

# HiTRON

## ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 15 WATTS OUTPUT HDM14.5-S SERIES



### FEATURES:

- SINGLE OUTPUT.
- 2:1 INPUT RANGE.
- 15W ISOLATED OUTPUT.
- SIX-SIDED METAL SHIELD.

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Range:** 2:1 DC input range.  
See Ratings Chart.  
**Input Voltage:** Nominal 12/24/48Vdc.  
**Input Current:** Various with input range & load.  
See Ratings Chart.  
**Input Fuse:** Use external fuse.  
**Input Filter:** Pi-Network.  
**Undervoltage Shutdown:** 8Vdc.  
**Isolation Resistor:** 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  $\pm 2.0\%$  typ.  
**Line Regulation:**  $\pm 0.5\%$  typ.  
**Load Regulation:** Single  $\pm 1.0\%$  typ.  
**Noise & Ripple:** Typ. 100mV for 3.3V/5.0V & 1.0% for others peak to peak.  
**OVP:** Built-in on main output.  
**Adjustability:** Output may optionally be externally trimmed  $\pm 3.0\%$  with a fixed resistor or trim-pot.  
**Short Circuit Protection:** Power fold back, Self-recovering.  
**Overload Protection:** About 130% of overrange foldback type.

#### GENERAL SPECIFICATION

**Efficiency:** Typ.81% various with input.  
**Switching Frequency:** Fixed frequency 450K Hz.  
**Circuit Topology:** 450K Hz. Forward Circuit.  
**Transient Response:** Full to 1/2 load  $< 200 \mu \text{Sec}$ .  
**Case:** Black coated steel with non-conductive metal base.  
**Weight:** 38.0g (1.34 Oz.)  
**Power Density:** 15.5Watts./ Cubic inch.

**Operating Temperature:** -40°C to +85°C range. -25°C to +71°C @ full load without derating. Derating linearly 3.5%/°C from +71°C @ full load to +85°C @ half-load.  
**Storage Temperature:** -55°C to +110°C.  
**Humidity:** Up to 95% RH, Non-condensing.  
**Temperature Coefficient:** 0.02%/°C.  
**Cooling:** Convection cooling up to 60°C @F-L. At least 100LFM moving air is recommended for F-L  $> +60^\circ\text{C}$  in a confined area.  
**Commercial Grade:** Full load up to +71°C with moving air.  
**Industrial Grade:** +71 to +85°C F-L to H-L with moving air.

**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 (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 & Load and then adding 20-25% for the desired fuse size.

