

JASPER ELECTRONICS

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CompactPCI[®]

350 Watt

Power Supplies

(PICMG[®] COMPLIANT*)

- ◆ **INPUTS: >.99 POWER FACTOR CORRECTED AC 90-264V, OR DC 36-72V OR DC 20-28V.**
- ◆ **HOT SWAP, N+1 REDUNDANT WITH INTERNAL OR-ING DIODES.**
- ◆ **SINGLE WIRE CURRENT SHARING.**
- ◆ **AVAILABLE WITH PICMG STANDARD 47 PIN AND OPTIONAL 38 PIN I/O CONNECTOR CONFIGURATIONS.**
- ◆ **CUSTOM CONFIGURATIONS TO MEET USER REQUIREMENTS.**
- ◆ **COMPLIES WITH ALL REQUIREMENTS OF PICMG POWER INTERFACE SPECIFICATIONS.**
- ◆ **CUL, TUV AND CE MARKED.**



350W to 400W, 3 or 4 Outputs.

GENERAL PRODUCT SPECIFICATIONS:

-INPUT-

Voltage/Current	AC 90-264V, 47-63Hz, 7.0A max, 1 Phase, or DC 36-72V (48V nom.), 16.0A Max; DC 20-28V (24V nom.), 20.0A Max.
Fusing	Internal line fuse provided, non-user serviceable. AC - 10.0A, 250VAC; 48V DC - 20.0A, 125VDC; 24V DC - 25.0A, 125VDC.
AC Power Factor	0.99 line PFC typical at AC 115V, full load.
Inrush Current	Thermistor soft start (~25°C cold start). 15Apk @ AC 115V; 30Apk @ AC 230V. 15Apk @ DC 24V or 48V.
AC Transient Protection .	MOV. Withstands differential and common mode transients as specified by IEEE C62.41 3KV.
AC EMI Filtering	Meets IFCC Level A, and EN 55022 Level A.
Efficiency	Typical, full load: 60% at AC 115V; 65% at DC 48V; 60% at DC 24V.
Redundant/Hot Swap	Full power N+1 redundant, hot swap capable.

-OUTPUTS-

Voltage/Current (V/A)	V1	V2	V3	V4
AC Model: PCI354-1022	5.0/40,	3.3/40,	+12/9,	-12/1.
48VDC Model: DPCI354-1022	5.0/40,	3.3/40,	+12/9,	-12/1.
<u>Total loading on all outputs not to exceed 350W.</u>				
24VDC Model: DPCI304-1022	5.0/30,	3.3/30,	+12/5,	-12/1.
<u>Total loading on all outputs not to exceed 300W.</u>				
Line/Load Regulation	At the Sense Point, Over Full Input Range and 0 – 100% Output Loading- <±1% for V1, V2, V3, sense leads connected. <±5% for V4.			
Minimum Loading	None required for single unit applications. 10% loading required in N+1, N2 configurations.			
Stability	Output drift <±0.2% after 20 minute warm-up.			
Temp. Coefficient	<±0.02%/°C, 0° - 50°C, after 20 minute warm-up.			
Dynamic Response	Less than 3% deviation with a 25% load change at 1A/µsec. Output returns to within 1% in less than 300µsec.			
Ripple and Noise (PARD)	For all outputs, 50mV max or 1% peak-to-peak nominal, which ever is greater, DC to 20MHz bandwidth with a coaxial probe and 0.1µF/22µF capacitors at the output terminals.			
Current Sharing/ Parallel N+1 Operation...	V1, V2, V3 Outputs. Single wire connection for ±10% current sharing between any number of units.			
Remote Sense	V1, V2, V3 outputs compensate for up to 0.25V total line drop in the load cables. Outputs are internally sensed if leads are opened.			
AC Hold-Up Time	Outputs remain in regulation >15msec minimum following loss of AC power at low line, full load.			
Over Current/Short Circuit Protection	Constant current limit on all outputs. Automatic recovery when overload is removed.			
Over Voltage Protection	Non-crowbar type. Any output that exceeds 25% ±10% of nominal Vout will cause all outputs to latch off. Remote inhibit, enable or power input recycle required to reset.			
Over Temperature Protection	Internal temperature sensing. Causes all outputs to shut down. Automatic recovery.			

Under Voltage Warning ..	Any output dropping below 10% of nominal triggers the power fail warning signal.
Reverse Sense Protection	Outputs latch-off if remote sense connections are installed in reverse. Remote inhibit, enable or power input recycle required to reset.
Over/Under Shoot	None at turn-on or turn-off.

-SIGNALS, INDICATORS and CONTROLS-

Remote Enable	Enabled by closed circuit or TTL logic 0. Disabled by open circuit or TTL logic 1.
Remote Inhibit	Enabled by open circuit or TTL logic 1. Disabled by closed circuit or TTL logic 0.
Power Fail Warning	Loss of input AC causes a TTL compatible signal to go low >4msec prior to any output dropping out of regulation. At AC turn-on, signal stays low until all outputs are in regulation. PF signal also triggered in both AC and DC input models by an under voltage condition on any output.
LED Indicator	Single bi-color LED. Green indicates input power ON and outputs within regulation. OFF or RED indicates an input and/or output power fault.

-OPERATING ENVIRONMENT-

Operating Temperature ..	0° – 50°C ambient at full load, with specified forward airflow.
Cooling	Direct forward airflow required to achieve full rated power and specified MTBF. AC input: 90 cfm minimum for 47-pin configuration, 120 cfm minimum for 38-pin configuration. DC input: 90 cfm minimum for all configurations.
Relative Humidity	Up to 90% RH, non-condensing.
Operational Vibration	0.75G peak, 5 – 500Hz along three orthogonal axis.
Storage Temperature	-40° to 85°C.
Altitude	Operating to 10,000 ft. Storage to 50,000 ft.
MTBF	Designed for 150,000 hrs at 25°C.

-INTERCONNECT-

Input/Output Connectors	Use of the specified mating connector is required to insure proper "make/break" sequential contact sequence.-
* PICMG Std <u>47 Pin</u> :	Positronic Ind. P/N PCIH47M400A1. Mates with PI P/N PCIH47F300A1.
* Optional <u>38 Pin</u> :	Positronic Ind. P/N PCIH38M400A1-241.1. Mates with PI P/N PCIH38F300A1.

-MECHANICAL-

Mechanical Outline Drawings are available. Contact the factory and request copies by specifying input voltage and connector type.	
Weight	Approx: 2.38 kg / 4.8 lbs.
Retaining Latches	Supplied with Type IV Rittal #3686.903 upper and #3686.902 lower latches, or Type VII Telecom Rittal #3686.134 upper and #3686.135 lower latches. Models may be ordered without latches. Refer to Option Codes to select.
I/O Connector Offset	47 pin models supplied with the I/O connector at 7.40 [.291] offset (PICMG std) only. 38 pin models supplied with the connector at 15.27 [.601] or optional 7.40 [.291] offset. Refer to Option Codes to specify connector offset.

Guide Rails..... **47** pin models supplied with guide rails at 6.61 [.260] offset for use with Rittal #3687.832 (or equivalent) PSU guides.
 4.07 [.160] optional guide rail offset available for use with Rittal #3684.669 CPCI standard guides.
38 pin models available in both 6.61 [.260] and 4.07 [.160] offsets with 7.40 [.291] I/O connector offset, 4.07 [.160] only with 15.27 [.601] offset.

Refer to Option Codes to specify guide rail offset.

Front Panel Overlay Supplied with Lexan overlay and JE Logo. May be deleted, or supplied with customer specified logo or other information. Contact factory.

Refer to Option Codes to specify overlay.

-SAFETY-

48VDC and All AC

Input Models..... Recognized to UL 1950, Third (3rd) Edition; Certified to CSA 22.2 No.234/950 (cULus); Approved to TUV EN60950/A11:1997. CE Marked.

24VDC Input Models Pending.

Some user specified (custom) configurations may not be eligible to bear some or all of the agency approval marks noted above. Contact factory for information on non-standard models.

I/O Connector Functions:

PICMG Standard 47 Pin Connector:

PIN#	SEQ ⁽¹⁾	FUNCTION
01-04	2	+5.0V V1 Output.
05-12	2	GND V1+V2 Return.
13-18	2	+3.3V V2 Output.
19	2	GND V3 Return.
20	2	+12.0V V3 Output.
21	2	-12.0V V4 Output.
22	2	RTN Signal Return.
23	2	N/C No Connection (Reserved).
24	2	GND V4 Return.
25,26	2	N/C No Connection (Reserved).
27	3	R/EN Remote Enable. Close circuit to GND.
28	2	N/C No Connection (Reserved).
29	2	V1-ADJ +5.0V Remote Voltage Adjust.
30	2	+S1 +5.0V (V1) Remote Sense.
31	2	N/C No Connection (Reserved).
32	2	V2-ADJ +3.3V Remote Voltage Adjust.
33	2	+S2 +3.3V (V2) Remote Sense.
34	2	S-RTN Sense Return for V1, V2, V3.
35	3	ISHR-1 +5.0V (V1) Current Share.
36	2	+S3 +12.0V (V3) Remote Sense.
37,38	2	N/C No Connection (Reserved).
39	2	R/INH Remote Inhibit. Close circuit to GND.
40	2	N/C No Connection (Reserved).
41	3	ISHR-2 +3.3V (V2) Current Share.
42	2	PF Power Fail Signal.
43	2	N/C No Connection (Reserved).
44	3	ISHR-3 +12.0V (V3) Current Share.
45	1	PE Primary Earth (chassis) Safety Ground.
46	2	ACC Neutral AC Power Input.
	2	+DC +DC Input Power.
47	2	AC Line AC Power Input.
	2	-DC -DC Input Power.

Optional 38 Pin Connector:

PIN#	SEQ ⁽²⁾	FUNCTION
01-04	2	+5.0V V1 Output
05-12	2	GND V1+V2 Return.
13-16	2	+3.3V V2 Output.
17	2	GND V3 Return.
18	2	+12.0V V3 Output.
19,20	2	N/C No Connection (Reserved).
21	2	-12.0V V4 Output.
22,23	2	GND V4 Return.
24	2	+S1 +5.0V (V1) Remote Sense.
25	3	R/EN Remote Enable. Close circuit to GND.
26	2	S-RTN Sense Return for V1, V2, V3.
27	2	+S2 +3.3V (V2) Remote Sense.
28,29	2	N/C No Connection (Reserved).
30	2	+S3 +12.0V (V3) Remote Sense.
31	2	R/INH Remote Inhibit. Close circuit to GND.
32	3	ISHR-1 +5.0V (V1) Current Share.
33	3	ISHR-2 +3.3V (V2) Current Share.
34	3	ISHR-3 +12.0V (V3) Current Share.
35	2	PF Power Fail Signal.
36	1	PE Primary Earth (chassis) Safety Ground.
37	2	ACC Neutral AC Power Input.
	2	+DC +DC Input Power.
38	2	AC Line AC Power Input.
	2	-DC -DC Input Power.

(1) Contact mating sequence. 1= First to make/Last to break.

All statements and technical information contained herein are believed by JE to be reliable as of the publication date of this document, but the accuracy or completeness is not guaranteed, and JE reserves the right to change specifications without prior notification. However, every reasonable effort will be made by JE to inform users of JE products of changes to design form, fit or function that may affect the user's applications. JE manufactures a quality product, equal to any available in the marketplace; however, these products are intended to be used in accordance with the specifications described in this catalog. Any use or application that deviates from the stated operating specifications is not recommended and may be unsafe.

ORDERING INFORMATION:

A multi-character option code is required following the base model description to define the required model configuration. Codes added in the following sequence, 1 from each category except (7):

*	PCI354-1022- PCI304-1022-	(1)	/(2)	(3)	(4)	(5)	(6)	(7)	(8)
*Input: AC – Blank DC – D	Base Model w/ V _{out} Code.	Connector Type	Input Voltage	Connector Offset	Latch Type	Guide Rail Offset	Overlay Type	-MXXXX Custom Configuration Code	RoHS Compliant Model

- Configuration Options -

Option:

Code:

- (1) I/O Connector
Type -38 or -3 = 38 pin (optional). Use -38 for AC input models, -3 for DC input models;
-47 or -4 = 47 pin (PICMG standard). Use -47 for AC models, -4 for DC models.
- (2) Input Voltage Blank = Std. AC 100V - 240V, 350W max output (PCI354).
Blank = Std. DC 48VDC nominal (40V - 70V). 350W max output (DPCI354).
/24 = Opt. DC 24VDC nominal (22V - 26V). 300W max output (DPCI304).
- (3) Connector Offset L = 7.40[.291] (PSU) offset. Standard for 47 pin; optional for 38 pin models.
H = 15.27[.601] offset. Standard for 38 pin; not available for 47 pin models.
- (4) Latch Type S = Standard (Type IV);
T = Telecom (Type VII);
N = None provided.
- (5) Guide Rail Offset S = 6.61[.260] offset for PSU guides. Standard for 47 pin models; optional for 38 pin
models only with 7.40[.291] connector offset (see opt. 2, code "L");
O = 4.07[.160] offset for CPCI guides. Optional for 47 pin; standard for 38 pin models.
- (6) Overlay S = Standard (JE Logo, model designation, etc);
B = Blank (No logo, model designation, etc);
N = No overlay provided.
M = Custom - User specified. See code (7) below.

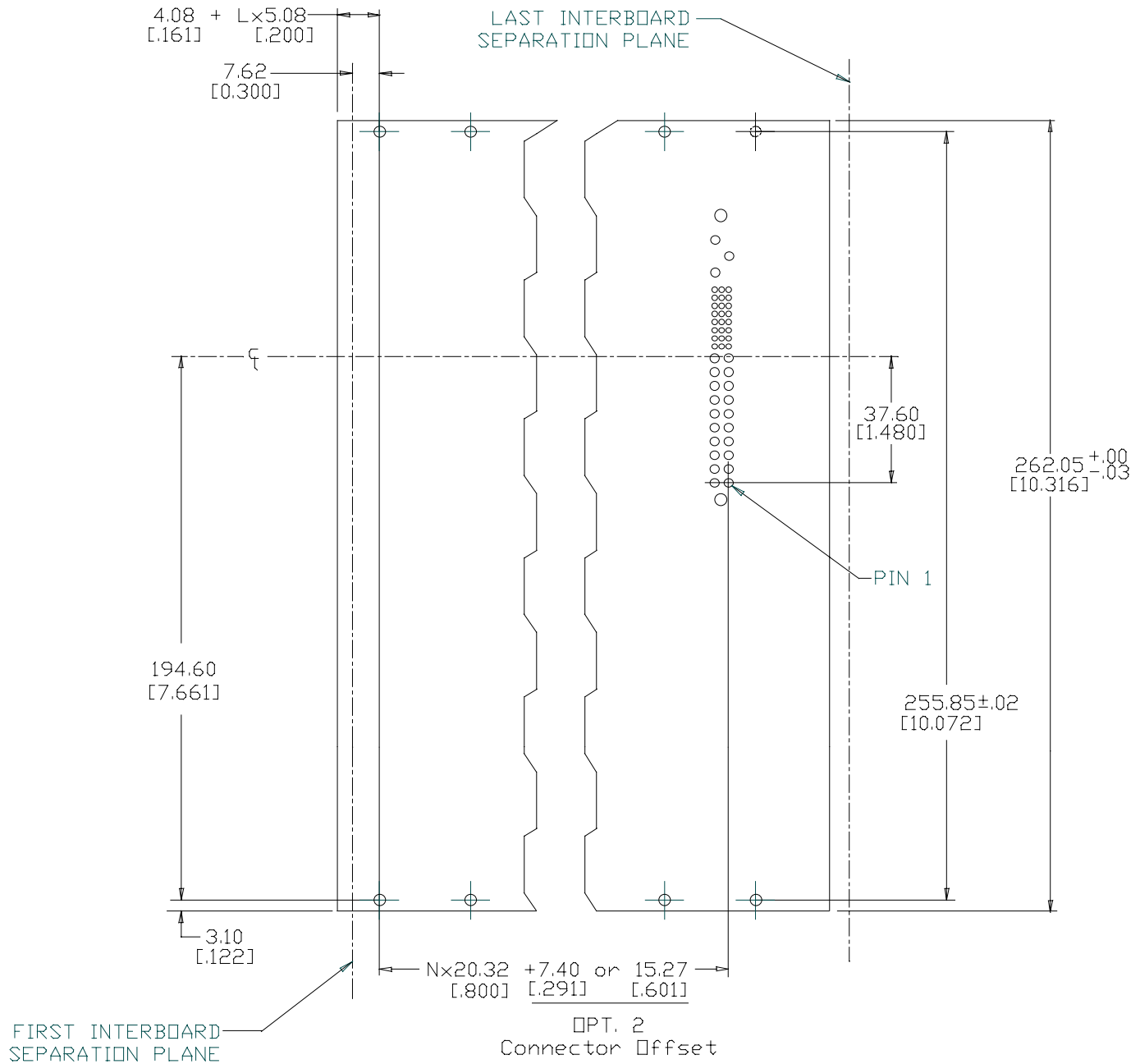
Examples: PCI354-1022-4 LSSS
DPCI354-1022-3 HTOS
DPCI305-1022-4/24 HTOS
- (7) Custom
Configuration MXXXX: Modified, where XXXX is a factory assigned 4-digit number to identify a user
specified configuration. Such models may include special or non-standard features
and/or options, or be in a configuration differing sufficiently from the design of the
approved similar standard model from which it is derived to require re-evaluation of
all or part of the design to insure continuing compliance with all safety require-
ments. Option codes 2,3,4,5 may not be present in the model description as these
requirements are generally defined in the user specification documentation on file
with the factory. Consult the factory for exact requirements.

Examples: PCI354-1022-4 M5427
DPCI304-1022-3/24 HTOS-M6341
- (8) RoHS 6 Compliant....G = Jasper products that are fully compliant with the requirements of Directive
2002/95/EC Restrictions of Hazardous Substances (RoHS) are identified with the
letter code "G" either included in or adjacent to the model description on the unit
labels and related documents (sales orders, etc). All materials, processes and
packaging used in the assembly and shipping of this product comply.
Available in the 2nd Quarter of 2006.

Backplane Connector Location, Viewed from the Front of the Enclosure

(Dimensions in millimeters ±.03[inches])

(Not to Scale)

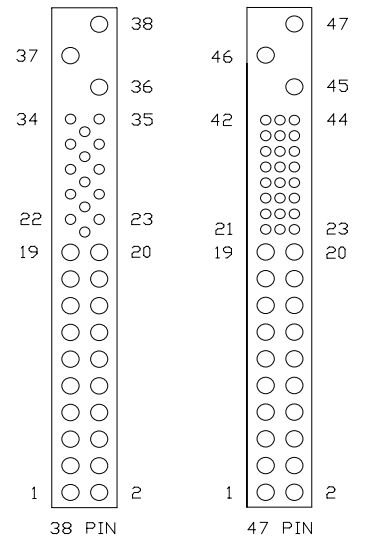
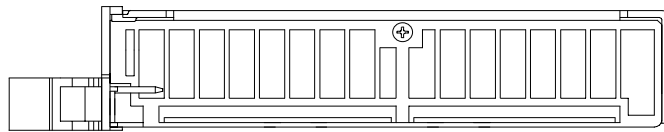
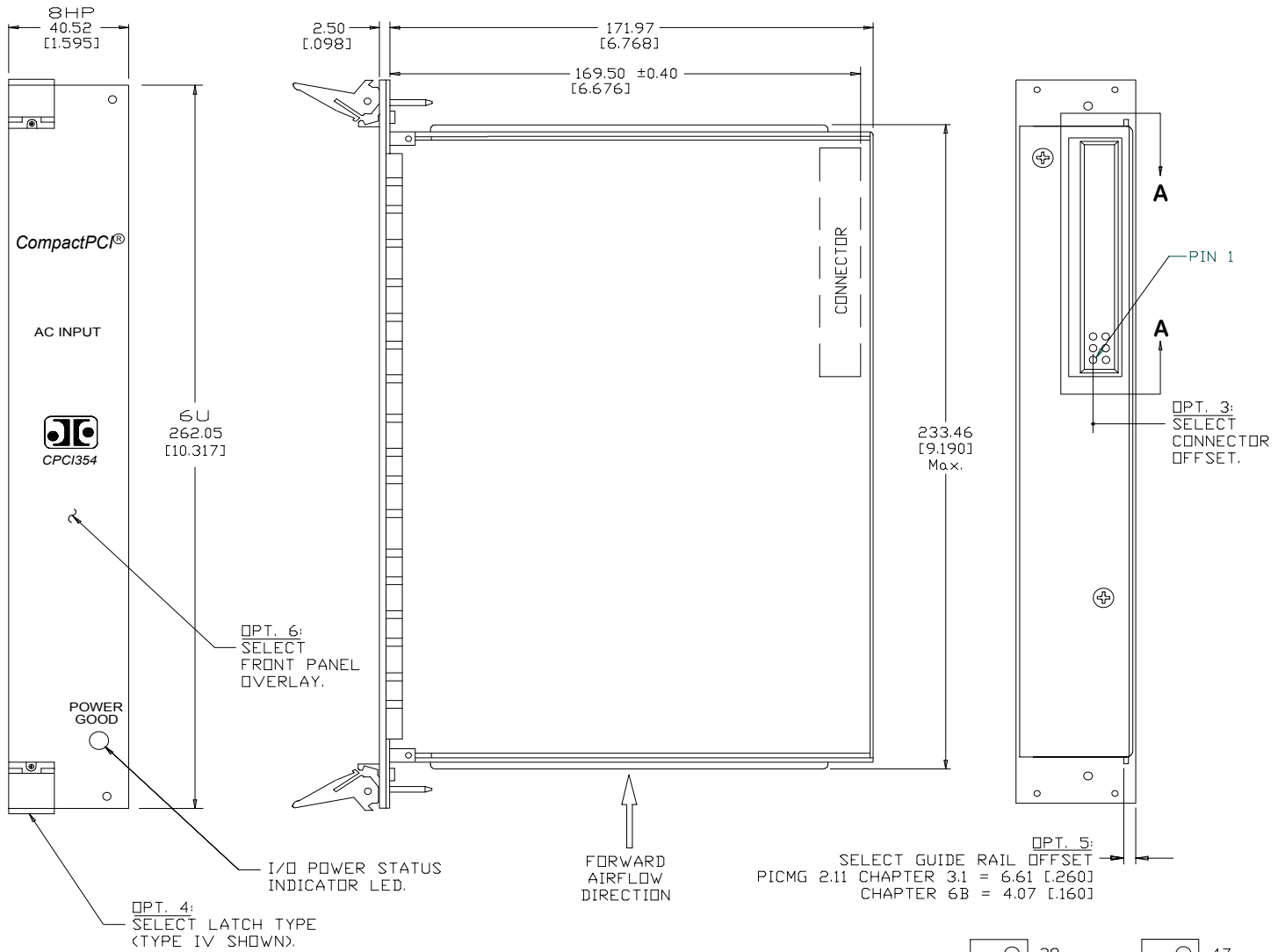


-LIMITED WARRANTY POLICY-

All Jasper Electronics (JE) standard model power supplies and products are guaranteed to be free of defects in workmanship and materials for a minimum of two (2) years from the date of original shipment, when operated within specification. This warranty applies only to defects that result in a failure to comply or perform to published specifications. Non-standard (custom) power supplies and products may be warranted on an individual basis. The unused portion of this warranty is fully transferable with the original equipment in which the power supply is installed.

Mechanical Outline
(Dimensions in millimeters [inches])

Refer to configuration options under Ordering Information.



DETAIL A-A
OPT. 1: SELECT CONNECTOR TYPE.