# ACP-4000

19" Rackmount 4U Height
Industrial Chassis User's Manual

## Copyright notice



## Acknowledgements



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# Content

# Figure

CHAPTER 1

# General Information

## 1.1 Introduction

ACP-4000 is a 4U height 14-slot rackmount IPC chassis designed for building mission-critical applications. The unit includes an optional versatile 14-slot passive-backplane (which supports ATX M/B form factor), high-efficiency 300W ATX with PFC (power factor correction) power supply, and easy to maintain dual cooling fans. A fault detection and alarm notification system monitors the system status, including power supply, HDD, temperature and cooling fans to minimize the system down time. A wide range of standard computing peripherals can be integrated with the chassis to meet different application development under mission-critical environment 24 hours a day, 7 days a week.

## 1.2 Specifications

### General

- Construction: Heavy duty steel chassis
- Drive bay: Shock-proof and front accessible 5.25" (x3) & 3.5" (x1) drivers
- Cooling system: Dual easy-to-replace 84 ~ 114 CFM cooling fans with front-accessible air filters
- Controls: Power switch (on-off or momentary) and reset switch behind lockable doors

### • Indicators:

- Power: Bi-color LED (green/red) for power failure
- HDD: Single-color LED (orange) for HDD activity
- Fan: Bi-color LED (green/red) for any fan failure
- Temperature: Bi-color LED (green/red) for overheating average temperature 50°C
- Voltages: 3.3V/+5V/+12V/-5V/-12V single-color LED(green) shows the voltage status

- Connectors: Front accessible USB and PS/2 keyboard, rear panel 9-pin connector (9-pin connectors are not included in the M/B version)
- Paint Color: Pantone 4C 2X Black, textured

- Operating temperature: 0 ~ +40°C (32°F ~ 104°F)
- Storage temperature: -40° to +75°C (-40° to +167°F)
- Relative Humidity: 10 ~ 95%@40°C, non-condensing
- Vibration: (Operating) 5Hz ~ 500Hz, 0.5 G rams
- Random Vibration: (Non-operation) 5 to 20 Hz, 0.001 to 0.01 G2 per Hz, 20 to 500 Hz, 0.01 G2 per Hz
- Shock(operating): 2.0 G with 11m Sec duration, 1/2 sine wave
- Acoustic Noise: Less than 52 dB sound pressure at +5° to +28°C (+41° to +82°F)
- Altitude: 0 to 3048m (0 to 10,000 ft)
- Slide rails: General Device C-300 series supported
- Dimensions: 482(W) x 173(H) x 480(D) mm (19"x 6.8" x 18.9")
- Weight: 16-18kg (35.2 - 39.6lb)
- Safety: CE compliant, UL/cUL approved

## 1.3 Passive Backplane Options

Single System Backplane models (refer to appendix for details)
- PCA-6113P4R
- PCA-6114(PCA-6114-B will be available soon)
- PCA-6114P4-B
- PCA-6114P7-C
- PCA-6114P10(PCA-6114P10-B will be available soon)
- PCA-6114P12

Dual System Backplane models
- PCA-6114D

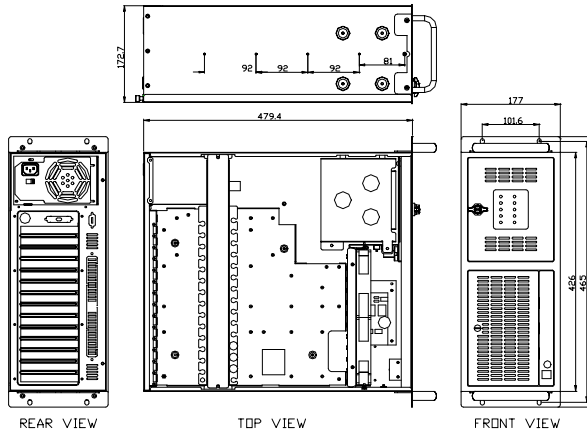
# 1.4 Power Supply Options

| Model name | Specification | | | | | |
|---|---|---|---|---|---|---|
| | Watt | Input | Output | Mini-load | Safety | MTBF |
| PS-260-610E-(AT) | 260W | 110/220V-ac | +5V@ 25A+12V-@9A-5V-@0.5A-12-V@2A | +5V@1A+12V-@0.1A | UL/CSA/C-E/TUV | 140,000 hours@50?full load |
| RPS-250-SD-TB (AT) | 250W (200W@40°C) | 110/220V-ac | +5V@ 25A+12V-@12A-5V-@1A, -12V@1A | +5V@4A+12V-@1A | UL/CSA/T-UV | 250,000hours-@30?full load |
| PS-250-D24(-AT) | 250W | +19VDC ~ +32VDC | +5V@ 30A+12V-@12A-5V-@ 2A-12V@2A | +5V@2A | UL/CSA/CE | 100,000 hours |
| PS-310-DC4-8(AT) | 310W | -38VDC ~ -58VDC | +5V@ 25A+12V-@10A-5V-@ 1A-12V@5A | +5V@2A | UL/CSA/CE | 100,000 hours |
| PS-300-ATX-(ATX) | 300W | 110/220V-ac | +5V@ 30A+3.3V-@26A+12-V@13A-1-2V@0.8A,--5V@0.5A,-+5Vsb@2A | +5V@1A+12V-@0.2A | UL,CSA,T-UV/CE/Nor-dic/CB | 100,000 hours@25?full load |
| PS-300ATX--Z(ATX,PFC) | 300W | 115/230V-ac(Full-ran-ge) | +5V@ 30A+3.3V-@24A+12-V@15A-1-2V@0.8A,--5V@0.3A,-+5Vsb@2A | +5V@1A,+12-V@0.5A,+3.3-V@0.3A | UL,cUL,CS-A,CE EN61000-3--2 Class DTUV,Nord-ic,CB | 100,000hours-@25?275W load |
| PS-400ATX--Z(ATX) | 400W | 90/264Va-c(Full-rang-e) | +5V@ 42A+3.3V-@20A+12-V@14A-1-2V@1A,-5-V@1A,+5-Vsb@0.75A | +5V@2.5A,+1-2V@0.5A,+3.3-V@0.2A | UL/cUL/TU-V | 100,000 hours25? 75% load |
| RPS-300ATX--Z(ATX, PFC) | 300W | 110/240V-ac(Full-ran-ge) | +5V@ 25A+3.3V-@18A+12-V@16A-1-2V@0.5A,--5V@0.5A,-+5VSB@2-A | +5V@3A+3.3-V@1A +12V@2A+5V-SB@0.1A | UL/TUV/CB | 150,000 hours |

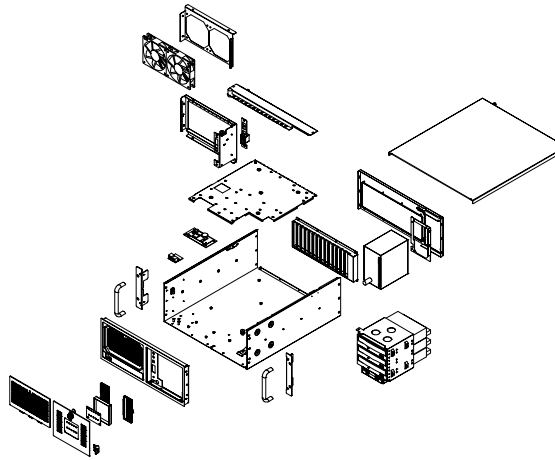
## 1.5 System Regulation

| Ordering Information | | | |
|---|---|---|---|
| Model name | With Power Supply | With Backplane or Motherboard | Regulation |
| ACP-4000BP-00P | Without power supply, with on-off switch | 14-slot Backplane versionWithout Backplane | None |
| ACP-4000BP-00X | Without power supply, with momentary switch | 14-slot Backplane versionWithout Backplane | None |
| ACP-4000MB-00X | Without power supply, with momentary switch | Motherboard versionWithout Motherboard | None |
| ACP-4000BP-30Z | With 300W ATX PFC power supply | 14-slot Backplane versionWithout Backplane | UL.cUL,CE |
| ACP-4000BP-30D | With 300W DC48V power supply | 14-slot Backplane versionWithout Backplane | UL, cUL, CE |
| ACP-4000BP-30R | With 300W ATX PFC redundant power supply | 14-slot Backplane versionWithout Backplane | UL, cUL, CE |

## 1.6 Dimensions




## 1.7 Exploded Diagram



CHAPTER 2

# System Setup

## 2.1 System Installation

*WARNING: Before starting the installation process, be sure to shut down all power from the chassis. Do this by turning off the power switch, and unplugging the power cord from the power outlet. When in doubt, consult with an experienced technician.*

### 2.1.1 Attaching the handles.

The handles for the front panel are in the accessory box. To install the handles, simply secure them to the front panel with the provided screws.

### 2.1.2 Removing the top cover

First, remove the chassis cover.

The top cover is fixed to the chassis by two thumbscrews

To remove the top covers:

1. Release two thumbscrews on the rear upper location of the chassis.
2. Lift the cover.

**Figure 2.1.2-1**

## 2.1.3 Chassis Front and Rear Sections

The front panel switches behind the door are used for system power, system reset 1, system reset 2 (option), alarm reset and power switch. The door cover is on the left side of the door cover, where the system LED status and key lock switch are located. The USB and P/S 2 keyboard connectors are on the left side of the front panel.

**Figure 2.1.3-1**

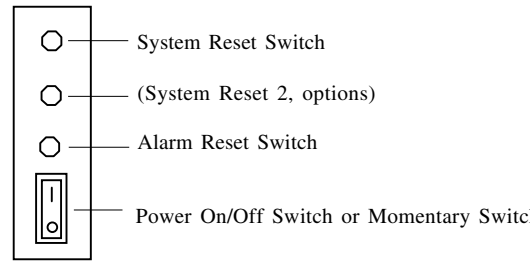



**Figure 2.1.3-2**

**System Reset 1**: Press this switch to reinitialize the system. This is the same as the hardware reset button. (Default setting)

**System Reset 2**: Press this switch to reinitialize the second system. (Optional)

**Alarm Reset Switch**: Press this switch to suppress or stop an audible alarm. Whenever a fault in the system occurs (e.g. fan failure, rising chassis temperature, backplane voltage problem), an audible alarm is activated. Pressing this switch will cause the alarm to stop.

**Power On/Off Switch**: Use this switch to turn on/off the system power.

**Momentary Switch**: Use this switch and by way of ATX (PS_ON) function to turn on system power. Please use system shutdown to turn off system power automatic or press momentary switch for a while to turn off system power

**USB connector**: If you have you want to connect any USB interface device to the system, you could use this connector.

**PS/2 connector**: If you want to connect the PS/2 keyboard, you could use this connector.

The rear section of B/P version includes B/P rear window, 14-slot I/O brackets and the sheet metal kit for redundant power supply. The rear section of M/B version includes M/B rear window, 7-slot I/O brackets, ATX M/B I/O cover.

**Figure 2.1.3-3**

**Figure 2.1.3-4**

## 2.1.4 Drive Bay Installation

The Standard Drive Bay of the ACP-4000 can hold 5.25" (x3) and 3.5" (x1) devices Installation disk drives

a. Remove the top cover

b. Undo the two screws of cushion and four screws fixing the Standard Drive Bay on right side

c. Lift off the Standard Drive Bay. See Figure 2.1.4-1

d. Insert the drives into their proper locations in the drive bay and secure them with the screws provided.

e. Connect the disk drive power and signal cables.

**Figure 2.1.4-1**

## 2.2 ACP-4000 Series Installation

The ACP-4000 can be of three basic models: ACP-4000BP-00P, ACP-4000BP-00X, and ACP-4000MB-00X.

### 2.2.1 ACP-4000BP-00P

ACP-4000BP-00P has an on-off switch in the front panel. The on-off switch is suitable for AT power supply such as PS-250, PS-260, PS-300, PS-310DC48 and PS-250-D24. Please plug the power connector (P8/P9) with the backplane and four wires (Brown, blue, black, white) with on-off switch to finish the power installation.

### 2.2.2 ACP-4000BP-00X

ACP-2000P3-00X has a momentary switch in the front panel. The momentary switch is suitable for ATX power supply such as PS-250X-DPS, PS-300-ATX, PS-300ATX-Z, PS-400ATX-Z and RPS-300ATX-Z. For ACP-4000BP-00X, please plug a 20-pin ATX power connector with backplane first, then use a orange-white wire (1700030500) to connect CN# (PSON_GND_5VSB) of the Backplane, and "ATX feature connector" (CN20) of the SBC, finally connect POWER SW wire with "ATX soft power switch"(CN21) on the SBC to finish the installation. Refer Figure 2.2.2-1 for reference.

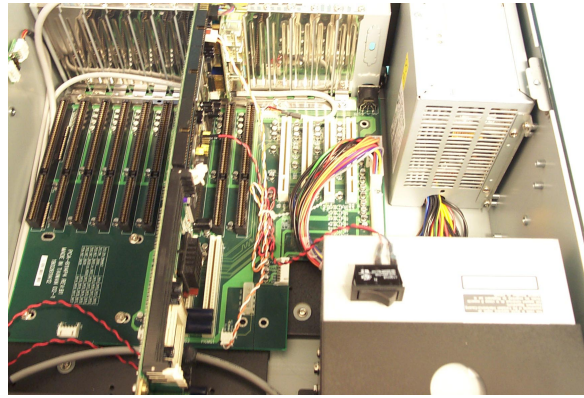


**Figure 2.2.2-1**

### 2.2.3 ACP-4000MB-00X

ACP-4000MB-00X is with rear I/O ATX M/B. ACP-4000MB-00X, without internal M/B, has no power supply and momentary switch on the front panel. The momentary switch is suitable for ATX power supply such as PS-250X-DPS, PS-300-ATX, PS-300ATX-Z, PS-400ATX-Z and RPS-300ATX-Z to use.

For ACP-4000MB-00X, please plug 20-pin ATX power connector with your ATX M/B, and then connect POWER SW wire with your ATX M/B to finish the installation. Please refer your ATX M/B installation guide for correct connection.

## 2.3 LED Indicators

### 2.3.1 System Status LED

The System Status LED shows as follows:

| LED | Description | RED | GREEN or Orange |
|---|---|---|---|
| PWR | System Power | Abnormal | Normal |
| HDD | Hard Drive activity | No light | Data access |
| FAN | Cooling Fan status | Abnormal | Normal |
| TEMP | Chassis Temperature | Abnormal | Normal |

When the PWR LED is RED, it indicates a redundant power supply failure. To stop the alarm buzzer, press the Alarm Reset button. Please check out the redundant power supply right away and replace failure power supply module with a good one.

When the FAN LED is RED and blinking, it indicates a failing cooling fan. An audible alarm is also activated. To stop the alarm buzzer, press the Alarm Reset button then replace the fan immediately.

If the TEMP LED is RED and blinking, the system detects rising temperature inside the chassis. An audible alarm is activated. To stop the alarm buzzer, press the Alarm Reset button. Inspect the rear section and fan filter immediately. Make sure airflow inside the chassis is smooth and not blocked by dust or other particles.

### 2.3.2 Power Status LED

The Power Status LED indicates the status of the backplane voltage signals.

| LED | Description | Light | No light |
|---|---|---|---|
| +3.3V | +3.3V signal | Normal | No output |
| +5V | + 5V signal | Normal | No output |
| +12V | +12V signal | Normal | No output |
| -5V | - 5V signal | Normal | No output |
| -12V | -12V signal | Normal | No output |

When a LED fails to light, it indicates a problem with one of the voltage signals. An audible alarm is sounded. Check to make sure that the power supply connector is properly attached to the backplane. If problem persists, consult an experienced technician.

## 2.4 Power Supply

ACP-4000 support PS/2 and redundant power supply both and without any modification on mechanical

**Figure 2.4.1**

**Figure 2.4.2**

## 2.5 Cooling Fan & Filter

There are two (2) Cooling Fans located inside the chassis. The Cooling Fans are easy to maintain and provide adequate cooling to the system by blowing air inward. When one cooling fan breaks down, the system sounds a continuous alarm. To disable the alarm, press the Alarm Reset Switch on the front panel and replace the failing fan immediately. To replace a defective fan, please refer to Figure 2.5-1 and Figure 2.5-2. Press location A and then pull B, shown on Figure 2.5-2, the connector can then be released. If the filter is blocked with dust or other particles, you can refer to Figure 2.5-3 for filter replacement procedure.

**Figure 2.5.1**

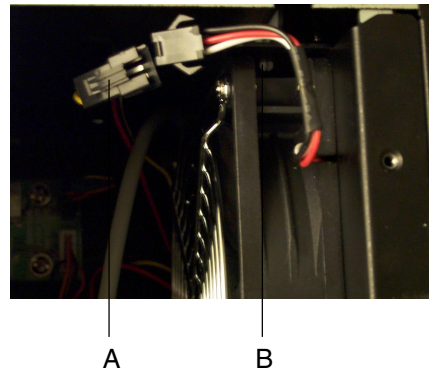



**Figure 2.5-2**

**Figure 2.5-3**

## 2.6 Installing CPU Cards and Add-On Cards

To install slot board computers and other add-on boards:

1. Remove the chassis cover.
2. Take out the hold down cramp
3. Insert the CPU or add-on cards on suitable location
4. Align and fix the screw to tighten the card to a fixed position
5. Return the top cover after fixing the hold down cramp

CHAPTER 3

# Alarm Board

The alarm board is located under the cooling fan section. It gives an audible alarm when:

a. Any power supply module of redundant power supply fails

b. One of the cooling fans fai1s

c. Temperature inside the chassis rises

d. A problem occurs in one of the backplane voltage levels

The detailed layout and specification of the alarm board are as follows:

## 3.1 Alarm Board Layout

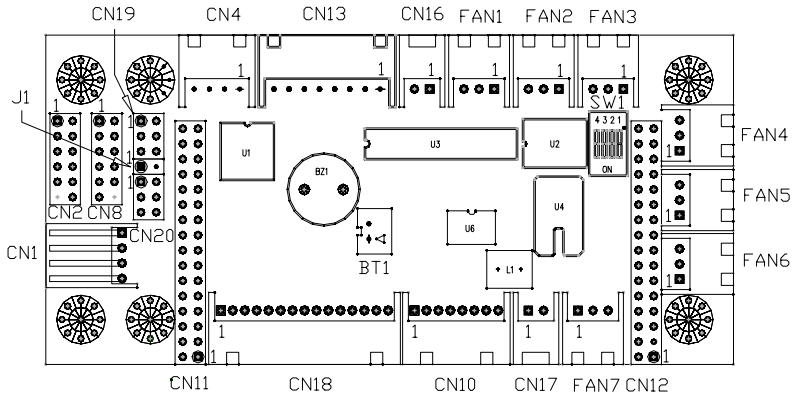



**Figure 3.1-1**

## 3.2 Alarm Board Specification

Input Power: +5V, +12V
Input Signals:

- 7 FAN connectors (GND_+12V_FAN)
- One thermal board connector (it can connect up to 8 thermal boards in a roll)
- One power good input
- One alarm reset input.
- One voltage signal connector (connect from back plane, includes ±12V, ±5V, 3.3V)
- One ATX power connector (connect from CPU card)
- One system reset connector (connect from CPU card)
- One Hard Disk LED connector (connect from CPU card)

Output Signals:

- One LED board connector
- One LCM board connector
- SNMP daughter board connector (connect to SNMP-1000 main board)
- One Buzzer output
- ATX power connector (connect to chassis)
- System reset connector (connect to chassis)

Other Interfaces:

- One pair of Watch dog input/output signals
- One pair of I2C Bus signals (DATA and CLK)
- One LAN connector
- One COM connector
- One Battery pack connector

Pin Definition
CN1 : External Power Connector, standard mini 4 Pin power connector

| | |
|---|---|
| Pin 1 : +12V, 2A current maximum | Pin 2 : GND |
| Pin 3 : GND | Pin 4 : +5V, 2A current maximum |

CN2 : 10/100M LAN Connector

| | |
|---|---|
| Pin 1 : SPLED | Pin 2 : TERMPLANE |
| Pin 3 : RX+ | Pin 4 : RX- |

| | |
|---|---|
| Pin 5 : GND | Pin 6 : LVCC |
| Pin 7 : TX+ | Pin 8 : TX- |
| Pin 9 : LILED | Pin 10 : TERMPLANE |
| Pin 11 : N/A | Pin 12 : NC |

CN4 : I2C Sensor board (LM75) Connector

| | |
|---|---|
| Pin 1 : +5V | Pin 2 : Sensor board I2C bus clock |
| Pin 3 : Sensor board I2C bus data | Pin 4 : GND |

CN8 : RS-232 Connector

| | |
|---|---|
| Pin 1 : DCD | Pin 2 : RX |
| Pin 3 : TX | Pin 4 : DTR |
| Pin 5 : GND | Pin 6 : DSR |
| Pin 7 : RTS | Pin 8 : CTS |
| Pin 9 : RI | Pin 10 : NC |
| Pin 11 : NC | Pin 12 : N/A |

CN10 : LCM Display Board Connector

| | |
|---|---|
| Pin 1 : LCM I2C bus data | Pin 2 : LCM I2C bus clock |
| Pin 3 : +12V | Pin 4 : GND |
| Pin 5 : +5V | Pin 6 : +5V |
| Pin 7 : Diagnostic LED | Pin 8 : GND |

CN11 : SNMP-1000 Daughter Board Connector (Left side)

| | |
|---|---|
| Pin 1 : SIN | Pin 2 : SOUT |
| Pin 3 : CTS# | Pin 4 : DCD# |
| Pin 5 : RTS# | Pin 6 : DTR# |
| Pin 7 : DSR# | Pin 8 : ID 0 |
| Pin 9 : ATX ON | Pin 10 : DO 4 |
| Pin 11 : GND | Pin 12 : DO 3 |
| Pin 13 : Watchdog IN | Pin 14 : DO 2 |
| Pin 15 : Watchdog OUT | Pin 16 : DO 1 |
| Pin 17 : SPLED | Pin 18 : NC |
| Pin 19 : LILED | Pin 20 : NC |
| Pin 21 : GND | Pin 22 : NC |
| Pin 23 : TX+ | Pin 24 : NC |
| Pin 25 : TX- | Pin 26 : NC |
| Pin 27 : RX+ | Pin 28 : NC |
| Pin 29 : RX- | Pin 30 : NC |
| Pin 31 : TERMPLANE | Pin 32 : NC |

CN12 : SNMP-1000 Daughter Board Connector (Right side)

| | |
|---|---|
| Pin 1 : NC | Pin 2 : NC |
| Pin 3 : Power Good A | Pin 4 : NC |
| Pin 5 : NC | Pin 6 : NC |
| Pin 7 : Diagnostic LED | Pin 8 : FAN 1 |
| Pin 9 : GND | Pin 10 : FAN 2 |
| Pin 11 : GND | Pin 12 : FAN 3 |
| Pin 13 : VCC | Pin 14 : FAN 4 |
| Pin 15 : VCC | Pin 16 : FAN 5 |
| Pin 17 : VCC | Pin 18 : FAN 6 |
| Pin 19 : BEEP | Pin 20 : FAN 7 |
| Pin 21 : 5VSB | Pin 22 : NC |
| Pin 23 : -5V | Pin 24 : NC |
| Pin 25 : +5V | Pin 26 : B_SCLK |
| Pin 27 : +3.3V | Pin 28 : B_SDAT |
| Pin 29 : -12V | Pin 30 : T_SCLK |
| Pin 31 : +12V | Pin 32 : T_SDAT |

CN13 : Voltage Detect Input Connector

| | |
|---|---|
| Pin 1 : 5VSB | Pin 2 : GND |
| Pin 3 : GND | Pin 4 : -5V |
| Pin 5 : +5V | Pin 6 : +3.3V |
| Pin 7 : -12V | Pin 8 : +12V |

CN16 : 4 bit Power Good Input,

| | |
|---|---|
| Pin 1 : Power GOOD A | Pin 2 : GND |

CN18 : LED Board Connector

| | |
|---|---|
| Pin 1 : GND | Pin 2 : +5V Signal |
| Pin 3 : +12V Signal | Pin 4 : -5V Signal |
| Pin 5 : -12V Signal | Pin 6 : HDD Signal |
| Pin 7 : Power Good Signal | Pin 8 : Power Fail Signal |
| Pin 9 : Temperature Good Signal | Pin 10 : Temperature Fail Signal |
| Pin 11 : Fan Good Signal | Pin 12 : FAN Fail Signal |
| Pin 13 : NC | Pin 14 : +3.3V Signal |
| Pin 15 : 5VSB Signal | |

CN19 : Connector bank from CPU card

| | |
|---|---|
| Pin 1 : HDD LED Signal | Pin 2 : ATX soft power switch |

Pin 3 : I2C Clock
Pin 4 : ATX soft power switch(-)
Pin 5 : I2C Data
Pin 6 : System Reset Signal

CN20 : Connector bank to Chassis
Pin 1 : ATX Momentary switch
Pin 2 : ATX Momentary switch(-)
Pin 3 : GND
Pin 4 : System Reset Signal
Pin 5 : Watch Dog IN
Pin 6 : Watch Dog OUT
J1 : External Speaker
Pin 1 : Buzzer
Pin 2 : +5V

## 3.3 Switch Setting

Fan number setting

| FAN NUMBER | SW 1-1 | SW 1- 2 | SW 1- 3 | SW 1- 4 |
|---|---|---|---|---|
| 1 | OFF | OFF | ON | OFF |
| 2 | OFF | ON | OFF | OFF |
| 3 | OFF | ON | ON | OFF |
| 4 | ON | OFF | OFF | OFF |
| 5 | ON | OFF | ON | OFF |
| 6 | ON | ON | OFF | OFF |
| 7 | ON | ON | ON | OFF |

Thermal Board Temperature Setting

| TEMP INDEX | SW 1 -1 | SW 1 - 2 | SW 1 - 3 | SW 1 - 4 |
|---|---|---|---|---|
| TEMP 1 | OFF | OFF | OFF | ON |
| TEMP 2 | OFF | OFF | ON | ON |
| TEMP 3 | OFF | ON | OFF | ON |
| TEMP 4 | OFF | ON | ON | ON |
| TEMP 5 | ON | OFF | OFF | ON |
| TEMP 6 | ON | OFF | ON | ON |
| TEMP 7 | ON | ON | OFF | ON |
| TEMP 8 | ON | ON | ON | ON |

## 3.4 Thermal Sensor

There is a temperature sensor inside the chassis, See Figure 3.4-1.to find the location.

When the temperature rises, the temperature sensor sends a signal to the alarm board and a continuous alarm is sounded. To stop the alarm, press the Alarm Reset Switch at the Front Panel.

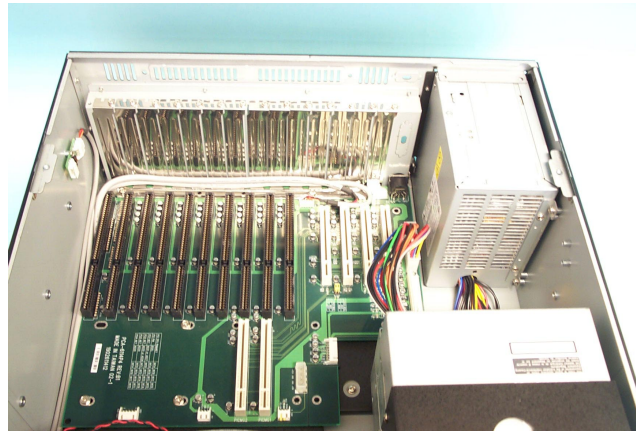
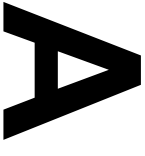


**Figure 3.4-1**

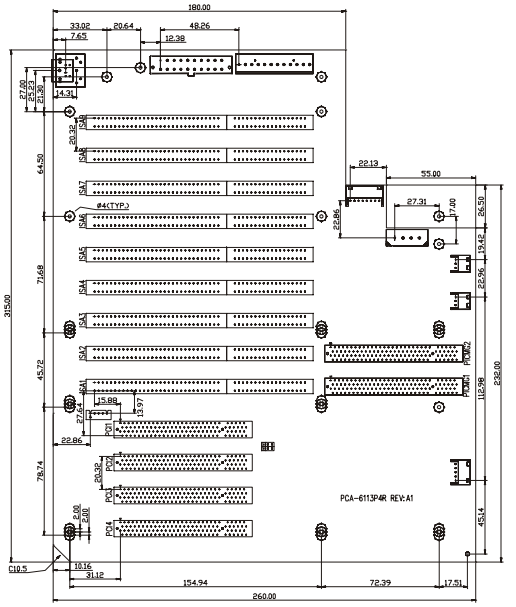
Appendix



## PCA-6113P4R REV: A1

**Dimensions: 260.00 x 315.00 mm**

12/31/'99




### 1. CONNECTORS

| CONNECTOR | Description |
|---|---|
| ISA1 ~ ISA2 | PICMG connector |
| ISA3 ~ ISA9 | 16-bit ISA bus connectors |
| PCI1 ~ PCI4 | 32-bit PCI bus connectors |
| KB1 (KB-IN) | To CPU card K/B connector |
| KB2 (KB-OUT) | 5-pin external K/B connector |
| KB3 | External K/B connector |
| P1 | PS/2 power connector |
| P2 | For +5V and +12V power connector |
| P3 | Big 4-pin power connector |
| CN1 | To CPU card for ATX power signal |
| CN2 | Alarm board 8-pin power connector |
| ATX1 | ATX power connector |
| J1 | PCI1 IDSEL |
| J2 | PCI2 IDSEL |

| CN1 | |
|---|---|
| 1 | 5VSB |
| 2 | GND |
| 3 | PS-ON |
| Default: Pins 2-3 closed | |

| J1 | |
|---|---|
| 1-2 closed | PCI1 IDESL=AD31 (Default) |
| 2-3 closed | PCI1 IDSEL=AD27 |
| J2 | |
| 1-2 closed | PCI2 IDSEL=AD30 (Default) |
| 2-3 closed | PCI2 IDSEL=AD26 |

### 2. PIN ASSIGNMENTS

| CN2 | |
|---|---|
| PIN | NAME |
| 1 | +12V |
| 2 | -12V |
| 3 | +3.3V |
| 4 | +5V |
| 5 | -5V |
| 6 | GND |
| 7 | GND |
| 8 | 5VSB |

| P1 | |
|---|---|
| PIN | NAME |
| 1 | NC |
| 2 | +5V |
| 3 | +12V |
| 4 | -12V |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |
| 9 | -5V |
| 10 | +5V |
| 11 | +5V |
| 12 | +5V |

| P2 | |
|---|---|
| PIN | NAME |
| 1 | +5V |
| 2 | GND |
| 3 | +12V |

| P3 | |
|---|---|
| PIN | NAME |
| 1 | +12V |
| 2 | GND |
| 3 | GND |
| 4 | +5V |

| ATX1 | | | |
|---|---|---|---|
| PIN | NAME | PIN | NAME |
| 1 | +3.3V | 11 | +3.3V |
| 2 | +3.3V | 12 | -12V |
| 3 | GND | 13 | GND |
| 4 | +5V | 14 | PS-ON |
| 5 | GND | 15 | GND |
| 6 | +5V | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | NC | 18 | -5V |
| 9 | 5VSB | 19 | +5V |
| 10 | +12V | 20 | +5V |

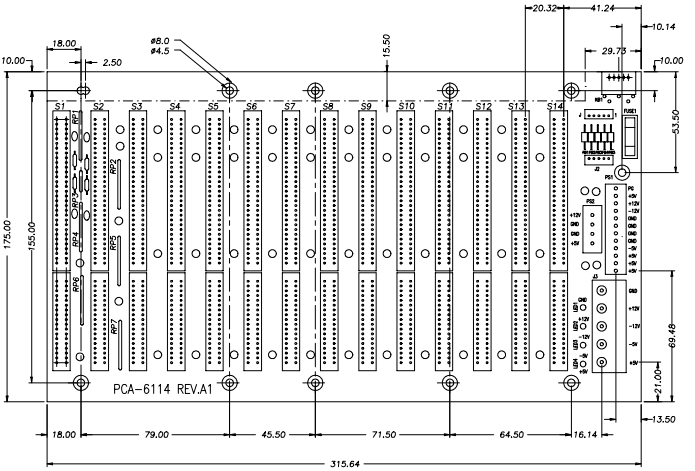
| KB1 ~ KB3 | |
|---|---|
| PIN | NAME |
| 1 | KBCLK |
| 2 | KBDATA |
| 3 | NC |
| 4 | KBGND |
| 5 | KBVCC |

*Unit: mm*

**2002611300**

# PCA-6114

Dimensions: 316 x 175 mm




*Unit: mm*

**Bus Termination**

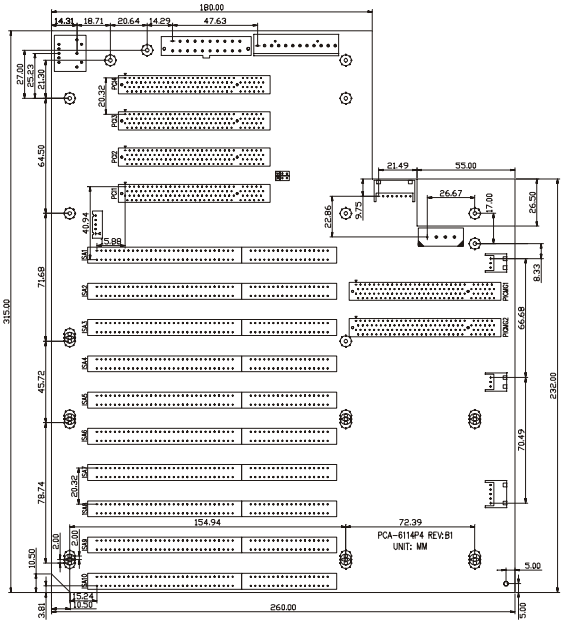
Reserve sockets for NETR 10P and for termination resistors are provided.

| Resistor | Signals | Resistor | Signals |
|---|---|---|---|
| RP5 | SA3-SA0 | RP3 | SMEMW, SMEMR, IOW, IOR |
| RP4 | SA4-SA11 | RP6 | SBHE, LA23-LA17 |
| RP1 | SD7-SD0 | RP2 | LA19-LA16 |
| RP7 | SD8-SD15 | | |

2002611410

## PCA-6114P4 REV: B1

**Dimensions: 260.00 x 315.00 mm** 11/08/'99




### 1. CONNECTORS

| CONNECTOR | DESCRIPTION |
|---|---|
| ISA2~ISA3 | PICMG connector |
| ISA1,ISA4~ISA10 | 16-bit ISA-bus connectors |
| PCI1~PCI4 | 32-bit PCI-bus connectors |
| KB1(KB-IN) | To CPU card K/B connector |
| KB2(KB-OUT) | 5-pin external K/B connector |
| KB3 | External K/B connector |
| P1 | PS/2 power connector |
| P2 | For +5V and +12V power connector |
| P3 | Big 4-pin power connector |
| CN1 | To CPU card for ATX power signal |
| CN2 | Alarm board 8-pin power connector |
| ATX1 | ATX power connector |
| J1 | PCI1 IDSEL |
| J2 | PCI2 IDSEL |

| CN1 | |
|---|---|
| 1 | 5VSB |
| 2 | GND |
| 3 | PS-ON |
| Default: Pins 2-3 closed | |

| J1 | |
|---|---|
| 1-2 closed | PCI1 IDESL=AD31 (Default) |
| 2-3 closed | PCI1 IDSEL=AD27 |

| J2 | |
|---|---|
| 1-2 closed | PCI2 IDSEL=AD30 (Default) |
| 2-3 closed | PCI2 IDSEL=AD26 |

### 2. PIN ASSIGNMENTS

| CN2 | |
|---|---|
| PIN | NAME |
| 1 | +12V |
| 2 | -12V |
| 3 | +3.3V |
| 4 | +5V |
| 5 | -5V |
| 6 | GND |
| 7 | GND |
| 8 | 5VSB |

| P1 | |
|---|---|
| PIN | NAME |
| 1 | NC |
| 2 | +5V |
| 3 | +12V |
| 4 | -12V |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |
| 9 | -5V |
| 10 | +5V |
| 11 | +5V |
| 12 | +5V |

| P2 | |
|---|---|
| PIN | NAME |
| 1 | +5V |
| 2 | GND |
| 3 | +12V |

| P3 | |
|---|---|
| PIN | NAME |
| 1 | +12V |
| 2 | GND |
| 3 | GND |
| 4 | +5V |

| ATX1 | | | |
|---|---|---|---|
| PIN | NAME | PIN | NAME |
| 1 | +3.3V | 11 | +3.3V |
| 2 | +3.3V | 12 | -12V |
| 3 | GND | 13 | GND |
| 4 | +5V | 14 | PS-ON |
| 5 | GND | 15 | GND |
| 6 | +5V | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | NC | 18 | -5V |
| 9 | 5VSB | 19 | +5V |
| 10 | +12V | 20 | +5V |

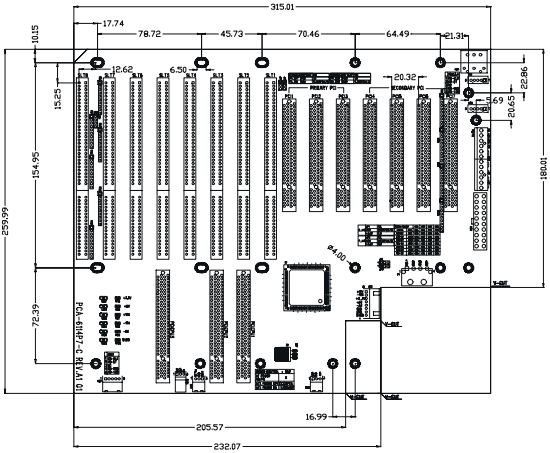
| KB1~KB3 | |
|---|---|
| PIN | NAME |
| 1 | KBCLK |
| 2 | KBDATA |
| 3 | NC |
| 4 | KBGND |
| 5 | KBVCC |

***Unit: mm***

**2002611421**

PCA - 6114P7-C REV : A1 01

Dimensions : 259.99* 315.01




# 1. Connectors

| Connector | Description |
|---|---|
| SLT2-3, 5 | PCMIG connectors |
| SLT1, 4, 6-8 | 16 BIT ISA BUS connectors |
| PCI 1~3 | 32 PCI BIT BUS connectors (primary) |
| PCA 4~7 | 32 BIT BUS connectors (secondary) |
| CN1 | 8-PIN +12V, -12V, +3.3V, +5V, -5V, GND AND SVSB connector |
| CN2 | 3-PIN +12V, GND and SVSB for ATX power |
| CN3 | 3-PIN +12V, GND and +V DV power connector |
| BIG 4P | 4-PIN +12V, GND and +5V DC power connector |
| KB1 | To CPU card K/B |
| KB2 | To front part K/B connector |
| KB3 | To front part K/B connector |
| KB4 | External K/B connector |
| AT | To AT power connector |
| ATX | To ATX power connector |
| FAN1 | 3-PIN +12DC power connector for fan |
| JP1 | 2-PIN jumper for +3.3V and +5.0V |
| JP2 | 2-PIN jumper to +3.3V and +5.0V |

# 2. PIN Assignment

CN1

| PIN | Name |
|---|---|
| 1 | SVSB |
| 2 | GND |
| 3 | GND |
| 4 | -5V |
| 5 | +5V |
| 6 | +3.3V |
| 7 | -12V |
| 8 | +12V |

CN2

| PIN | Name |
|---|---|
| 1 | PS_ON |
| 2 | GND |
| 3 | 5VSB |

CN3

| PIN | Name |
|---|---|
| 1 | +12V |
| 2 | GND |
| 3 | +5V |

KB1~4

| PIN | Name |
|---|---|
| 1 | KBCLK |
| 2 | KB-DT |
| 3 | NC |
| 4 | GND |
| 5 | +5V |

FAN1

| PIN | Name |
|---|---|
| 1 | NC |
| 2 | +12V |
| 3 | GND |

BIG 4P

| PIN | Name |
|---|---|
| 1 | +12V |
| 2 | GND |
| 3 | GND |
| 4 | +5V |

AT

| PIN | Name |
|---|---|
| 1 | NC |
| 2 | +5V |
| 3 | +12V |
| 4 | -12V |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |
| 9 | -5V |
| 10 | +5V |
| 11 | +5V |
| 12 | +5V |

ATX

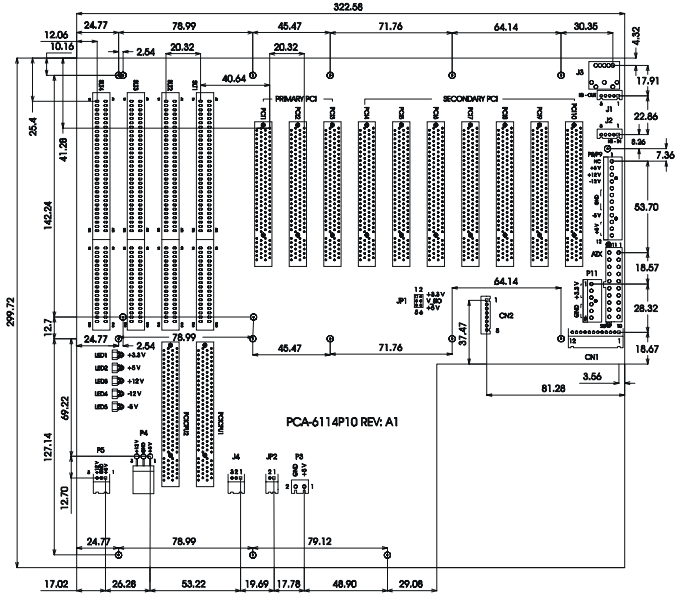
| PIN | Name | PIN | Name |
|---|---|---|---|
| 1 | +3.3V | 11 | +3.3V |
| 2 | +3.3V | 12 | _12V |
| 3 | GND | 13 | GND |
| 4 | +5V | 14 | PS-ON |
| 5 | GND | 15 | GND |
| 6 | +5V | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | NC | 18 | -5V |
| 9 | SVSB | 19 | +5V |
| 10 | +12V | 20 | +5V |

| CN2 | |
|---|---|
| X | AT power connector P8/P9 |
| OPEN | ATXpower off |
| SHORT | ATX power on |

| JP1, JP2 | PIN |
|---|---|
| +5V | 1-2 (DEFAULT) |
| +3.3V | 2-3 |

PCA-6114P10 REV: A1

Dimensions: 299.72 x 322.58 mm




1. CONNECTORS

| CONNECTOR | DESCRIPTION |
|---|---|
| SLT1 ~ 2 | PICMG connectors |
| SLT3 ~ 4 | 16-bit ISA-bus connectors |
| PCI1 ~ 3 | 32-bit PCI-bus connectors (primary) |
| PCI4 ~ 10 | 32-bit PCI-bus connectors (secondary) |
| CN1 | 12-pin power (±5 V, ±12 V), SP, HDD, K/B, reset and P-F connector |
| CN2 | 8-pin power (±5 V, ±12 V), SP, HDD and P-F connector |
| ATX | To ATX power connector |
| J1 (K/B - OUT) | To front part K/B connector |
| J2 (K/B - IN) | To CPU card K/B connector |
| J3 | Edsenal K/B connector |
| J4 | To CPU card for ATX power connector |
| JP1 | V - IO for secondary PCI bus |
| JP2 | Power ON control for ATX power supply |
| P3 | 2-pin +5 V DC power connector |
| P4 ~ 5 | 3-pin +5 V and +12 V DC power connector |
| P8/P9 | To P8/2 power connector |
| P11 | 6-pin +3.3 V DC power connectors |

| JP2 | |
|---|---|
| Closed | ATX power supply power ON |
| Open | ATX power supply power OFF |

| JP1 | | |
|---|---|---|
| 1-3, 2-4 closed | V_IO = +3.3 V for secondary PCI bus |
| ✳ 3-5, 4-6 closed | V_IO = +5 V for secondary PCI bus |

✳ Default

2. PIN ASSIGNMENTS

| CN1 | |
|---|---|
| PIN | NAME |
| 1 | +12 V |
| 2 | -12 V |
| 3 | SP |
| 4 | +5 V |
| 5 | KBDLOCK |
| 6 | KBDDATA |
| 7 | KBDCLK |
| 8 | -5 V |
| 9 | GND |
| 10 | RESET |
| 11 | HDD |
| 12 | NC |

| CN2 | |
|---|---|
| PIN | NAME |
| 1 | SP |
| 2 | +5 V |
| 3 | KBDLOCK |
| 4 | GND |
| 5 | GND |
| 6 | RESET |
| 7 | HDD |
| 8 | NC |

| P3 | |
|---|---|
| PIN | NAME |
| 1 | +5 V |
| 2 | GND |

| P4 ~ P5 | |
|---|---|
| PIN | NAME |
| 1 | +5 V |
| 2 | GND |
| 3 | +12 V |

| P11 | |
|---|---|
| PIN | NAME |
| 1 | +3.3 V |
| 2 | +3.3 V |
| 3 | +3.3 V |
| 4 | GND |
| 5 | GND |
| 6 | GND |

| P8/P9 | |
|---|---|
| PIN | NAME |
| 1 | NC |
| 2 | +5 V |
| 3 | +12 V |
| 4 | -12 V |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |
| 9 | -5 V |
| 10 | +5 V |
| 11 | +5 V |
| 12 | +5 V |

| J1 ~ J3 | |
|---|---|
| PIN | NAME |
| 1 | CLK |
| 2 | DATA |
| 3 | NC |
| 4 | GND |
| 5 | +5 V |

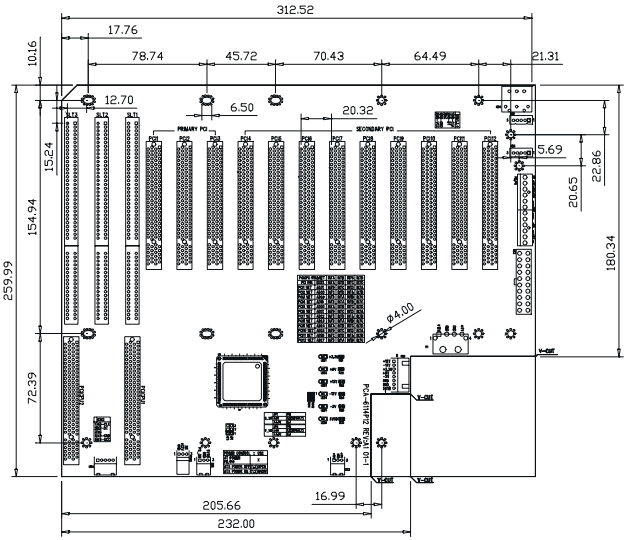
| J4 | |
|---|---|
| PIN | NAME |
| 1 | 5 V STB |
| 2 | GND |
| 3 | PS-ON |

| ATX | | | |
|---|---|---|---|
| PIN | NAME | PIN | NAME |
| 1 | +3.3 V | 11 | +3.3 V |
| 2 | +3.3 V | 12 | -12 V |
| 3 | GND | 13 | GND |
| 4 | +5 V | 14 | PS-ON |
| 5 | GND | 15 | GND |
| 6 | +5 V | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | NC | 18 | -5 V |
| 9 | 5 V STB | 19 | +5 V |
| 10 | +12 V | 20 | +5 V |

2002611440

PCA - 6114P12 REV : A1 01-1

Dimensions : 259.99* 312.52




1 . CONNECTORS

| CONNECTOR | Description |
|---|---|
| SLT1,3 | PICMG connectors |
| SLT2 | 16 BIT ISA BUS connectors |
| PCI 1 ~3 | 32 BIT PCI BUS connectors (primary) |
| PCI 4 ~12 | 32 BIT PCI BUS connectors (secondary) |
| CN1 | 8-PIN +12V,-12V, +3.3V, +5V,-5V,GND and 5VSB connector |
| CN2 | 3-PIN PS_ON , GND and 5VSB for ATX power |
| CN3 | 3-PIN +12V,GND and +5V DC power connector |
| BIG 4P | 4-PIN +12V,GND and +5V DC power connector |
| KB1 | To CPU CARD K/B connector |
| KB2 | To front part K/B connector |
| KB3 | To front part K/B connector |
| KB4 | External K/B connector |
| AT | To AT power connector |
| ATX | To ATX power connector |
| FAN1 | 3-PIN +12V DC power connector for fan |
| JP1 | 2-PIN Jumper for +3.3V and +5.0V |
| JP2 | 2-PIN Jumper for +3.3V and +5.0V |

2 . PIN Assigement

CN1

| PIN | Name |
|---|---|
| 1 | +12V |
| 2 | -12V |
| 3 | +3.3V |
| 4 | +5V |
| 5 | -5V |
| 6 | GND |
| 7 | GND |
| 8 | 5VSB |

CN2

| PIN | Name |
|---|---|
| 1 | PS_ON |
| 2 | GND |
| 3 | 5VSB |

CN3

| PIN | Name |
|---|---|
| 1 | +12V |
| 2 | GND |
| 3 | +5V |

KB1~4

| PIN | Name |
|---|---|
| 1 | KBCLK |
| 2 | KB-DT |
| 3 | NC |
| 4 | GND |
| 5 | + 5V |

FAN1

| PIN | Name |
|---|---|
| 1 | NC |
| 2 | +12V |
| 3 | GND |

| PCI/CPU PIN&NET | INTA | INTB | INTC | INTD |
|---|---|---|---|---|
| PCI PIN | IDSEL | INTA | INTB | INTC | INTD |
| PCI1 NET | AD31 | INTB | INTC | INTD | INTA |
| PCI2 NET | AD30 | INTC | INTD | INTA | INTB |
| PCI3 NET | AD29 | INTD | INTA | INTB | INTC |
| PCI4 NET | AD19 | INTD | INTA | INTB | INTC |
| PCI5 NET | AD20 | INTA | INTB | INTC | INTD |
| PCI6 NET | AD21 | INTB | INTC | INTD | INTA |
| PCI7 NET | AD22 | INTC | INTD | INTA | INTB |
| PCI8 NET | AD23 | INTD | INTA | INTB | INTC |
| PCI9 NET | AD24 | INTA | INTB | INTC | INTD |
| PCI10 NET | AD25 | INTB | INTC | INTD | INTA |
| PCI11 NET | AD26 | INTC | INTD | INTA | INTB |
| PCI12 NET | AD27 | INTD | INTA | INTB | INTC |

BIG 4P

| PIN | Name |
|---|---|
| 1 | +12V |
| 2 | GND |
| 3 | GND |
| 4 | +5V |

AT

| PIN | Name |
|---|---|
| 1 | NC |
| 2 | +5V |
| 3 | +12V |
| 4 | -12V |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |
| 9 | - 5V |
| 10 | +5V |
| 11 | +5V |
| 12 | +5V |

ATX

| PIN | Name | PIN | Name |
|---|---|---|---|
| 1 | +3.3V | 11 | +3.3V |
| 2 | +3.3V | 12 | -12V |
| 3 | GND | 13 | GND |
| 4 | +5V | 14 | PS-ON |
| 5 | GND | 15 | GND |
| 6 | +5V | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | NC | 18 | -5V |
| 9 | 5VSB | 19 | +5V |
| 10 | +12V | 20 | +5V |

| CN2 ( 1,2 ) | |
|---|---|
| X | AT power connector P8/P9 |
| OPEN | ATX power off |
| SHORT | ATX power on |

| JP1,JP2 | PIN |
|---|---|
| +5V | 1-2 (DEFAULT) |
| +3.3V | 2-3 |

P/N : 2002611450