



ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 10 WATTS SINGLE & DUAL OUTPUT HDM10-S & HDM10-D SERIES



FEATURES:

- LOW COST SINGLE & DUAL OUTPUT.
- 2:1 & HIGH INPUT RANGE.
- 10W ISOLATED OUTPUT.
- SIX-SIDED METAL SHIELD.

SPECIFICATION

INPUT SPECIFICATION

Input Range: 2:1 DC input range,
High input voltage up to 140Vdc.
See Ratings Chart.

Input Voltage: Nominal 12/24/48/96Vdc.

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

Input Fuse: Use external fuse.

Input Filter: Pi-Network.

Isolation Resistor: 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 $\pm 2.0\%$ typ.

Line Regulation: $\pm 0.5\%$ typ.

Load Regulation: Single O/P $\pm 1.0\%$ typ
Dual O/P $\pm 2.0\%$ typ.

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

OVP: Built-in on main output.

Short Circuit Protection: Power fold back,
Self-recovering.

Overload Protection: About 130% of overrange
by foldback type.

GENERAL SPECIFICATION

Efficiency: Typ. 65-75%, various with input.

Switching Frequency: 40-70K Hz. various with
input and loading condition.

Circuit Topology: Free Running Flyback Circuit.

Transient Response: Full to 1/2 load $< 200 \mu\text{Sec}$.

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

Weight: 108.0g (3.8 Oz.)

Power Density: 5Watts./ Cubic inch.

Operating Temperature: -25°C to $+71^{\circ}\text{C}$ range.
 -20°C to $+60^{\circ}\text{C}$ @ full load without derating.

Temperature: -40°C to $+105^{\circ}\text{C}$.

Temperature Coefficient: $0.02\% / ^{\circ}\text{C}$.

Cooling: Convection cooling up to $+60^{\circ}\text{C}$ @ 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.

Commercial Grade only.

NOTE: (1) All measurements are at nominal input, full load, and $+25^{\circ}\text{C}$ 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

SINGLE OUTPUT

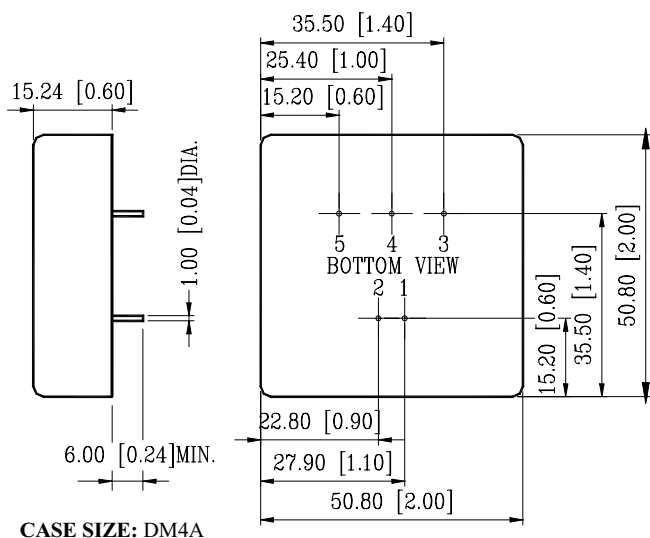
MODEL NO.	INPUT Vdc	INPUT CURRENT N. L. (mA) F.L.		OUTPUT VO1(Vdc)	OUTPUT VO1(A)	CASE SIZE
HDM10-12B-S03	9.0- 18.0	60	800	3.3V	2.00A	DM4A
HDM10-12B-S05	9.0- 18.0	60	1180	5.0V	2.00A	DM4A
HDM10-12B-S09	9.0- 18.0	60	1180	9.0V	1.12A	DM4A
HDM10-12B-S12	9.0- 18.0	60	1180	12.0V	0.85A	DM4A
HDM10-12B-S15	9.0- 18.0	60	1200	15.0V	0.70A	DM4A
HDM10-12B-S24	9.0- 18.0	60	1350	24.0V	0.50A	DM4A
HDM10-24B-S03	18.0- 36.0	30	400	3.3V	2.00A	DM4A
HDM10-24B-S05	18.0- 36.0	30	590	5.0V	2.00A	DM4A
HDM10-24B-S09	18.0- 36.0	30	590	9.0V	1.12A	DM4A
HDM10-24B-S12	18.0- 36.0	30	590	12.0V	0.85A	DM4A
HDM10-24B-S15	18.0- 36.0	30	600	15.0V	0.70A	DM4A
HDM10-24B-S24	18.0- 36.0	30	675	24.0V	0.50A	DM4A
HDM10-48B-S03	36.0- 72.0	20	200	3.3V	2.00A	DM4A
HDM10-48B-S05	36.0- 72.0	20	295	5.0V	2.00A	DM4A
HDM10-48B-S09	36.0- 72.0	20	295	9.0V	1.12A	DM4A
HDM10-48B-S12	36.0- 72.0	20	295	12.0V	0.85A	DM4A
HDM10-48B-S15	36.0- 72.0	20	300	15.0V	0.70A	DM4A
HDM10-48B-S24	36.0- 72.0	20	338	24.0V	0.50A	DM4A
HDM10-96A-S03	72.0- 140.0	10	100	3.3V	2.00A	DM4A
HDM10-96A-S05	72.0- 140.0	10	146	5.0V	2.00A	DM4A
HDM10-96A-S09	72.0- 140.0	10	146	9.0V	1.12A	DM4A
HDM10-96A-S12	72.0- 140.0	10	146	12.0V	0.85A	DM4A
HDM10-96A-S15	72.0- 140.0	10	150	15.0V	0.70A	DM4A
HDM10-96A-S24	72.0- 140.0	10	169	24.0V	0.50A	DM4A

DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT N. L. (mA) F.L.		OUTPUT(Vdc)		OUTPUT(A)		CASE SIZE
				+VO1	-VO2	+VO1	-VO2	
HDM10-12B-D05	9.0- 18.0	50	1200	+5.0V	-5.0V	1.00A	1.00A	DM4
HDM10-12B-D12	9.0- 18.0	50	1200	+12.0V	-12.0V	0.42A	0.42A	DM4
HDM10-12B-D15	9.0- 18.0	50	1200	+15.0V	-15.0V	0.35A	0.35A	DM4
HDM10-24B-D05	18.0- 36.0	30	600	+5.0V	-5.0V	1.00A	1.00A	DM4
HDM10-24B-D12	18.0- 36.0	30	600	+12.0V	-12.0V	0.42A	0.42A	DM4
HDM10-24B-D15	18.0- 36.0	30	600	+15.0V	-15.0V	0.35A	0.35A	DM4
HDM10-48B-D05	36.0- 72.0	20	300	+5.0V	-5.0V	1.00A	1.00A	DM4
HDM10-48B-D12	36.0- 72.0	20	300	+12.0V	-12.0V	0.42A	0.42A	DM4
HDM10-48B-D15	36.0- 72.0	20	300	+15.0V	-15.0V	0.35A	0.35A	DM4
HDM10-96A-D05	72.0- 140.0	10	150	+5.0V	-5.0V	1.00A	1.00A	DM4
HDM10-96A-D12	72.0- 140.0	10	150	+12.0V	-12.0V	0.42A	0.42A	DM4
HDM10-96A-D15	72.0- 140.0	10	150	+15.0V	-15.0V	0.35A	0.35A	DM4

MECHANICAL DIMENSIONS: MM [INCHES]

Weight: 108.0g (3.8 Oz.)



PIN ASSIGNMENT

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