

# HiTRON

## PCB-MOUNT DC-DC CONVERTER ENCAPSULATED MODULES 8 WATTS SINGLE & DUAL OUTPUT HDM08-S & HDM08-D SERIES



### FEATURES:

- LOW COST SINGLE & DUAL OUTPUT
- WIDE 4:1 & 2:1 INPUT RANGE
- 8W ISOLATED OUTPUT
- SIX-SIDED METAL SHIELD

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Range:** Wide 4:1 & 2:1 DC input range.  
See Ratings Chart.

**Input Voltage:** Nominal 12/24/48 Vdc.

**Input Current:** Various with input range and load.  
See Ratings Chart.

**Input Fuse:** Use external fuse.

**Input Filter:** Pi-Network.

**Undervoltage Shutdown:** 8Vdc.

**Isolation Resistance:** 1,000 Mega Ohms.

**Isolation Voltage:** 1,500Vdc.

**EMI:** Six-sided metal shielding.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.

**Output Current:** See Ratings Chart.

**Voltage Accuracy:** Main O/P  $\pm 2.0\%$  typical.

**Line Regulation:** Various with output voltages.  
 $\pm 0.5\%$  typical.

**Load Regulation:** Various with output voltages.  
Single O/P  $\pm 1.0\%$  typical.  
Dual O/P  $\pm 2.0\%$  typical.

**Noise & Ripple:** Typical 100mV for 3.3V/5.0V &  
1.0% for others peak to peak.

**OVP:** Built-in on main output.

**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:** 84% typical various with input.

**Switching Frequency:** Fixed frequency 100K Hz.

**Circuit Topology:** 100K Hz. Forward Circuit.

**Transient Response:** Peak deviation 200mV.  
Recovery time  $< 3\text{mS}$  for a 25% load change.

**Case:** Black coated steel with non-conductive metal base.

**Power Density:** 10Watts. / Cubic inch.

**Commercial Grade only.**

**MTBF:** 1,000,000 hours. Mil Std 217, 25°C.

**Operating Temperature:** -10 to +70°C range.  
0°C to +60°C full load without derating.  
From +60°C, derating linearly to half load @ +70°C.  
(Refer to Derating Chart.)

**Temperature:** -20°C to +85°C.

**Temperature Coefficient:**  $\pm 0.03\%$  /°C.

**Cooling:** Convection cooling up to +60°C @ full load.  
At least 100LFM moving air is recommended for  
F-L  $> +60^\circ\text{C}$  in a confined area.

**Humidity:** Up to 95%RH, Non-condensing.

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

(2) Line Regulation measured from High to Low Lines at full load.

(3) Load Regulation measured from Full Load to 1/2 Full Load at nominal input.

(4) Correct fuse size by calculating the max. DC current drains at low Line input & Load and then adding 20-25% for the 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  | INPUT CURRENT |      | OUTPUT VO1(Vdc)★ | OUTPUT VO1(A) | CASE SIZE |
|---------------|------------|---------------|------|------------------|---------------|-----------|
|               |            | N. L. (mA)    | F.L. |                  |               |           |
| HDM08-24B-S03 | 18.0- 36.0 | 46            | 290  | 3.3V             | 1.50A         | DM2C      |
| HDM08-24B-S05 | 18.0- 36.0 | 46            | 393  | 5.0V             | 1.50A         | DM2C      |
| HDM08-24B-S09 | 18.0- 36.0 | 46            | 420  | 9.0V             | 0.90A         | DM2C      |
| HDM08-24B-S12 | 18.0- 36.0 | 46            | 415  | 12.0V            | 0.67A         | DM2C      |
| HDM08-24B-S15 | 18.0- 36.0 | 46            | 425  | 15.0V            | 0.55A         | DM2C      |
| HDM08-24B-S24 | 18.0- 36.0 | 46            | 430  | 24.0V            | 0.35A         | DM2C      |
| HDM08-24D-S03 | 9.0- 36.0  | 50            | 290  | 3.3V             | 1.50A         | DM2C      |
| HDM08-24D-S05 | 9.0- 36.0  | 50            | 393  | 5.0V             | 1.50A         | DM2C      |
| HDM08-24D-S09 | 9.0- 36.0  | 50            | 420  | 9.0V             | 0.90A         | DM2C      |
| HDM08-24D-S12 | 9.0- 36.0  | 50            | 415  | 12.0V            | 0.67A         | DM2C      |
| HDM08-24D-S15 | 9.0- 36.0  | 50            | 425  | 15.0V            | 0.55A         | DM2C      |
| HDM08-24D-S24 | 9.0- 36.0  | 50            | 430  | 24.0V            | 0.35A         | DM2C      |
| HDM08-48D-S03 | 20.0- 72.0 | 46            | 145  | 3.3V             | 1.50A         | DM2C      |
| HDM08-48D-S05 | 20.0- 72.0 | 46            | 196  | 5.0V             | 1.50A         | DM2C      |
| HDM08-48D-S09 | 20.0- 72.0 | 46            | 210  | 9.0V             | 0.90A         | DM2C      |
| HDM08-48D-S12 | 20.0- 72.0 | 46            | 207  | 12.0V            | 0.67A         | DM2C      |
| HDM08-48D-S15 | 20.0- 72.0 | 46            | 212  | 15.0V            | 0.55A         | DM2C      |
| HDM08-48D-S24 | 20.0- 72.0 | 46            | 215  | 24.0V            | 0.35A         | DM2C      |

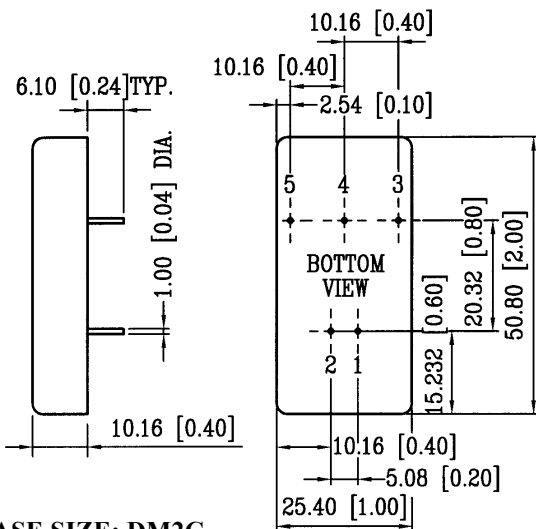
## DUAL OUTPUT

| MODEL NO.     | INPUT Vdc  | INPUT CURRENT |      | OUTPUT (Vdc) |        | OUTPUT (A) |       | CASE SIZE |
|---------------|------------|---------------|------|--------------|--------|------------|-------|-----------|
|               |            | N. L. (mA)    | F.L. | +VO1★        | -VO2   | +VO1       | -VO2  |           |
| HDM08-24B-D03 | 18.0- 36.0 | 46            | 300  | +3.3V        | -3.3V  | 0.80A      | 0.80A | DM2C      |
| HDM08-24B-D05 | 18.0- 36.0 | 46            | 420  | + 5.0V       | -5.0V  | 0.80A      | 0.80A | DM2C      |
| HDM08-24B-D12 | 18.0- 36.0 | 46            | 420  | +12.0V       | -12.0V | 0.34A      | 0.34A | DM2C      |
| HDM08-24B-D15 | 18.0- 36.0 | 46            | 420  | +15.0V       | -15.0V | 0.27A      | 0.27A | DM2C      |
| HDM08-24D-D03 | 9.0- 36.0  | 50            | 300  | +3.3V        | -3.3V  | 0.80A      | 0.80A | DM2C      |
| HDM08-24D-D05 | 9.0- 36.0  | 50            | 420  | + 5.0V       | -5.0V  | 0.80A      | 0.80A | DM2C      |
| HDM08-24D-D12 | 9.0- 36.0  | 50            | 420  | +12.0V       | -12.0V | 0.34A      | 0.34A | DM2C      |
| HDM08-24D-D15 | 9.0- 36.0  | 50            | 420  | +15.0V       | -15.0V | 0.27A      | 0.27A | DM2C      |
| HDM08-48D-D03 | 20.0- 72.0 | 46            | 150  | +3.3V        | -3.3V  | 0.80A      | 0.80A | DM2C      |
| HDM08-48D-D05 | 20.0- 72.0 | 46            | 210  | + 5.0V       | -5.0V  | 0.80A      | 0.80A | DM2C      |
| HDM08-48D-D12 | 20.0- 72.0 | 46            | 210  | +12.0V       | -12.0V | 0.34A      | 0.34A | DM2C      |
| HDM08-48D-D15 | 20.0- 72.0 | 46            | 210  | +15.0V       | -15.0V | 0.27A      | 0.27A | DM2C      |

Symbols: "★" OVP built-in. "||" Double Feedback.

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 27.5g (0.95 Oz.)



CASE SIZE: DM2C

## PIN ASSIGNMENT

| PIN NO. | SINGLE | DUAL   |
|---------|--------|--------|
| PIN# 1. | -INPUT | -INPUT |
| PIN# 2. | +INPUT | +INPUT |
| PIN# 3. | DC-COM | -VO2   |
| PIN# 4. | NO PIN | DC-COM |
| PIN# 5. | +VO1   | +VO1   |

## DERATING CHART

