

XPand6903

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 Gigabit Ethernet ports
- › Two serial ports
- › Four USB 2.0 ports
- › 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



XPand6903

The XPand6903 is a rugged, sealed, and compact fanless embedded box PC utilizing the Intel® Atom™ E3800 family of processors. The XPand6903 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 XPand6903 can be DIN rail mounted for easy installation into an industrial cabinet. It 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 dual VGA video, two Gigabit Ethernet ports, four USB ports, and RS-232/422 ports. The system also can be configured to provide up to two DVI-D interfaces in place of VGA. Internal expansion options allow the XPand6903 to be customized to offer a flexible array of additional I/O options, including WLAN, cellular, GPS, and CAN bus.

The XPand6903 supports a wide input voltage range from 12 to 28 volts; additional power input voltages also may be supported by request. The XPand6903 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 XPand6903 also supports operating temperatures from -40°C to +70°C ambient.

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 XPand6903. 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

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Extreme Engineering Solutions

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Physical Characteristics

Dimensions include connectors

- Dimensions: 7.00 in. (L) x 4.52 in. (W) x 1.33 in. (H)
- Weighs less than 1.75 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

- M12: 2x RS-232/422/485, 2x USB 2.0
- M12: 10/100/1000BASE-T Ethernet
- M12: 10/100/1000BASE-T Ethernet
- M12: VGA + 1x USB
- M12: VGA + 1x USB
- DVI-D and DisplayPort configuration options are available, please contact factory
- Expansion I/O configurations, including CAN bus and wireless support, may be available, please contact factory

Power Input

- 4-pin M12
- 12-28 V power input
- Reverse polarity protection
- MIL-STD-704 28 VDC input voltage support

Environmental Requirements

Contact factory for appropriate board configuration based on environmental requirements.

- Supported ruggedization levels (see chart below): 1, 3

Ruggedization Level	Level 1	Level 3	Level 5
Cooling Method	Standard Air-Cooled	Rugged Air-Cooled	Conduction-Cooled
Operating Temperature	0 to +55°C ambient (300 LFM)	-40 to +70°C (600 LFM)	-40 to +85°C (board rail surface)
Storage Temperature	-40 to +85°C ambient	-55 to +105°C ambient	-55 to +105°C ambient
Vibration	0.002 g ² /Hz, 5 to 2000 Hz	0.04 g ² /Hz (maximum), 5 to 2000 Hz	0.1 g ² /Hz (maximum), 5 to 2000 Hz
Shock	20 g, 11 ms sawtooth	30 g, 11 ms sawtooth	40 g, 11 ms sawtooth
Humidity	0% to 95% non-condensing	0% to 95% non-condensing	0% to 95% non-condensing

