



**FEATURES:**

- Ultra Wide 4:1 input range
- Efficiency up to 91%
- Soft start
- Continuous short circuit protection
- Remote on/off control
- Input/Output Isolation 1600VDC
- Operating temperature -40°C to + 75°C
- RoHS compliant



**Models**  
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Maximum Capacitive Load (uF)	Efficiency (%)
AM30EW-2403SZ	9-36	3.3	7.5	20000	86
AM30EW-2405SZ	9-36	5	6	14000	88
AM30EW-2405.1SZ	9-36	5.1	6	14000	88
AM30EW-2412SZ	9-36	12	2.5	2000	89
AM30EW-2415SZ	9-36	15	2	2000	89
AM30EW-4803SZ	18-75	3.3	7.5	20000	86
AM30EW-4805SZ	18-75	5	6	14000	88
AM30EW-4805.1SZ	18-75	5.1	6	14000	88
AM30EW-4812SZ	18-75	12	2.5	2000	90
AM30EW-4815SZ	18-75	15	2	2000	91

**Models**  
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Maximum Capacitive Load (uF)	Efficiency (%)
AM30EW-2405DZ	9-36	±5	±3	±3000	88
AM30EW-2412DZ	9-36	±12	±1.25	±1300	87
AM30EW-2415DZ	9-36	±15	±1	±1300	87
AM30EW-4805DZ	18-75	±5	±3	±3000	88
AM30EW-4812DZ	18-75	±12	±1.25	±1300	88
AM30EW-4815DZ	18-75	±15	±1	±1300	88

**Models**  
Triple output

Model	Input Voltage (V)	Output Voltage (V)	Output Auxiliary Voltage (V)	Output Current max (A)	Maximum Capacitive Load (uF)	Efficiency (%)
AM30EW-240312TZ	9-36	3.3	±12	5 / ±0.42	15000 / ±220	88
AM30EW-240315TZ	9-36	3.3	±15	5 / ±0.33	15000 / ±220	88
AM30EW-240512TZ	9-36	5	±12	4 / ±0.42	8000 / ±220	90
AM30EW-240515TZ	9-36	5	±15	4 / ±0.33	8000 / ±220	90
AM30EW-480312TZ	18-75	3.3	±12	5 / ±0.42	15000 / ±220	88
AM30EW-480315TZ	18-75	3.3	±15	5 / ±0.33	15000 / ±220	88
AM30EW-480512TZ	18-75	5	±12	4 / ±0.42	8000 / ±220	90
AM30EW-480515TZ	18-75	5	±15	4 / ±0.33	8000 / ±220	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

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24	9-36		VDC
	48	36-75		
Filter	$\pi$ (Pi) Network			
Start up time		30		ms
Absolute Maximum Rating	24	-0.7 ~ 50		VDC
	48	-0.7 ~ 100		
Peak Input Voltage time			100	ms
On/Off control	ON: 3 ~12VDC or open circuit			
	OFF: 0 ~ 1.2VDC or Short circuit between pin 2 and pin 3			
No Load Input Current	Vin 9~36	100		mA
	Vin 36~75	50		
Under voltage lockout	24V ON/OFF		8.8 / 7.9	VDC
	48V ON/OFF		17.8 / 16	
Input reflected current		20		mAp-p

## Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1600	VDC
Case/Input tested voltage	3 sec	1600		VDC
Resistance		1000		MOhm
Capacitance		1500		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy (Single and Dual)		$\pm 1$		%
Voltage accuracy (Triple)	Main / Auxiliary	$\pm 1 / \pm 5$		
Cross Regulation (Dual Output Models)	25% load on one output - 100% load on second load	$\pm 5$		%
Cross Regulation (Triple)	Main 100%, 25% load on Aux1 and 100% on Aux2	$\pm 5$		
Over voltage protection	Zener diode clamp			
Over current protection		120		%
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			
Thermal Shutdown	Case temp	115		$^{\circ}\text{C}$
Line voltage regulation (Single)	HL-LL	$\pm 0.2$		%
Line voltage regulation (Dual)	HL-LL	$\pm 0.2$		%
Line voltage regulation (Triple)	HL-LL Main / Auxiliary	$\pm 1 / \pm 5$		%
Load voltage regulation (Single)	0-100% load	$\pm 0.5$		%
Load voltage regulation (Dual)	Balanced load	$\pm 1$		%
Load voltage regulation (Triple)	10~100% Main / Auxiliary	$\pm 1 / \pm 5$		%
Temperature coefficient		$\pm 0.02$		$\% / ^{\circ}\text{C}$
Ripple & Noise (Single and Dual)	20MHz bandwidth, 3.3V/5V/5.1V/ $\pm 5\text{V}$	100		mV p-p
	20MHz bandwidth, 12V/15V/ $\pm 12\text{V}/\pm 15\text{V}$	150		
Ripple & Noise (Triple)	20MHz bandwidth Main / Auxiliary	50 / 75		mV p-p
Voltage adjustment range (single)		$\pm 10$		%
Minimum Load Current		10		% of Max

## General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	Derating above 50		-40 to +75	$^{\circ}\text{C}$
Storage temperature		-40 to +125		$^{\circ}\text{C}$
Maximum case temperature			105	$^{\circ}\text{C}$

### General Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Derating		2		%/°C
Cooling		Free Air Convection		
Humidity			95	% RH
Case material		Nickel coated Copper		
Weight		30		g
Dimensions (L x W x H)		2.00 x 1.00 x 0.4 inches	50.80 x 25.40 x 10.17 mm	
MTBF		Single & Dual: >450000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		
		Triple: >320000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C
Transient recovery time		250		µS
Transient recovery deviation		±3		%

### Safety Specifications

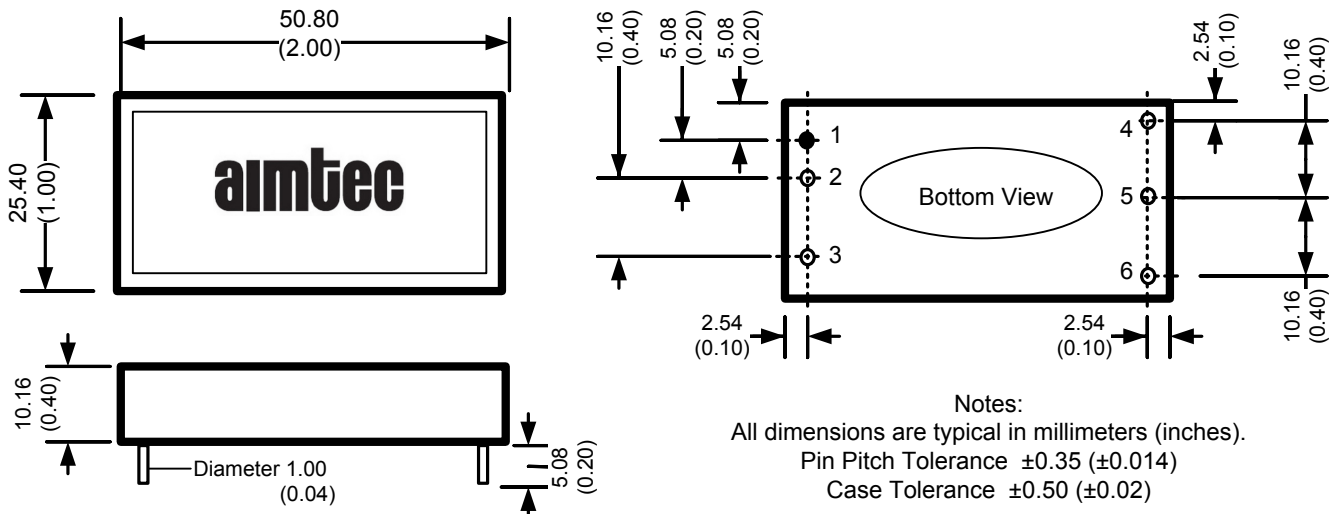
Parameters	
Agency Approval	CE
Standards	EN55022 Class A, EN55024
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria B (external 220µF/100V cap required)
	IEC61000-4-5, Perf. Criteria B (external 220µF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

### Pin Out Specifications

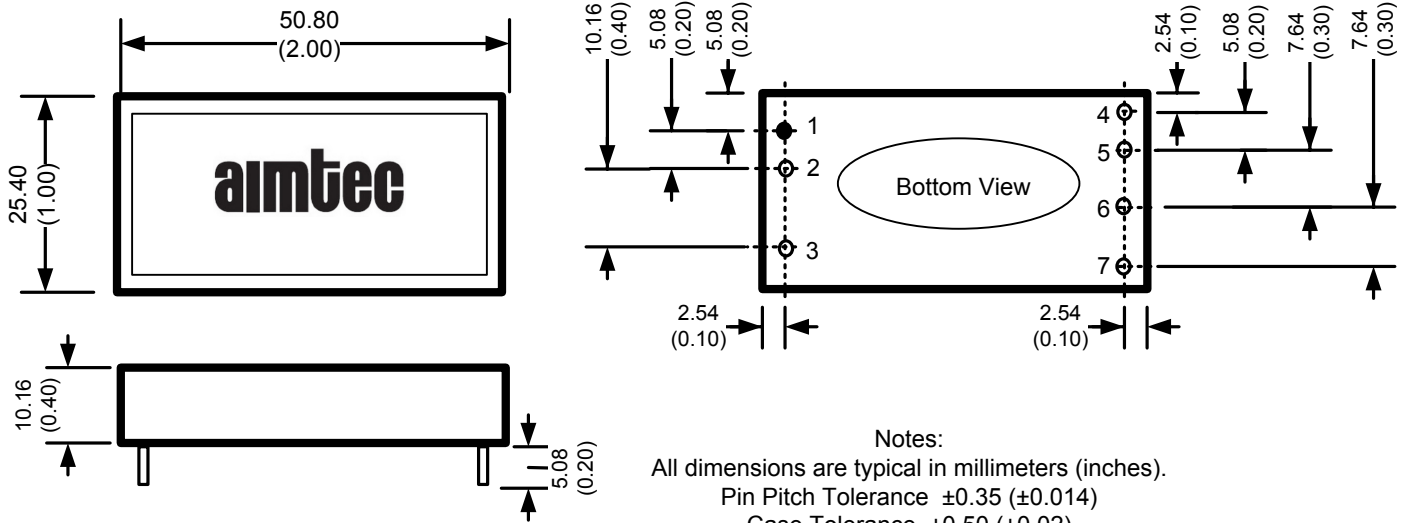
Pin	Single	Dual	Triple
1	+ V Input	+ V Input	+ V Input
2	- V Input	- V Input	- V Input
3	On/Off Control	On/Off Control	On/Off Control
4	+ V Output	+ V Output	+ Vaux Output
5	-V Output	Common	- Vaux Output
6	Trim	- V Output	Common
7	No Pin	No Pin	+ V Output

### Dimensions

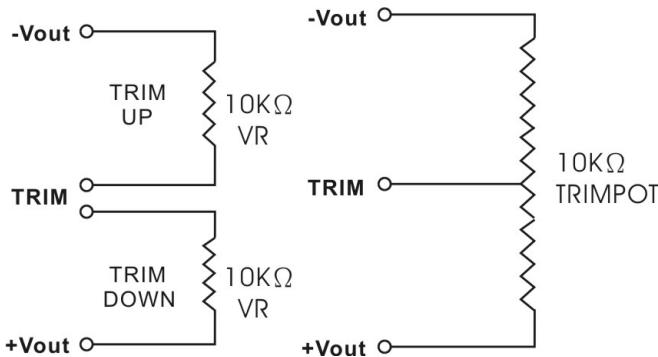
Single and Dual Output Models



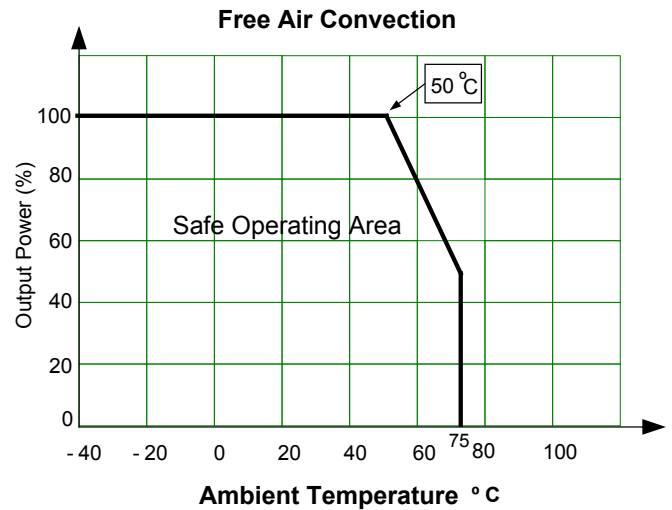
**Triple Output Models**



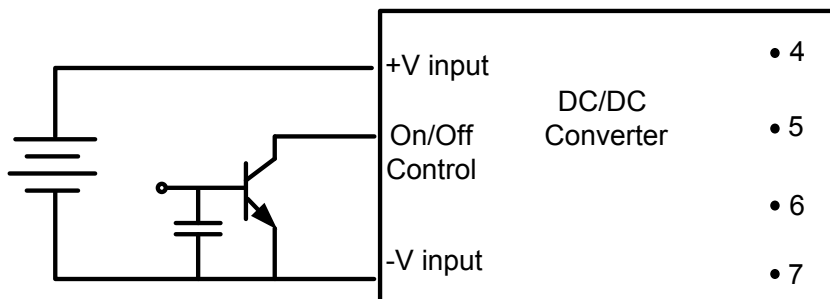
**Trimming**



**Derating**



**On/Off Control**



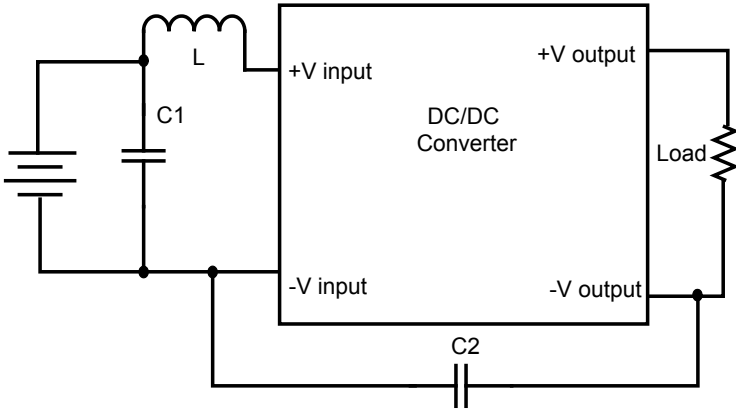
Positive logic turns on the module during high logic and off during low logic.

Module can be controlled by an external switch between the On/Off CTRL terminal and -Vinput terminal. The switch can be either open collector or open drain.

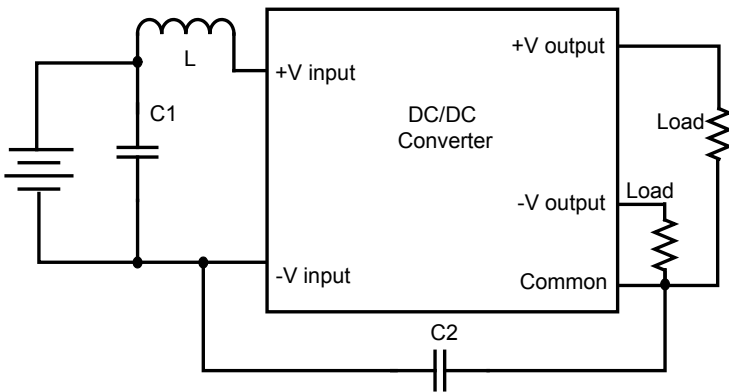
**Recommended Circuits**

C1	L	C2
100uF, 100V	12uH	1206, 470pF, 2KV

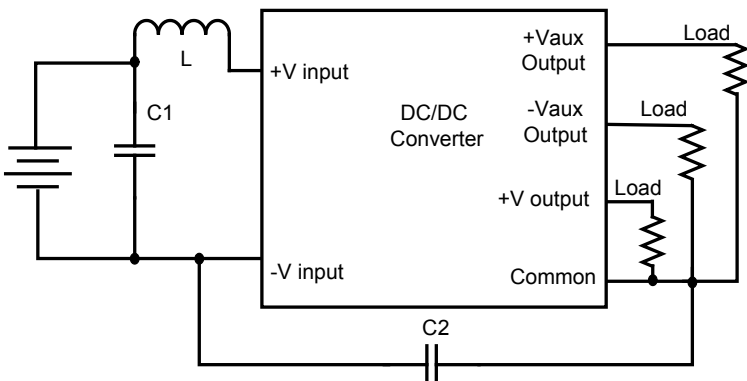
Conducted/Radiated Emissions  
Single Output



Conducted/Radiated Emissions  
Dual Output



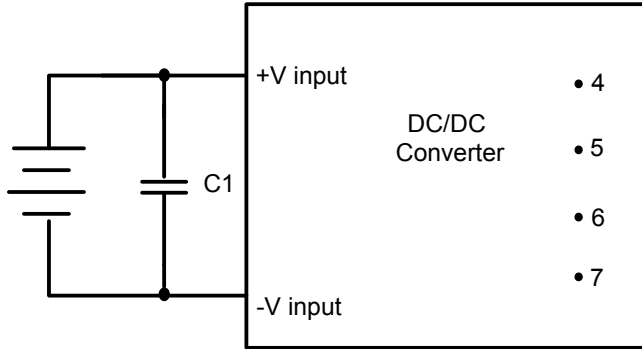
Conducted/Radiated Emissions  
Triple Output



**Surge/EFT**

**C1**

220uF, 100V



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