

ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 15 WATTS SINGLE & DUAL OUTPUT APS14DM-S & APS14DM-D SERIES



FEATURES:

- VERY LOW PROFILE 7.0 MM HIGH
- SINGLE & DUAL 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.
Dual $\pm 2.0\%$ 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 foldback type.

GENERAL SPECIFICATION

Efficiency: Typ. 81% various with input

Switching Frequency: Fixed frequency 450KHz

Circuit Topology: 450K Hz. Forward Circuit

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

Case: Black coated aluminum with non-conductive metal base

Weight: 20.0g (0.71Oz.)

Power Density: 25.8Watts./ 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.

INPUT/ OUTPUT & VOLTAGE/ CURRENT RATINGS CHART

SINGLE OUTPUT

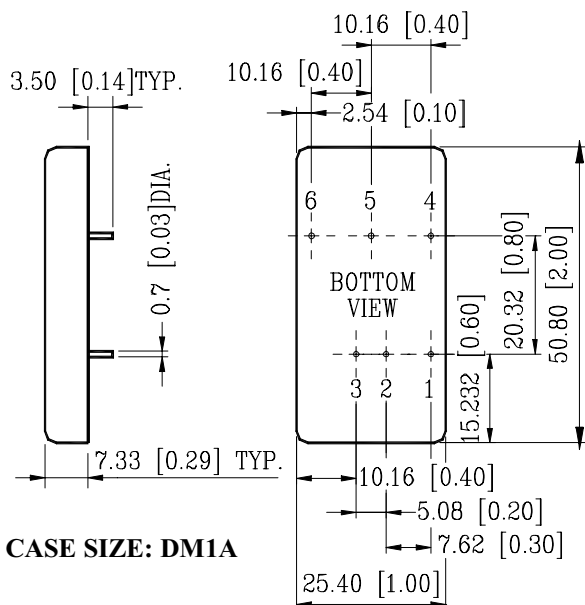
MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT VO1(Vdc)	OUTPUT VO1(A)	CASE SIZE
		N.L. (mA)	F.L.			
APS14DM-12B-S03	9.0- 18.0	30	1170	3.3V	3.00A	DM1A
APS14DM-12B-S05	9.0- 18.0	30	1540	5.0V	3.00A	DM1A
APS14DM-12B-S09	9.0- 18.0	30	1530	9.0V	1.66A	DM1A
APS14DM-12B-S12	9.0- 18.0	30	1530	12.0V	1.25A	DM1A
APS14DM-12B-S15	9.0- 18.0	30	1530	15.0V	1.00A	DM1A
APS14DM-24B-S03	18.0- 36.0	20	580	3.3V	3.00A	DM1A
APS14DM-24B-S05	18.0- 36.0	20	770	5.0V	3.00A	DM1A
APS14DM-24B-S09	18.0- 36.0	20	765	9.0V	1.66A	DM1A
APS14DM-24B-S12	18.0- 36.0	20	765	12.0V	1.25A	DM1A
APS14DM-24B-S15	18.0- 36.0	20	765	15.0V	1.00A	DM1A
APS14DM-48B-S03	36.0- 72.0	20	290	3.3V	3.00A	DM1A
APS14DM-48B-S05	36.0- 72.0	20	385	5.0V	3.00A	DM1A
APS14DM-48B-S09	36.0- 72.0	20	383	9.0V	1.66A	DM1A
APS14DM-48B-S12	36.0- 72.0	20	383	12.0V	1.25A	DM1A
APS14DM-48B-S15	36.0- 72.0	20	383	15.0V	1.00A	DM1A

DUAL OUTPUT

MODEL NO	INPUT Vdc	INPUT CURRENT		OUTPUT(Vdc)		OUTPUT(A)		CASE SIZE
		N.L. (mA)	F.L.	+VO1	-VO2	+VO1	-VO2	
APS14DM-12B-D03	9.0- 18.0	40	1170	+3.3V	-3.3V	1.50A	1.50A	DM1A
APS14DM-12B-D05	9.0- 18.0	40	1560	+5.0V	-5.0V	1.50A	1.50A	DM1A
APS14DM-12B-D12	9.0- 18.0	40	1550	+12.0V	-12.0V	0.63A	0.63A	DM1A
APS14DM-12B-D15	9.0- 18.0	40	1550	+15.0V	-15.0V	0.50A	0.50A	DM1A
APS14DM-24B-D03	18.0- 36.0	30	585	+3.3V	-3.3V	1.50A	1.50A	DM1A
APS14DM-24B-D05	18.0- 36.0	30	780	+5.0V	-5.0V	1.50A	1.50A	DM1A
APS14DM-24B-D12	18.0- 36.0	30	775	+12.0V	-12.0V	0.63A	0.63A	DM1A
APS14DM-24B-D15	18.0- 36.0	30	775	+15.0V	-15.0V	0.50A	0.50A	DM1A
APS14DM-48B-D03	36.0- 72.0	20	293	+3.3V	-3.3V	1.50A	1.50A	DM1A
APS14DM-48B-D05	36.0- 72.0	20	390	+5.0V	-5.0V	1.50A	1.50A	DM1A
APS14DM-48B-D12	36.0- 72.0	20	390	+12.0V	-12.0V	0.63A	0.63A	DM1A
APS14DM-48B-D15	36.0- 72.0	20	390	+15.0V	-15.0V	0.50A	0.50A	DM1A

MECHANICAL DIMENSIONS: MM [INCHES]

Weight: 20.0g (0.71Oz.)



CASE SIZE: DM1A

PIN ASSIGNMENT

PIN NO.	SINGLE	DUAL
PIN #1.	Remote ON/OFF	Remote ON/OFF
PIN #2.	- INPUT/-Vin	- INPUT/-Vin
PIN #3.	+ INPUT	+ INPUT
PIN #4.	DC-COM	- VO2
PIN #5.	NC	DC-COM
PIN #6.	VO1	+VO1