ECU-4784

IEC-61850-3 Certified Power Automation Computers



Features

- Intel Hasewell Core i7, i3, Celeron Processors
- Isolated 8 x LAN, 10 x Serial Port Communication Interfaces
- 220$V_{AC/DC}$ Redundant Power Supply
- 48V Power for Selection
- 2 x IO Expansion Slots
- 2 x 2.5" SATA HDD, 1 x CFast Socket for Storage
- VGA & DVI Display Interface
- Programmable LEDs
- Intelligent Connectivity Diagnosis Management
- Remote Management
- Trusted Platform Module
- Virtualization Technology for Directed I/O

Introduction

The ECU-4784 series are TUV IEC 61850-3 and IEEE 1613 certified products, which can provide high reliability and stability for global power automation target market application. With the fanless and robust design, high CPU performance, flexible expansion, rich communication interfaces and intelligent functions, the ECU-4784 series are industrial PC that suitable for smart substation in harsh environment, not the general computers.

Key Features & Benefits

X86 Architecture with Intel Hasewell Core i7, i3, Celeron Processors

The ECU-4784 series support different Intel processors which can deliver very high performance and broad operating system and software compatibility, including 1.7GHz dual-core i7, 1.7GHz i3 and 1.6GHz Celeron.

Redundant Power Supply

The ECU-4784 support two 100~240V power modules (One power is build-in, the other one by CTOS configuration center), which providing reliable, independent and continuous power supply, ensure your stable operation.

48V Power for Selection

For special industry application, customer could install 48V power module on ECU-4784 by CTOS configuration center. So different power combination supply for your selection: 220V+48V or dual 48V.

IO Expansion Slots

The ECU-4784 supports two standard PCI/PCIe expansion slots, each slot supports 1x PCIe and 2x PCI interface, enabling you to customize the system I/O to meet your applications requirement, with flexible UNOP and ECM cards.

Isolated and Rich Communication Interfaces

For various communication requests, the ECU-4784 provides as many as 26x serial ports (With ECU-P1628D/1618D), 12x Ethernet ports (with UNOP-1514) and 6x USB ports, all isolated ports that get flexible and reliable system interconnection.

Mass and Fast Storage

The ECU-4784 has 1x CFast and 2x 2.5" hot-swappable SATA interfaces from the rear panel. The integrated SATA controller could support Redundant Arrays of Independent Disks (RAID) to maximize data availability and improve storage performance, RAID 0, RAID 1 , RAID 5 are all supported.

Versatile Display Interface

DVI and VGA interfaces are both supported for your display application.

Programmable LEDs

For ECU-4784, eight programmable LEDs on front panel for your customization.

Intelligent Connectivity Diagnosis Management

Because of an intelligent agent build-in ECU-4784, the serial ports and Ethernet ports will be under monitoring. This software function could help the ECU-4784 to enhance maintenance efficiency.

Remote Management

Using Intel Active Management Technology, the ECU-4784 enables full access to the system, storage, desktop, mouse, keyboard and video remotely, regardless of whether they start up or the functioning operating system is crashed.

Trusted Platform Module

An Infineon microchip build-in the mother board, helps ECU-4784 to prevent the illegal user access, which protects the system to be safe.

Virtualization Technology for Directed I/O

The VT-D architecture enables system software to assign one or more I/O devices to a protection domain, and provides the necessary isolation to assure separation between each virtual machine's computer resources, which improves performance of I/O devices in virtualized environment.

All product specifications are subject to change without notice

Specifications

General

- **Certification** CE, FCC, CCC, Electricity IV level for China, IEC-61850-3, IEEE-1613, UL, CB, LVD
- **Power Requirements** Redundant Power Supply
  Power1: 100 ~ 240 V_{AC}, 100 ~ 240 V_{DC}
  Power2: 100 ~ 240 V_{AC}, 100 ~ 240 V_{DC}
- **Power Consumption (Typical)** 25 W (ECU-4784-D55SAE/ D56SBE/ C25SBE/ E15SAE)
- **Operating System** Windows7, Windows8, Windows10, Windows Server 2008 R2,Windows Server 2012 R2, Windows Server 2016, WES7(WS7P), Windows Embedded 8 64-bit, Linux
- **Dimensions (W x D x H)** 440 x 280 x 88 mm
- **Enclosure** SECC and aluminum
- **Weight** 6.0 Kg
- **Mounting** 2U Rackmount
- **System Design** Fanless

System Hardware

- **CPU** Intel® Core™ dual-core i7 4650U, 1.7 GHz (ECU-4784-D56SBE)
  Intel® Celeron® 2980U, 1.6 GHz (ECU-4784-C25SBE)
  Intel® Core™ i3 4010U, 1.7 GHz (ECU-4784-E15SAE)
- **Memory** DDR3L 1.35V non-ECC 8G
  (Up to 16G for ECU-4784-D56SBE)
- **Indicators** Programmable LEDs for PWR1, PWR2, HDD, LAN (LINK, ACT), COM (TX, RX), Slot 1, and Slot 2
- **Storage** 2 x 2.5" SATA HDD (RAID0, RAID1)
  1 x CFast socket
  HDD Height less than 11mm
- **Display** 1 x DB15 VGA, 1 x DVI-D (Resolution: 1920 x 1080)
- **Watchdog Timer** Programmable 256 levels time interval, from 1 to 255 seconds for each tier
- **Relay** Relay Output Form C
  Contact 5A @ 125V_{AC}/ 5A @ 30V_{DC}
  Channel 1

Communication Interface

- **Serial Ports** 2 x RS-232 (DB9 connectors, Standard)
  8 x RS-232/422/485 (Terminal Block)
  2,500V isolation
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 8 x 10/100/1000 Base-T RJ45 ports
  (Supports teaming function, PXE, LAN1 supports AMT)
- **USB** 6 x USB, UHCI, rev 2.0 compliant (2 x front, 3 x rear, 1 x internal) (2 x front, rev 3.0 compliant for ECU-4784-XXXSBE/E15SAE)
- **Expansion** 2 x Domain I/O expansion slots (Each slot supports 1 x PCIe and 2 x PCI)

Environment

- **Operating Temperature** -25 ~ 70°C (-13 ~ 158°F)
  IEC 60068-2-2 with 100% CPU/ I/O loading, 24 hrs
- **Operating Humidity** 5 ~ 95% RH (non-condensing)
- **Storage Humidity** 5 ~ 95% RH (non-condensing)
- **Shock Protection** IEC 68 2-27 CFast®: 30 G half sine,11 ms
- **Vibration Protection** IEC 68-2-64 (Random 1 Oct./min, 1hr/axis.) CFast®: 2Grms @ 5 ~ 500Hz

Ordering Information

- **ECU-4784-D55SBE** Intel® Core™ dual-core i7 4650U (1.7 GHz) processor with 8 GB RAM, 8 x LAN, 10 x COM, 2 x expansion slots
- **ECU-4784-D56SBE** Intel® Core™ dual-core i7 4650U (1.7 GHz) processor with 16 GB RAM, 8 x LAN, 10 x COM, 2 x expansion slots
- **ECU-4784-C25SBE** Intel® Celeron® 2980U (1.6 GHz) processor with 8 GB RAM, 8 x LAN, 10 x COM, 2 x expansion slots
- **ECU-4784-E15SAE** Intel® Core™ i3 4010U (1.7 GHz) processor with 8 GB RAM, 8 x LAN, 10 x COM, 2 x expansion slots
- **ECU4784D55A1602E-T** ECU-4784-D55SBE with 10 year warranty
- **XECU-FSP150-1H35 (*)** FSP AC/DC 100 ~ 240V, 150W, W/PFC
  (Note: Dual power configuration is available upon request via Advantech CTOS)
- **9893SW0400E (*)** DC 36V ~ 72V module
  (Note: A 48V power module is available upon request via Advantech CTOS)