

HiTRON

ON-BOARD DC-DC CONVERTER HALF-BRICK BASE PLATE POWER MODULES INDUSTRIAL GRADE 165-200 WATTS SINGLE & DUAL OUTPUT HDH165-24B OR 48B-S & D SERIES



FEATURES:

- SINGLE OUTPUT
- WIDE 2:1 INPUT RANGE
- 1500VDC ISOLATION
- STANDARD HALF-BRICK PACKAGE
- HIGH-EFFICIENCY POWER MODULE
- UNDER-VOLTAGE LOCKOUT
- DESIGNED TO MEET INTERNATIONAL SAFETY STANDARDS

SPECIFICATION

INPUT SPECIFICATION

Input Range: Wide 2:1 Input DC Range 36-72Vdc or 18-36 Vdc.
Input Voltage: Nominal 48Vdc or 24Vdc.
Input Current: Typical 7.84A full load and 0.2A no-load @ 24Vdc nominal input. Typ.3.92A full load and 0.1A no-load @ 48Vdc nominal input.
Input Fuse: Use external fuse.
Soft-Start: Installed.
Inrush Current: 4A @ 48Vdc. 8A @ 24Vdc.
Input Filter: Pi-Network for EMI suppression.
Under-Voltage Protection (UVP): Lock-out activated at 34-35.5Vdc input @48Vdc nominal input. 17.5-17.8Vdc input @24Vdc nominal input.
Input OVP: 74-76Vdc @48Vdc nominal input. 37-38Vdc @24Vdc nominal.
Input Reflected Ripple Current: 20mA pk-pk @48 Vdc.
Isolation Voltage: 1,500Vdc input-output.
Remote On/Off: TTL/CMOS-Compatible input control.
Positive Logic version for Standard set up:
ON(Enable)=Open(or 2.5-5.0Vdc above-Vin)
OFF(Disable)=Short(or 0-0.8Vdc above-Vin)
Negative Logic version option available by adding a "N" suffix to the end of Model #.
Remark: Voltage refer to -Input (-Vin).

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Wattage: 165-200Watt continuous typical.
Line Regulation: Various with input & output voltages. ± 0.1% typical.
Load Regulation: Various with output voltages. ±0.5% typical.
Noise & Ripple: 1% rms typical.
OVP: Built-in (latch).
Adjustability: Maybe externally trimmed with fixed resistor or trim pot.
Overload Protection (OLP):
Fully protected against overload and short circuit.
OLP set at typical 130% rating output wattage load.
Consult the factory for special OLP setting.

GENERAL SPECIFICATION

Efficiency: 87.5-89% typical, various with input & output.
Switching Frequency: Fixed frequency 330K Hz.
Circuit Topology: 330K Hz. Forward Circuit.
Transient Response: Peak transient <220mV and recovers Within 1mS after 25% load-change.
Safety Standard: IEC60950 Class I.
Case: Aluminum base plate with metal standoffs.
Power Density: 60 Watts / Cubic inch typical.

Operating Temperature: -40 to +100°C (base plate).
Power derating details please refer to the Derating Chart.
Storage Temperature: -55 to +125 °C.
Temperature Coefficient: ± 0.02%/°C.
Humidity: Up to 95% RH, Non-Condensing.
Cooling: At least 100LFM moving air is recommended for full load > +10°C in a confined area. Air flow vs. power derating details please refer to the Derating Chart.
Industrial Grade.

NOTE: (1) All measurements are at nominal input, full load, and +25°C unless otherwise spec.
(2) Line Regulation measured from High to Low Lines at full load.
(3) Load Regulation measured from Full-Load (F-L) to Half-Load(H-L)at nominal input.
(4) Correct fuse size by calculating the max. DC current drain at low Line input & adding 20-25% for desired fuse size.

Due to requests in market and advances in technology, specifications subject to change without notice.

INPUT/OUTPUT & VOLTAGE/CURRENT RATINGS CHART

SINGLE OUTPUT

MODEL NO.	INPUT Vdc		OUTPUT VO1 ★#※			
	Range	Nominal	TYP.	VOLT.	MAX.	PEAK
HDH165-24B-S018600	18-36Vdc	24Vdc	60A	1.8Vdc	62A	64A
HDH165-24B-S025600	18-36Vdc	24Vdc	60A	2.5Vdc	62A	64A
HDH165-24B-S033500	18-36Vdc	24Vdc	50A	3.3Vdc	52A	53A
HDH165-24B-S050450	18-36Vdc	24Vdc	45A	5.0Vdc	47A	48A
HDH165-48B-S018600	36-72Vdc	48Vdc	60A	1.8Vdc	62A	64A
HDH165-48B-S025600	36-72Vdc	48Vdc	60A	2.5Vdc	62A	64A
HDH165-48B-S033500	36-72Vdc	48Vdc	50A	3.3Vdc	52A	53A
HDH165-48B-S050450	36-72Vdc	48Vdc	45A	5.0Vdc	47A	48A

DUAL OUTPUT

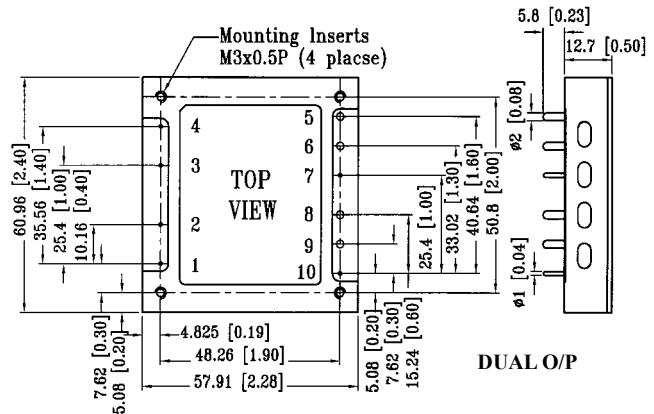
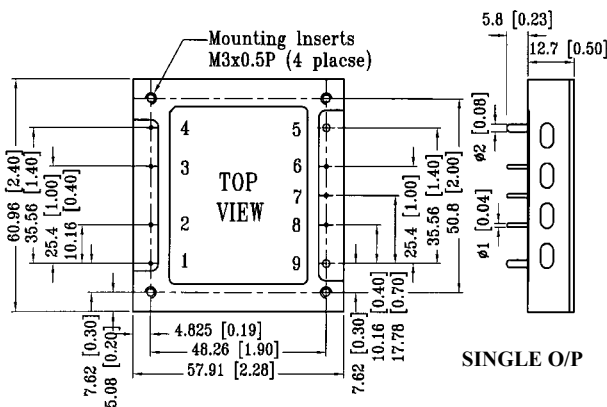
MODEL NO.	INPUT Vdc		OUTPUT VO1 ★@				OUTPUT VO2 ★@			
	Range	Nominal	MIN.	TYP.	VOLT.	MAX.	MIN.	TYP.	VOLT.	MAX.
HDH165-24B-D025B	18-36Vdc	24Vdc	0A	25A	2.5Vdc	27A	0A	25A	1.8Vdc	27A
HDH165-24B-D033B	18-36Vdc	24Vdc	0A	22A	3.3Vdc	25A	0A	25A	1.8Vdc	27A
HDH165-24B-D033C	18-36Vdc	24Vdc	0A	22A	3.3Vdc	25A	0A	25A	2.5Vdc	27A
HDH165-24B-D050C	18-36Vdc	24Vdc	0A	20A	5.0Vdc	22A	0A	25A	2.5Vdc	27A
HDH165-24B-D050D	18-36Vdc	24Vdc	0A	20A	5.0Vdc	22A	0A	22A	3.3Vdc	25A
HDH165-48B-D025B	36-72Vdc	48Vdc	0A	25A	2.5Vdc	27A	0A	25A	1.8Vdc	27A
HDH165-48B-D033B	36-72Vdc	48Vdc	0A	22A	3.3Vdc	25A	0A	25A	1.8Vdc	27A
HDH165-48B-D033C	36-72Vdc	48Vdc	0A	22A	3.3Vdc	25A	0A	25A	2.5Vdc	27A
HDH165-48B-D050C	36-72Vdc	48Vdc	0A	20A	5.0Vdc	22A	0A	25A	2.5Vdc	27A
HDH165-48B-D050D	36-72Vdc	48Vdc	0A	20A	5.0Vdc	22A	0A	22A	3.3Vdc	25A

Symbols: "★" OVP built-in. "#" Remote sensing. "@" Adjustable. "※" Synchronous Rectifier.

Remarks: Peak output, less than 60Sec. With duty cycle <10%.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 73.0g (2.6 Oz.)



PIN ASSIGNMENT

PIN NO.	SINGLE	DUAL
PIN# 1.	+Vin	+Vin
PIN# 2.	REMOTE ON/OFF	REMOTE ON/OFF
PIN# 3.	CASE	CASE
PIN# 4.	-Vin	-Vin
PIN# 5.	DC COM.	VO2
PIN# 6.	-SENSE	DC COM
PIN# 7.	VO1 ADJ.	VO2 ADJ.
PIN# 8.	+SENSE	VO1
PIN# 9.	VO1	DC COM
PIN# 10.	-----	VO1 ADJ.

DERATING CHART

output power

