PMC401

Gigabit Ethernet Controller PMC
By AcQ Inducom

A quad (4-port) 10/100/1000 Mbit Ethernet PMC based controller for use in embedded applications. The PMC401 contains four Intel 82574IT, low power single port Gigabit Ethernet controllers.

These controllers offer a lot of standard Ethernet related features, plus extra features like support for hardware-based time stamping, jumbo frames and host offloading features like IPv4 and IPv6 checksum.

The Ethernet controllers are transparently connected to the PMC PCI interface via a PLX PCI to PCIe bridge and PCIe switch. The PMC PCI interface is converted into a one lane 2.5Gbs PCIe for each controller.

The front panel has four RJ45 copper connectors with LEDs for a combined link/activity indication.

For each Ethernet controller is a bootflash chip available in which a bootloader may be programmed (bootloader not included).

The PMC401 is available in standard temperature, 0 to +60°C and industrial temperature, -40 to +85°C.

Driver support is included in most commonly used operating systems, contact us for further specific information regarding operating system and driver support.

Features:
> Single slot PMC (IEEE 1386.1-2001) with front I/O (no rear I/O)
> PCI specification 3.0, 32bit, 33/66MHz, 3.3V or 5V signalling
> Four auto negotiating 10/100/1000 Ethernet ports, RJ45 copper connector with built-in magnetics
> IEEE802.3 Ethernet interface for 1000BASE-T, 100BASE-T and 10BASE-T applications
> DMA engine
> Boot Flash for each Ethernet controller
> Host offloading features, like IPv4 and IPv6 checksum offload support
> 9kB jumbo frames support
> Combined Activity/Link LED per port
> Software support available in commonly used operating systems
> Support for hardware-based time stamping of IEEE1588 and 802.1as packets enabling high precision time synchronization over Ethernet
> Combination of Conduction Cooled PMC and Standard PMC with front panel bezel

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* Combined Activity/Link LED per port
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* Host offloading features
* 9kB jumbo frames support
* DMA engine

Details

* Ethernet interface for 1000BASE-T, 100BASE-T and 10BASE-T
* MDI (copper) standard IEEE802.3 (802.3, 802.3u, 802.3ab)
* 40kB packet buffer size
* Support for packets up to 9018 bytes (jumbo frames)
* IEEE802.3x and IEEE802.3z compliant flow control support
* TCP/UDP, IPv4 and IPv6 Checksum Offloading
* TCP Segmentation/Transmit Segmentation Offloading
* IEEE802.1q VLAN support
* IEEE802.1q advanced packet filtering
* MAC/PHY control status

Controllers and Software

* PLX PCI to PCI Express bridge PEX8112
* PLX PCI Express switch PEX8606
* Intel 82574IT Gigabit ethernet controller

* Software support available in commonly used operating systems

Power

* Supply: 3.3V from PMC
* Power dissipation GbE (typical): 4.58W (TBC)
* Power dissipation 10/100MbE (typical): 2.94W (TBC)

Environmental
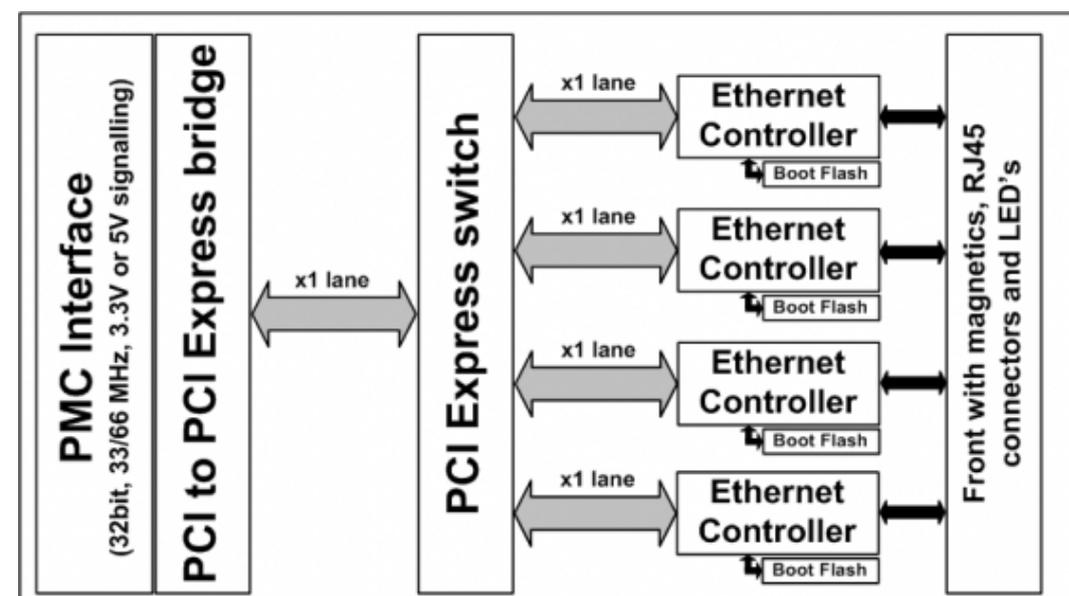
* Operating temperature 0 to +60°C or -40 to +85°C
* Storage temperature -40 to +85°C
* Humidity: 10% to 90% relative humidity for operating and storage
* RoHS compliant

Ordering Information

* **PMC401/T01** Quad port 10/100/1000 Mbit Ethernet PMC based controller, standard operating temperature, 0 to +60°C
* **PMC401/T02** Quad port 10/100/1000 Mbit Ethernet PMC based controller, industrial operating temperature, -40 to +85°C

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