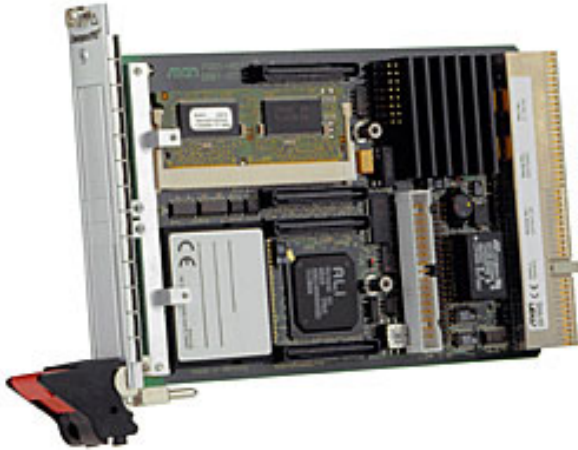


F4 - 3U CompactPCI PowerPC Peripheral SBC



- ◆ PowerPC MPC8245/300MHz
- ◆ 1-slot 32-bit peripheral slot card
- ◆ 1 MB ultra-fast DPRAM
- ◆ 256 MB DRAM, CompactFlash
- ◆ Graphics via PC-MIP
- ◆ Ethernet via PC-MIP
- ◆ 2 COMs, IDE, USB, keyboard/mouse
- ◆ 2 PC-MIP slots
- ◆ Option: 4 RS232 and 100Base-T with 5 RJ45

The F4 is a high-speed Kahlua II PowerPC-based CompactPCI CPU card optimized for industrial requirements in control and instrumentation in terms of functionality, environmental conditions and cost. It is especially prepared for all types of industrial qualification such as extended temperature range (-40 to +85°C), shock, vibration, humidity etc., and is thus the optimum choice for the most extreme environmental conditions: railroad, ship and aerospace applications.

The F4 provides full single-board computing

functionality on one slot and includes two PC-MIP slots for further I/O extensions. The F4 has a non-transparent PCI-to-PCI bridge and acts as a peripheral board on the CompactPCI bus.

Using an adapter in double PC-MIP format (AD45) the F4 functionality can be extended by four RS232 UARTs and 100Base-T Ethernet. The signals are available at the front via five RJ45 connectors. The F4 in this configuration still needs only one slot on the CompactPCI bus (see Related Products and AD45 data sheet).

Technical Data

CompactPCI Bus

- Compact PCI peripheral slot
 - PICMG Spec. 2.0 R3.0 compliant
 - 32-bit data bus
 - 33MHz
- V(I/O): +3.3V or +5V (Universal Board)
- Concurrent primary and secondary bus operation
- I2O message unit

CPU

- PowerPC MPC8240 @ 250MHz
- PowerPC MPC8245 up to 400MHz on request
- Core voltage 2.5V (MPC8245: 1.8V)

Memory

- Level 1 Cache integrated in MPC824x
- 100 MHz memory bus operation
- SDRAM SO-DIMM up to 256MB
 - 64 bits
- Flash 2MB
 - 8 bits
- Serial EEPROM 4Kbit
 - For factory settings
- CompactFlash (TM) interface (true IDE)

Interfaces

- Two serial COM ports
 - Physical interface using SA adapter via 10-pin ribbon cable
 - RS232..RS485, isolated or not: for free use in system (cable to front or back)
- IDE
- Keyboard/mouse
- USB

PC-MIP Extension

- Two PC-MIP mezzanine extension slots at front panel
- Compliant with PC-MIP specification (Type I/II slots)

Miscellaneous

- Real-time clock with 8k NVRAM
- Hardware monitor and watchdog for on-board temperature control
- Hex switch for user settings

Electrical Specifications

- Supply voltage/power consumption:
 - +5V (4.75V..5.25V), 2A
 - +3.3V (3.0V..3.6V), 0.8A
- MTBF: 88,000h @ 50°C

Mechanical Specifications

- Dimensions: conforming to CompactPCI specification for 3U boards
- Weight: 215g

Environmental Specifications

- Temperature range (operation):
 - 0..+60°C or -40..+85°C
 - Airflow: min. 10m³/h
- Temperature range (storage): -40..+85°C
- Relative humidity range (operation): max. 95% non-condensing
- Relative humidity range (storage): max. 95% non-condensing
- Altitude: -300m to + 3,000m
- Shock: 15g/0.33ms, 6g/6ms
- Vibration: 1g/5..2,000Hz

Safety

- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

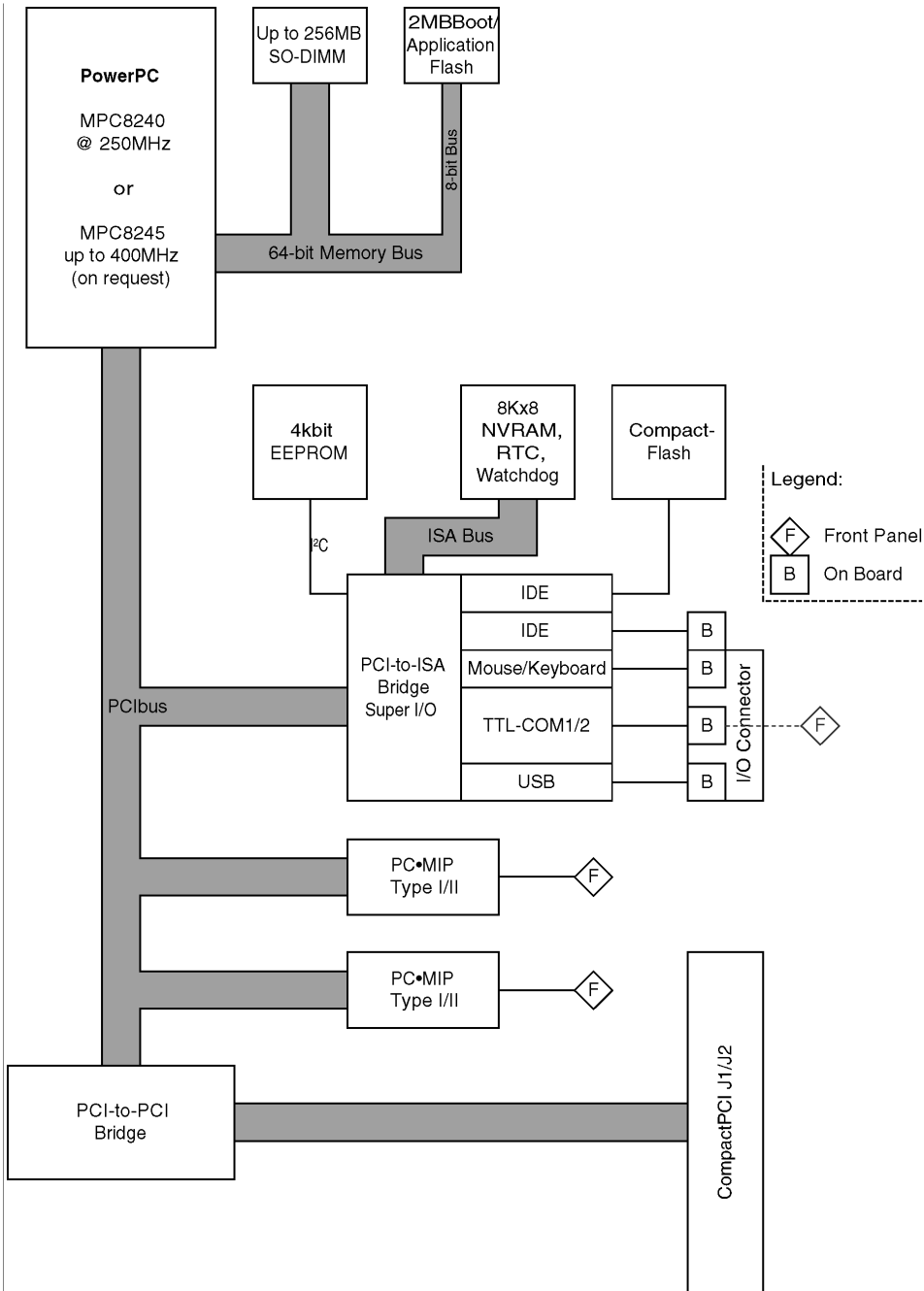
EMC

- Tested according to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst) with regard to CE conformity

Software Support

- MENMON
- VxWorks

Diagram



Related Products

Standard Hardware

02F004-00	F4, CompactPCI 3U, peripheral card, MPC8240/250MHz, 2MB Flash, no DRAM, 2 PC-MIP slots, 1-slot front panel
02F004-01	F4, CompactPCI 3U, peripheral card, MPC8240/250MHz, 2MB Flash, no DRAM, 2 PC-MIP slots, 1-slot front panel, temperature range: -40..+85°C

Please refer to our 3U CompactPCI compare chart for a selection of further single-board computers with different processors and on-board functionality.

Systems & Card Cages

Disk drives for basic systems are delivered as requested. Different rack sizes, power supplies and backplanes on request.

0701-0009	Abk13.10.04 - nur intern; Preis wird nicht erhBuy:offen feexistierende Kunden Last Delivery:offen feexistierende Kunden Name: B.Schmitz Grund: Ersatz-Standardsystem 0701-0021 kann falle 3U-Karten verwendet werden -----CompactPCI 19" 3U rack-mount enclosure, 3U 7-slot CompactPCI backplane, ATX power supply
0701-0018	CompactPCI 19" 4U/84HP rack-mount enclosure for 3U cards (vertical), 8-slot 3U CompactPCI backplane, system slot right, no rear I/O, space for hard-disk drive, floppy drive, 300W ATX power supply wide range 100..240VAC on front, 1U fan tray included

Accessories

05F001-00	Mounting kit for 2 SA adapters for F1/F1N/F4, incl. 3U 1-slot CompactPCI front panel and ribbon cable, without SA adapters
05F003-03	IDE adapter cable, 44-pin 2-mm IDE connection to 2x 44-pin 2-mm IDE connection, 450mm
0500-0002	Battery M4T28... for Timekeeper M48T86 (spare part)
0751-0006	CompactFlash card, 512MB, Type I, 0..+60°C
0751-0007	CompactFlash card, 512MB, Type I, -40..+85°C
0751-0008	CompactFlash card, 64MB, Type I, 0..+60°C
0751-0009	CompactFlash card, 128MB, Type I, 0..+60°C
0751-0012	CompactFlash card, 256MB, Type I, 0..+60°C
0751-0013	Compact Flash card, 64MB, -40..+85°C
0751-0014	Compact Flash card, 128MB, -40..+85°C

Related Products

0751-0018	CompactFlash card, 256MB, Type I, -40..+85°C
0752-0036	64MB DRAM 0..+60°C for 02F004-00
0752-0037	128MB DRAM 0..+60°C for 02F004-00
0752-0038	256MB DRAM 0..+60°C for 02F004-00
0752-0097	256MB DRAM -40..+85°C for 02F004-01
08AD45-05	AD45, double PC-MIP, DS21143 Ethernet controller, 10/100Mbit/s, 100Base-T, quad RS232 UART 16450 with 128-byte FIFO, with front panel for 3U CompactPCI boards, 0..+60°C
08AD45-06	AD45, double PC-MIP, DS21143 Ethernet controller, 10/100Mbit/s, 100Base-T, quad RS232 UART 16450 with 128-byte FIFO, with front panel for 3U CompactPCI boards, -40..+85°C
08SA01-00	Serial interface adapter, RS232, not optically isolated, 0..+60°C
08SA01-03	Serial interface adapter for F1/F1N/F4/B11, RS232, not optically isolated, for direct mounting on CPU board, 0..+60°C (N.B.: Standard adapters can only be mounted using MEN's mounting kit.)
08SA02-00	Serial interface adapter, RS422/485, half duplex, optically isolated, 0..+60°C
08SA02-01	Serial interface adapter, RS422/485, full duplex, optically isolated, 0..+60°C
08SA02-07	Serial interface adapter, RS422/485, full duplex, optically isolated, temperature range: -40..+85°C
08SA03-00	Serial interface adapter, RS232, optically isolated, 0..+60°C
08SA03-01	Serial interface adapter, RS232, optically isolated, -40..+85°C
08SA04-00	Serial interface adapter, TTY, optically isolated, 0..+60°C

For more functions realized with SA adapters, see the listing on MEN's website. You can also view our SA adapter compare chart for a quick overview of different functions. Please contact sales to make sure that these SA adapters can be used in the board configuration you are looking for.

Software

14F004-00	MENMON (Firmware) for F4 (object code)
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You can download the data sheet for the MENMON firmware for PowerPC platforms from MEN's website.

Documentation

20AD45-00	AD45 user manual
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Related Products

20F004-00	F4 user manual
21APPN003	Application Note: Using P1/P501 Graphics on MEN 824x/ALI boards under ELinOS

For the most up-to-date ordering information and direct links to other data sheets and downloads, see the F4 online data sheet under www.men.de. --> [Click here!](#)

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