

### ON-BOARD DC-DC CONVERTER ENCAPSULATED MODULES 30 WATTS TRIPLE OUTPUT APS30DM-T SERIES



#### FEATURES:

- TRIPLE OUTPUT
- WIDE 4:1 & 2:1 INPUT RANGE
- 30W ISOLATED OUTPUT
- SIX-SIDED METAL SHIELD

#### SPECIFICATION

##### INPUT SPECIFICATION

**Input Range:** Wide 4:1 & 2:1 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  
**Overvoltage Shutdown:** Optional. Factory set  
**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:** VO1 & VO3  $\pm 2.0\%$ , VO2  $\pm 5.0\%$  typ.  
**Noise & Ripple:** 100mV for 3.3V/5.0V & 1.0% typ.  
for other output peak to peak  
**OVP:** Built-in on main output  
**Adjustability:** VO1 O/P may optionally be external  
trimmed  $\pm 3.0\%$  with a fixed resistors  
or trim-pot  
**Short Circuit Protection:** Power fold back,  
Self-recovering.  
**Overload Protection:** About 130% of overrange by  
foldback type

##### GENERAL SPECIFICATION

**Efficiency:** Typ. 81%, various with input  
**Switching Frequency:** Fixed frequency 100K Hz  
**Circuit Topology:** 100K Hz. Forward Circuit  
**Transient Response:** Full to 1/2 load  $< 200\mu\text{sec}$ .  
**Case:** Black coated copper with non-conductive  
metal base  
**Weight:** 156.0g (5.6 Oz.)  
**Power Density:** 10.0 Watts./ 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.

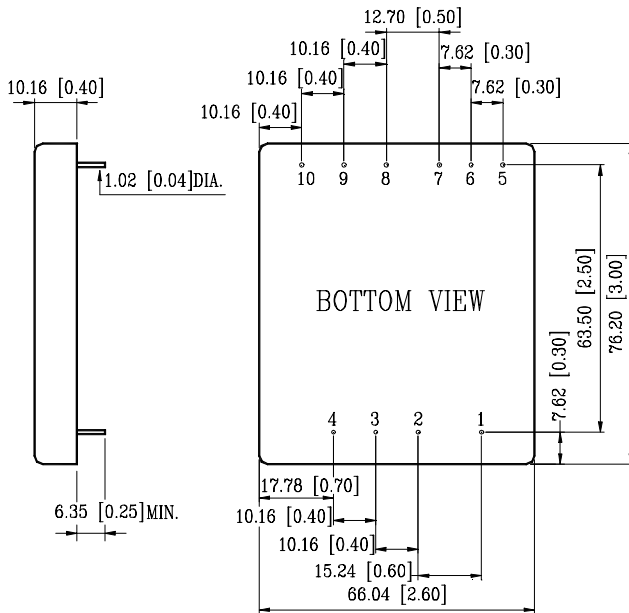
# INPUT/OUTPUT & VOLTAGE/CURRENT RATINGS CHART

## TRIPLE OUTPUT

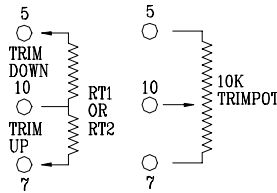
MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT(Vdc)			OUTPUT(A)			CASE SIZE
		N.L.	F.L. (mA)	+VO1	+VO2	-VO3	+VO1	+VO2	-VO3	
APS30DM-12B-T5/12	9.0- 18.0	50	2,550	+5.0V	+12.0V	-12.0V	2.5A	0.5A	0.5A	DM2A
APS30DM-12B-T5/15	9.0- 18.0	50	2,550	+5.0V	+15.0V	-15.0V	2.5A	0.4A	0.4A	DM2A
APS30DM-12B-T5/+12,-5	9.0- 18.0	50	2,500	+5.0V	+12.0V	- 5.0V	2.5A	0.5A	1.0A	DM2A
APS30DM-24B-T5/12	18.0- 36.0	40	1,520	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A	DM2A
APS30DM-24B-T5/15	18.0- 36.0	40	1,550	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A	DM2A
APS30DM-24B-T5/+12,-5	18.0- 36.0	40	1,420	+5.0V	+12.0V	- 5.0V	3.0A	0.6A	1.0A	DM2A
APS30DM-48B-T5/12	36.0- 72.0	40	760	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A	DM2A
APS30DM-48B-T5/15	36.0- 72.0	40	775	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A	DM2A
APS30DM-48B-T5/+12,-5	36.0- 72.0	40	710	+5.0V	+12.0V	- 5.0V	3.0A	0.6A	1.0A	DM2A
APS30DM-12D-T5/12	9.0- 36.0	40	2,650	+5.0V	+12.0V	-12.0V	2.5A	0.5A	0.5A	DM2A
APS30DM-12D-T5/15	9.0- 36.0	40	2,650	+5.0V	+15.0V	-15.0V	2.5A	0.4A	0.4A	DM2A
APS30DM-12D-T5/+12,-5	9.0- 36.0	40	2,600	+5.0V	+12.0V	- 5.0V	2.5A	0.5A	1.0A	DM2A
APS30DM-24D-T5/12	9.0- 36.0	60	1,325	+5.0V	+12.0V	-12.0V	2.5A	0.5A	0.5A	DM2A
APS30DM-24D-T5/15	9.0- 36.0	60	1,325	+5.0V	+15.0V	-15.0V	2.5A	0.4A	0.4A	DM2A
APS30DM-24D-T5/+12,-5	9.0- 36.0	60	1,300	+5.0V	+12.0V	- 5.0V	2.5A	0.5A	1.0A	DM2A
APS30DM-48D-T5/12	20.0- 72.0	50	785	+5.0V	+12.0V	-12.0V	3.0A	0.6A	0.6A	DM2A
APS30DM-48D-T5/15	20.0- 72.0	50	800	+5.0V	+15.0V	-15.0V	3.0A	0.5A	0.5A	DM2A
APS30DM-48D-T5/+12,-5	20.0- 72.0	50	735	+5.0V	+12.0V	- 5.0V	3.0A	0.6A	1.0A	DM2A

## MECHANICAL DIMENSIONS: MM [INCHES]

**Weight:** 156.0g (5.6 Oz.)



APS30DM-T



### PIN ASSIGNMENT

PIN NO.	TRIPLE
PIN# 1.	Remote ON/OFF
PIN# 2.	+INPUT
PIN# 3.	- INPUT/-Vin
PIN# 4.	NC
PIN# 5.	+VO2
PIN# 6.	DC-COM
PIN# 7.	-VO3
PIN# 8.	+ VO1
PIN# 9.	NC
PIN# 10.	OUTPUT TRIM

CASE SIZE: DM2A