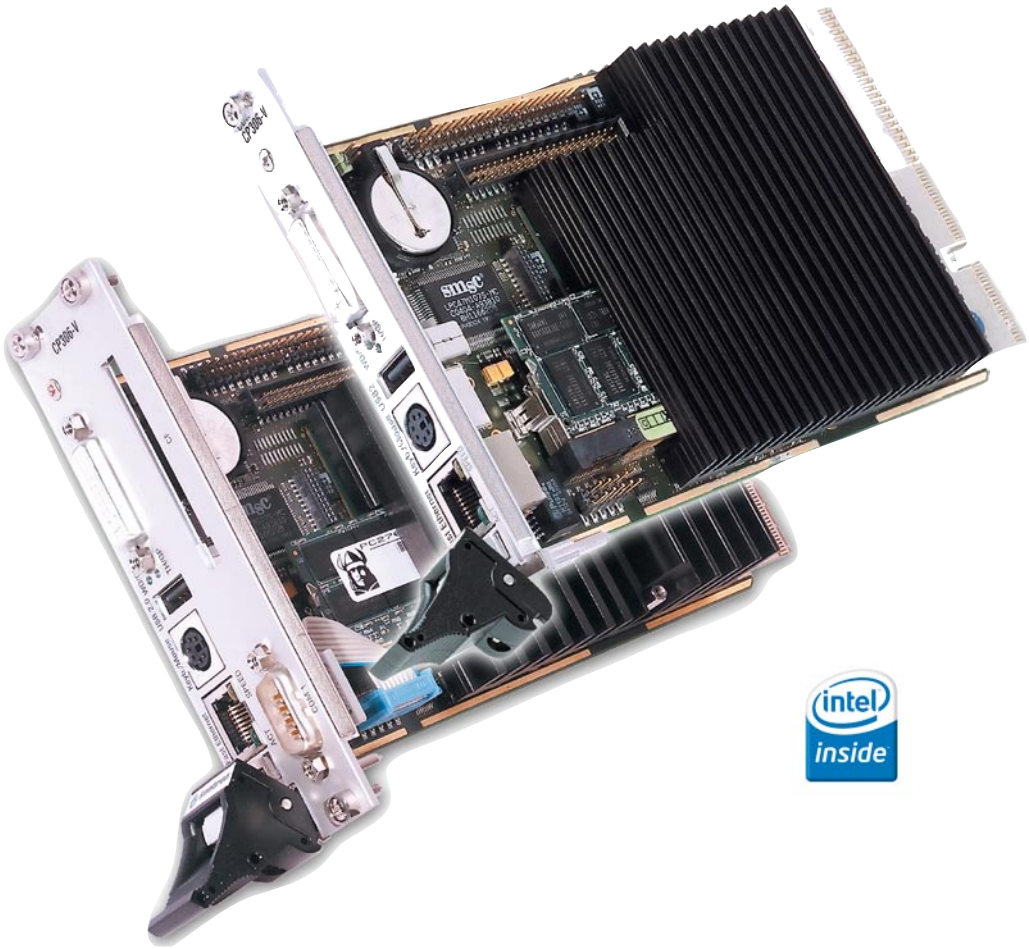
CP306-V

Intel® Celeron® M Value line CPU



- **Industry tailored**
  Comprehensive I/O capabilities
- **Cost optimized**
  Value oriented with Celeron-M
- **Performance oriented**
  Integrated Graphics with 855GME

kontron

Great Performance. Exceptional Value

Don't pass on features ...

Kontron Modular Computer's CompactPCI CP306-V CPU:
High performance meets high value in a winning combination

The CP306-V CompactPCI system controller board combines the performance of Intel®'s Celeron® M processor with the dense feature sets of the 855GME chipset and the ICH4 I/O Controller Hub all in a single 3U slot (8HP optional).
Designed for long-term availability, high integration and low power, the CP306-V is the perfect building block for a wide range of embedded applications.

Industry tailored

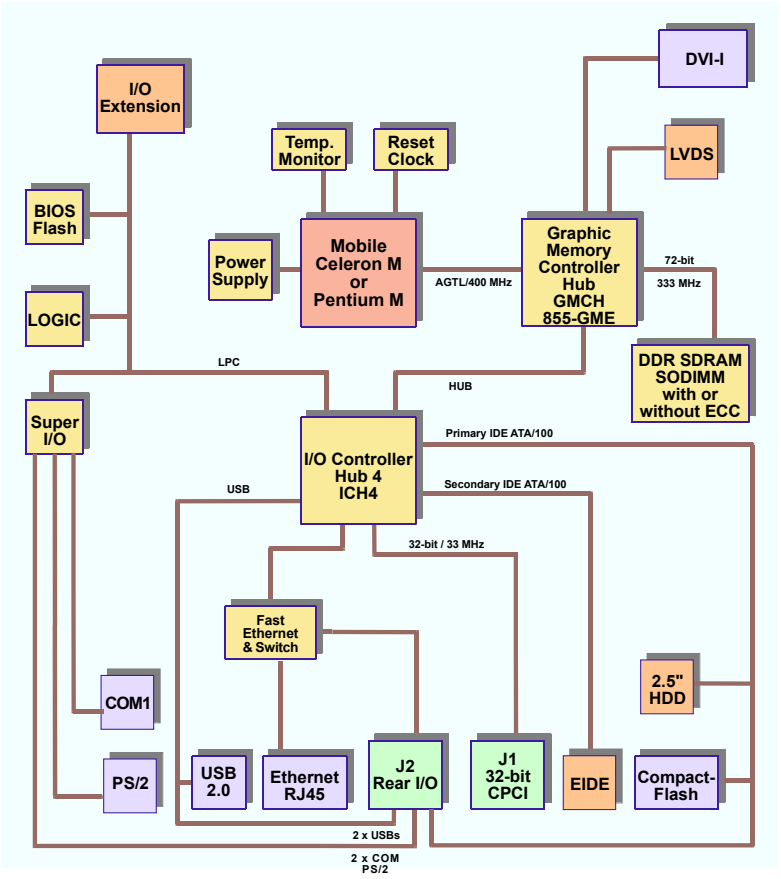
The 4HP version comes standard with today's most important interfaces: DVI-I, USB2.0, Fast Ethernet and PS/2. The 8HP version adds RS232, front-accessible CompactFlash slot and onboard 2.5" HDD support. Software support is extensive, including Windows, Linux and RTOSes such as VxWorks.

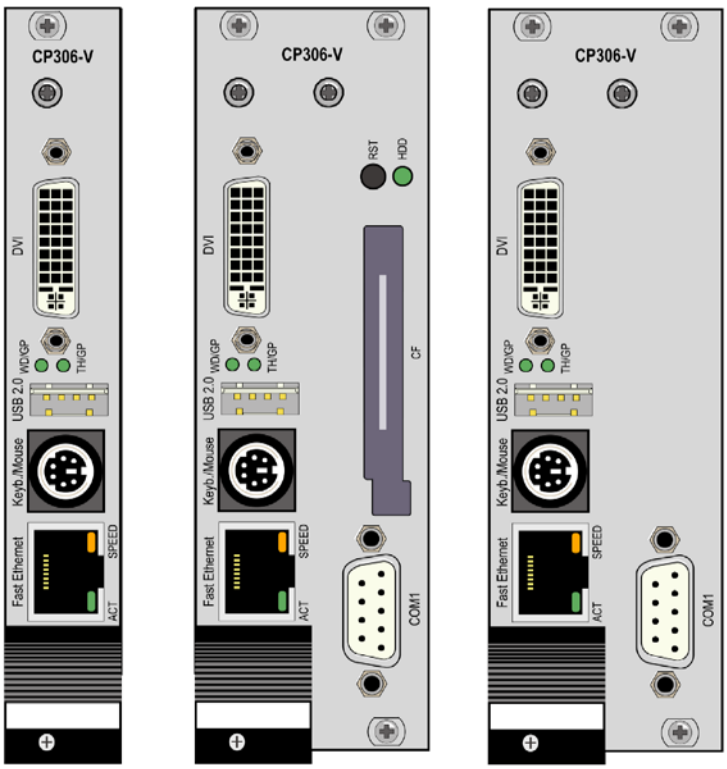
Cost optimized

Based on Intel®'s Celeron® M processor family, the CP306-V provides an unprecedented price/performance level for 3U cPCI. While the CP306-V offers a rich set of features to build your most demanding applications, all the unnecessary "bells and whistles" have been eliminated to provide you with the best value possible. Choose the CP306-V in a CP-POCKET system to achieve all the benefits of CompactPCI – at IPC prices.

Performance oriented

In the past, "value" meant a big sacrifice in performance. No need to sacrifice with the CP306-V: up to 1GByte of DDR-SDRAM, Celeron® M performance, USB2.0, Fast Ethernet and more, the CP306-V is the ideal platform for today's toughest applications.
2D and 3D graphical implementations get a boost from Intel® Extreme 2 graphics technology and the DVI-I interface supports twin display solutions (1x CRT, 1x DVI).
Finally for applications where the Celeron® M is not powerful enough, the CP306-V can be customized with Intel® Pentium® M CPU's up to 2.0 GHz.





Technical Specification

System Processor

Socket or soldered low power Celeron® M and Pentium® M processor in 479-pin FC-PGA and FC-BGA package with 400 MHz processor system bus.
Standard versions (other processor versions on request):
- 1.3 GHz Celeron® M processor (512KB L2 cache) with 8HP fan-less heat sink
- 600 MHz Celeron® M processor (512KB L2 cache) with 4HP fan-less heat sink

Forced air cooling at a specific flow rate is required.

Memory

333 MHz memory speed, Intel® 82855GME GMCH
256MByte, 512MByte or 1GByte PC333 DDR-SDRAM with or without ECC via standard 200-pin SODIMM socket
Within 8HP:
- Onboard 2.5" HDD mounting
- CompactFlash socket type II (Flash or Microdrive HDD)

1MByte Firmware Hub for BIOS
8KByte EEPROM for CMOS data storing (no battery operation)

Connectivity

4HP board:

Ethernet:	Intel® 82801DB ICH4 10/100Base-TX Ethernet controller (based on 82559, front or rear IO)
VGA:	Intel® 82855GME GMCH internal VGA controller providing 2048x1536x8bit/60Hz resolution, max. shared memory 64MB, analog CRT and DVI signals are connected to the 29-pin DVI-I connector. Dual head applications possible. Optional for customization an onboard LVDS interface is available.
USB:	3x USB2.0 channels up to 480Mbit/s from ICH4, 1x as front IO, 2x as rear IO
PS/2:	PS/2 for keyboard and mouse legacy support
IDE:	Two EIDE interfaces, UltraDMA/100. Primary port: UltraDMA/100 44-pin, 2mm connector onboard. Secondary port: UltraDMA/100 40-pin, 2.54mm connector onboard.
COM:	2x as rear IO
Reset:	two-pin onboard connector

8HP additions:

COM:	one of the rear IO ports alternatively available on front IO
IDE:	Primary port available via mezzanine module for onboard 2.5" EIDE Flash Disk or HDD mounting option and in addition CompactFlash socket.

Front Panel Interfaces

4HP version:

Ethernet:	One RJ-45 with integrated LED´s (ACT, SPEED)
DVI:	29-pin D-Sub DVI-I connector (optionally for customization a VGA-CRT 15-pin D-Sub SVGA connector is available instead of DVI)
USB:	One 4-pin connector
PS/2:	Keyboard/Mouse
LED´s:	ACT, SPEED (LAN), Thermal, Watchdog or both general purpose

8HP additions to 4HP:

COM1:	One 9-pin D-Sub (RS232)
Compact Flash:	Opening for CompactFlash, CompactFlash socket with integrated ejector (not hot swappable)
Reset:	Reset button, guarded
LED:	IDE-HDD activity

Rear I/O via J2

The Rear I/O versions support:
- Two USB 2.0 ports
- One Fast Ethernet port without LED
- Two COM ports (TTL level)
- Primary IDE port
- CRT VGA port
- Two fan control inputs
- One general purpose output
- Input for external backup battery
- PS/2 for Keyboard and mouse

CompactPCI Bus Interface

PICMG 2.0 Rev. 3.0 compatible, 32-bit/33MHz System master
5V VI/O (3.3V on request), 7 Req/Gnt & clock lines
Version with rear I/O on J2 PICMG 2.0

Supervisory Functions

Watchdog, software configurable, 125ms to 256s in 12 steps, generates IRQ, NMI or hardware reset, two stage configuration for NMI and Reset
Hardware monitor LM87 for thermal control, fan-sense and all important onboard voltages.
ICH4 internal RTC (MC146818 compatible), RTC and 256 Byte CMOS RAM with backup, battery replaceable.

Hot Swap

Support for all signals to allow peripheral boards to be hot swapped. The individual clocks for each slot and access to the backplane ENUM# signal comply with the PICMG 2.1 Hot-Swap specification.

Compliancy

CompactPCI Core Specification PICMG 2.0 Rev. 3.0
CompactPCI Hot Swap Specification PICMG 2.1 R2.0
Designed to meet or exceed:
- Safety: UL 1950, UL 94, CSA 22.2 No 950, EN 60950, IEC 950
- EMI/EMC: EN 55022 / EN 55024, EN 50081-1 / EN 6100-6-2

General

Dimensions:	100mm x 160mm
Weight:	320g / 4HP, 560g / 8HP
MTBF:	>120,000 h

Software Support

Phoenix BIOS with QuickBoot, QuietBoot, BootBlock, MultiBoot III, PC Health Monitoring, Serial port remote control with CMOS setup access, BIOS parameters saved in EEPROM, diskless, keyboardless, videoless operation, LAN boot support, USB Floppy boot, USB memory stick boot, Plug&Play capability
Board identification number accessible via EEPROM
Support for Windows 2000, XP Professional, XP Embedded, Linux®, VxWorks®, (other OS's may be possible, please contact us for information).

Power Consumption

+5V/11W, +3.3V/ 9W, +5V/20W, +3.3V/10W, +12V/-12V not used	typ. 20W at 1.3GHz (10W at 600 MHz) max. 30W at 1.3GHz (14W at 600 MHz)

Environmental

Operating temp.:	0°C to +60°C standard
Storage temp.:	-55°C to +85°C
Climatic Humidity:	non condensing 93% at 40°C (acc. to IEC 60068-2-78)
Altitude:	50,000 ft. (15,240 m)

Ordering Information

Product	Description	Order-No.
CP306-V	Baseboard with 1.3 GHz Celeron® M Processor and 8HP heat sink	28445
CP306-V	Baseboard with 600 MHz Celeron® M Processor and 4HP heat sink	28749
	Memory Module	
SODIMM-DDR-256	256 MB PC333 200-pin SODIMM memory module, no ECC	27487
SODIMM-DDR-512	512 MB PC333 200-pin SODIMM memory module, no ECC	27488
SODIMM-DDR-1024	1024 MB PC333 200-pin SODIMM memory module, no ECC	27490
SODIMM-DDR-256-E	256 MB PC333 200-pin SODIMM memory module, with ECC	28558
SODIMM-DDR-512-E	512 MB PC333 200-pin SODIMM memory module, with ECC	27489
SODIMM-DDR-1024-E	1024 MB PC333 200-pin SODIMM memory module, with ECC	27491
	Extension-Module	
CP306-V-EXT-DVI	4HP Frontpanel, DVI, 1x FastEthernet, 1x USB, 1x PS/2, LED's	28559
CP306-V-EXT-IO	8HP Frontpanel, DVI, 1x FastEthernet, 1x USB, 1x PS/2, LED's + 1x COM	28745
CP306-V-EXT-IOIDE	8HP Frontpanel, DVI, 1x FastEthernet, 1x USB, 1x PS/2, LED's + 1x COM, CF-carrier, 2.5" HDD-carrier,	28447
	Reset button	
	Rear IO-Module	
CP-RIO3-03	4HP rear I/O module (1x FastEthernet, COM1/2, onboard IDE connector)	26725
CP-RIO3-03	8HP rear I/O module (additional to 4HP VGA, 2x USB, PS/2)	28703
	Accessories	
CFxxx	CompactFlash in various memory sizes available (to be mounted on CP306-V-EXT-IOIDE)	various
CP-HDD-2.5-IDE	Notebook-style 2.5" Hard disk in various sizes available (to be mounted on CP306-V-EXT-IOIDE)	various
CP-ADAP-DVI-CRT	DVI to CRT adapter to connect a CRT monitor to the DVI output of the CP306-V	24368
CP-ADAP-DVI-CRT	DVI-I to DVI and CRT adapter to connect a CRT and a DVI monitor to the DVI-I output of the CP306-V	28807
	Software	
KIT-CP306-V	Board Support Packages for Windows 2000 and XP, CP306-V User's Manual	28791
VXW-BSP-CP306/-V	VxWorks 6.x Board Support Package, CP306-V User's Manual	26724
LIN-BSP-CP306/-V	Linux Board Support Package, CP306-V User's Manual	27617
WXPE-BSP-CP306-V	Windows XP embedded Board Support Package, CP306-V User's Manual	1022-2324

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