xPico® 600

Wi-Fi® 6 and Bluetooth® Low Energy 5.4 Embedded IoT Gateway

THE APEX OF INDUSTRIAL WI-FI

LANTRONIX PERCEPXION

High-performance Wi-Fi, Ethernet and Bluetooth Connectivity

The xPico® 600 gateway delivers dual-band 802.11ax Wi-Fi connectivity management and enterprise security for optimal device performance and communication within noisy industrial settings. In addition to high-performance Wi-Fi, the compact xPico 600 embedded gateway simplifies the deployment of robust Ethernet, Bluetooth and Bluetooth Low Energy (BLE) connectivity without writing complex drivers. Its industry-leading compact SMT footprint fits it into any design and can operate in extreme environments.

Intelligent Networking and Advanced IoT Communication Engine

Simplify embedded application development and accelerate time to market with the xPico 600 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 technology supports transparent pass-through of hundreds of proprietary serial and standard Fieldbus protocols and TruPort® Socket technology 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.

Lantronix InfiniShield™ Security - Comprehensive Device Security Framework

The xPico 600 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.

Centralized Device Management Platform

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

xPico® 600 Key Benefits

- Faster Time to Market
- Industrial-grade Security
- Robust Data Handling
- Highest Integration

xPico® 600 Highlights

- Dual-band Wi-Fi 6 (802.11ax) and Ethernet
- Enterprise Wi-Fi Security (EAP/802.1X)
- Bluetooth Low Energy (BLE) 5.4
- 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
- Pre-integrated with the Lantronix Percepxion™ cloud-based IoT edge solution
- Approvals/Compliance: USA, Canada, EU, Japan, Taiwan, China, India
- Industrial-grade design for operation in extreme environments (-40°C to +85°C)

LANTRONIX®

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Features and Specifications

Network

Wireless LAN Specifications

- 1x1, 20 MHz channel, 2.4 GHz / 5 GHz Wi-Fi (IEEE 802.11 a/b/g/n/ac/ax)
- Dual Band 2.4 GHz and 5 GHz
- Supports IEEE 802.11 d/h/i

Ethernet Specifications

- Integrated 10/100BASE-T Ethernet PHY
- External magnetics needed
- Support for auto-negotiation, link detection, and WOL network wake-up
- Dual LED pins

Bluetooth Specifications

- Two separate antennas allowing simultaneous independent operation of the Wi-Fi and BLE radios
- Compliant to Bluetooth Core Specification version 5.4 (BLE)
- BLE Central and Peripheral Roles
- Support for Generic Access Profile (GAP), Generic Attribute Profile (GATT)

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
- Modbus TCP to Modbus RTU/ASC11 gateway

Security and Authentication

- InfiniShield™ 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
- WPA3 Enterprise (EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST)
- SSLv3/TLS 1.3 with PKI and X.509 Certificates (up to 4096-bit Keys)
- AES Algorithm, 256-bit, 192-bit, 128-bit
- Wi-Fi Direct Connection Support

Management Interfaces

- Percepxion™ Software Management Platform
- Lantronix Discovery Protocol (77FE)
- Serial Port, Internal Web Server (HTTP/HTTPS)
- XML Configuration and XML Status (CLI, API)
- Secure Firmware Upgrade via HTTP

Protocol Support

- DHCP Client, Server (Soft AP), HTTP Server/Client
- IPv4, TCP/IP, UDP/IP, ARP, ICMP, Auto-IP, DNS
- SNMP v1/v2
- IPv6

Wireless Features

- Concurrent Soft AP + STA (Client), Client, Soft AP
- Support simultaneous client connections in Soft AP mode
- Connect to multiple WLAN networks, WLAN QuickConnect
- Ethernet to Wi-Fi Client Bridge (Single Host Mode), Auto-MAC ID
- 802.11r fast roaming

Operating Conditions

- Operating Temp: -40°C to +85°C; Storage Temp: -40°C to + 85°C
- Vibration (Operational): 40G; Non-operational Shock: 65G
- Storage Humidity: 10% 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

For M.2 form factor:

- 3030 E-Key
- Shipping on tray

For LGA:

- 18 x 28.5 x 3.15 mm
- Tape and Reel MSL3

Certifications & Compliance (Planned for Product Release)

- USA, Canada, EU, Japan, Taiwan, China, India
- Safety: EN/IEC 62368-1, EN 62311, UL/EN/IEC 60950-1
- RoHS, REACH

Warranty

- 5-Year Limited

Part Number	Description
XPC600100EK	XPICO600, EMB. WIRELESS GATEWAY, EVAL KIT, WITH M.2 3030 INCLUDED, WI-FI6, BT/BLE 5.4, DUAL U.FL ANTENNA, FAST ETHERNET, SERIAL, USB, I2C, SPI, SDIO, GPIO
XPC600100P	XPICO600, EMB. WIRELESS GATEWAY, LGA, SAMPLE, WI-FI6, BT/BLE 5.4, DUAL U.FL ANTENNA, FAST ETHERNET, SERIAL, USB, I2C, SPI, SDIO, GPIO
XPC600300P	XPICO600, EMB. WIRELESS GATEWAY, M.2 3030, SAMPLE, WI-FI6, BT/BLE 5.4, DUAL U.FL ANTENNA, FAST ETHERNET, SERIAL, USB, I2C, SPI, SDIO, GPIO
XPC600100S	XPICO600, EMB. WIRELESS GATEWAY, LGA, T&R 500, WI-FI6, BT/BLE 5.4, DUAL U.FL ANTENNA, FAST ETHERNET, SERIAL, USB, I2C, SPI, SDIO, GPIO
XPC600300S	XPICO600, EMB. WIRELESS GATEWAY, M.2 3030, TRAY, WI-FI6, BT/BLE 5.4, DUAL U.FL ANTENNA, FAST ETHERNET, SERIAL, USB, I2C, SPI, SDIO, GPIO

xPico 600 is Ideal for :

Industrial Automation

Medical Devices

Responsive Retail

Resource Management

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Learn More at lantronix.com/xpico600