Hitron

Universal AC Input Harmonic Correction AC-DC Hot-Swap CompactPCI Quad Output 300 Watts Railway Application Sharing Switching Power Supply HARC255P-490(E)



Features

- 300W 3U X 8HP CPCI Package
- Wide Operating Temp. -40°C to +85°C
- Design to Meet EN50155
- Suitable for CPCI Express Application
- N+1 Redundancy/Hot-Swappable
- Active Current Sharing
- EMI Meet EN55022 / FCC Class A
- Using 125°C Long Life Solid Capacitors

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Specification

Input		General	
Input Voltage	Typical 90-264VAC	Efficiency (300W)	Typical 88% at 230VAC
Input Frequency	47-63Hz	Switching Frequency	65/100/400/570KHz
Input Current	3.03A at 115VAC	Dielectric Withstand	I/P-O/P:3000VAC, I/P-G:1500VAC
	1.49A at 230VAC		O/P-G:1000VAC
Soft Star	Installed	Circuit Topology	Resonant Half-bridge circuit
Inrush Current	14.8Arms at 230VAC	Transient Response	Peak transient < 250mV & recovers
Input Connector	Positronic 47-pin PCIH47M400A1		within 2mS after 25% load-change
Earth Leakage Current	1.33mA at 230VAC	Remote ON/OFF	Available at [INH#] & [EN#] pins
Output		Power Fail Signal	Available at [FAL#] pin
Output Connector	Positronic 47-pin PCIH47M400A1	Power OK Signal	Available for all output
Line Regulation	Typical 0.2%	Status LED	<green> means valid input voltage</green>
Load Regulation	V1/V2 typical ±1%,		<amber> means a critical fault</amber>
	V3 typical ±2%, V4 typical ±5%	N+1 Redundancy	internal OR-ing diodes
Noise & Ripple	Typical 1% peak to peak	Hot-Swappable	Available
Remote Sense	Available at V1,V2 & V3	Power Density	2.2-5.5Watts/ Cubic Inch
Adjustability	Available at V1,V2 & V3	Environmental	
Current Sharing	Available at V1, V2 & V3	Operating Temperature	-40 °C to +85 °C with de-rating
Output Trim	Available at V1/V2[ADJ #]	Storage Temperature	-45°C to +90°C
Protection		Cooling	300W: 400-600LFM moving air
Over Voltage	Built-in at all outputs		120W: Convection air (Fanless)
Over Current	Installed at each rail	Safety/EMC	
Over Load	Typical 120% maximum load	Emissions (conducted)	EN55022 / FCC Class A
	fully protected against output	Harmonic Current	IEC61000-3-2
Hold-up Time (300W)	18.6mS at 115VAC/230VAC	Safety Standard	IEC 60950-1 Class I
(120W)	37.5mS at 115VAC	CE Standard	Meet Level 3 Criteria A
Over Temperature	Installed NTC and thermostat	Vibration	Six degree-of-freedom random
	for thermal sensor at [DEG#] pin		10Hz-150Hz, 10G
Under-Voltage	Installed	Radiated Susceptibility	EN61000-4-3 Level X (20V/m)
Input Reverse Voltage	Installed	Surge	EN6100-4-5 Level 3, L-L 2KV, L-G 2KV
Conformal Coating	Available	Conducted Disturbance	EN61000-4-6 Level X (20V/m)

Notes

- (1) All measurement are at nominal input, full load and +25℃ unless otherwise specifications.
- (2) Due to requests in market and advances in technology, specifications subject to change without notification.
- (3) A warm-up time 10 minutes is required after cold start at temperature from -40°C to +0°C.
- (4) Tantalum capacitors connected to system is suggested for bettering Ripple & Noise against operating temperature from -40°C to +0°C.
- (5) 125°C OS-CON Long-life Solid capacitors are installed in secondary circuits.

Output voltage & current rating chart

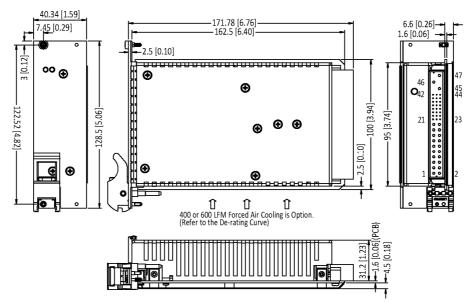
Quad Output

Model No.	Volt.	Volt.	Min. (Redundant)	Min. (Single Unit)	Typ. (Convection- cooled)	Typ. (Forced- cooled)	Max. (Convection- cooled)	Max. (Forced- cooled)	Peak
HARC255P-490(E)	V1	+5VDC	0.5A	0A	10A	20A	10A	33A	35A
	V2	+3.3VDC	0A	0A	5A	20A	10A	33A	35A
	V3	+12VDC	0A	0A	4A	11A	10A	20A	23A
	V4	-12VDC	0A	0A	0.5A	1A	2A	2A	3A

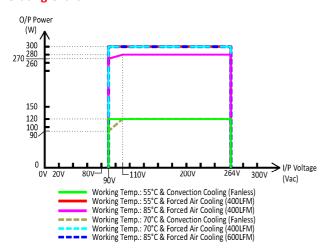
- Notes: (1) Maximum o/p power: 110-120W for convection cooling, 150-300W for 400 or 600LFM Forced air cooling.

 (2) Maximum load is the continuous operating load of each rail. But the maximum load of each rail can't be drawn from all outputs at the same time.
 - (3) Total combined current of V1 & V2 should be ≤ 50A.
 - (4) Minimum load is only required when PSUs do run in parallel.

Mechanical Dimensions (All dimensions are in mm[inch])



Derating Chart



Immunity to environmental conditions

Standard Condition	EN5015512.2.1 & 12.2.6	EN5015512.2.4						
I/P: 90-264VAC Typ. 115VAC O/P: 120W(Fanless)	Pass Class S2 & Class C2 (Dip only)	Pass Class TX & Column 1 Pass Class TX & Column 2 Pass Class TX & Column 3						
I/P: 90-264VAC Typ. 115VAC O/P: 300W	Pass Class S2 (Dip only)	Pass Class TX & Column 1						
I/P: 90-264VAC Typ. 115VAC O/P: 300W	Pass Class S2 (Dip only)	Pass Class TX & Column 1 Pass Class TX & Column 2						
I/P: 90-264VAC Typ. 115VAC O/P: 300W	Pass Class S2 (Dip only)	Pass Class TX & Column 3						
I/P: 90-264VAC Typ. 115VAC O/P: 280W	Pass Class S2 (Dip only)	Pass Class TX & Column 4						

Pin assignment											
Assignment	L	N	GND	V1	V1 S+	V1 Adj.	V1 C.S.	V2		V2 S+	V2 Adj.
Pin #	47	46	45	1,2,3,4	30	29	35	13,14,15,16,17,18		33	32
Assignment	V2 C.S.	V1/V2 S-	V3	V3 S+	V3 C.S.	V4	DC COM	EN#	DEG#	INH#	FAL#
Pin #	41	34	20	36	44	21	5,6,7,8,9,10,11 12,19,22,24	27	38	39	42