Japan (MIC), China (SRRC), AU/NZS
- Safety: IEC 62368, EN 62368, EN 62311, UL 60950
- RoHS, REACH

Warranty

- 5-Year Limited

Related Products

- XPC250300EK - xPico 250 Embedded Gateway, Evaluation Kit, Wi-Fi, Bluetooth + Ethernet

xPico 250 Series is Ideal for :



Industrial Automation



Medical Devices



Responsive Retail



Resource Management

Product Variants

Part Number	Description
XPC2501	xPico 250 Embedded Gateway, Wi-Fi, Ethernet, Bluetooth, Dual u.fl Antenna, LGA
XPC2503	xPico 250 Embedded Gateway, Wi-Fi, Ethernet, Bluetooth, Dual u.fl Antenna, Edge Connector

Learn More About xPico 250

For contact information, go to:

www.lantronix.com

For product details, please see:

[xPico 250 Documentation](#)

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