

ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 9 WATTS SINGLE & DUAL OUTPUT APS09DM-S & APS09DM-D SERIES



FEATURES:

- LOW COST SINGLE & DUAL OUTPUT
- 2:1 INPUT RANGE
- 9W ISOLATED OUTPUT
- SIX-SIDED METAL SHIELD

SPECIFICATION

INPUT SPECIFICATION

Input Range: 2:1 DC input range
See Ratings Chart

Input Voltage: Nominal 12/24/48 Vdc

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

Input Fuse: Use external fuse

Input Filter: Pi-Network

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 $\pm 2.0\%$ 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

Adjustability: Not available

Short Circuit Protection: Power fold back,
Self-recovering

Overload Protection: About 130% of over-range 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 μ Sec.

Case: Black coated steel with non-conductive
metal base

Weight: 62.5g (2.2 Oz.)

Power Density: 5.6Watts./ 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

SINGLE OUTPUT

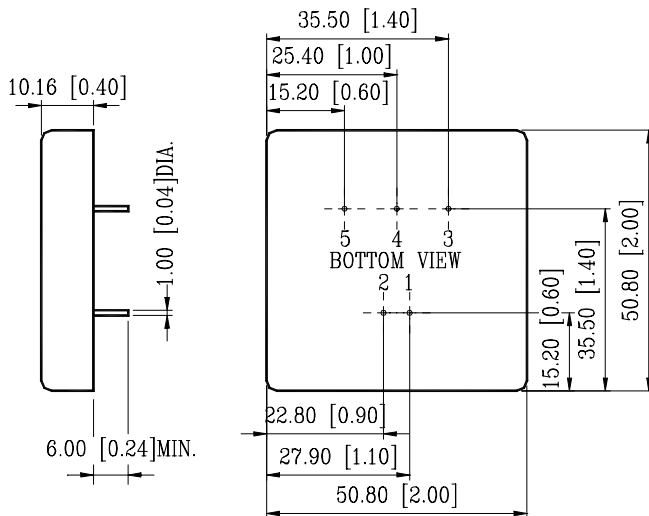
MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT VO1(Vdc)		CASE SIZE
		N. L. (mA)	F.L.	VO1(Vdc)	VO1(A)	
APS09DM-12B-S03	9.0- 18.0	60	650	3.3V	1.65A	DM2B
APS09DM-12B-S05	9.0- 18.0	60	930	5.0V	1.65A	DM2B
APS09DM-12B-S09	9.0- 18.0	60	950	9.0V	0.95A	DM2B
APS09DM-12B-S12	9.0- 18.0	60	940	12.0V	0.70A	DM2B
APS09DM-12B-S15	9.0- 18.0	60	990	15.0V	0.60A	DM2B
APS09DM-12B-S24	9.0- 18.0	60	1060	24.0V	0.40A	DM2B
APS09DM-24B-S03	18.0- 36.0	35	325	3.3V	1.65A	DM2B
APS09DM-24B-S05	18.0- 36.0	35	465	5.0V	1.65A	DM2B
APS09DM-24B-S09	18.0- 36.0	35	475	9.0V	0.95A	DM2B
APS09DM-24B-S12	18.0- 36.0	35	470	12.0V	0.70A	DM2B
APS09DM-24B-S15	18.0- 36.0	35	495	15.0V	0.60A	DM2B
APS09DM-24B-S24	18.0- 36.0	35	530	24.0V	0.40A	DM2B
APS09DM-48B-S03	36.0- 72.0	20	163	3.3V	1.65A	DM2B
APS09DM-48B-S05	36.0- 72.0	20	233	5.0V	1.65A	DM2B
APS09DM-48B-S09	36.0- 72.0	20	238	9.0V	0.95A	DM2B
APS09DM-48B-S12	36.0- 72.0	20	235	12.0V	0.70A	DM2B
APS09DM-48B-S15	36.0- 72.0	20	247	15.0V	0.60A	DM2B
APS09DM-48B-S24	36.0- 72.0	20	265	24.0V	0.40A	DM2B

DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT(Vdc)		OUTPUT(A)		CASE SIZE
		N. L. (mA)	F.L.	+VO1	-VO2	+VO1	-VO2	
APS09DM-12B-D05	9.0- 18.0	50	960	+5.0V	-5.0V	0.85A	0.85A	DM2B
APS09DM-12B-D12	9.0- 18.0	50	970	+12.0V	-12.0V	0.36A	0.36A	DM2B
APS09DM-12B-D15	9.0- 18.0	50	990	+15.0V	-15.0V	0.30A	0.30A	DM2B
APS09DM-24B-D05	18.0- 36.0	30	480	+5.0V	-5.0V	0.85A	0.85A	DM2B
APS09DM-24B-D12	18.0- 36.0	30	485	+12.0V	-12.0V	0.36A	0.36A	DM2B
APS09DM-24B-D15	18.0- 36.0	30	495	+15.0V	-15.0V	0.30A	0.30A	DM2B
APS09DM-48B-D05	36.0- 72.0	20	240	+5.0V	-5.0V	0.85A	0.85A	DM2B
APS09DM-48B-D12	36.0- 72.0	20	243	+12.0V	-12.0V	0.36A	0.36A	DM2B
APS09DM-48B-D15	36.0- 72.0	20	248	+15.0V	-15.0V	0.30A	0.30A	DM2B

MECHANICAL DIMENSIONS: MM [INCHES]

Weight: 62.5g (2.2 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

CASE SIZE: DM2B