

ON-BOARD DC-DC CONVERTER QUARTER-BRICK BASE PLATE POWER MODULES INDUSTRIAL GRADE 48-110 WATTS SINGLE OUTPUT HDH80-24B OR 48B-S SERIES



FEATURES:

- SINGLE OUTPUT
- WIDE 2:1 INPUT RANGE
- 1500VDC ISOLATION
- STANDARD QUARTER-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 18-36Vdc.
Input Voltage: Nominal 48Vdc or 24Vdc.
Input Current: Typical 2.35A full load and 0.1A no-load @ 48Vdc nominal input.
Typical 4.14A full load and 0.05A no-load @ 24Vdc nominal input.
Input Fuse: Use external fuse.
Soft-Start: Installed.
Inrush Current: Peak 2.38A @ 48Vdc & 4.3A @ 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.
Input Reflected Ripple Current: 8.0mA 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: 48-110W typical continuous.
Line Regulation: 0.1% typical.
Load Regulation: Various with output voltage.
 $\pm 0.5\%$ typical.
Noise & Ripple: 1% rms typical.
OVP: Built-in (latch).
Adjustability: Factory set. Maybe externally trimmed with fixed resistor or trim pot.
Overload Protection (OLP):
Fully protected against output overload and short circuit.
OLP set at about 125-150% rating output wattage.
Consult the factory for OLP setting.

GENERAL SPECIFICATION

Efficiency: 88-90% typical, various with input & output.
Switching Frequency: Fixed frequency 330K Hz.
Circuit Topology: 330K Hz. Forward Circuit.
Transient Response: Peak transient 150mV and recovers within 2mS after 25% load-change.
Safety Standard: IEC60950 Class II.
Case: Aluminum base plate with metal standoffs.
Power Density: 29-66 Watts / Cubic inch typical.
Industrial Grade.
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: $\pm 0.02\%/^{\circ}\text{C}$.
Humidity: Up to 95% RH, Non-Condensing.
Cooling: At least 100LFM moving air is recommended for full load > +25°C room temperature in a confined area.
Air flow vs. Power derating details, please refer to the Derating Chart.

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.

INPUT/OUTPUT & VOLTAGE/CURRENT RATINGS CHART

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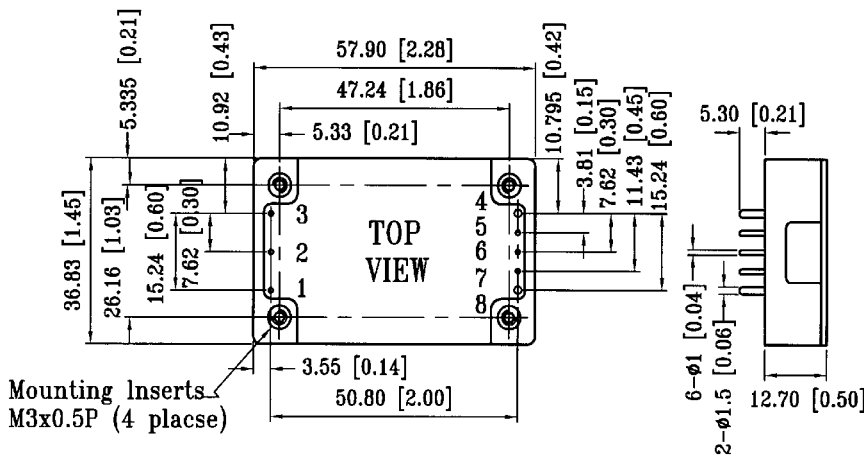
SINGLE OUTPUT

MODEL NO.	INPUT Vdc		OUTPUT VO1 ★#※			
	Range	Nominal	TYP.	VOLT.	MAX.	PEAK
HDH80-48B-S018250	36-72Vdc	48Vdc	25A	1.8Vdc	27.0A	30.0A
HDH80-48B-S025250	36-72Vdc	48Vdc	25A	2.5Vdc	27.0A	30.0A
HDH80-48B-S033220	36-72Vdc	48Vdc	22A	3.3Vdc	25.0A	27.0A
HDH80-48B-S050200	36-72Vdc	48Vdc	20A	5.0Vdc	22.0A	25.0A
HDH80-48B-S150060	36-72Vdc	48Vdc	6A	15.0Vdc	6.1A	6.2.0A
HDH80-24B-S018250	18-36Vdc	24Vdc	25A	1.8Vdc	27.0A	30.0A
HDH80-24B-S025250	18-36Vdc	24Vdc	25A	2.5Vdc	27.0A	30.0A
HDH80-24B-S033220	18-36Vdc	24Vdc	22A	3.3Vdc	25.0A	27.0A
HDH80-24B-S050200	18-36Vdc	24Vdc	20A	5.0Vdc	22.0A	25.0A
HDH80-24B-S150060	18-36Vdc	24Vdc	6A	15.0Vdc	6.1A	6.2.0A

Symbols: "★" OVP built-in. "#" Remote sensing. "※" Synchronous Rectifier.
 Remarks: Peak output, less than 60Sec. With duty cycle <10%.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 40.0g (1.4 Oz.)



PIN ASSIGNMENT

PIN NO.	SINGLE
PIN #1.	INPUT
PIN #2.	REMOTE ON/OFF
PIN #3.	+48V RETURN
PIN #4.	COMMON
PIN #5.	-SENSE
PIN #6.	VO1 ADJ.
PIN #7.	+SENSE
PIN #8.	+VO1

DERATING CHART

