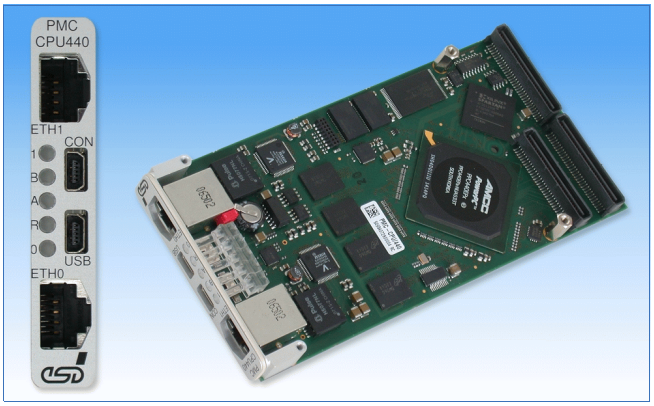
PMC-CPU/440

PowerPC™ PrPMC Module with Gigabit Ethernet, USB and CAN

- PowerPC™ AMCC PPC440EPx
- 2x 1000BASE-T Ethernet
- 2...4x CAN interface, TTL-level signals
- 1x RS-232 access via PMC-I/O connector
- 1x serial console via USB
- 1x USB 2.0 High Speed interface, host or device
- 1x IRIG-B time code interface

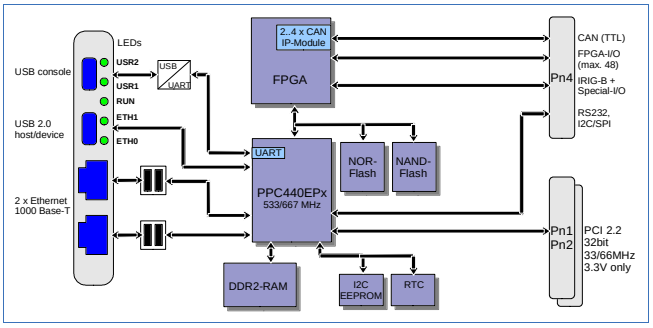


PMC PowerPC™ Board

The PMC-CPU/440 is a PCI Mezzanine Card that is automatically switched to monarch (PrPMC) or non-monarch mode according to the systems requirements. The PowerPC™ AMCC PPC440EPx with 533 MHz or 667 MHz enables a performance of 1334 DMIPS peak. The board is equipped with at least 256 Mbyte DDR2 RAM and 256 Mbyte NAND Flash.
System time can be supported by RTC (with double layer capacitor) or IRIG-B. For CAN bus synchronisation tasks a high resolution CAN hardware timestamp is supported.

Connectivity

The PMC-CPU/440 comes with two Gigabit Ethernet interfaces that are accessible as 1000BASE-T via RJ45 connectors at the front panel.



The PMC-CPU/440 provides 2...4 CAN interfaces controlled by an FPGA IP-Module. The CAN signals are available as TTL only via PMC connector. External converters from CAN-TTL to CAN-ISO11898 are available. All CAN interfaces allow data transfer rates up to 1 Mbit/s. An RS-232 serial port is available via the PMC-I/O connector. An USB 2.0 High Speed interface (host or device) is available at the front panel.

Software Support

The flash memory carries the open source firmware 'U-Boot' that enables the PMC-CPU/440 to boot various operating systems from network or on-board Flash. Thus Linux, VxWorks (5.5 and 6.3), OS/9 and QNX are directly supported with full support of on-board drivers by esd, others on request. There is also a bunch of higher layer protocols available like CANopen and DeviceNet.

Technical Specifications:

PMC interface and microprocessor:	
Microprocessor:	AMCC PPC440EPx, 533/667 MHz, 32 bit
Memory:	≥ 256 Mbyte DDR2 RAM, ≥ 256 Mbyte NAND flash, ≥ 4 Mbyte NOR flash
RTC:	EPSON RX8025, backup by double layer capacitor
PCI:	PCI 2.2, 32 bit 33/66 MHz, signal voltage 3.3 V only, PrPMC acc. to Vita 32, monarch/non-monarch

Interfaces:	
Ethernet:	2x 1000BASE-T, IEEE802.3, RJ45-connector
USB:	USB 2.0 High Speed interface, host or device
Serial:	1x serial console via local USB/serial converter, 1x RS-232 at PMC-I/O connector Pn4 (4-pin)
CAN:	2...4x CAN, controller FPGA IP module, ISO11898-1 (CAN 2.0), TTL-level signals, 1 Mbit/s, high resolution CAN-hardware timestamp (FPGA), PMC-connector
IRIG-B:	digital differential physical layer, IRIG B100 time code format, decoding and time code generation

General:	
Ambient temp.:	0...50 °C (without forced convection)
Humidity:	max. 90 %, non-condensing
Power supply:	5 V, 3.3 V
Connectors:	PMC-connector Pn4: CAN, serial, IRIG-B, I²C front panel: 2x Mini-USB (console, host/device), 2x 1000BASE-T

Order information:		
Designation		order no.
PMC-CPU/440	PrPMC processor AMCC PPC440EPx, 533 MHz, 256 MB RAM, 256 MB NAND Flash, 4 MB NOR Flash	V.2027.02
PMC-CPU/440-667	as V.2027.02 but AMCC PPC440EPx, 667 MHz, 512 MB RAM	V.2027.03
PMC-CPU/440-1GB	as V.2027.02 but AMCC PPC440EPx, 667 MHz, 1024 MB RAM	V.2027.04
PIM-CPU/405	PIM I/O module (acc. to Vita 36) with 2x CAN ISO11898-2	V.2025.02
PMC-CPU/440-VxW	VxWorks BSP	V.2027.30
PMC-CPU/440-Linux	Linux BSP	V.2027.32
PMC-CPU/440-QNX	QNX BSP	V.2027.33
PMC-CPU/440-OS9	OS/9 BSP	V.2027.34

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