cPCIS-1100 Series

3U Height Subsystems for CompactPCI Modules

User's Manual

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Revision History

Revision	Release Date	Description of Change(s)
2.00	September 15, 2014	Initial release

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1 Introduction

1.1 Product Definition

The cPCIS-1100 Series Subsystems are rack mountable, 3U in height, and designed for 3U CompactPCI cards and modules. They are ideal for industrial or transport applications where small chassis size with multi-functionality are important, and provide ample power capacity, a hot swap backplane and easy maintenance. The cPCIS-ET1100 Series' ability to handle a wide range of temperatures and excellent shock and vibration characteristics make it suitable for operation in a rigorous environment. The cPCIS-ET1100 Series allows for custom configuration, giving system integrators maximum flexibility to build in specialized functionality.

This user's manual provides unpacking, operating, and maintenance information for the cPCI-1100 Series 3U CompactPCI subsystems. The cPCI-1100 Series subsystems are assembled using the following components:

Components:

Chassis: cPRK-1100

Power Supply: 3U CompactPCI or ATX PS/2 form factor PSU

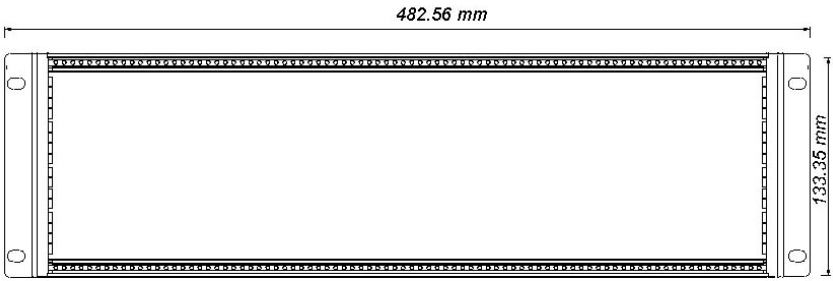
Backplane: PICMG 2.0 R3.0 Hot Swap compatibility



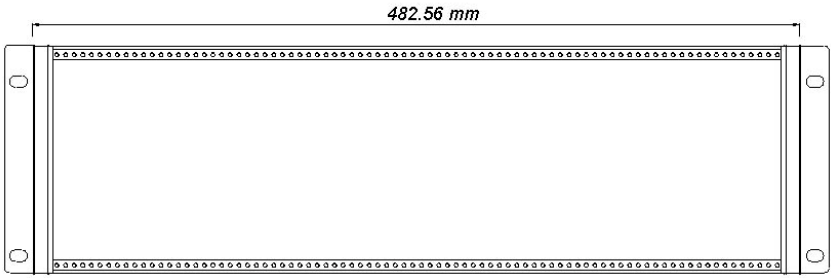
cPCIS-1100 Series shown (CPU card is not included)

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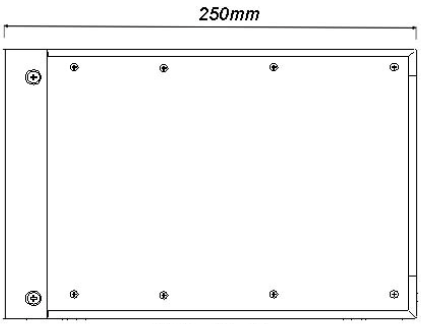
1.2 Mechanical Drawing



FRONT VIEW



REAR VIEW



SIDE VIEW

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1.3 Configurations

The cPCI-1100 Series comes in the following configurations:

	System Slots	Peripheral Slots	PSU(s)	Monitor	PICMG
cPCIS-1100A[R]	1	7	400W ATX	—	2.0, 2.1
cPCIS-1101[R]	1	7	250W cPCI	—	2.0, 2.1, 2.11
cPCIS-1102[R]	1	7	250W cPCI (1+1)	—	2.0, 2.1, 2.11
cPCIS-1202[R] (dual system)	1 x 2	5 x 2	250W cPCI (1 / 1)	—	2.0, 2.1, 2.11
cPCIS-ET1101	1	7	250W ETT cPCI PSU	—	2.0,2.1 2.11
cPCIS-ET1102	1	7	250W ETT 2 x cPCI PSU	—	2.0, 2.1, 2.11

*All models are available with rear I/O backplanes for Rear Transition Modules (RTMs) and are indicated by an “R” suffix on the model name.

1.4 Customized Systems

Sub-systems can also be customized to meet individual needs. To customize a sub-system please contact an ADLINK dealer. For complete systems, users must order CPU modules in addition to the sub-system.

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2 Getting Started

In this chapter, we will describe the unpacking procedure of the sub-system and CompactPCI board and power supply unit (PSU) installation procedures for cPCIS-1100 Series models with CompactPCI PSU(s) only.

2.1 Shipping Contents

Check the shipping carton for any damage. If the shipping carton and contents are damaged, please notify the dealer for a replacement. Retain the shipping carton and packing material for inspection by the dealer. Obtain authorization before returning any product to ADLINK.

Check that the following items are included in the package. If there are any missing items, please contact your dealer:

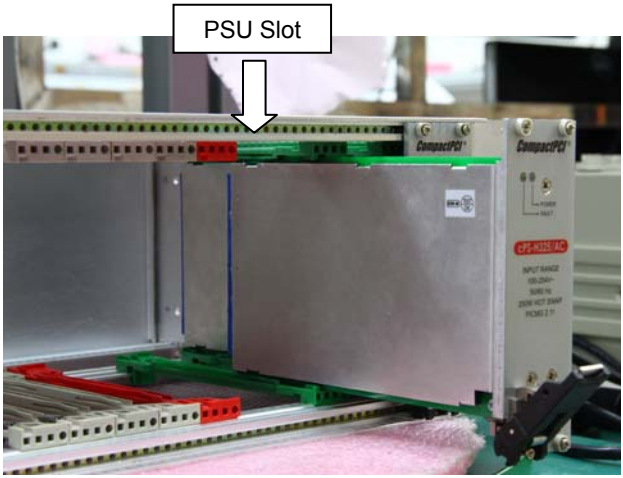
- One cPCIS-1100 Series sub-system
- This User's Manual
- Power cord (either N. American or European)

2.2 CompactPCI Board & PSU Installation
cPCIS-1100 Series models with CompactPCI PSU(s)

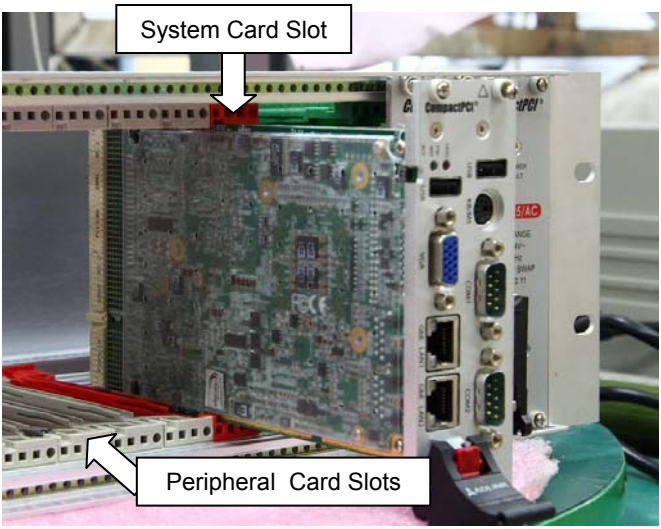
The CompactPCI connectors are rigid and require careful handling when inserted and removed. Improper handling of cards can easily damage the backplane.

The PSU slot also has an obvious indicator such as a green card guide rail in a standard CompactPCI chassis (see photos below, chassis in photos are for reference only).

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System slots have obvious indicators (e.g. red card guide rail, triangle mark enclosing the slot number on the backplane, etc.) System cards can only be installed in a system slot. Do not insert a system card into any other slot, or insert any peripheral card into system slot.

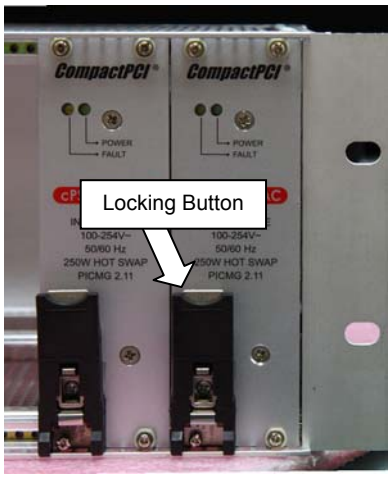


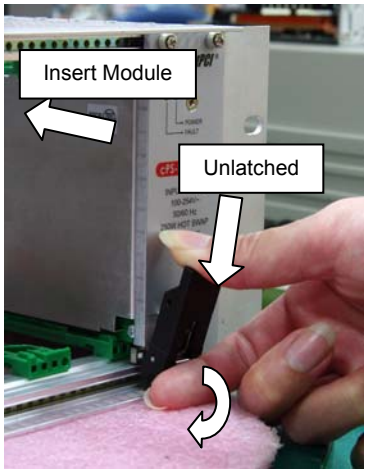
The handle on CompactPCI cards and PSUs ensures simple and safe installation and removal. Please follow the procedures below to install a CompactPCI module into a cPCIS-1100 Series chassis with CompactPCI PSU(s):

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CompactPCI Card Installation/Removal Procedure

1. Place the sub-system on a level surface or rackmount it. Remove the blanking plates where required by undoing the retaining screws at each end. Retain the blanking plates for possible future use. The system should not be put into use without blanking plates for all empty slots, otherwise the EMC will be compromised
2. Hold the SBC module, peripheral card or PSU module vertically. For PSU modules, make sure that the handle is unlatched (i.e. that it is pulled downwards) by first pressing on the locking button with your thumb.



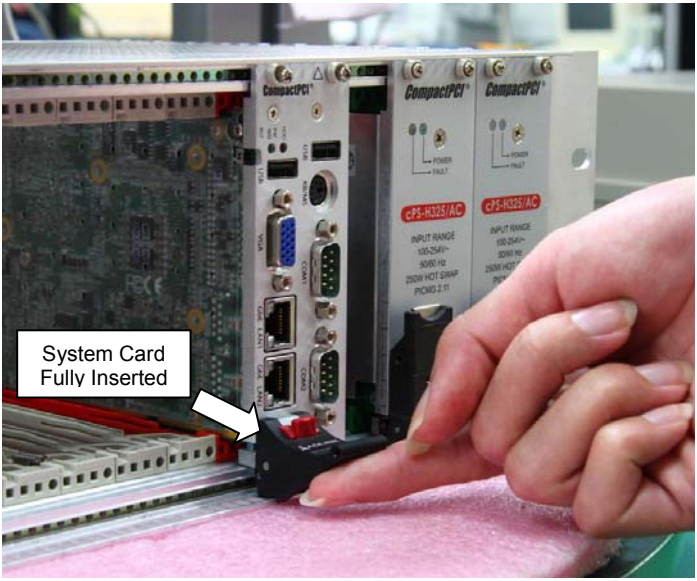


3. Carefully insert the module into the desired slot by sliding the edges of the board into the appropriate card guide rail. Take care to ensure correct alignment of the card with the chassis during insertion to prevent damage to the card and/or backplane.
4. Continue inserting the card until the handle engages with the chassis.
5. Pull upwards on the handle for final insertion. For PSU modules, ensure that the locking button on the handle is fully latched into position.

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To remove the module, press the release button (if necessary), and reverse steps 1 through 5 above.

2.3 RTM (Rear Transition Module) Installation

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The installation and removal procedures for a RTM are the same as those for CompactPCI boards. Because they are shorter than front boards, pay careful attention when inserting or removing RTMs. Only models with an “R” at the end of the model number support RTMs.

Note: We strongly recommended the use of RTMs with AB type connectors to prevent damaging the backplane during RTM installation.

2.4 Powering Up the System

Connect the supplied power cord to the socket on the back of the chassis. All supplied PSUs are full range 90-240VAC and do not require input voltage setting.

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3 Backplane

In this chapter, we will describe the backplanes for the cPCIS-1100 Series subsystems. The following table specifies the backplane(s) that correspond to each model.

	backplane	slots	power backplane
cPCIS-1100A[R]	cBP-3208[R]	8	—
cPCIS-1101[R]	cBP-3208[R]	8	cBP-3061
cPCIS-1102[R]	cBP-3208[R]	8	cBP-3062A
cPCIS-1202[R] (dual system)	cBP-3206[R] (x2)	6 (x2)	cBP-3061 (x2)
cPCIS-ET1101	cBP-3208	8	cBP-3061
cPCIS-ET1102	cBP-3208	8	cBP-3062A

3.1 cBP-3208[R] Backplane

The cBP-3208[R] is a 3U CompactPCI 32-bit backplane with optional rear I/O (designated by an “R” suffix). It is used by the cPCIS-1100A / cPCIS-1101 / cPCIS-1102 / cPCIS-ET1101 / cPCIS-ET1102.

Specifications

Standard CompactPCI height for 3U cPCI cards

CompactPCI Compliancy

- PICMG 2.0 CompactPCI core specification R3.0
- PICMG 2.1 CompactPCI hot swap R2.0

Dimensions: 141.3 x 128.7 mm

PCI bus clock: up to 32-bit/33MHz

System Slot: one R-hand side dual-slot

System Slot Rear I/O: P2 rear I/O with AB-type shroud

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Peripheral slots: 7

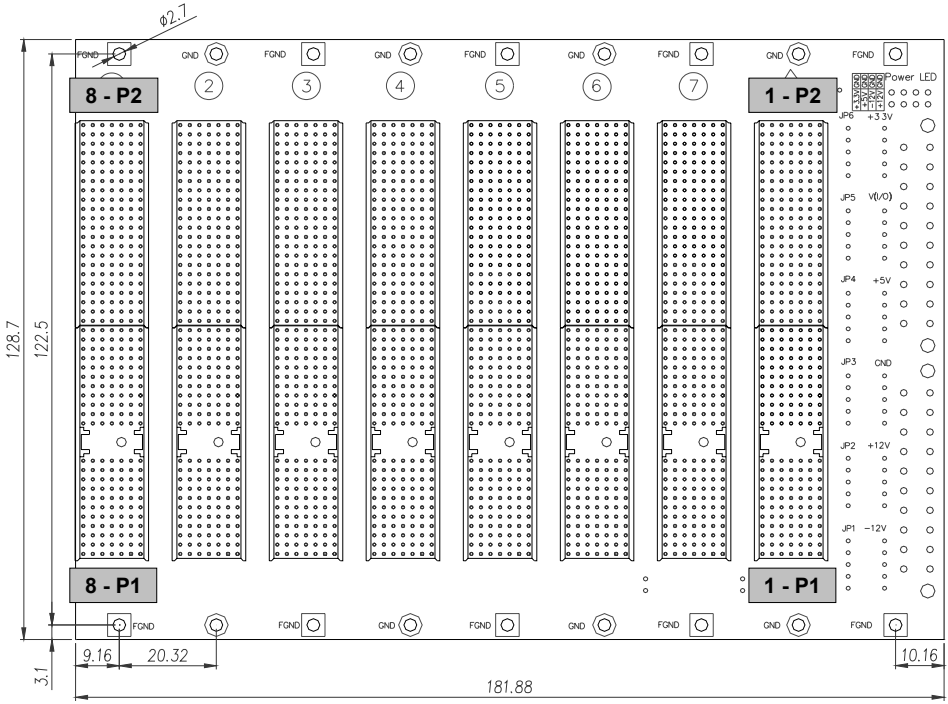
Peripheral Slots Rear I/O: P2 rear I/O with AB-type shroud (optional)

Power Connectors: ATX connector x2, DC screw terminals

V (I/O): 3.3V or 5V selectable, default 5V

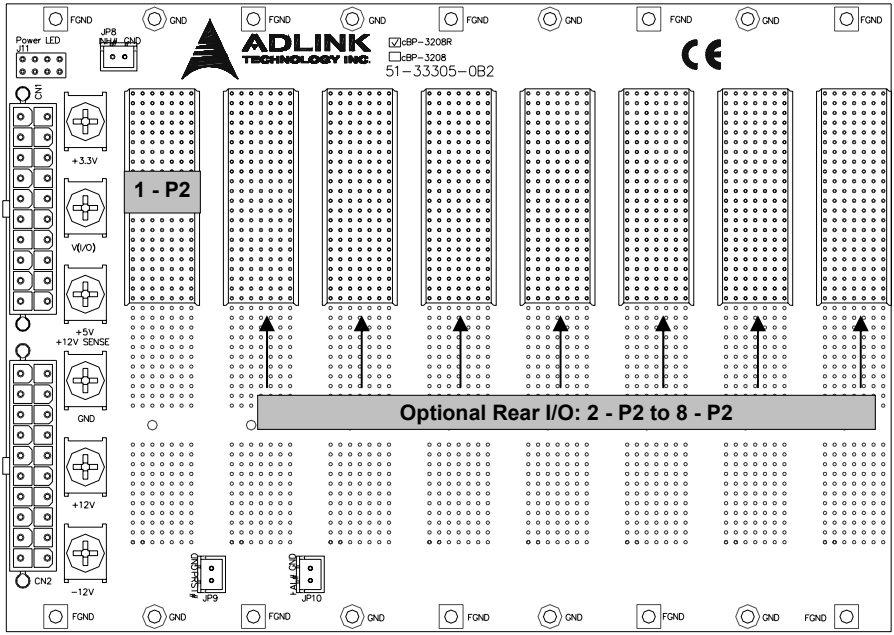
Other connectors: INH#, Reset, PWR_FAL#

Mechanical Drawing



cBP-3208[R] Front View

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cBP-3208[R] Rear View

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Pin Assignment

- [1 – P1] System Slot

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD[1]	+5V	V(I/O)	AD[0]	ACK64#	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	V(I/O)	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	BDSEL	TRDY#	GND
12-14	Key						
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ#	GND	+3.3V	CLK	AD[31]	GND
5	GND	Reserved	Reserved	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND
Pin	**Z**	**A**	**B**	**C**	**D**	**E**	**F**

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- [1 – P2] System Slot

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	CLK6	GND	NC	NC	NC	GND
20	GND	CLK5	GND	NC	NC	NC	GND
19	GND	GND	GND	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	PRST#	REQ6#	GNT6#	GND
16	GND	NC	NC	DEG#	NC	NC	GND
15	GND	NC	NC	FAL#	REQ5#	GNT5#	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	V(I/O)	NC	NC	NC	NC	GND
3	GND	CLK4	GND	GNT3#	REQ4#	GNT4#	GND
2	GND	CLK2	CLK3	GND	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND
Pin	**Z**	**A**	**B**	**C**	**D**	**E**	**F**

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- [2 – P1] / [8 – P1] Peripheral Slot

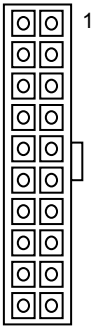
Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD[1]	+5V	V(I/O)	AD[0]	ACK64#	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	V(I/O)	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	GND	TRDY#	GND
12-14	Key						
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ#	GND	+3.3V	CLK	AD[31]	GND
5	GND	NC	NC	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND
Pin	**Z**	**A**	**B**	**C**	**D**	**E**	**F**

- [2 – P2] / [8 – P2] Peripheral Slot

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
1-21	GND	NC	NC	NC	NC	NC	GND

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- CN1 / CN2 – ATX Power Connector



Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON_L
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	POWER GOOD	18	-5V
9	5V STB	19	+5V
10	+12V	20	+5V

- JP7 – connector



Pin #	Signal Name
1	+12V
2	-12V Sense

- JP8 – connector



Pin #	Signal Name
1	INH#
2	GND

- JP9 – connector



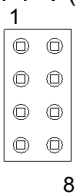
Pin #	Signal Name
1	PRST#
2	GND

- JP10 – connector



Pin #	Signal Name
1	FAL#
2	GND

- JP1- V (I/O), default: +5V



Pin #	Signal Name	Pin #	Signal Name
1	+12V	2	GND
3	-12V	4	GND
5	+3.3V	6	GND
7	+5V	8	GND

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3.2 cBP-3206[R] Backplane

The cBP-3206[R] is a 3U CompactPCI 32-bit backplane with optional rear I/O (designated by an “R” suffix). The cPCIS-1202[R] uses two of these backplanes.

Specifications

Standard CompactPCI height for 3U cPCI cards

CompactPCI Compliancy

- PICMG 2.0 CompactPCI core specification R3.0
- PICMG 2.1 CompactPCI hot swap R2.0

Dimensions: 100.7 x 128.7 mm

PCI bus clock: up to 32-bit/33MHz

System Slot: one R-hand side dual-slot

System Slot Rear I/O: P2 rear I/O with AB-type shroud

Peripheral slots: 5

Peripheral Slots Rear I/O: P2 rear I/O with AB-type shroud (optional)

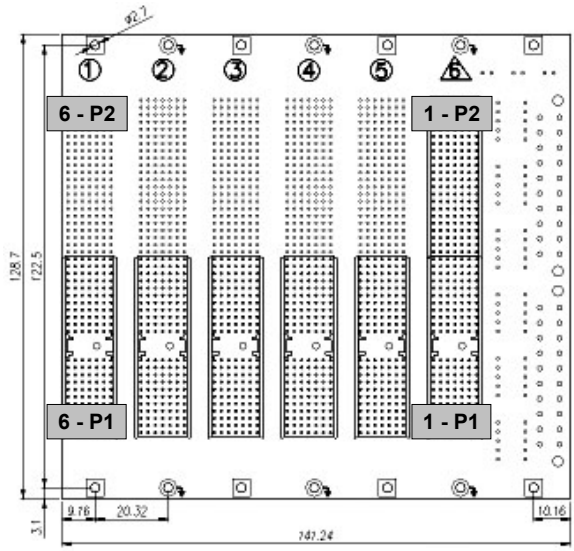
Power Connectors: ATX connector x2, DC screw terminals

V (I/O): 3.3V or 5V selectable, default 5V

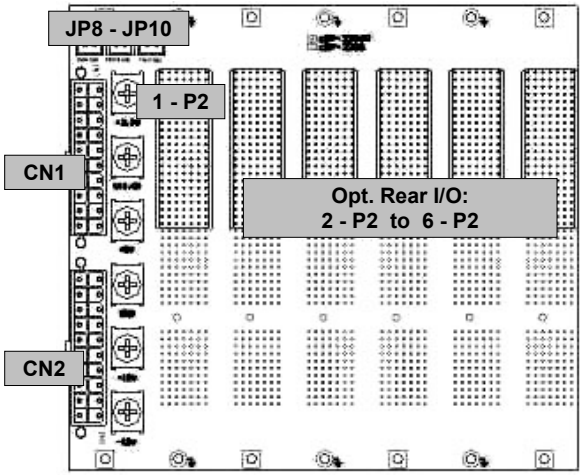
Other connectors: INH#, Reset, PWR_FAL#

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Mechanical Drawing



cBP-3206[R] Front View



cBP-3206[R] Rear View

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Pin Assignment

- [1 – P1] System Slot

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD[1]	+5V	V(I/O)	AD[0]	ACK64#	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	V(I/O)	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	BDSEL	TRDY#	GND
12-14	Key						
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ#	GND	+3.3V	CLK	AD[31]	GND
5	GND	Reserved	Reserved	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND
Pin	**Z**	**A**	**B**	**C**	**D**	**E**	**F**

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- [1 – P2] System Slot

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	CLK6	GND	NC	NC	NC	GND
20	GND	CLK5	GND	NC	NC	NC	GND
19	GND	GND	GND	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	PRST#	REQ6#	GNT6#	GND
16	GND	NC	NC	DEG#	NC	NC	GND
15	GND	NC	NC	FAL#	REQ5#	GNT5#	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	V(I/O)	NC	NC	NC	NC	GND
3	GND	CLK4	GND	GNT3#	REQ4#	GNT4#	GND
2	GND	CLK2	CLK3	GND	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND
Pin	**Z**	**A**	**B**	**C**	**D**	**E**	**F**

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- [2 – P1] – [6 – P1] Peripheral Slot

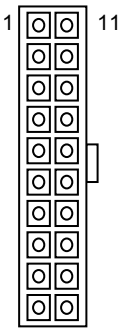
Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD[1]	+5V	V(I/O)	AD[0]	ACK64#	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	V(I/O)	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	GND	TRDY#	GND
12-14	Key						
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ#	GND	+3.3V	CLK	AD[31]	GND
5	GND	NC	NC	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND
Pin	**Z**	**A**	**B**	**C**	**D**	**E**	**F**

- [2 – P2] – [6 – P2] Peripheral Slot

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
1-21	GND	NC	NC	NC	NC	NC	GND

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- CN1 / CN2 – ATX Power Connector



Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON_L
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	POWER GOOD	18	-5V
9	5V STB	19	+5V
10	+12V	20	+5V

- JP8 – connector



Pin #	Signal Name
1	INH#
2	-12V Sense

- JP9 – connector



Pin #	Signal Name
1	PRST#
2	GND

- JP10 – connector



Pin #	Signal Name
1	FAL#
2	GND

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3.3 cBP-3061 Power Backplane

The cBP-3061 is a PICMG 2.11 CompactPCI 3U 47-pin power backplane for one power module. It is used by the cPCIS-11011/cPCIS-1202[R]/cPCIS-ET1101/cPCIS-1202.

Specifications

CompactPCI Compliancy: PICMG 2.11 CompactPCI Power Interface

Dimensions: 39.64x 128.7 mm

Power Module Sockets: one

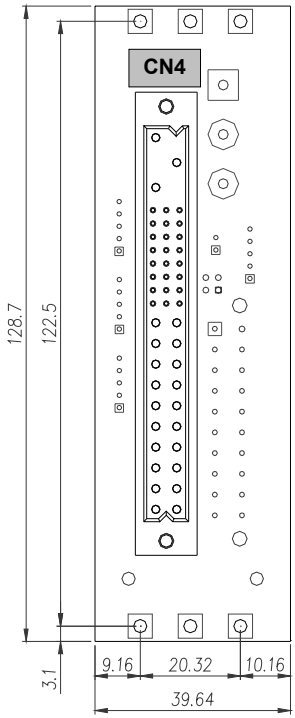
AC/DC input screw terminal: yes

DC output (ATX connector): one

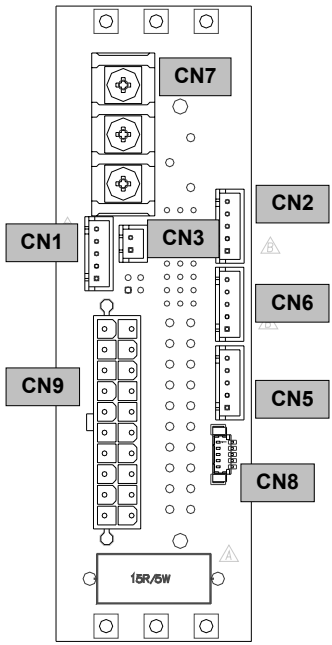
Cascading voltage Sense: Built-in ATX connector

INH#/FAL#/DEG# Distribution: Built-in ATX connector

Mechanical Drawing



cBP-3061[R] Front View



cBP-3061 [R] Rear View

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Pin Assignment

- CN1 – Power Sense Connector



Pin #	Signal Name
1	V1_Sense
2	GND_S
3	V2_Sense
4	V3_Sense
5	NC

- CN2 – Power Sense Connector



Pin #	Signal Name
1	V1_Sense
2	GND_S
3	V2_Sense
4	V3_Sense
5	NC

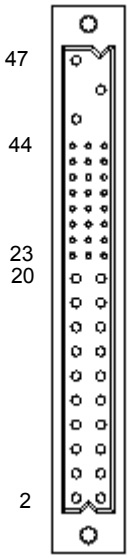
- CN3 – connector



Pin #	Signal Name
1	INHJ
2	GND

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- CN4 – Modular Power 47P Connector



Pin	Signal	Pin	Signal
47	ACL/-DC IN	31	GA2
46	ACN/+DC IN	30	V1 SENSE
45	CGND	29	V1ADJ
44	V3 SHARE	28	GA1
43	IPMB_PWR	27	EN#
42	+FAL#	26	RESERVED
41	V2 SHARE	25	GA0
40	IPMB_SDA	24	RTN
39	INH#	23	RESERVED
38	DEG#	22	RTN
37	IPMB_SCL	21	V4
36	V3 SENSE	20	V3
35	V1 SHARE	19	RTN
34	S RTN	13-18	V2
33	V2 SENSE	5-12	RTN
32	V2ADJ	1-4	V1

- CN5 – Current Share Connector



Pin #	Signal Name
1	V1_Share
2	GND
3	V2_Share
4	V3_Share
5	NC

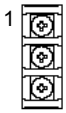
- CN6 – Current Share Connector



Pin #	Signal Name
1	V1_Share
2	GND
3	V2_Share
4	V3_Share
5	NC

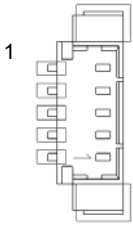
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- CN7 –AC/DC in Let Connector



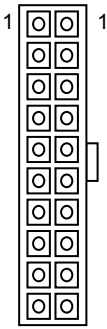
Pin #	Signal Name
1	ACN/DC+
2	ACL/DC-
3	CGND

- CN8 – IPMB Connector



Pin #	Signal Name
1	IPMB_SCL
2	GND
3	IPMB_SDA
4	IPMB_PWR
5	ALERT

- CN9 – ATX Power Connector



Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON_L
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	POWER GOOD	18	-5V
9	5V STB	19	+5V
10	+12V	20	+5V

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3.4 cBP-3062A Power Backplane

The cBP-3062A is a PICMG 2.11 CompactPCI 3U 47-pin power backplane for two power modules. It is used by the cPCIS-1102[R]/cPCIS-ET1102.

Specifications

CompactPCI Compliancy: PICMG 2.11 CompactPCI Power Interface

Dimensions: 80.28 x 128.7 mm

Power Module Sockets: two

AC/DC input screw terminal: yes

DC output (ATX connector): two

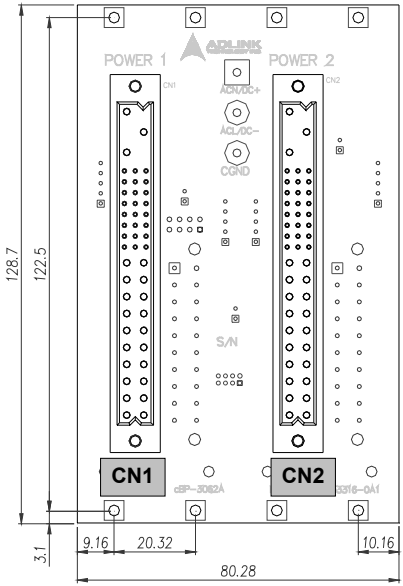
Cascading Current Sharing: yes

Cascading Voltage Sense: Built-in ATX connector

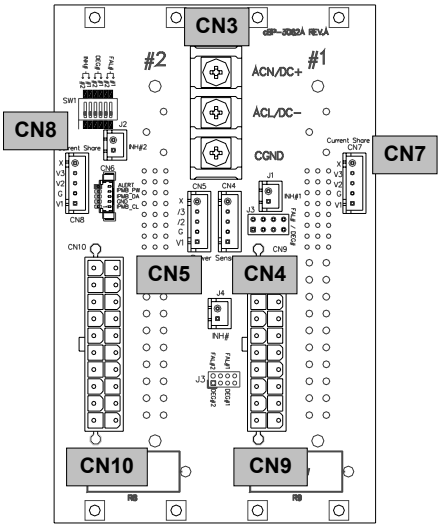
INH#/FAL#/DEG# Distribution: Selectable common INH#/FAL#/DEG# or separated INH# for each power module, dedicated connector

PICMG 2.0 IPMB Socket: yes

Mechanical Drawing



cBP-3062[R] Front View

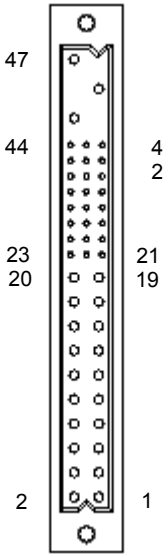


cBP-3062[R] Rear View

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Pin Assignment

- CN1 / CN2 – Modular Power 47P Connector



Pin	Signal	Pin	Signal
47	ACL/-DC IN	31	GA2
46	ACN/+DC IN	30	V1 SENSE
45	CGND	29	V1ADJ
44	V3 SHARE	28	GA1
43	IPMB_PWR	27	EN#
42	+FAL#	26	RESERVED
41	V2 SHARE	25	GA0
40	IPMB_SDA	24	RTN
39	INH#	23	RESERVED
38	DEG#	22	RTN
37	IPMB_SCL	21	V4
36	V3 SENSE	20	V3
35	V1 SHARE	19	RTN
34	S RTN	13-18	V2
33	V2 SENSE	5-12	RTN
32	V2ADJ	1-4	V1

- CN3 –AC/DC in Let Connector



Pin #	Signal Name
1	ACN/DC+
2	ACL/DC-
3	CGND

- CN4 – Power Sense Connector



Pin #	Signal Name
1	V1_Sense
2	GND_S
3	V2_Sense
4	V3_Sense
5	NC

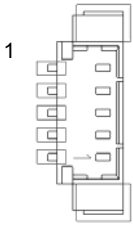
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- CN5 – Power Sense Connector



Pin #	Signal Name
1	V1_Sense
2	GND_S
3	V2_Sense
4	V3_Sense
5	NC

- CN6 –Connector



Pin #	Signal Name
1	IPMB_SCL
2	GND
3	IPMB_DA
4	IPMB_PWR
5	ALERT

- CN7 – Current Share Connector



Pin #	Signal Name
1	V1CS
2	GND_S
3	V2 CS
4	V3 CS
5	NC

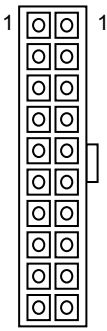
- CN8 – Current Share Connector



Pin #	Signal Name
1	V1 CS
2	GND_S
3	V2 CS
4	V3 CS
5	NC

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- CN9 / CN10 – ATX Power Connector



Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON_L
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	POWER GOOD	18	-5V
9	5V STB	19	+5V
10	+12V	20	+5V

- JP1 – connector



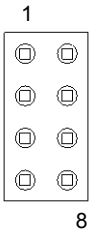
Pin #	Signal Name
1	INH#2
2	GND

- JP2 – connector



Pin #	Signal Name
1	INH#1
2	GND

- JP3 – connector



Pin #	Signal Name
1	DEG#1
2	FAL#1
3	RSV23A
4	RSV26A
5	DEG#2
6	FAL#2
7	RSV23B
8	RSV26B

- JP4 – connector



Pin #	Signal Name
1	INH#
2	GND

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4 Power Supply Units

The cPCIS-1100 Series subsystems are equipped with either the Zippy Technology Corp. PS2 HG2-6400P industrial grade ATX power supply, ADLINK's cPS-H325/AC CompactPCI power module or ADLINK's cPS-P325/AC wide range temperature operating CompactPCI power module (see Section 1.3 Configurations).

4.1 ATX: Zippy PS2 HG2-6400P

Features

- Active PFC (full range)
- 12V Max. Current : 30A
- Noise & Thermal Control

Specifications

- Operating Temperature Range: -10°C ~ +45°C
- Cooling: one 80mm DC fan
- Active Power Factor Correction meets IEC-1000-3-2 CLASS D
- Dimensions: 140.00x150.00x86.00 (mm)
- Hold Up Time: 16 ms minimum at full load & normal input voltage
- Dielectric Withstand: input / output 1500 VAC for 1 second
  input to frame ground 1500 VAC for 1 second
- Efficiency: 70% typical at 115V, full load.
- Power Good Signal: on delay 100 ms to 500 ms, off delay 1 ms
- Over Load Protection: 130 +/- 20%
- Over Voltage Protection:
  5V → 5.7V – 6.5V; 3.3V → 3.9 – 4.3V; 12V → 13.6 – 15V
- Short Circuit Protection: +5V, -5V, +12V, -12V, +3.3V
- EMI Noise Filter: FCC CLASS B, CISPR22 CLASS B
- Safety: UL 60950, CSA 22.2 NO/ 60950, TUV EN-60950& CCC.
- MTBF: 135,268 hrs

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Input Characteristics

- Voltage: 90 – 240 VAC Full Range
- Frequency : 47 ~ 63 HZ
- Input Current: 8.0 A (RMS) FOR 115 VAC
  4.0 A (RMS) FOR 230 VAC
- Inrush Current: 65A MAX. FOR 115 VAC
  125A MAX. FOR 230 VAC

Output Characteristics

Output Voltage	Output Current(A)			Regulation		Output
	MIN.	MAX.	PEAK	LOAD	LINE	Ripple& Noise Max[P-P]
5V	3	35	–	± 5%	± 1%	50mV
12V	2	30	–	+7 – -5%	± 1%	120mV
-5V	0	0.5	–	± 5%	± 1%	150mV
-12V	0	0.8	–	± 5%	± 1%	150mV
3.3V	1	28	–	± 5%	± 1%	50mV
+5VSB	0.1	2	–	± 5%	± 1%	50mV

Note: The output current of 5V & 3.3V must not exceed 45A.

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4.2 CompactPCI: cPS-H325/AC

Features

- 250W 3U x 8HP Eurocard package
- Meets IEC1000-3-2 harmonic correction
- Internal OR-ing diodes for N+1 redundancy
- Hot-swappable
- Third-wire current sharing
- EMI meets EN 55022 / FCC CLASS A
- CE marking compliance
- Fully compliant with PICMG

Specifications

- Operating Temperature Range: 0 °C to 50°C
- Storage Temperature: -40 to +85 °C
- Temperature Coefficient: Typ. ±0.02% / °C
- Cooling: >20 CFM moving air required to achieve full rated power
- Dimensions: Eurocard 3U X 8HP X 160mm CompactPCI format
- Efficiency: 78-79% typical
- Switching Frequency: 120K Hz
- Safety: IEC60950 Class I
- Circuit Topology: Forward circuit
- Transient Response: Peak transient less than 100mV and recovers within 2mS after 25% load-change

Input Characteristics

- Input Voltage: Typ. 90-264VAC
- Power Factor Correction: Meets Harmonic Correction IEC1000-3-2. Power Factor typ. 0.95-0.97
- Input Connector: Positronic 47-pin PCIH47M400A1
- Input Frequency: 47-63Hz
- Inrush Current: Less than 30A @ 230VAC
- Input Current: 2.8A @115VAC / 1.4A @230VAC

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- Dielectric Withstand: Meets IEC950 regulation
- EMI: Meets EN55022 / FCC Class A
- Hold-up Time: 5mS after power fail signal
- Remote ON/OFF: Available at [INH#] & [EN#] pins
- Power Fail Signal: Available at [FAL#] pin
- Status LED: <Green> means valid input voltage; <Amber> means a critical fault.
- Thermal Protection (OTP): Installed NTC and thermostat for thermal sensor at [DEG#] pin
- Power OK: Installed at all outputs
- Leakage Current: Typ. 0.5mA

Output Characteristics

Output Voltage	Output Current (A)			
	MIN.	MAX.	TYP.	PEAK.
5V MAIN +VO1 @ ★ # ≡ ⊙	2.0	33.0	25.0	–
3.3V AUX. +VO2 ▲ @ ★ # ≡ ⊙	0	33	18	–
12V AUX. +VO3 ▲ ≡ # ⊙ ★ @	0	5.5	5.5	6
-12V AUX. –VO4 ● ⊙ ★ ■ =	0	1	0.5	1.5

Symbol: "★" OVP built-in; "@" Adjustable; "#" Remote sensing; "≡" 3rd-wire Load Sharing; "=" Droop Current Sharing; "⊙" Installed with Or-ing diode; "▲" Magnetic Amplifier; "●" Installed with Post-regulator; "■" Common Choke.

Remarks: Peak load sustainable for less than 60sec. with duty cycle <10%. Max. load is the continuous operating load of each rail. Max. load of each rail cannot be drawn from all outputs at the same time.

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4.3 CompactPCI ETT PSU: cPS-P325/AC

Features

- 250W 3U x 8HP Eurocard package
- Meets EN 61000-3-2 active power factor correction
- Internal OR-ing diodes for N+1 redundancy
- Hot-swappable
- Active current sharing
- EMI meets EN 55022 / FCC CLASS A
- CE marking compliance
- Fully compliant with PICMG

Specifications

- Operating Temperature Range: -25°C to +50°C
- Storage Temperature: -40 to +85 °C
- Temperature Coefficient: Typ. ±0.3% / °C
- Cooling: > 400 LFM moving air required to achieve full rated power
- Dimensions: Eurocard 3U x 8HP x 160mm CompactPCI format
- Efficiency: 81.5-82.6% typical
- Switching Frequency: 135K Hz
- Safety: IEC60950-1,CSA60950-1 & China CCC
- Circuit Topology: forward circuit

Input Characteristics

- Input Voltage: Typ. 90-264VAC
- Power Factor Correction: meets Harmonic Correction EN 61000-3-2
- Input Connector: CompactPCI 47-pin power connector
- Input Frequency: 47-63Hz
- Inrush Current: ess than 15A@240VAC
- Input Current: 3.6A@230VAC/ 4A@260VAC
- EMI: Meets EN55022 / FCC Class A
- Hold-up Time: 20mS after power fail signal
- Remote ON/OFF: Available at [INH#] & [EN#] pins

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- Power Fail Signal: available at [FAL#] pin
- Status LED: <green> means valid input voltage; <amber> means a critical fault.
- Thermal Protection (OTP): Installed NTC and thermostat for thermal sensor at [DEG#] pin
- Power OK: Installed at all outputs
- Leakage Current: 1.18mA at 254Vac/60Hz

Output Characteristics

Output Voltage	Output Current (A)			
	Min.	Max.	Typ.	Peak.
5V	0	40.0	25.0	–
3.3V	0	40	20	–
12V	0	5.5	4	–
-12V	0	2	1	–

- Over Load Protection: fully protected against output overload or short circuit, typical 120% max. load
- Over Current Protection: installed at each rail
    - Output Wattage: Typ. 250W continuous.
    - Output Connector: CompactPCI 47-pin power connector.
    - Line Regulation: Max. ±10mV
    - Load Regulation: 3.3V & 5V: ± 10mV, +12V: ± 30mV & -12V: -380 mV.
    - Noise & Ripple: 60 mV@5V and 3.3V output; 120mV@.± 12V output.
    - OVP: Built-in at all outputs.
    - Adjustability: Available at VO1, 2 & 3.
    - Output Trim: Electrical trim available at VO1/VO2 [ADJ #].
    - Remote Sensing: Available at VO1, VO2 & VO3.
    - Hot-Swap: Available.
    - N+1 Redundancy: Installed with internal OR-ing diodes at all outputs for N+1 redundancy operation.
    - Current Sharing: Third-wire current sharing at VO1,2 &3.
    - Power OK Signal: Available for all output.

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- o Over Current Protection: Installed at each rail.
- o Overload Protection: Fully protected against output overload or short circuit. Typical 120% max. load.

Output power versus temperature T_A at $V_{i\ nom}$

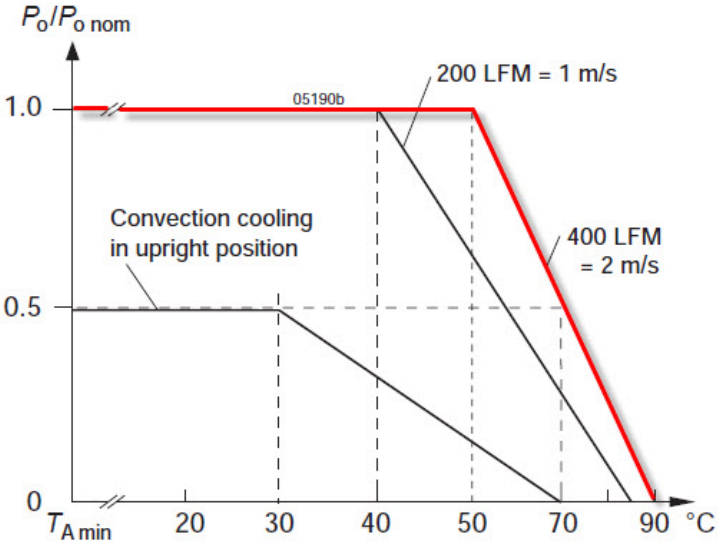


Fig. 4b
*Output power versus temperature T_A at $V_{i\,nom}$ (**CPA250-4530G**)*

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5 Specifications

5.1 Features

Standard 19” Rack-mount 3U CompactPCI form factor (3U height).

Board Space:

Supports both front and rear access for I/O, CPU, and power supply.

Standard 3U, 21-slot width chassis.

Suitable for rack-mount.

Comprehensive EMC shielding [EMC gaskets are installed on front rails (top and bottom), rear rails, and side panels].

Power switch.

At least 400 LFM external cooling fans are required

5.2 Mechanical

CompactPCI Standard: 2.0 R3.0

Form Factor: 3U CompactPCI with 50mm depth rear I/O

Enclosure: 19” 3U height rack-mount enclosure

Dimensions: 482.56mm (W) x 133.35mm (H) x 250mm (D)

Usable width: 21 slots (84HP).

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5.3 Environmental

Operating Temperature:
1. cPS-H325/AC: 0°C ~ +50°C ;
2. cPS-P325/AC: -25°C ~ +50°C (Up to 70°C but will have derating issue when above 50°C. Power efficiency will be derating 2.5% every Celsius degree and it will only have 50% of power efficiency when 70°C.)

Storage Temperature: -40°C to +85°C.

Humidity: 5% - 95%, non-condensed.

Shock: 15G peak-to-peak, 11ms duration, non-operation.

Vibration:

- Non-operation:1.88Grms, 5 – 500Hz, each axis.

Operation: 0.5Grms, 5 – 500Hz, each axis.

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Important Safety Instructions

Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.

- Please read these safety instructions carefully.
- Please keep this User's Manual for later reference.
- The equipment can be operated at an ambient temperature of 50ºC.
- The equipment should be operated only from the type of power source indicated on the rating label. Make sure the voltage of the power source when connect the equipment to the power outlet.
- If your equipment has a voltage selector switch, make sure that the switch is in the proper position for your area. The voltage selector switch is set at the factory to the correct voltage.
- For pluggable equipment, that the socket-outlet shall be installed near the equipment and shall be easily accessible.
- Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
- If the equipment is not use for long time, disconnect the equipment from mains to avoid being damaged by transient overvoltage.
- All cautions and warnings on the equipment should be noted.
- Please keep this equipment from humidity.
- Do not use this equipment near water or a heat source.
- Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
- Never pour any liquid into opening; this could cause fire or electrical shock.
- Openings in the case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space around the system for ventilation when you set up your work area. Never insert objects of any kind into the ventilation openings.
- To avoid electrical shock, always unplug all power cables and modem cables from the wall outlets before removing covers.

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If one of the following situations arises, get the equipment checked by a service personnel:

A. The power cord or plug is damaged.

B. Liquid has penetrated into the equipment.

C. The equipment has been exposed to moisture.

D. The equipment has not work well or you can not get it work according to user‘s manual.

E. The equipment has dropped and damaged.

F. If the equipment has obvious sign of breakage.

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