» CP3003-V «

3U CompactPCI® Intel® Celeron® Value Line CPU

» Cost-Optimized Board Design
   Based on Intel® Celeron® technology

» Industry Tailored
   Robust Form Factor

» Comprehensive I/O Capabilities
   Gigabit Ethernet, USB 2.0/3.0, DisplayPort, SATA …
CP3003-V
3U CompactPCI® Intel® Celeron® Value Line CPU

Optimized for reduced costs delivering maximum value, the CP3003-V combines the capabilities of an all-in-one industrial PC with the advantages of a robust 3U CompactPCI® design. The board offers customers an all-round package of up-to-date communication interfaces combined with solid graphics and processing performance all at a competitive price level. This combination makes the CP3003-V a perfect fit for industrial automation applications such as visualization, machine control or inspection where the price is often the crucial criterion.

Optimized Price-Performance Ratio
The CP3003-V features the Intel® Celeron® 807UE processor (2nd Generation Core™ technology) combined with the Mobile Intel® QM77 Express PCH. The 807UE Celeron® CPU offers a good performance level at an extremely low power consumption plus a superior graphics performance through the Intel® HD graphics core. On top of that the QM77 PCH provides the latest I/O interfaces such as USB3.0 or SATA 6Gb/s. The CPU board offers up to 4GB 1333 MHz DDR3 SDRAM with Error Checking and Correction (ECC).

On the system side, the CP3003-V supports a PCI 32-bit/33MHz CompactPCI® interface enabling the passive mode feature. When installed in a system master slot, the CompactPCI® interface is enabled, whereas the CompactPCI® interface will be isolated when installed in a peripheral slot.

Comprehensive I/O Connectivity
The CP3003-V comes as compact all-in-one solution that offers a comprehensive set of interfaces. At the front panel a variety of communication interfaces such as one VGA, two DisplayPort, one USB 3.0, two USB 2.0, three Gigabit Ethernet ports and a Serial port (RS-232) are available. Two SATA 6Gb/s interfaces and a CFast socket, all realized as onboard connectors, complete the boards I/O capabilities.

Long-Term Availability
Investing in a new project is always a challenge and risky. Extending the lifetime of an application to the maximum possible is therefore a critical issue to save the development investments. Delivering a stable product based on Intel®’s embedded product line, the CP3003-V ensures long-term availability. This eliminates the risk of unplanned design changes and unexpected expensive application modification. While minimizing deployment risks by providing a broad range of software support, the CP3003-V eases the process of product integration and maximizes your competitive advantage to meet your time-to-market window.
## Processor
Intel® Celeron® Processor (32nm technology):
- 807UE: Single-Core 1.0 GHz, 1MB cache

## Memory
- **System Memory**: Up to 4GB 1333MHz DDR3 memory, with ECC, only 1x memory channel supported
- **Boot Flash (uEFI)**: Two redundant 8 MB SPI boot flashes with fail-over functionality
- **EEPROM**: Serial EEPROM (24LC64) 64 Kbit for storing uEFI BIOS settings and serial number
- **HDD**: Onboard 2.5" SATA SSD/HDD installation via 8HP extension
- **CFast**: Onboard CFast installation via 8HP extension

## Onboard Controller
- **Platform Controller Hub**: Mobile Intel® QM77 Platform Controller Hub featuring:
  - USB host interface with ten USB2.0 and four USB3.0 ports (only two USB2.0 and one USB3.0 ports are used on the CP3003-V)
  - SATA host controller with four SATA 3Gb/s and two SATA 6Gb/s ports with RAID support (only 1x SATA 3Gb/s and two SATA 6Gb/s ports are used on the CP3003-V)
  - Eight x1 PCI Express® 2.0 ports operating at 5.0 GT/s (only three x1 PCI Express® ports are used)
- **Graphics**: High performance 3D graphics controller integrated in the processor:
  - Support for up to 2x independent displays
  - Supports analog displays up to a resolution of 2048 x 1536 pixels with 32-bit color @ 75 Hz
  - Supports digital displays up to a resolution of 1920 x 1200 pixels @ 60 Hz
  - Dynamic Video Memory Technology (DVMT)
- **Gigabit Ethernet**: Three 1000BASE-T interfaces with WOL (Wake-on-LAN) support, Intel® 82574L Ethernet controller
- **UART**: XR16L2750IM-F UART, 16C550-compatible
- **Watchdog**: FPGA-based, timeout ranging from 125ms to 4096s programmable in 16 steps, IRQ, reset, dual-stage configuration
- **RTC**: Integrated in PCH, with 256 Byte CMOS RAM

## Front Interfaces
- **VGA**: 1x VGA-CRT 15-pin D-Sub connector
- **USB**: 2x USB 2.0 ports, 4-pin standard USB connectors
- **Ethernet**: 1x USB 3.0 port, 9-pin type-A connector
- **Ethernet**: 3x RJ-45 with integrated LEDs (ACT, SPEED)
- **DisplayPort**: 2x 20-pin DisplayPort connectors, DVI/HDMI capable through passive cable adapter
- **Serial Port**: 1x 16C550-compatible serial port, RS232 signalling, RJ-45
- **Control**: Reset button, HDD activity LED
- **LEDs**: 4x POST Code or General Purpose, WD, TH

## Onboard Interfaces
- **Serial ATA**: 1x onboard standard SATA cable connector with locking mechanism (SATA 6Gb/s)
- **CFAST**: 1x CFast card socket
- **CompactPCI® Bus Interface**: PICMG 2.0 Rev. 3.0 compatible, 32-bit/33MHz
- **Universal 5V and 3.3V PCI signalling voltage supported, 7 Req/Gnt & clock lines
- **Hot Swap**: Support for all signals to allow peripheral boards to be hot swapped. The individual clocks for each slot and access the backbone ENUM# signal comply with the PICMG 2.1 Hot Swap Specification
- **Supervisory Functions**: Watchdog, software configurable, 125ms to 4096s in 16 steps, generates IRQ or hardware reset or dual-stage configuration
- **Software Support**:
  - AML uEFI, setup console redirection to serial port (VT100 mode) with CMOS setup access, EFI Shell support, board configuration via Shell, diskless, keyboardless, videless operation
  - LAN boot support
  - Board identification number accessible via EEPROM
  - Support for Windows® 7, Windows® Embedded Standard 7, Linux®
  - (Other OSs may also be used with the CP3003-V. Please contact Kontron for further information)
- **Compliancy**:
  - CompactPCI® Core Specification PICMG 2.0 Rev. 3.0
  - CompactPCI® Hot Swap Specification PICMG 2.1 Rev. 2.0
- **Designed to meet or exceed**:
  - Safety: UL 60950-1, CSA 22.2 No 60950, EN 60950-1, IEC 60950-1
  - EMI/EMC: EN 55022 / EN 55024, EN 61000-6-3 / EN 61000-6-2

## General
- **Dimensions**: 100 x 160mm, 3U/8HP
- **Weight**: 460 g
- **MTBF**: 233,687 h acc. to MIL-HDBK-217 FN2, Ground Benign, controlled at 30°C
### Technical Information

<table>
<thead>
<tr>
<th>Power Consumption</th>
<th>Typ. 11W</th>
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<tbody>
<tr>
<td>Environmental</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0°C to +60°C, standard</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +85°C (without additional components)</td>
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<tr>
<td>Climatic Humidity</td>
<td>93% RH at 40°C, non-condensing (acc. to IEC 60068-2-78)</td>
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### Ordering Information

<table>
<thead>
<tr>
<th>Article</th>
<th>Description</th>
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<tbody>
<tr>
<td>CP3003-V-1.0S-2-8F</td>
<td>Celeron 807UE, Single-Core 1.0 GHz, 1MB cache, 2GB DDR3 SODIMM (one memory channel), 8HP, Front I/O</td>
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<tr>
<td>Storage (as separate items, not mounted on the CPU)</td>
<td></td>
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<tr>
<td>CFASTx</td>
<td>Industrial grade CFast, various sizes available</td>
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<tr>
<td>CP-HDD-2.5-SATA-xx</td>
<td>Industrial grade HDD, various sizes available</td>
</tr>
<tr>
<td>CP-SSD-2.5-SATA-xx</td>
<td>Industrial grade SSD, various types and sizes available</td>
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