



Features

- DM&P Vortex86DX (800 MHz) processor
- 128 MB DDR2 SDRAM
- Two Xilinx FPGAs
- Flash disk 128 MB
- Ethernet controller 10/100 Mb/s
- PC/104 slot (32-bit PCI, 16-bit ISA)
- USB 1.1, USB 2.0 support, up to four devices connection
- Four COM ports
- Isolated analog input – 8 channels
- Isolated analog output – 2 channels
- ADC, DAC
- 100G/10G – shock/vibration
- Industrial operating temperature range: –40°C to +85°C
- Protective coating (option)

Overview

FASTWEL CPC306 is designed for applications requiring industrial controller with low power and compact size but capable to run in industrial environments.

FASTWEL CPC306 complies to PC/104-Plus™ specification and compatible with high number of PC/104 peripheral modules, power supplies and cages available from various vendors worldwide.

Empowered by x86 compatible Vortex™ 86DX family system-on-chip, CPC306 offers quick software development under DOS, Linux, Windows or QNX operating systems. High performance CPU core with frequency 800 MHz and 128 MB of DDR2 SDRAM provides sufficient computational resources for majority of controller applications.

Integrated Ethernet channel, four COM ports and high number of digital and analogues input-outputs ports give developers an excellent set of interconnects to the sensors, slave devices and host systems. Four USB 2.0 and LPT ports give CPC306 connectivity to various devices from PC environments.

Full 16-bit ISA bus support ensures expansion capability of CPC306 with legacy periphery modules and power supplies, while 32-bit PCI provides interconnect for mainstream expansion modules.

FASTWEL CPC306 has onboard CF and EIDE interfaces, providing developers a choice of storage media to be used with.

With all components soldered on board CPC306 withstands vibration up to 10g, shock up to 100g and operates within industrial temperature range of –40...+85°C.

For development purpose and for application requiring graphical output, FASTWEL CPC306 can work together with FASTWEL VIM301 — PC/104-Plus compatible board empowered by embedded GPU from Silicon Motion™ — Linx3DM8+ with set of video interfaces comprising of 2 LVDS, 2 TFT, one CRT and one EL.

Technical Specifications

System

- CPU: DM&P Vortex86DX (800MHz): 32-bit x86 kernel, L1 cache (16 KB I-Cache, 16 KB D-Cache), random number generator, BGA package 27×27 mm (581 output)
- 128 MB DDR2 SDRAM
- 2 Xilinx FPGAs
- Atmel (MTBF Counter, Statistics)
- MTBF: 180 000 hours

Flash BIOS

- 256 KB, reserved
- In-system modification
- FRAM (SPI) 64 Kbit for CMOS settings

Storage

- Flash disk: ATA Flash Disk Controller, NAND Flash 128 MB, IDE interface
- CompactFlash Type I/II socket
- HDD connection: one primary channel, up to two devices connection (when ATA Flash Disk and CompactFlash are disabled in BIOS Setup), UltraDMA/100 support
- LPT port

Software support

- MS™ DOS 6.22
- Fastwel DOS™ 6.22
- QNX® 6.3x
- Windows® CE, XPE
- Linux® 2.4

Interfaces

- Ethernet: one Ethernet controller, 10/100 Mb/s
- USB: USB 1.1, USB 2.0 support, up to four devices connection
- Universal parallel port with SPP, EPP and ECP support
- PC/104 (PCI) 32-bit, 33 MHz slot
- PC/104 (ISA) 16-bit, 8/16 MHz slot
- Serial ports:
 - COM1, COM2: RS-232, full control, up to 230 Kb/s (COM1 console)
 - COM3, COM4: isolated RS-422/485, up to 460 Kb/s
- PS/2: keyboard and mouse port

- 72-bit discrete input/output (+5V)
- Isolated analog input – 8 channels
- Isolated analog output – 2 channels
- ADC (analog-digital converter), DAC (digital-analog converter)
- Two watchdog timers: one programmable timer, one hardware based timer with fixed timeout period
- Module uptime counter
- Thermal sensor for module temperature monitoring (–55...+125°C)
- Input voltage monitoring +5V
- Real-time clock
- Opto-isolated reset/interrupt

Mechanical

- Dimensions: 125×123×23 mm (4.9"×4.8"×0.9")
- Weight: 0.1 kg

Power requirements

- 5V ±5%, 0.5A

Environmental conditions

- Operating temperature range: –40°C to +85°C
- Storage temperature range: –55°C to +90°C
- Humidity: 0% to 80%, non-condensing
- Shocks/vibration: 50G/3G

List of deliverables

- CPC306 module
- Ribbon cable for 2.5" HDD connection, 44 threads
- Adapter for 3.5" HDD and CDROM drive connection
- IDC10-DB9 adapter cable for connection of a console to COM port
- CD with software and documentation
- Package

Warranty

- 3 years for parts and labor

