

XPand6904

Rugged, Sealed, and Compact Intel® Atom-Based Fanless Embedded Box PC

- › Supports Intel® Atom™ E3800 family processors (formerly Bay Trail-I)
- › 4 GB of DDR3-1333 ECC SDRAM
- › coreboot bootloader, powered by Intel®'s Firmware Support Package (FSP)
- › Fanless, natural convection air cooling
- › Extended shock and vibration tolerance
- › Two 10/100/1000BASE-T Ethernet ports
- › Seven 10/100BASE-TX Ethernet ports
- › Six RS-232/422/485 serial ports
- › One RS-232 serial port
- › One USB 2.0 port
- › Storage via internal SATA-based storage modules
- › MIL-STD-704 28 VDC input voltage support
- › IP67-capable
- › Wind River VxWorks BSP
- › X-ES Enterprise Linux (XEL) BSP
- › Microsoft Windows drivers



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The XPand6904 is a rugged, sealed, and compact fanless embedded box PC utilizing the Intel® Atom™ E3800 family of processors. The XPand6904 provides a reliable and maintenance-free, cost-effective, computing platform ideally suited for environmentally challenging and space-constrained situations. It was specifically designed for Industrial PC (IPC), Human Machine Interface (HMI), industrial automation, and transportation applications, and its sealed design makes it ideal for medical and food-safe environments where it will be exposed to chemicals and moisture.

The XPand6904 supports the Intel® Atom™ E3800 family processor, which offers up to four cores at 1.91 GHz. The internal SATA SSD memory modules combine the convenience of high-capacity off-the-shelf storage with the reliability of solid-state non-volatile memory. The standard configuration includes two 10/100/1000BASE-T Ethernet ports, seven 10/100BASE-TX Ethernet ports, one USB 2.0 port, one RS-232 serial port, and six RS-232/422/485 serial ports.

The XPand6904 supports a wide input voltage range from 18 to 31.5 V DC; additional input voltages also may be supported by request. The XPand6904 can operate under demanding shock and vibration requirements, as well as the water-immersion requirements of IP67, due to its environmentally sealed and completely rugged design. The XPand6904 also supports operating temperatures from -40°C ambient to extreme high temperatures.

Out-of-the-box support for Microsoft Windows 7 or greater, as well as support for most modern Linux distributions, increases software flexibility. In addition, Wind River VxWorks and X-ES Enterprise Linux (XEL) Board Support Packages (BSPs) are available for the XPand6904. It also supports the open source coreboot bootloader, powered by Intel®'s Firmware Support Package (FSP), to enable ultra-fast boot times and drastically simplify system security.

X-ES

Extreme Engineering Solutions

...Always Fast

Extreme Engineering Solutions

9901 Silicon Prairie Parkway • Verona, WI 53593

Phone: 608.833.1155 • Fax: 608.827.6171

sales@xes-inc.com • <https://www.xes-inc.com>

Physical Characteristics

Dimensions include connectors

- Dimensions: 7.96 in. (L) x 5.46 in. (W) x 1.42 in. (H)
- Weighs 2.87 lbs.

Processor

- Intel® Atom™ E3800 family processors (formerly Bay Trail-I)
- Standard configuration is Atom™ E3845
- Four cores at up to 1.91 GHz

Memory and Storage

- 4 GB of DDR3-1333 ECC SDRAM
- Factory-configurable, internal, SATA-based storage modules

I/O Connectors

- One A-coded, 17-pin M12: 1x RS-232 serial, 1x USB 2.0
- Three A-coded, 12-pin M12: 2x RS-232/422/485 serial
- Two X-coded, 8-pin M12: 10/100/1000BASE-T Ethernet
- Seven D-coded, 4-pin M12: 10/100BASE-TX Ethernet

Power Input

- T-coded, 4-pin M12 connector
- 18 to 31.5 V DC power input
- Reverse polarity protection via keyed connector
- MIL-STD-704 28 VDC input voltage support

Environmental Qualifications

- Vibration: 0.1 g²/Hz (maximum), 5 to 2000 Hz
- Shock: 40 g, 11 ms sawtooth
- Humidity: 0% to 95% non-condensing
- Temperature: Operates in ambient temperatures down to -40°C and in extreme high temperatures. Maximum operating temperature is dependent on configuration and usage. Contact X-ES for more information.

