PIP6-11

The ultimate Intel Atom Solution
For extended temperature and long-term projects

General Description

The new generation PIP6-11 is based around the long-term available Z530P Intel Atom CPU. With this processor and chipset we designed an embedded system, that will operate smooth without being on its limits even at -40°C up to +75°C without derating, throttling, need of a fan or openings. On-board integrated are features like 5 GigE ports, 2 serial ports and 7 USB ports, which give the system the desired universality. The unique design allows to use the system in any application, careless how rugged the environment might be. The MPL PIPs are available according your configuration and even with your logo.
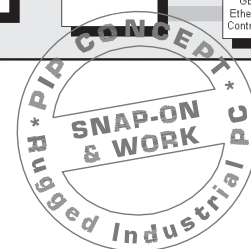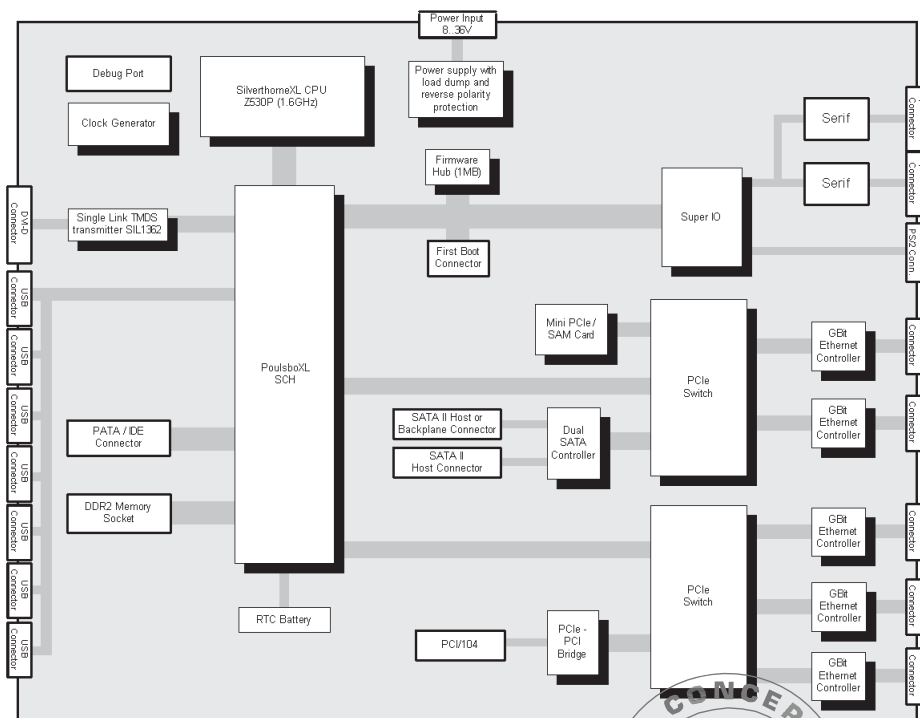
The PIP6 Capabilities

Next to the outstanding extreme low power consumption is the versatility (expansions and housing concepts). The PIP 6-11 board has also a complete set of standard PC features (USB 2.0, GigE, DVI) as well as specific features like a reverse polarity protected 8-36 VDC input power and load dump protection. GPS, WLAN and UPS modules can easily be integrated. Further expansions can be done over the PCI-104 interface. Other unique features of the PIP6-11 are:

- PATA and Dual SATA-II interface
- PCI-104 interface
- Extended temperature
- Load dump protection
- Long term availability 7+ years

These features make

the PIP6-11 to the ideal solution for applications where a low power consumption embedded PC is required. Additional benefits are; ruggedness, long-term availability, flexibility, and 100% designed and produced in Switzerland.

in IP67 MIL housing

in standard PIP housing

MPL
High-Tech • Made in Switzerland

Technical Features PIP6-11

Board Key Data

Processor	Intel Atom Processor Z530P, 1.6 GHz	CPU from the embedded Intel Roadmap
	64-Bit Data Bus, pipelined floating point unit	Intel Speed Step
Chip Set	PoulsboXL US15WPT	533MHz Frontside Bus
BIOS	1MB Flash EEPROM, easy BIOS update	MPL engineered BIOS (Phoenix), customizable
Memory	Up to 2GB memory	200-pin SO-DIMM socket for DDR2-533 memory
Indicators	16 LEDs	Power, Reset, HDD, LAN, and WLAN

Interfaces

Graphics	INTEL GMA 500 (Integrated Graphics Device)	Digital-Video on DVI-D connector 1600 x 1200 (UXGA)
	200MHz graphic core with 2D and 3D engine	up to 1920 x 1200 (WUXGA)
5 x Ethernet	10BaseT /100BaseTX / 1000BaseTX	RJ45 connector, ESD protected, auto negotiation
7 x USB 2.0	5 ports USB2.0/1.1 and 2 ports USB2.0 only	Type A connectors, ESD protected, bootable
2 x RS232	Additional RS232 or RS422/485 via OSCI	9-pin DSUB, ESD protected (up to 230.4 kBaud)
1 x E-IDE ports	Up to 2 drives, Ultra DMA-100 support	1 x standard 44-pin header
2 x SATA-II ports	Data transfer up to 300Mbyte/s	2 x standard lockable SATA connectors
2 x PS/2	For Keyboard and Mouse	1x 6-pin mini DIN connector, ESD protected
Power / Reset button	On chassis (protected) and a remote reset button	ATX functionality, ESD protected
PCI-104 Interface	32-bit PCI interface	Up to 4 PCI-104 bus master cards
		(expansion for half size PCI cards & PMC modules)
Mini PCIe	For WLAN, GPRS, UMTS or similar expansions	SIM card slot

Optional PIP6-11 Features

WLAN Module	Connected to internal MiniCard PCIe	Supports 802.11b/g/n
UPS Extension	Internal UPS module	For safe shut down or autonomous operation

Physical / Power

Chassis	Rugged chromated aluminum with EMI protection	DIN-rail or flange mounting, no ventilation holes
	Optional MIL housing	
Size & Weight	270 x 162 mm, with PCI extension 440 x 162 mm	Height depending on needs 62/83/120 mm / 2.2kg
Power	9 – 36VDC input range, optionally up to 48VDC	Consumption typically 12W, reverse polarity protection
Temperature Range	-20°C up to +60°C, optional -40°C up to +75°C	No fan, no openings, values at full CPU load
Humidity	5% - 95% non condensing	Optional coating available

Standard Compliance

The PIP6-11 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

Other versions with ATOM CPU

- EIP5-11X (Z510PT, 1.1GHz) and EIP6-11X (Z520PT, 1.33GHz) designed for -40°C up to +85°C
- PIP6-xC customer specific solution
- Extended temperature versions
- Coated versions

Internal PIP Expansions, Options and Operating Systems

- Over the PCI-104
  - Digital & Analog I/O
  - Or any other Module
- Hard Disks, Flash Disks, CF, SATADOM, DVD-RW, PCCARD
- PCI and PMC expansions
- Operating systems:
  PIP's are 100% PC/AT compatible therefore any PC operating system (Windows, LINUX RTOS …) can be used