# PIP5
# Power Performance



## General Description

The PIP5 is a highly integrated and robust Packaged Industrial PC with the low power processor ELAN™ SC520 from AMD. The CPU core (5x86-133 MHz) includes also a PCI bridge, a SDRAM controller and a RTC. The PIP5 represents a unique solution for today's demanding industrial needs. The PIPs are available in various options and features. All are built into a special designed compact EMI/RFI sealed aluminum chassis. The PIP family has the ability to be operated under extreme as well as under normal conditions without the need of fans.

## The PIP5 Specialties

are among many others the extreme low power consumption as little as 6 Watts. The solution has a complete set of PC/AT features as well as special industrial features like 4 serial ports, USB, CAN, LAN, a 8-28 VDC Power Supply and more. Other unique features are

- Fanless operation
- RS232 / 422 / 485 half & full duplex
- Operation of Floppy on Parallel port
- Multi purpose socket for SRAM, FLASH or EPROM
- Space for HDD, Floppy, PC/104+ ...

## Those features make

the PIP5 to the ideal solution for any application where high quality, low power consumption, ruggedness, small size or an expandable Industrial PC is needed. The PIP5 is an economical solution for mobile applications, transportation systems, medicine, telecom or industry.

PIP5 dimensions: 270 x 162 x 62 mm
Weight: 2.2 kg, rugged aluminum housing with best EMI/RFI protection
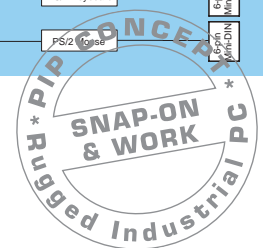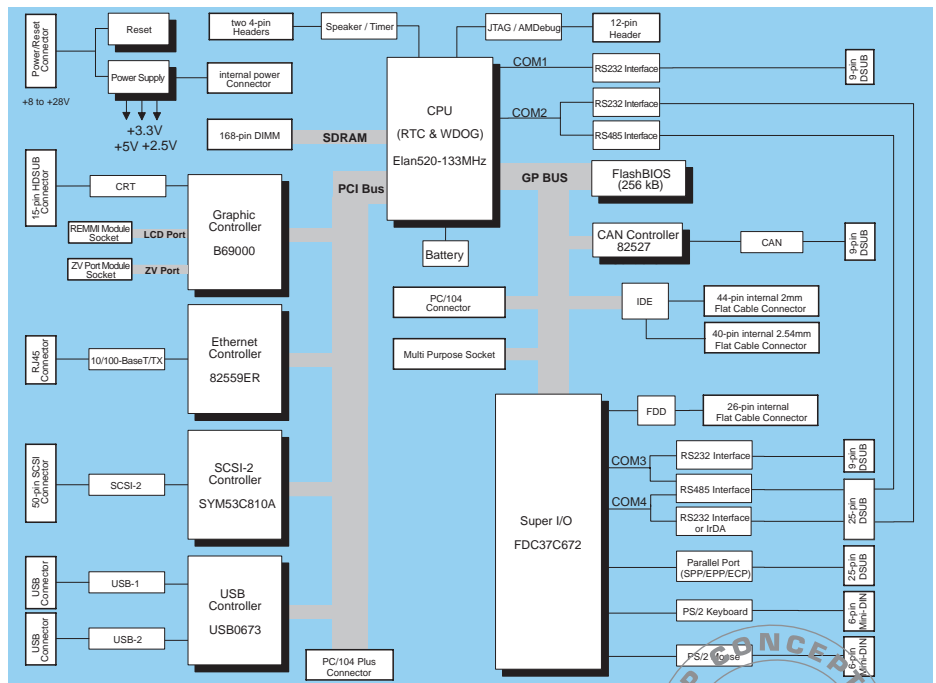(inside chromated externally powder coated or eloxated)




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# Technical Features PIP5

## Electrical

| | | |
|---|---|---|
| Processor | AMD Elan™SC520 | Industry-standard Am5x86-133 MHz |
| | 32-Bit, low power CPU, integrated PCI host bridge | 100/133 MHz operating frequency, |
| | SDRAM controller and RTC | 16 kbytes write-back/through cache |
| BIOS | 256 kB Flash EEPROM, easy updateability | MPL engineered BIOS (General Software) |
| Memory | Up to 256 MB SDRAM | 168-pin DIMM socket for one module |
| Multi Purpose Socket | Supports SRAM, FLASH, EPROM | 28 & 32-pin DIL, up to 512kB memory size |
| RTC | backed with on-board battery, field exchangeable | CMOS setup can be saved in EEPROM |
| Graphic | Resolution up to 1280 x 1024 | 15-pin D-SUB, refresh rate up to 85 Hz |
| | flexible panel support for STN and TFT | 50-pin remote MMI module socket |
| 4 x Serial Ports | 2 ports can be modified optionally to RS422/485 | 2 x 9-pin D-SUB and |
| | half & full duplex, electrically fully isolated | 1 x 25-pin D-SUB connector |
| 2 x USB Interface | USB 1.1 (up to 12 Mb/s) | 2 x Type A connectors |
| 1 x Ethernet | 10BaseT /100BaseTX | RJ45 |
| | Fast 10/100Mbit/s | supports IEEE802.3 auto negotiation |
| 1 x SCSI Interface | Fast SCSI-2 compatible | 50-pin SCSI connector |
| Parallel Port | SPP, EPP, ECP (IEEE1284) | 25-pin D-SUB connector |
| E-IDE Port | ANSI Standard mode 0, 1 and 2; up to 4 drives | Standard 44-pin & 40-pin header |
| FDD Port | One port for up to 2 drives | Connection for internal or external device |
| CAN Bus | Opto-isolated CAN Bus inerface (CAN Spec. 2.0) | 9-pin D-SUB connector |
| Expansions | Full 16-bit PC/104 and 32-bit PC/104+ interface | |
| Keyboard | PS/2 interface | 6-pin mini DIN connector |
| Mouse | PS/2 interface | 6-pin mini DIN connector |
| Watchdog | distinct keyed write sequence | Programmable time-out |
| Timer | Two 16/32-bit TTL Timer output signal | available over 4-pin header |
| Indicator | 6 activity LED's + 2 user definable | Power, Reset, HDD, SCSI, LAN, LAN100 |
| Speaker port | Easy connection of speaker | Available over 4-pin header |
| Reset Button | On chassis (protected) and a remote reset button | |

## Physical / Power

| | | |
|---|---|---|
| Chassis | Rugged chromated aluminum with EMI protection | DIN-rail, flange mounting, no ventilation holes |
| Size & Weight | 270 x 162 mm, with PIPPCI 440 x 162 mm | Height depending on needs 62/83/120 mm / 2.2kg |
| Power | 8 – 28VDC input range | Consumption typically < 7 Watt |
| Temperature range | $-20^0$C up to $+60^0$, optional $-40^0$ up to $+75^0$C | No fan, no openings, values at full CPU load |
| Humidity | 5% - 95%  non condensing | Optional coating available |

## Standard Compliance

The PIP5 is designed to meet or exceed the most common standards. Particular references are:

| | |
|---|---|
| EMC | EN 55022, EN 55024, EN 61000, MIL-STD-461E |
| Shock & Vibration | EN 60068 |
| Environmental & Safety | EN 50155, MIL-STD-810-F, EN 60601, EN 60950 |
| Approval Lists | CE, EN 60945, IACS E10 |

## PIP5 versions

- PIP5-1 fully equipped in standard temperature range
- PIP5-2 without SCSI
- Extended temperature range
- Coated
- PIP5-Cx depopulated (less features) and/or other color, customer label...

## Internal PIP Expansions, Options and Operating Systems

- Over the PC/104 & PC/104-*Plus*
  - Digital & Analog I/O's
  - Fieldbus (CAN, PROFIBUS...)
  - Or any other PC/104 Module
- Hard Disks, Flash Disks, CF
- CD-ROM, PCCARD
- PCI and PMC expansions

- 6,5″ LCD and Touch built in PIP-chassis
- 12″ - 19″ Panel PCs in special aluminum or stainless steel case (fanless, IP65/NEMA4)
- Operating systems:
  PIP's are 100% PC/AT compatible therefore any PC operating system (Windows, LINUX, RTOS ...) can be used



**MPL**

**High-Tech·Made in Switzerland**

MPL AG, Täfernstrasse 20, CH-5405 Baden-Dättwil
Tel. +41 (0)56 483 34 34, Fax +41 (0)56 493 30 20
Email: info@mpl.ch, Home page: www.mpl.ch