

# HiTRON

## 36-72VDC INPUT RANGE DC-DC CONVERTER HOT-SWAP CompactPCI QUAD OUTPUT 300 WATTS ACTIVE CURRENT SHARING SWITCHING POWER SUPPLIES HDC301P-48B SERIES



### FEATURES:

- 300W 3U X 8HP EUROCARD PACKAGE
- 36-72VDC NOMINAL 48VDC INPUT
- INTERNAL OR-ING DIODES FOR N+1 REDUNDANCY
- HOT-SWAPPABLE
- THIRD-WIRE CURRENT SHARING
- EMI MEET EN 55022 FCC CLASS A
- CE MARKING COMPLIANCE
- FULLY COMPLIANT WITH PICMG

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** Typ. 36-72Vdc, nominal input 48Vdc.  
**Input Connector:** Positronic 47-pin PCIH47M400A1.  
**Inrush Current:** Peak 46.2A at nominal 48Vdc.  
**Input Current:** 7.58A at nominal input 48Vdc at full load.  
 0.16A at nominal input 48Vdc at no-load.  
**Dielectric Withstand:** Meet IEC 60950-1 regulation.  
**EMI:** Meet EN 55022 FCC Class A.  
**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 for thermal sensor at [DEG#] pin.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Wattage:** Typ. 300W continuous.  
**Output Connector:** Positronic 47-pin PCIH47M400A1.  
**Line Regulation:** Typ. 0.01%.  
**Load Regulation:** Typ.  $\pm 0.2$  to  $\pm 1.0\%$ .  
**Noise & Ripple:** Typ. 1% Pk.-Pk. or 50mV, whichever is greater.  
**OVP:** Built-in at all outputs.  
**Adjustability:** Available at VO1, 2 & 3.  
**Remote Sensing:** Available at VO1 & sVO2.  
**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.  
**Over Current Protection (OCP):** Installed in each rail.  
**Overload Protection (OLP):** Fully protected against output overload or short circuit. Typical 120% max. load. Consult the factory for special OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 83 %.  
**Switching Frequency:** 130K Hz.  
**Circuit Topology:** Forward circuit.  
**Transient Response:** Peak deviation is 160mV and recovers within 0.256mS for 25% load-change.  
**Safety Standard:** IEC 60950-1 Class I.  
**Construction:** Eurocard 3U X 8HP X 160mm CompactPCI format.  
**Operating Temperature:** 0 to +50 °C at full load with specified air flow.  
 Derates linearly to 50% at +70°C.  
**Storage Temperature:** -40 to +85 °C.  
**Temperature Coefficient:** Typ.  $\pm 0.02\%$  / °C.  
**Cooling:** At least 700 LFM moving air is required to achieve full rating power 300W in a confined area.  
**Power Density:** 7.7 Watts/ Cubic Inch.

NOTE: (1)All measurement are at nominal input, full load and +25°C unless otherwise specifications.

(2)Due to requests in market and advances in technology, specifications subject to change without notification.



For the details of safety approval, please consult the factory.

# OUTPUT VOLTAGE / CURRENT RATINGS CHART

## QUAD OUTPUT

MODEL NO.	MAIN +VO1 @★#≡⊙				AUX. +VO2 ▲@★#≡⊙				AUX. +VO3 ▲@★≡⊙					AUX. -VO4 ⊙▲★				
	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Min.	Typ.	Volt.	Max.	Pk.	Min.	Typ.	Volt.	Max.	Pk.
HDC301P-48B-490(E)	2.0A	26.8A	+5V	40A	0A	20A	+3.3V	40A	0A	7.5A	+12V	10A	11A	0A	1A	-12V	1.5A	1.7A

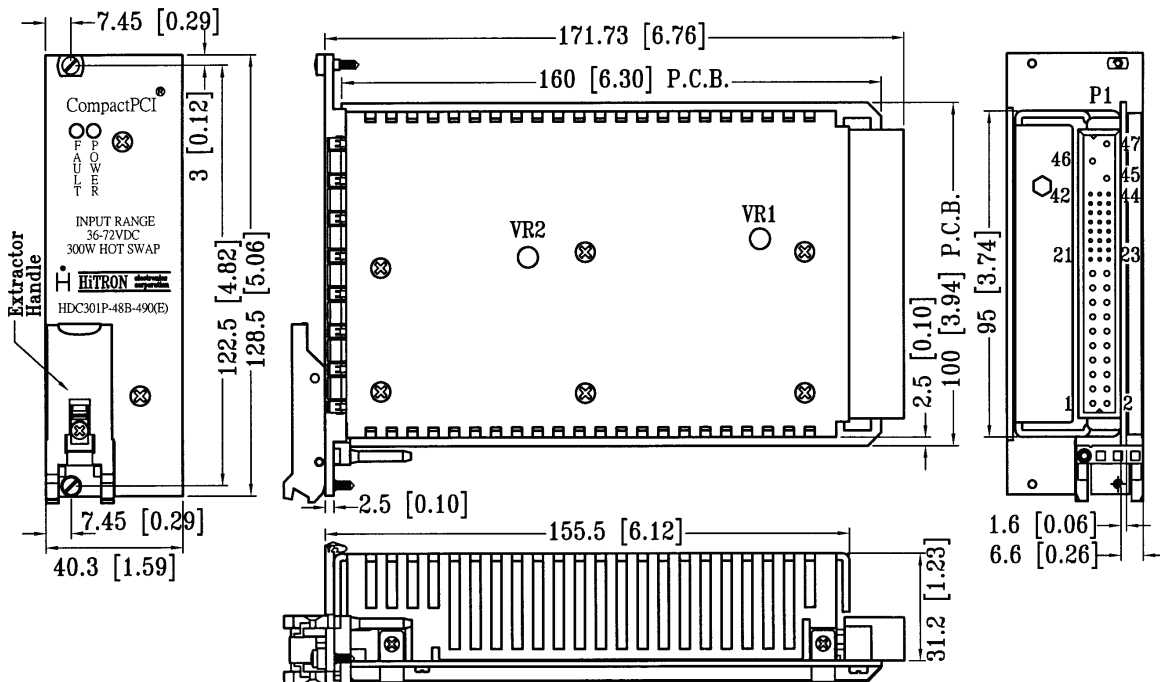
Symbol: "★" OVP built-in. "@" Adjustable. "#" Remote sensing. "≡" 3rd wire Load Sharing. "⊙" Installed with Or-ing diode.  
 "▲" Magnetic Amplifier.

Remark: Peak load less than 60sec. with duty cycle <10%.

Max. load is the continuous operating load of each rail. But the max. load of each rail can't be drawn from all outputs at the same time.  
 Total output maximum 300 W; Total combined current of +5 V and + 3.3 V not large than 50 A

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 666.0 g (23.5 Oz.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	DC INPUT			QUAD OUTPUT													STATUS/CONTROL				
	-Vin	+Vin	G	VO1	S+	S-	Adj.	C.S.	VO2	S+	Adj.	C.S.	VO3	S+	C.S.	VO4	DC COM	EN#	DEG#	INH#	FAL#
CNTR & PIN #	47	46	45	1, 2, 3, 4	30	34	29	35	13, 14, 15, 16, 17, 18	33	32	41	20	36	44	21	5, 6, 7, 8, 9, 10, 11, 12, 19, 24	27	38	39	42

Mating connector: PCIH47F400A1.