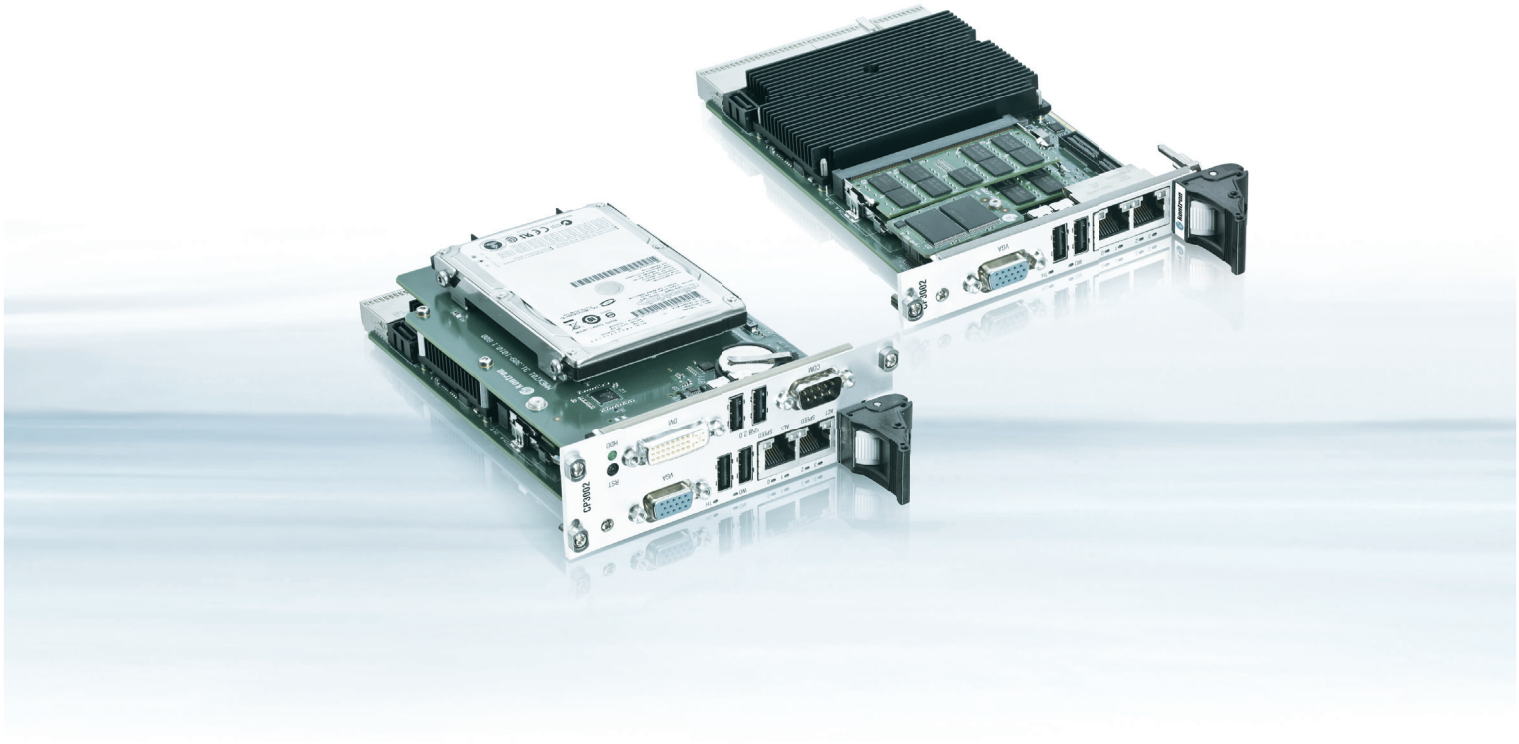
CP3002



Intel® Core™ i7 / Celeron® 3U CompactPCI BOARD

- outstanding performance
- fast and reliable data storage
- comprehensive I/O capabilities

POSSIBILITIES START HERE kontron

CP3002

Intel® Core™ i7 / Celeron® 3U CompactPCI CPU BOARD

Intel®'s Core™ microarchitecture sets new standards for energy-efficient performance and scalability by use of new technologies such as Intel® Turbo Boost technology and Intel® Smart Cache.

The CP3002 is a highly integrated 3U CompactPCI CPU board based on the Intel® Core™ i7 and Celeron® processor platform combined with the Mobile Intel® QM57 Express Platform Controller Hub.
The CP3002 supports the Intel® Core™ i7-610E and Core™ i7-620LE processors with frequencies up to 2.53 GHz for high-performance needs, as well as the ULV processors Core™ i7-660UE and Celeron® U3405 for temperature- and TDP-critical applications.
The integrated next generation graphics core offers superior 3D and video performance resulting in a up to doubled graphics performance compared to previous platform designs. Memory demanding applications can make use of up to 8 GB DDR3 SDRAM with Error Checking and Correction (ECC). For onboard data storage the CP3002 offers up to 32 GB on a dedicated SATA Flash module or a HDD/SSD and CFast option on the 8HP extension module.
On the system side, the CP3002 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.

Unique Versatility

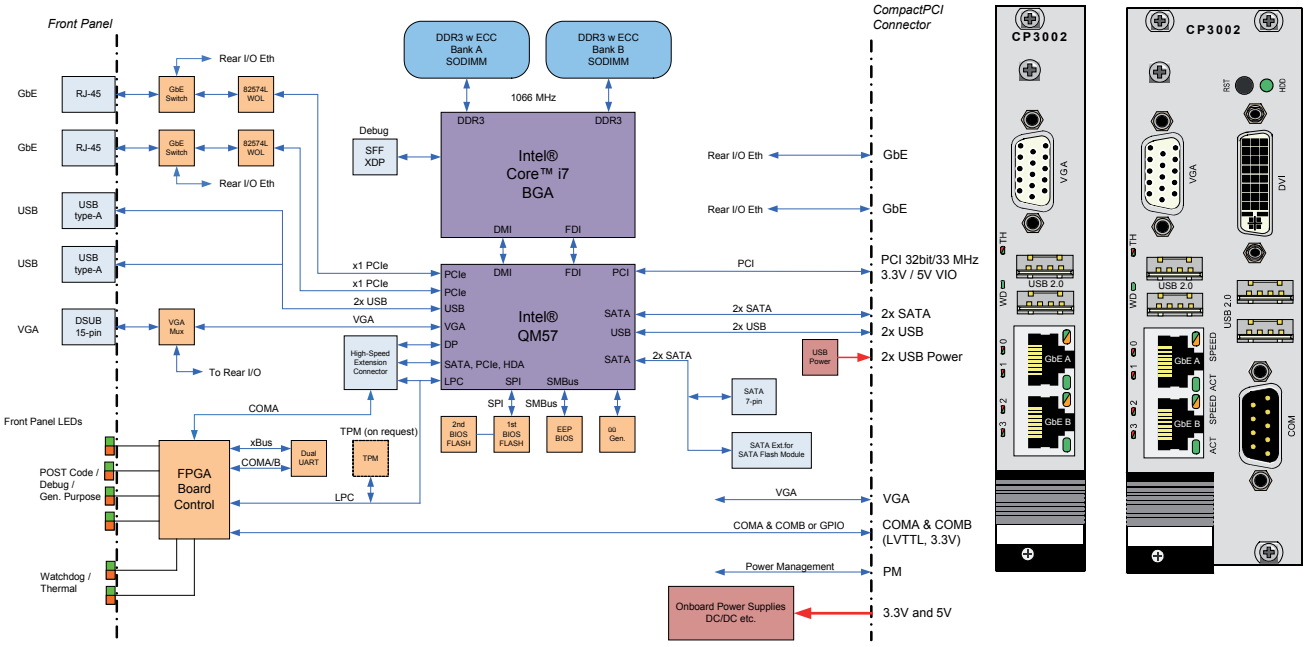
A variety of communication interfaces like two Gigabit Ethernet ports, six USB 2.0 ports, six SATA interfaces and two serial ports either available at the front as onboard header or via Rear IO allow the CP3002 to be easily adapted to the individual application requirements.

Highest Data Security

The optional Trusted Platform Module (TPM)
provides hardware-based encryption mechanisms to create, seal or store keys, passwords and other important data.

Long-Term Availability

Investing in a new project is always a challenge and risky. Extending the lifetime of an application to the possible maximum is therefore a critical issue to save the development investments.
Delivering a stable product based on Intel®'s embedded product line, the CP3002 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 CP3002 eases the process of product integration and maximizes your competitive advantage to meet your time-to-market window.



TECHNICAL INFORMATION

PROCESSOR		Intel® Core™ i7 and Celeron® processors (32nm technology): - Core i7-620LE: 2.0 GHz, LV, 4MB L3 cache (shared instruction/data cache between both cores) - Core i7-610E: 2.53 GHz, SV, 4MB L3 cache (shared instruction/data cache between both cores) - Core i7-660UE: 1.33 GHz, ULV, 4MB L3 cache (shared instruction/data cache between both cores) - Celeron® U3405: 1.07 GHz, ULV, 2MB L3 cache (shared instruction/data cache between both cores) Please contact Kontron for further information concerning the suitability of other Intel processors for use w. the CP3002
MEMORY	SYSTEM MEMORY FLASH (UEFI) EEPROM SATA NAND FLASH HDD CFAST	Up to 8 GB dual channel DDR3 SDRAM running at 1066 MHz, with ECC, via two SODIMM sockets 2x redundant 8 MB SPI Flashes, with fail-over functionality Serial EEPROM (24LC64) 64 Kbit for storing uEFI BIOS settings and serial number Up to 32 GB SLC NAND Flash on a dedicated SATA NAND Flash module The SATA NAND Flash option is only available on a 4HP CP3002 Onboard 2.5" SATA HDD installation via 8HP mezzanine Onboard CFast installation via 8HP mezzanine
ONBOARD CONTROLLER	PLATFORM CONTROLLER HUB VGA GIGABIT ETHERNET UART WATCHDOG RTC TRUSTED PLATFORM MODULE (TPM)	Mobile Intel® QM57 Express Chipset: - SATA host controller with six ports with RAID 0/1/5/10 support - USB 2.0 host interface with up to 14 ports (six ports are used on the CP3002) - Two PCI Express x4 or eight PCI Express x1 2.0 ports (only two PCI Express x1 are used) High performance 3D graphics controller integrated in the processor: - Support for two independent displays - Supports digital display resolutions up to 2560 x 1600 pixels @ 60Hz - Supports analog display resolutions up to 2048 x 1536 pixels @ 75Hz - Dynamic Video Memory Technology (DVMT), up to 352 MB 2x GbE, front or rear (switchable), Intel 82574L Ethernet controller, WOL (Wake-On-LAN) support XR16L2750IM-F, dual UART, 16C550-compatible FPGA-based, timeout ranging from 125ms to 4096s programmable in 16 steps, IRQ, Reset, dual-stage Integrated in QM57 with 256 Byte CMOS RAM Infineon SLB9635TT TPM 1.2 controller, optional
FRONT INTERFACES 4HP	VGA USB ETHERNET LED'S	1x VGA-CRT 15-pin D-Sub connector 2x USB 2.0 ports, 4-pin standard USB connectors 2x RJ45 with integrated LEDs (ACT, SPEED) 6x LED's: 4x POST Code or General Purpose, WD, TH
FRONT INTERFACES 8HP (ADDITIONAL TO 4HP)	DVI USB COM CONTROL	1x 29-pin DVI-D connector 2x USB 2.0 ports, 4-pin standard USB connectors 1x 9-pin D-Sub connector, RS-232 signalling Reset button and HDD LED
ONBOARD INTERFACES	SERIAL ATA HIGH-SPEED I/O CONNECTOR I/O EXTENSION CONNECTOR	1x onboard standard SATA connector The high-speed I/O connector to the extension module holds the following signals: - PCI Express - Two SATA II - Two USB 2.0 - One DisplayPort - One COM port RS-232 - HDA - LPC 18-pin I/O extension connector holding 1x SATA port for the SATA NAND Flash module
REAR I/O VIA J2		The CP3002 supports: - Two SATA II ports - Two Gigabit Ethernet ports without LED signals - Two USB 2.0 ports - One VGA analog port - Two COM ports (LVTTL signal level) - Five GPIs and Three GPOs (LVTTL signal level) - Power management signals
COMPACTPCI BUS INTERFACE		- PICMG 2.0 Rev. 3.0 compatible, 32-bit/33MHz, version with rear I/O via J2 - Universal 5V and 3.3V PCI signalling voltage supported, 7 Req/Gnt & clock lines - Operating in system slot as system master and in peripheral slot in PCI passive mode
SUPERVISORY FUNCTIONS		Watchdog, software configurable, 125ms to 4096s in 16 steps, generates IRQ or hardware reset, dual-stage configuration
HOT SWAP		Support for all signals to allow peripheral boards to be hot swapped. The individual clocks for each slot and access the backplane ENUM# signal comply with the PICMG 2.1 Hot Swap Specification

TECHNICAL 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 WEIGHT MTBF	100 x 160mm, 3U, 4HP or 8HP CP3002 4HP: 340 g CP3002 8HP: 480 g CP3002: 250,129 h acc. to MIL-HDBK-217 FN2, Ground Benign, controlled at 30° CP3002-HDD: 1,901,991 h acc. to MIL-HDBK-217 FN2, Ground Benign, controlled at 30°
SOFTWARE SUPPORT		- AMI uEFI, setup console redirection to serial port (VT100 mode) with CMOS setup access, EFI Shell support, Board configuration via Shell, diskless, keyboardless, videoless operation - LAN boot support - Board identification number accessible via EEPROM - Support for Windows® XP, Windows® 7, Windows® Embedded Standard 7, Windows® Server 2003, Windows® Server 2008, Linux®, Wind River Linux, VxWorks®, QNX® (Other OSs may also be used with the CP3002. Please contact Kontron for further information.)
POWER CONSUMPTION		Core i7-620LE 2.0 GHz and 4GB memory typ. 28W
ENVIRONMENTAL	OPERATING TEMP. STORAGE TEMP. CLIMATIC HUMIDITY	0°C to 60°C, standard, extended temp. -25°C to 70°C on project request -40°C to +85°C (without additional components) 93% RH at 40°C, non-condensing (acc. to IEC 60068-2-7)

ORDERING INFORMATION

ARTICLE	DESCRIPTION
CP3002-SA-2.0D-4-8F	Core i7-620LE, 2.0 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Front I/O
CP3002-SA-2.0D-4-8F-C	Core i7-620LE, 2.0 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Front I/O, with conformal coating
CP3002-SA-2.0D-4-8F-S8	Core i7-620LE, 2.0 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Front I/O, with SATA Flash 8GB
CP3002-SA-2.0D-4-8R	Core i7-620LE, 2.0 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Rear I/O
CP3002-SA-2.0D-4-8R-EX	Core i7-620LE, 2.0 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Rear I/O, extended temp. range
CP3002-SA-2.0D-4-8R-EX-C	Core i7-620LE, 2.0 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Rear I/O, extended temp. range, with conformal coating
CP3002-SA-2.0D-8-4F	Core i7-620LE, 2.0 GHz, 4MB L3, 8GB DDR3 with ECC, 4HP, Front I/O
CP3002-SA-2.0D-8-8R	Core i7-620LE, 2.0 GHz, 4MB L3, 8GB DDR3 with ECC, 8HP with CP3002-HDD, Rear I/O
CP3002-SA-2.0D-8-8R-EX-C	Core i7-620LE, 2.0 GHz, 4MB L3, 8GB DDR3 with ECC, 8HP with CP3002-HDD, Rear I/O, extended temp. range, with conformal coating
CP3002-SA-2.53D-4-4F	Core i7-610E, 2.53 GHz, 4MB L3, 4GB DDR3 with ECC, 4HP, Front I/O
CP3002-SA-2.53D-4-4F-S16	Core i7-610E, 2.53 GHz, 4MB L3, 4GB DDR3 with ECC, 4HP, Front I/O, with SATA Flash 16GB
CP3002-SA-2.53D-4-8F	Core i7-610E, 2.53 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Front I/O
CP3002-SA-2.53D-4-4R	Core i7-610E, 2.53 GHz, 4MB L3, 4GB DDR3 with ECC, 4HP, Rear I/O
CP3002-SA-2.53D-4-4R-S16	Core i7-610E, 2.53 GHz, 4MB L3, 4GB DDR3 with ECC, 4HP, Rear I/O, with SATA Flash 16GB
CP3002-SA-2.53D-4-8R	Core i7-610E, 2.53 GHz, 4MB L3, 4GB DDR3 with ECC, 8HP with CP3002-HDD, Rear I/O
CP3002-SA-2.53D-8-8F	Core i7-610E, 2.53 GHz, 4MB L3, 8GB DDR3 with ECC, 8HP, Front I/O
CP3002-SA-2.53D-8-8F-C	Core i7-610E, 2.53 GHz, 4MB L3, 8GB DDR3 with ECC, 8HP with CP3002-HDD, Front I/O, with conformal coating
CP3002-SA-2.53D-8-8F-HK	Core i7-610E, 2.53 GHz, 4MB L3, 8GB DDR3 with ECC, 8HP with CP3002-HDD, Front I/O, with HDD King Size
CP3002-SA-2.53D-8-4R-S8	Core i7-610E, 2.53 GHz, 4MB L3, 8GB DDR3 with ECC, 4HP, Rear I/O, with SATA Flash 8GB
CP3002-SA-2.53D-8-8R	Core i7-610E, 2.53 GHz, 4MB L3, 8GB DDR3 with ECC, 8HP with CP3002-HDD, Rear I/O
FLASH STORAGE (AS SEPARATE ITEM, NOT MOUNTED ON THE CPU)	
FLASH-SATA-XGB-CP3002/ CP3003	SATA NAND Flash module, various sizes available
CFASTX	Industrial grade CFast, various sizes available
REAR TRANSITION MODULE	
CP-RIO3-04	4HP rear I/O module (2x Ethernet, 2x USB, VGA, 2x SATA connectors)
CP-RIO3-04	8HP rear I/O module (additional to 4HP COM1/2)
CP-RIO3-04S	4HP rear I/O module (2x Ethernet, COM, VGA, 2x SATA connectors)
SOFTWARE	
VXW-BSP-CP3002 (-RC/-RA)-V6.9.1	VxWorks 6.9.1 Board Support Package

Please contact your local sales representative for other configuration options.

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