# H HiTRON

## *ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES*
## *16 WATTS TRIPLE OUTPUT HDM16-T SERIES*



### FEATURES:

- **TRIPLE OUTPUT.**
- **2:1 INPUT RANGE.**
- **16W ISOLATED OUTPUT.**
- **SIX-SIDED METAL SHIELD.**

## SPECIFICAITON

### INPUT SPECIFICATION

**Input Range:** 2:1 DC input range.
See Ratings Chart.
**Input Voltage:** Nominal 24/48Vdc.
**Input Current:** Various with input range & 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.
**Remote On/Off:** TTL/CMOS-Compatible Input Control.
Logic input reference to –Input/-Vin.
Logic [1]/Open(or 2.5-7.0Vdc above-Vin)=ON.
Logic [2]/Short(or 0-0.08Vdc above-Vin)=OFF.

### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.
**Output Current:** See Ratings Chart.
**Voltage Accuracy:** Main O/P ±2.0% typ.
**Line Regulation:** ±0.5% typ.
**Load Regulation:** VO1 & VO3 ±2.0% typ.
VO2 O/P ±5.0%
**Noise & Ripple:** Typ. 100mV for 3.3V/5.0V & 1.0% for others peak to peak.
**OVP:** Built-in on main output.
**Adjustability:** Not available.
**Short Circuit Protection:** Power fold back, Self-recovering.
**Overload Protection:** About 130% of overrange foldback type.

### GENERAL SPECIFICATION

**Efficiency:** Typ. 80%, various with input.
**Switching Frequency:** Fixed frequency 100K Hz.
**Circuit Topology:** 100K Hz. Forward Circuit.
**Transient Response:** Full to 1/2 load <200 $\mu$Sec.
**Case:** Black coated steel with non-conductive metal base.
**Weight:** 61.0g (2.15 Oz.)
**Power Density:** 10.45 Watts./ Cubic inch.

**Operating Temperature:** -25°C to +71°C range.
–20°C to +60°C @ full load without derating.
**Temperature:** -40°C to +105°C.
**Temperature Coefficient:** 0.02% /°C.
**Cooling:** Convection cooling up to +60°C @ full load.
At least 100LFM moving air is recommended for F-L > +60°C in a confined area.
**Humidity:** Up to 95%RH, Non-condensing.
**Commercial Grade only.**

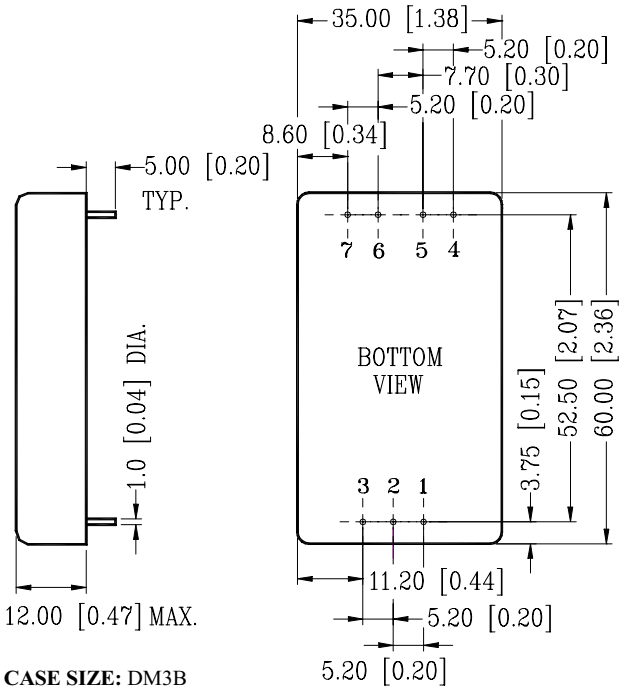
**NOTE:** (1) All measurements are at nominal input, full load, and +25°C unless otherwise specified.
(2) Line Regulation measured from High to Low Lines at full load.
(3) Load Regulation measured from Full Load to 1/2 Full Load at nominal input.
(4) Correct fuse size by calculating the max. DC current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

# INPUT/ OUTPUT VOLTAGE/ CURRENT RATINGS CHART

## TRIPLE OUTPUT

| MODEL NO. | INPUT Vdc | INPUT CURRENT N.L. (mA) F.L. | | OUTPUT (Vdc) +VO1 | +VO2 | -VO3 | OUTPUT(A) +VO1 | +VO2 | -VO3 | CASE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|
| **HDM16-24B-T3/5** | **18.0-36.0** | 20 | 850 | **+3.3V** | **+5.0V** | **-5.0V** | **2.5A** | **0.70A** | **0.70A** | DM3B |
| **HDM16-24B-T3/12** | **18.0-36.0** | 20 | 840 | **+3.3V** | **+12.0V** | **-12.0V** | **2.5A** | **0.29A** | **0.29A** | DM3B |
| **HDM16-24B-T3/15** | **18.0-36.0** | 20 | 830 | **+3.3V** | **+15.0V** | **-15.0V** | **2.5A** | **0.23A** | **0.23A** | DM3B |
| **HDM16-24B-T3/ 5,-12** | **18.0-36.0** | 20 | 850 | **+3.3V** | **+5.0V** | **-12.0V** | **1.6A** | **1.00A** | **0.41A** | DM3B |
| **HDM16-24B-T3/ 5,-15** | **18.0-36.0** | 20 | 850 | **+3.3V** | **+5.0V** | **-15.0V** | **1.6A** | **1.00A** | **0.33A** | DM3B |
| **HDM16-24B-T5/12** | **18.0-36.0** | 20 | 840 | **+5.0V** | **+12.0V** | **-12.0V** | **2.0A** | **0.25A** | **0.25A** | DM3B |
| **HDM16-24B-T5/15** | **18.0-36.0** | 20 | 840 | **+5.0V** | **+15.0V** | **-15.0V** | **2.0A** | **0.20A** | **0.20A** | DM3B |
| **HDM16-24B-T5/+12,-5** | **18.0-36.0** | 20 | 840 | **+5.0V** | **+15.0V** | **-5.0V** | **2.0A** | **0.30A** | **0.60A** | DM3B |
| **HDM16-48B-T3/5** | **36.0-72.0** | 20 | 425 | **+3.3V** | **+5.0V** | **-5.0V** | **2.5A** | **0.70A** | **0.70A** | DM3B |
| **HDM16-48B-T3/12** | **36.0-72.0** | 20 | 420 | **+3.3V** | **+12.0V** | **-12.0V** | **2.5A** | **0.29A** | **0.29A** | DM3B |
| **HDM16-48B-T3/15** | **36.0-72.0** | 20 | 415 | **+3.3V** | **+15.0V** | **-15.0V** | **2.5A** | **0.23A** | **0.23A** | DM3B |
| **HDM16-48B-T3/ 5,-12** | **36.0-72.0** | 20 | 425 | **+3.3V** | **+5.0V** | **-12.0V** | **1.6A** | **1.00A** | **0.41A** | DM3B |
| **HDM16-48B-T3/ 5,-15** | **36.0-72.0** | 20 | 425 | **+3.3V** | **+5.0V** | **-15.0V** | **1.6A** | **1.00A** | **0.33A** | DM3B |
| **HDM16-48B-T5/12** | **36.0-72.0** | 20 | 420 | **+5.0V** | **+12.0V** | **-12.0V** | **2.0A** | **0.25A** | **0.25A** | DM3B |
| **HDM16-48B-T5/15** | **36.0-72.0** | 20 | 420 | **+5.0V** | **+15.0V** | **-15.0V** | **2.0A** | **0.20A** | **0.20A** | DM3B |
| **HDM16-48B-T5/+12,-5** | **36.0-72.0** | 20 | 420 | **+5.0V** | **+15.0V** | **-5.0V** | **2.0A** | **0.30A** | **0.60A** | DM3B |

**MECHANICAL DIMENSIONS: MM [INCHES]** **Weight:** 61.0g (2.15 Oz.)




**CASE SIZE:** DM3B

## PIN ASSIGNMENT

| PIN NO. | TRIPLE |
|---|---|
| **PIN #1.** | - INPUT/-Vin |
| **PIN #2.** | + INPUT |
| **PIN #3.** | Remote ON/OFF |
| **PIN #4.** | -VO3 |
| **PIN #5.** | DC-COM |
| **PIN #6.** | +VO1 |
| **PIN #7.** | +VO2 |