XMC Module

XM 515/x24

N, E, K - Series

Quad Port 10/100/1000 Ethernet XMC adapter

APPLICATIONS

XM 515/x24 is a quad Gigabit Ethernet adapter for industrial control, telecommunication and security application that need multiple Ethernet port connectivity. In this 'Internet of Things' age, many more devices like cameras, industrial controllers, sensors and distributed equipment use Ethernet for communication and control. XM 515/x24 is suitable for use on boards that include an industry standard XMC slot. For harsh environments, extended temperature and rugged conduction-cooled versions are available.

HIGHLIGHTS

- 4 x high performance Gigabit Ethernet interfaces:
  - 10Base-T/100Base-Tx/1000Base-T
  - RJ45 connectors
  - 1000Mbps with CAT5e/6 cabling
  - speed and status indicators
- XMC (Switched Mezzanine Card) format:
  - single size CMC (Common Mezzanine Card)
  - up to x4 PCI Express® interface
- Front or rear I/O (factory build options):
  - rear I/O with or without magnetics
- For use with VME, VXS, VPX, CompactPCI® and other XMC host boards
- Air-cooled versions (N, E, K-Series):
  - N: 0°C to 55°C,
  - E: -25°C to +70°C
  - K: -40°C to +85°C (includes humidity sealant)
- Ruggedized conduction-cooled versions (RC-Series):
  - RC: -40°C to +85°C (at card edge), conformally coated
  - conduction cooled to ANSI/VITA 20-2001 (R2005)
- Software support for Linux®, VxWorks® and Windows®

CONCURRENT TECHNOLOGIES

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Specification

Gigabit Ethernet Interfaces

- 4 x 1000Base-T/100Base-Tx/10Base-T interfaces
- factory build options for:
  - → 4 x Ethernet via PMC Pn4 or XMC Pn6 connector (with or without magnetics) or
  - → 4 x RJ45 connectors on front panel
- implemented by Intel® i350-AM4 Gigabit Ethernet controller:
  - → supports IEEE 802.3ab for 1000Base-T over Category 5e/6 UTP (Unshielded Twisted Pair) Cable
  - → supports IEEE 802.3/802.3u for 10Base-T/100Base-Tx over Category 5 UTP cable
  - → supports Jumbo frames
- individual MAC and frame Controllers supporting the following features:
  - → transmit and receive IP, TCP and UDP checksum off-loading
  - → transmit TCP segmentation
  - → automatic retransmission
- physical interfaces (PHY) implemented by the Intel i350-AM4 device internally supporting:
  - → 1000Base-T/100Base-Tx/10Base-T auto-negotiation
  - → automatic polarity and MDI/MDI-X selection
  - → full and half duplex operation
- status LEDs, front or onboard (for rear I/O variants):
  - → status LED signals also on Pn6 (rear I/O variants)

XMC Interface

- complies with PCI Express® Protocol Specification 2.1 including:
  - → x4 PCI Express interface (trains down to x2 or x1)

BIOS EEPROM

- 8-bit wide 128 Kbyte SPI Flash EEPROM with Intel® PXE BIOS Firmware
- in-circuit programmable

Software

- support for Linux®, VxWorks® and Windows®

Electrical Specification

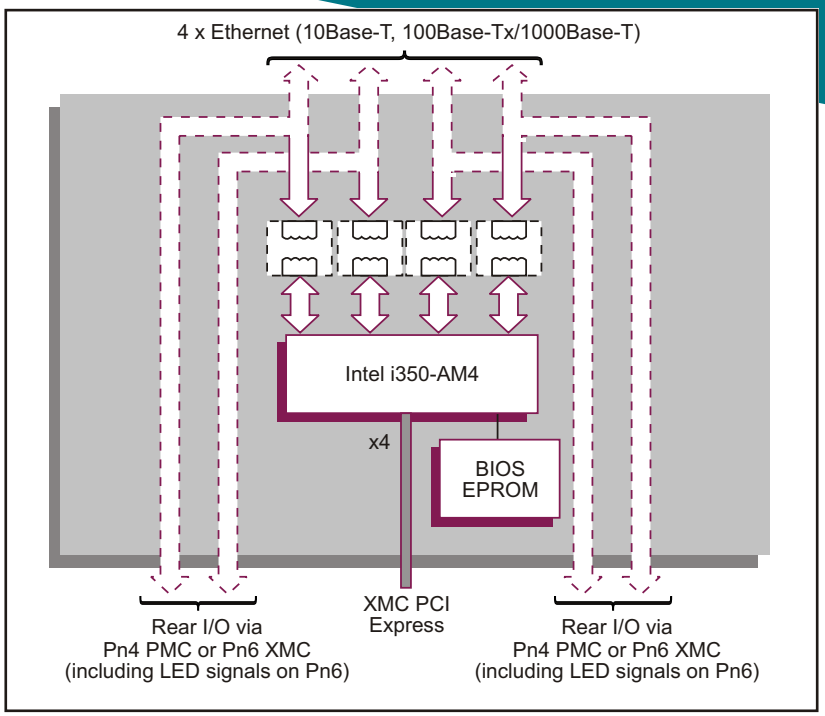
- +5V@1.7A or +12V@0.75A (maximum with quad 1000Base-T operating); ±5%
- 3.3V and -12V not utilized

Environmental Specification

- compatible with XMC host boards operating at:
  - → 0°C to +55°C (N-Series)
  - → -25°C to +70°C (E-Series)
  - → -40°C to +85°C (K-Series)
- 5% to 95% Relative Humidity, non-condensing (operating):
  - → K-Series includes humidity sealant
- -40°C to +85°C (storage)
- 5% to 95% Relative Humidity, non-condensing (storage)
- ruggedized conduction-cooled versions supported

Mechanical Specification

- single size CMC (Common Mezzanine Card) 74mm x 149mm
- 10mm height stack module



ORDERING INFORMATION

Order Number	Product Description (Hardware)
XM 515/x24-yz	Quad Port Gigabit Ethernet XMC adapter, front or rear I/O

For extended temperature (E-Series and K-Series) and rugged conduction-cooled (RC-Series) versions please contact your local sales office.

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Specification subject to change; E and OE.

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