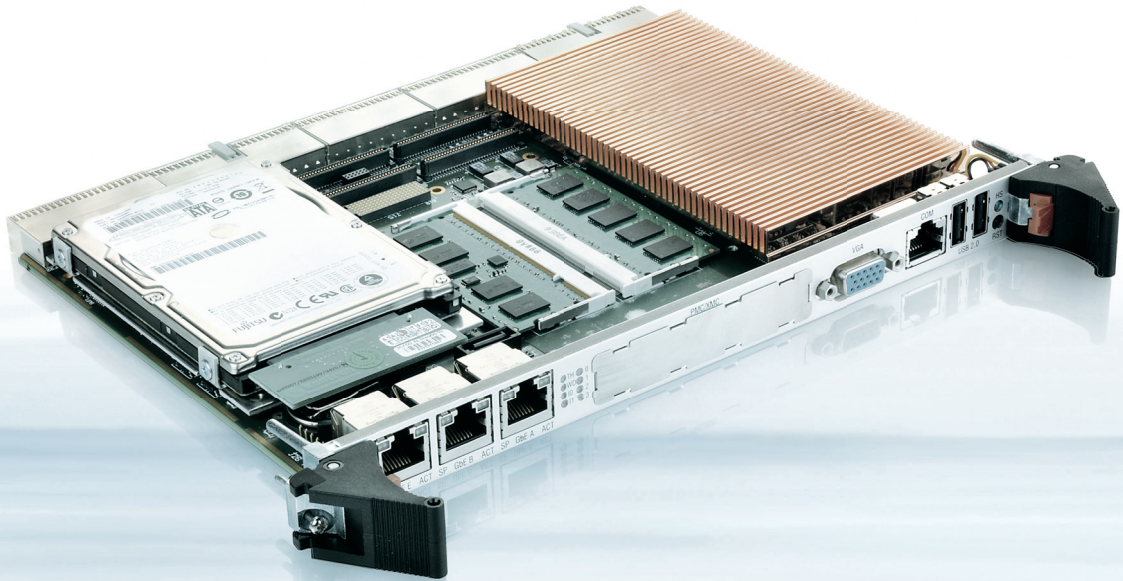


CP6003-SA



Intel® Core™ i7 SECOND GENERATION CompactPCI® PROCESSOR BLADE

- ▶ Dual- and Quad-Core performance
- ▶ power saving
- ▶ highest versatility and excellent power management
- ▶ broad software support

POSSIBILITIES START HERE



CP6003-SA

Intel® Core™ i7/i5 SECOND GENERATION CompactPCI® PROCESSOR BLADE

Benefit from the latest technology that achieves highest processor performance at optimized power consumption.

The power of up to four cores / eight threads enables virtualization and multithreading applications to run in full 64-bit mode using Enhanced Intel® Virtualization, Intel® HD Graphics, and Intel® Turbo Boost Technology.

Greater Performance / Watt

Compared to previous processor designs the 32 nm quad-core Sandy Bridge technology allows much better performance at similar power consumption.

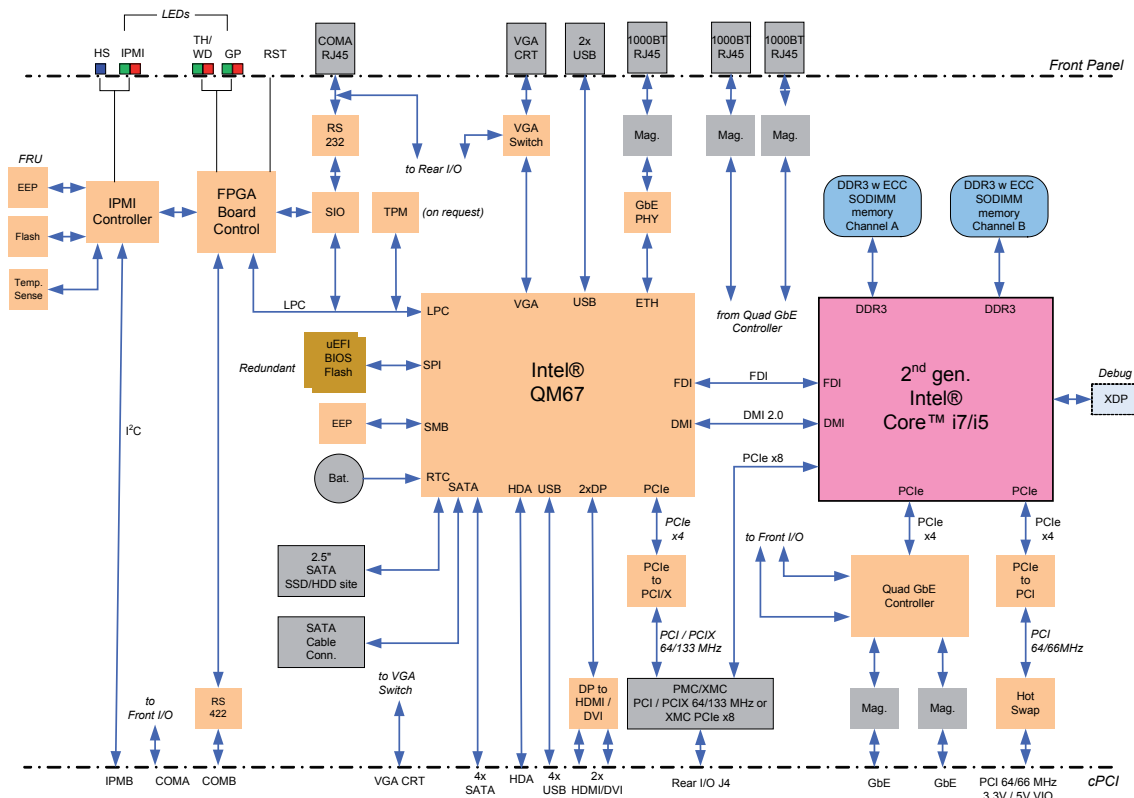
The PICMG 2.16-compliant Kontron CP6003-SA offers up to 16 GByte dual-channel 1600 MHz DDR3 ECC memory via two SODIMM sockets, providing up to 25 GByte/sec data throughput. The CP6003-SA is designed for bandwidth intensive applications and thanks to hotswap support and IPMI (PICMG 2.9-compliant Intelligent Platform Management Interface) the CPU board meets the highest demands for the management of high-availability applications. Many of these are data and tele-communications applications, but also include highly sensitive, security related solutions as well as image processing systems in medical technology and other vertical industries.

Unique Versatility

The highly integrated CP6003-SA features a XMC site according to XMC.3 supporting x8 PCI Express® (alternatively a 64-bit/133MHz PCI PMC site), an onboard 2.5-inch SATA hard disk or SSD and an industrial grade NAND Flash device - all usable in a 4HP single slot. The Intel® QM67 Platform Controller Hub provides advanced I/O technology including USB 2.0 and several Serial ATA channels. Five independent Gigabit Ethernet ports (3x ports at the front and 2x for full PICMG 2.16 support) provide comprehensive connectivity capabilities, enabling innovative applications today by offering enough room for the emerging next generation requirements. Highly versatile, the CP6003-SA can be used in a system or peripheral slot. A rich set of LEDs at the front panel for debug and diagnostic, as well as full rear I/O connectivity completes the CP6003-SA.

Longterm Availability

Delivering a stable product based on Intel®'s embedded product line, the CP6003-SA ensures long term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks, the CP6003-SA provides a broad range of software support to ease the process of product integration and maximize the competitive advantage of meeting the time-to-market window.



► TECHNICAL INFORMATION

| PROCESSOR | | Intel® Core™ i7/i5 Processor Second Generation (32 nm manufacturing process) up to 2.1 GHz quad core, up to 2.5 GHz dual core | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------------------|---|------------|----------|-------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|---|---|---|---|---|---|---|---|---|------------|---|------------|
| PLATFORM CONTROLLER HUB | | Intel® QM67 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MEMORY | SYSTEM MEMORY | Dual channel DDR3 memory with ECC and data speed of up to 1600 MHz per channel and up to 16 GByte on two SODIMM sockets | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NAND FLASH | Up to 32 GByte NAND Flash Module option (SSD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLASH BIOS | Two redundant 8 MByte SPI Flashes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRONT PANEL FUNCTIONS | GIGABIT ETHERNET | Three 1000BASE-T Ethernet on the FP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SERIAL PORT | One RS232 interface on RJ45 connector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | USB INTERFACE | Two USB 2.0 ports, 4-pin standard USB host | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VGA | One 15-Pin D-Sub connector for analog monitors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | RESET BUTTON | One reset button | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MICRO SWITCH | For Hot Swap | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LEDs | Eight bicolor (red and green) control and status LEDs Two IPMI LEDs One Watchdog and one thermal LED Four GP LEDs One blue hot Swap LED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ONBOARD INTERFACES | GIGABIT ETHERNET | Two PICMG 2.16 rear I/O 1000BASE-T ports | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SATA | Four ports fixed to rear I/O One port routed to a standard SATA connector One port available for mounting an optional 2.5" HDD or SSD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NAND FLASH | One port available for mounting an optional NAND Flash module | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SERIAL PORTS | COM1 (RS232) routed to front panel and rear I/O COM2 (RS422) routed to rear I/O only; optionally RS232 routed to rear I/O only (separate ordering code) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CPCI BUS | PICMG 2.0 Rev. 3.0 compatible, 64-bit / 66 MHz Universal V(I/O) 5 V or 3.3 V signalling Operating in system slot as system master and in peripheral slot in PCI passive mode (no communication to CompactPCI® bus) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PMC/XMC | One 64-bit / 133 MHz PMC slot, Pn1-Pn4, rear I/O Pn3 to J4, 3.3 volt V (I/O) Alternatively one XMC slot via P15, supporting XMC.3 x8 PCI Express® | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | REAR I/O | J3: PICMG 2.16, VGA, COM 1/2, 4x USB J4: PMC rear I/O; J5: 4x SATA, HDA, battery, fan control | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUPERVISORY FUNCTIONS, CLOCK/CALENDAR | | Watchdog, software configurable, 125 msec to 256 sec, generates IRQ or hardware reset Hardware monitor for thermal control, fan speed, and all onboard voltages, RTC battery backup | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IPMI | | IPMI 1.5-compliant for IPMI based management and CompactPCI® System Management PICMG 2.9 R1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPM | | Optional Trusted Platform Module (TPM) 1.2 for enhanced hardware and software based data and system security | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I/O TABLE SUMMARY | DESCRIPTION | <table border="1"> <thead> <tr> <th>Front I/O</th> <th>Rear I/O</th> <th>Onboard Connector</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>-</td> <td>1</td> </tr> <tr> <td>2</td> <td>4</td> <td>-</td> <td>6</td> </tr> <tr> <td>-</td> <td>1</td> <td>-</td> <td>1</td> </tr> <tr> <td>1</td> <td>2</td> <td>-</td> <td>2</td> </tr> <tr> <td>-</td> <td>2</td> <td>-</td> <td>2</td> </tr> <tr> <td>3</td> <td>2</td> <td>-</td> <td>5</td> </tr> <tr> <td>-</td> <td>4</td> <td>2</td> <td>6</td> </tr> <tr> <td>-</td> <td>-</td> <td>1</td> <td>1</td> </tr> <tr> <td>-</td> <td>-</td> <td>1/1</td> <td>1/1</td> </tr> <tr> <td>-</td> <td>2</td> <td>-</td> <td>2</td> </tr> <tr> <td>-</td> <td>1</td> <td>-</td> <td>1</td> </tr> <tr> <td>-</td> <td>1 optional</td> <td>-</td> <td>1 optional</td> </tr> </tbody> </table> | Front I/O | Rear I/O | Onboard Connector | Total | 1 | 1 | - | 1 | 2 | 4 | - | 6 | - | 1 | - | 1 | 1 | 2 | - | 2 | - | 2 | - | 2 | 3 | 2 | - | 5 | - | 4 | 2 | 6 | - | - | 1 | 1 | - | - | 1/1 | 1/1 | - | 2 | - | 2 | - | 1 | - | 1 | - | 1 optional | - | 1 optional |
| Front I/O | Rear I/O | Onboard Connector | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1 | - | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 4 | - | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 1 | - | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | - | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 2 | - | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 2 | - | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 4 | 2 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | - | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | - | 1/1 | 1/1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 2 | - | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 1 | - | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 1 optional | - | 1 optional | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VIDEO CRT VGA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | USB 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HDAUDIO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SERIAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DVI/HDMI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ETHERNET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NAND FLASH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PMC / XMC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FAN CONTROL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BATTERY INPUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SBM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COMPLIANCY | | CompactPCI® Core Specification PICMG 2.0 Rev. 3.0 CompactPCI® Hot Swap Specification PICMG 2.1 R2.0 CompactPCI® System Management PICMG 2.9 R1.0 CompactPCI® Packet Switching Backplane PICMG 2.16 R1.0 Designed to meet or exceed: Safety: UL 1950, UL 94, CSA 22.2 No 950, EN 60950, IEC 950 EN 55022 / EN 55024, EN 50081-1 / EN 6100-6-2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MTBF | | 188089 h acc. MIL-HDBK-217 FN2 Ground Benign 30° C 218585 h acc. Bellcore Issue 6 Ground Benign 30° C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENERAL | DIMENSIONS | 233 x 160 x 20,5 mm, 6U, 4HP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WEIGHT | 775 g | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SOFTWARE SUPPORT | | AMI EFI (BIOS) with POST codes, setup console redirection to serial port (VT100 mode) with CMOS setup access, BIOS parameters saved in EEPROM, diskless, keyboardless, videoless operation LAN boot support Board identification number accessible via EEPROM Support for Windows® 7, XP, XP Embedded, Windows® Server 2008R2, Linux® (other OSs may be possible, please contact us for information) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

► TECHNICAL INFORMATION (CONTINUED)

| | | |
|--------------------------|--------------------------|---|
| POWER CONSUMPTION | | Max.: up to 60 W (quad core), 50 W (dual core) or less, depending on CPU type |
| ENVIRONMENTAL | OPERATING TEMP. | 0° C to +60° C, passive module heat sink, requires forced airflow cooling, extended with low voltage processor on request |
| | STORAGE TEMP. | -55° C to + 85° C (without battery or HDD) |
| | CLIMATIC HUMIDITY | 93 % RH at 40° C, non condensing (acc. to IEC 60068-2-78) |
| | ALTITUDE | 50,000 ft (15,240 m) |

► ORDERING INFORMATION

| ARTICLE | DESCRIPTION |
|--------------------------------|---|
| CPU BOARDS | |
| CP6003-SA-Q2.1-4G | - Quad Core 2.1 GHz, Core i7-2715QE - 4 GByte SODIMM dual channel 1333 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range 0° C to 60° C |
| CP6003-SA-Q2.1-8G | - Quad Core 2.1 GHz, Core i7-2715QE - 8 GByte SODIMM dual channel 1333 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range 0° C to 60° C |
| CP6003-SA-2.5-4G | - Dual Core 2.5 GHz, Core i5-2515E - 4 GByte SODIMM dual channel 1333 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range 0° C to 60° C |
| CP6003-SA-2.5-8G | - Dual Core 2.5 GHz, Core i5-2515E - 8 GByte SODIMM dual channel 1333 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range 0° C to 60° C |
| CP6003-SA-2.2-4G-E1X | - Dual Core 2.2 GHz, Core i7-2655LE - 4 GByte SODIMM dual channel 1333 MHz with ECC - Standard front & rear I/O, PMC/XMC - Temperature range -40° C to 70° C |
| ACCESSORIES | |
| CP6003-MK2.5 SATA | Mounting kit for 2.5" SATA-HDD/SSD onboard, mounting within 4HP |
| FLASH-SATA | Various SSD products / sizes available (not possible, if onboard HDD / SSD used) |
| REAR TRANSITION MODULES | |
| CP-RI06-001 | 4HP Rear I/O Module for CP6003 with 2x DVI-D; 2x USB2.0; 2x GbE; headers for 2x COM, Flash, SATA, fan |
| CP-RI06-001-HD | 4HP Rear I/O Module for CP6003 with 1x DVI-D; 2x USB2.0; 2x GbE; socket for SATA 2.5" disk; headers for 2x COM, Flash, SATA, fan |
| CP-RI06-001-HD-216 | 4HP Rear I/O Module for CP6003 with 1x DVI-D; 2x USB2.0; socket for SATA 2.5" disk; headers for 2x COM, Flash, SATA, fan |
| CP-RI06-001-HD-VGA | 4HP Rear I/O Module for CP6003 with 1x VGA; 2x USB2.0; 2x GbE; socket for SATA 2.5" disk; headers for 2x COM, Flash, SATA, fan |
| CP-RI06-B | 4HP Rear I/O Module for CP6003 with 2x USB, 2x GbE; Audio, COM1, DVI, HDMI, Connectors for USB Flash, 4x SATA, Fan, 0° C to 60° C |
| CP-RI06-B-216 | 4HP Rear I/O Module for CP6003 with 2x USB, Audio, COM1, DVI, HDMI, Connectors for USB Flash, 4x SATA, Fan, 0° C to 60° C, PIMG2.16 Support |
| CP-RI06-A | 4HP Rear I/O Module for CP6003 with 2x USB, 2x GbE, Audio, COM1, VGA, Connectors for USB Flash, 4x SATA, Fan, 0° C to 60° C |
| CP-RI06-A216 | 4HP Rear I/O Module for CP6003 with 2x USB, Audio, COM1, VGA, Connectors for USB Flash, 4x SATA, Fan, 0° C to 60° C, PIMG 2.16 Support |
| SOFTWARE SUPPORT | |
| KIT-CP6003 | Documentation and Windows driver kit |
| WXPE-BSP-CP6003 | Windows XP Embedded BSP CP6003 |
| LIN-BSP-CP6003 | Linux BSP CP6003 |
| VXW-BSP-CP6003 | VxWorks BSP 6.x SMP support |

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