
**Welcome to E-XFL.COM**

**Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules**

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

**Applications of Embedded - Microcontroller,**

| **Details** | |
|---|---|
| Product Status | Active |
| Module/Board Type | MPU Core |
| Core Processor | DSTni-EX |
| Co-Processor | XPort AR |
| Speed | 25MHz |
| Flash Size | 512KB |
| RAM Size | 256KB |
| Connector Type | RJ45 |
| Size / Dimension | 0.57" x 0.72" (14.5mm x 18.3mm) |
| Operating Temperature | -40°C ~ 85°C |
| Purchase URL | https://www.e-xfl.com/product-detail/maestro-wireless/xp1001000m-05r |

# XPort®

*Embedded Device Server*


## BUILD NETWORK CONNECTIVITY INTO YOUR PRODUCTS, QUICKLY AND SIMPLY

XPort® is a compact, integrated solution to web-enable any device with serial capability. By incorporating XPort to a product design, manufacturers can offer network connectivity as a standard feature within weeks — so they can be accessed and controlled over the Internet.

### Full Networking in a Tiny Package

XPort removes the complexity – of designing network connectivity into a product by incorporating all of the required hardware and software inside a single embedded solution. Smaller than your thumb, it includes all essential networking features, including a 10Base-T/100Base-TX Ethernet connection, proven operating system, an embedded web server, e-mail alerts, a full TCP/IP protocol stack and 256-bit AES encryption for secure communications. This easy-to-embed networking processor module enables engineers to focus on their core competency while reducing development time and cost and increasing product value.

### Integrated Network Communications Module

XPort is powered by our DSTni™ network processor SoC, which includes a 10/100 MAC/PHY and 256 KB of SRAM. It features a built-in web server for communications with a device via a standard Internet browser. Web capability can be used for remote configuration, real-time monitoring or troubleshooting. XPort has 512 KB of on-module Flash for web pages and software upgrades. It acts as a dedicated co-processor that optimizes network activities permitting the host microprocessor to function at maximum efficiency.

### Building Intelligent Devices

With XPort you can embed intelligence into any electronic product for applications such as:

- Remote diagnostics and upgrades
- Asset tracking and replenishment
- Automation and control
- Power management
- Remote collaboration
- Personalized content delivery

### XPort Highlights

- Minimal engineering effort required to web-enable virtually any electronic device
- Remote command and control of edge devices
- 256-bit AES encryption for secure communications
- EM C/EMI -compliant; RoHS-compliant
- Everything you need – all in a single RJ45 package

LANTRONIX

# XPort

*Embedded Device Server*

Robust, feature-rich software suite eliminating the need to negotiate the intricacies of Transmission Control Protocol (TCP) or Internet Protocol (IP), XPort incorporates:

- Robust Real Time Operating System (RTOS)
- Full-featured network protocol stack
- Built-in web server for device communication and configuration via a standard browser

The Windows®-based DeviceInstaller™ makes configuring one or more XPorts in a subnet quick and easy

- Install and configure XPort and load firmware
- Assign IP & other network specific addresses
- Load custom web pages and view specific device data
- Enable web-based configuration of the device
- Ping or query the attached device(s) over the network
- Allow Telnet communication with the device(s)

## Features and Specifications

### Serial Interface

- Interface: CMOS (Asynchronous, 5V tolerant)
- Data Rates: 300 bps to 921,600 bps
- Characters: 7 or 8 data bits
- Parity: odd, even, none
- Stop Bits: 1 or 2
- Control Signals: DTR/DCD, CTS, RTS
- Flow Control: XON/XOFF, RTS/CTS
- Programmable I/O: 3 PIO pins (software selectable)

### Network Interface

- Interface: Ethernet 10Base-T or 100Base-TX (Auto-Sensing)
- Connector: RJ45
- Protocols: TCP/IP, UDP/IP, ARP, ICMP, SNMP, TFTP, Telnet, DHCP, BOOT P, HTTP and AutoIP

### Indicators (LED)

- 10Base-T connection
- 100Base-TX connection
- Link & activity indicator - Full/half duplex

### Management

- SNMP, Telnet, serial, internal Web server and Microsoft® Windows-based utility for configuration

### Security

- Password protection
- Optional 256-bit AES Rijndael encryption

### Internal Web Server

- Storage capacity: 384 KB for web pages

### Architecture

- CPU: Based on the DSTni-EX enhanced 16-bit, 48MHz or 88MHz x86 architecture
- Memory: 256 KB SRAM and 512 KB Flash
- Firmware: upgradeable via TFTP and serially

### Power

- Input voltage: 3.3 VDC

### Environmental

- Extended Temp: -40° to 85°C (-40° to 185°F)
- Storage: -40° to 85°C (-40° to 185°F)

### Packaging

- Dimensions: 33.9 x 16.25 x 13.5 mm (1.33 x .64 x .53 in)
- Weight: 9.6 g (0.34 oz)

### Warranty

- 2-year limited warranty

### Included Software

- MS Windows-based DeviceInstaller software and MS Windows-based Com Port Redirector™

## XPort Evaluation Kit

The XPort Evaluation Kit includes everything you need to integrate the XPort into your next product design, including:

- An XPort Evaluation Board and reference design including CAD PCB files and complete BOM
- Universal AC power adapter
- Network (CAT5) and serial cable
- Connector adapter

| Part Number | Description |
|---|---|
| XP1001000-05R | XPort XE Min. Quantity: 50 Units<br>XPort RoHS Extended Temperature, without Encryption |
| XP1001000M-05R | XPort XE RoHS Extended Temperature, with MODBUS, without Encryption<br>XPort SE Min. Quantity: 50 Units |
| XP1002000-05R | XPort RoHS Extended Temperature, with Encryption |
| XP100200S-05R | XPort RoHS Extended Temperature, with Encryption- Sample |
| XP10010NMK-01 | XPort Evaluation Kit, with Encryption |
| XPPDK1000-LNX-02 | XPort Pro Linux Development Kit** |

## Ordering Information


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EVOLUTION OS



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