# 30 Watt | DC-DC Converter



#### **FEATURES:**

- Wide Input 2:1 Range
- Full SMD Technology
- 1500 VDC Isolation
- Efficiency up to 91%
- Adjustable Output Voltage
- Remote ON/OFF Function
- Over Current, Voltage, & Temperature Protection
- Soft Start





models. Olligie output						Rolle
Model	Input – Voltage (V)	Output Voltage (V)	Output Current max (A)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM30K-1203SZ	9-18	3.3	5.5	1500	15000	83
AM30K-1205SZ	9-18	5	5.0	1500	10000	86
AM30K-1212SZ	9-18	12	2.5	1500	2200	90
AM30K-1215SZ	9-18	15	2.0	1500	1000	90
AM30K-2403SZ	18-36	3.3	5.5	1500	15000	84
AM30K-2405SZ	18-36	5	5.0	1500	10000	87
AM30K-2412SZ	18-36	12	2.5	1500	2200	91
AM30K-2415SZ	18-36	15	2.0	1500	1000	91
AM30K-4803SZ	36-75	3.3	5.5	1500	15000	84
AM30K-4805SZ	36-75	5	5.0	1500	10000	87
AM30K-4812SZ	36-75	12	2.5	1500	2200	91
AM30K-4815SZ	36-75	15	2.0	1500	1000	91

**Models: Dual output** 

Model	Input – Voltage (V)	Output Voltage (V)	Output Current max (A)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM30K-1212DZ	9-18	±12	±1.25	1500	±1000	90
AM30K-1215DZ	9-18	±15	±1.0	1500	±680	90
AM30K-2412DZ	18-36	±12	±1.25	1500	±1000	91
AM30K-2415DZ	18-36	±15	±1.0	1500	±680	91
AM30K-4812DZ	36-75	±12	±1.25	1500	±1000	90
AM30K-4815DZ	36-75	±15	±1.0	1500	±680	90

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

**Input Specifications** 

Input Specifications	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		
	24	18-36		VDC
	48	36-75		
Filter		π(P	i) Network	
Start up time		20		ms
Absolute Maximum Dated Input	12		25	
Absolute Maximum Rated Input Voltage	24		50	VDC
voilage	48		100	
Peak Input Voltage time			100	ms
On/Off Control ON – high or open (2.5V TO 5.5V); OFF – low (-0			w (-0.7V to 0.8V or short circu	it between pin 2 & 3)

**Isolation Specifications** 

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Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1500	VDC
Resistance		1000		MOhm
Capacitance		1200		pF

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**Output Specifications** 

Output Specifications	Conditions	Typical	Maximum	Units			
Voltage accuracy		±5		%			
Voltage balance (Dual Output model)	Balanced Load	±5		%			
Over voltage protection		125		%			
Over current protection		120		%			
Short Circuit protection		Continuou	IS				
Short circuit restart		Auto Recovery					
Line voltage regulation (Single)	HL-LL	±5		%			
Line voltage regulation (Dual)	HL-LL	±5		%			
Load voltage regulation (Single)	10% to 100% Load	±0.5		%			
Load voltage regulation (Dual)	10% to 100% Load	±0.5		%			
Temperature coefficient		±0.02		%/°C			
Ripple & Noise	At 20MHz Bandwidth	75		m Vp-p			
Voltage adjustment range		±10		%			

**General Specifications** 

Input Specifications	Conditions	Typical	Maximum	Units	
Switching frequency	100% load	270		KHz	
Operating temperature	With drating above 60 °C (see graph below)	-40 to +85		°C	
Storage temperature			-40 to +125	°C	
Max Case temperature	ture 100				
Cooling	Free air convection				
Humidity		95		%	
Over Temperature Protection		110			
Case material	Nickel-coated Copp	er and Epo	xy (UL94V-0 rated)		
Weight		48		g	
Dimensions (L X W X H)	X W X H) 2.00 x1.60 x0.40 inches		50.80 x 40.60 x 10.20 mm		
MTBF	>1000000 hrs Calculat	ed using M	IL-HDBK-217 F at +25 °C	,	

**Safety Specifications** 

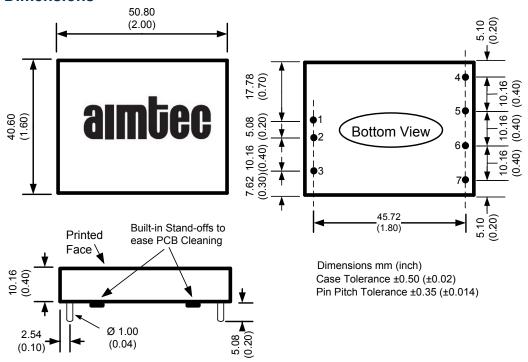
Standards	
Agency approvals	CE
	IEC/EN 60950-1
	EN55022 Class A
	EN55022 Class A
Cofoty	EN61000-4-2 Perf. Criteria B
Safety	EN61000-4-3 Perf. Criteria A
	EN61000-4-4 Perf. Criteria B
	EN61000-4-5 Perf. Criteria B
	EN61000-4-6 Perf. Criteria A
	EN61000-4-8 Perf. Criteria A



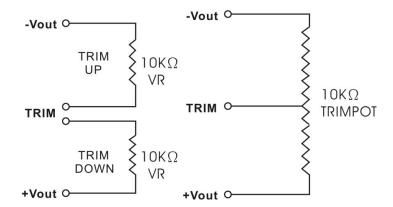
**Pin Out Specifications** 

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	On/Off Control	On/Off Control
4	No Pin	+Vout
5	+Vout	Com
6	-Vout	-Vout
7	Trim	Trim

### **Dimensions**

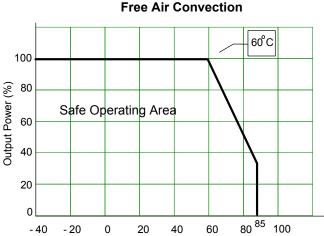


# **Trimming**





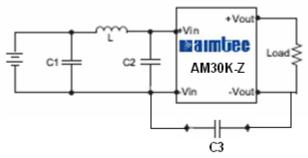




### **Control ON/OFF pin connection example:**



Ambient Temperature ° C



Note A: An external filter capacitor is required if the module has to meet EN61000-4-4 and EN61000-4-5. The filter capacitor Aimtec suggests: 1000uF, 100V.

Models	C1	L	C2	C3
AM30K-12XXXZ	330 µf, 100V	12µH	100µ, 100V	N/A
AM30K-24XXXZ	330 µf, 100V	12µH	100µ, 100V	N/A
AM30K-48XXXZ	330 µf, 100V	12µH	100µ, 100V	1000Pf, 2000V

Note B: Input filter components (C1, C2, L) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise.

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