

## ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 10 WATTS SINGLE & DUAL OUTPUT APS11DM-S & APS11DM-D SERIES



### FEATURES:

- VERY LOW PROFILE 7 MM HIGH
- SINGLE & DUAL OUTPUT
- WIDE 4:1 INPUT RANGE
- 10W ISOLATED OUTPUT
- SIX-SIDED METAL SHIELD

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Range:** Wide 4:1 DC input range  
See Ratings Chart

**Input Voltage:** Nominal 12/24/48Vdc

**Input Current:** Various with input range and 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 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 overrange by  
foldback type

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 78% various with input

**Switching Frequency:** Fixed frequency 450KHz

**Circuit Topology:** 450K Hz. Forward Circuit

**Transient Response:** Full to 1/2 load <200  $\mu$ Sec

**Case:** Black coated aluminum with non-conductive  
metal base

**Weight:** 20.0g (0.71 Oz.)

**Power Density:** 17.2Watts./ 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°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.

