



FEATURES:

- Wide 4:1 Input Voltage Range
- High efficiency up to 88%
- 1500 & 2250VDC Isolation
- Over Current Protection
- No load consumption $\leq 0.12\text{W}$
- Operating Temperature -40°C to $+85^{\circ}\text{C}$
- Output Over Voltage protection
- Continuous Short Circuit Protection
- Input Under Voltage Protection

Models Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM6CW-2403S-NZ	9-36	3.3	1500	1500	1800	79
AM6CW-2405S-NZ	9-36	5	1200	1500	1000	83
AM6CW-2409S-NZ	9-36	9	667	1500	680	85
AM6CW-2412S-NZ	9-36	12	500	1500	470	87
AM6CW-2415S-NZ	9-36	15	400	1500	220	88
AM6CW-2424S-NZ	9-36	24	250	1500	100	88
AM6CW-4803S-NZ	18-75	3.3	1500	1500	1800	79
AM6CW-4805S-NZ	18-75	5	1200	1500	1000	83
AM6CW-4812S-NZ	18-75	12	500	1500	470	87
AM6CW-4815S-NZ	18-75	15	400	1500	220	88
AM6CW-4824S-NZ	18-75	24	250	1500	100	88
AM6CW-11005SH22-NZ	40-160	5	1200	2250	1000	80
AM6CW-11012SH22-NZ	40-160	12	500	2250	470	84
AM6CW-11015SH22-NZ	40-160	15	400	2250	220	85
AM6CW-11024SH22-NZ	40-160	24	250	2250	100	86

Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM6CW-2405D-NZ	9-36	± 5	± 600	1500	470	83
AM6CW-2412D-NZ	9-36	± 12	± 250	1500	100	87
AM6CW-2415D-NZ	9-36	± 15	± 200	1500	100	88
AM6CW-2424D-NZ	9-36	± 24	± 125	1500	100	88
AM6CW-4805D-NZ	18-75	± 5	± 600	1500	470	83
AM6CW-4812D-NZ	18-75	± 12	± 250	1500	100	87
AM6CW-4815D-NZ	18-75	± 15	± 200	1500	100	88

Note:

*Add suffix "-K" for optional heatsink

**Add suffix "-ST" for optional screw terminal bottom plate

***Add suffix "-STD" for optional DIN Rail screw terminal bottom plate

****Add suffix "-K-ST" for optional heat sink with screw terminal bottom plate

*****Add suffix "-K-STD" for optional heat sink with DIN Rail screw terminal bottom plate

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 48 110	9-36 18-75 40-160		VDC
Filter	Pi			
Absolute Maximum Rating (1s)	24 48 110		-0.7 - 50 -0.7 - 100 -0.7 - 180	VDC
No Load Input Current	24 48, 110		12 8	mA
Input reflected current		25		mA
Input Under voltage turn off*	24 48 110, 2250V Isolation	6.5 15.5 33		VDC
Startup time	For 110Vin, 2250V Isolation models		10	ms

*Except for 110V input 1500V isolation models only.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, <1mA		1500 & 2250	VDC
Tested Input or Output / Case voltage	60 sec, <1mA, 110Vin, 2250V Isolation models		1600	
Resistance	500VDC		>1000	MOhm
Capacitance	I/O, 100KHz/0.1V	1000		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Voltage balance (Dual Output Models)	Balanced Load	±1.5		%
Over voltage protection		110-160		% of Vout
Over current protection	24 & 48V input models only 110Vin, 2250V Isolation models	110-190 120-210		% of Iout
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			
Line voltage regulation (Single)	Full load, LL to HL	±0.5		% of Vin
Line voltage regulation (Dual)	Full load, LL to HL	±1		% of Vin
Load voltage regulation (Single)	0-100% load, 110Vin, 2250V Isolation models 5- 100% load, others	±1 ±1		%
Load voltage regulation (Dual)	5% to 100% load	±1.5		%
Cross Regulation (Dual Output Models)	25% load on 1st output - 100% load on 2nd load	±5		%
Temperature coefficient	100% load		±0.03	%/°C
Ripple & Noise		100		mV p-p
Transient recovery time	25% load step change, 110Vin, 2250V Isolation 25% load step change, others		0.5 1	mS
Transient recovery deviation	25% load step change		±8	%

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	300		KHz
Operating temperature	Derating above 71°C	-40 to +85		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			100	°C
Cooling	Free air convection			
Humidity			95	% RH
Case material	Aluminum Alloy			
Weight	Pin mountable With optional -ST mounting plate: With optional -STD mounting plate: With optional -K Pin mountable	15 35 55 20		g

	With optional -ST-K mounting plate: With optional -STD-K mounting plate:	40 59	
Dimensions (L x W x H)	Pin mountable With optional -ST mounting plate: With optional -STD mounting plate: With optional -K Pin mountable With optional -ST-K mounting plate: With optional -STD-K mounting plate:	1 x 1 x 0.46 inches 2.99 x 1.24 x 0.84 inches 2.99 x 1.24 x 1.02 inches 1 x 1 x 0.64 inches 2.99 x 1.24 x 0.99 inches 2.99 x 1.24 x 1.17 inches	25.40 x 25.40 x 11.70 mm 76.00 x 31.50 x 21.20 mm 76.00 x 31.50 x 25.80 mm 25.40 x 25.40 x 16.20 mm 76.00 x 31.50 x 25.20 mm 76.00 x 31.50 x 29.80 mm
MTBF	>1,000,000 hours (MIL-HDBK -217F, Ground Benign, t=+25°C)		
Maximum soldering temperature	1.5mm from case for 10 sec	300	°C

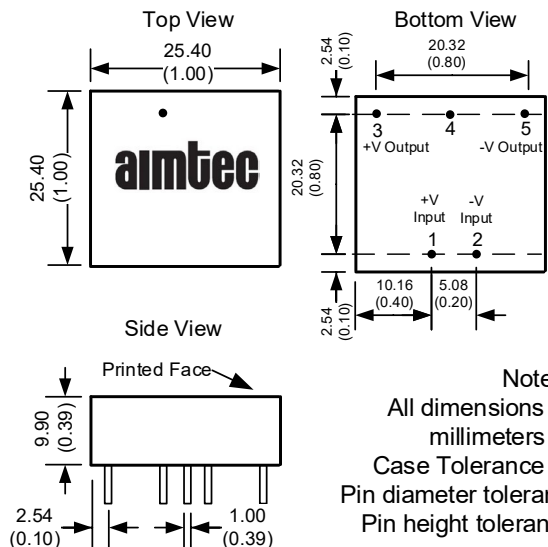
Environmental Specifications

Parameters			
Vibration	Test mode	5-150Hz	
	Acceleration	2G, 30min one cycle, every axis tested	
	Displacement	7.5mm	
Vibration 110Vin, 2250V Isolation	Test mode	IEC61373 car body 1 B mold	

Safety Specifications

Parameters	
Approval	CE
Standards	EN 55022, class B (with the recommended EMC circuit) ICE/EN60950-1 Designed to meet UL 60950-1 IEC61000-4-2, Contact ±6KV (2250 VDC Isolated models), Contact ±4KV (24 & 48 Vin), Criteria B IEC61000-4-3, 10V/m, Criteria A IEC61000-4-4, ±4KV (2250 VDC), ±2KV (24 & 48 Vin), with the recommended EMC circuit, Criteria B IEC61000-4-5, ±2KV, (with the recommended EMC circuit), Criteria B IEC61000-4-6, 3 Vrms (24 & 48 Vin), 10 Vrms (2250 VDC Isolated models), Criteria A IEC61000-4-29, 0-70%, Criteria B IEC/EN/UL 60950-1 Meets EN50155 (2250 VDC Isolated models)

Dimensions

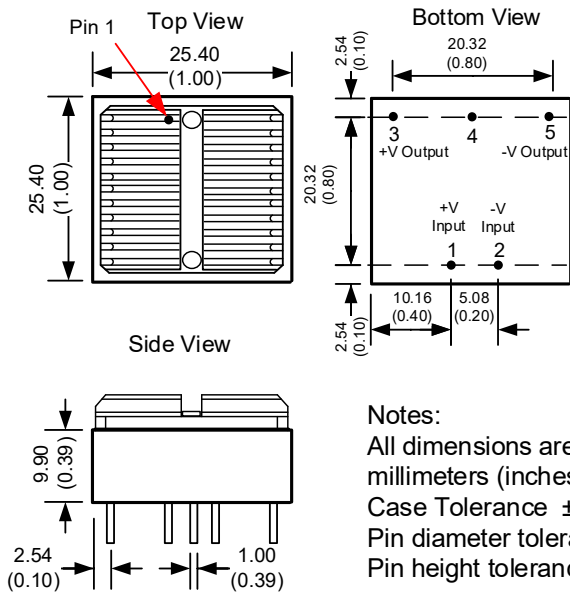


Notes:
 All dimensions are typical in millimeters (inches).
 Case Tolerance ±0.25 (±0.01)
 Pin diameter tolerance ±0.1 (±0.004)
 Pin height tolerance ±0.5 (±0.02)

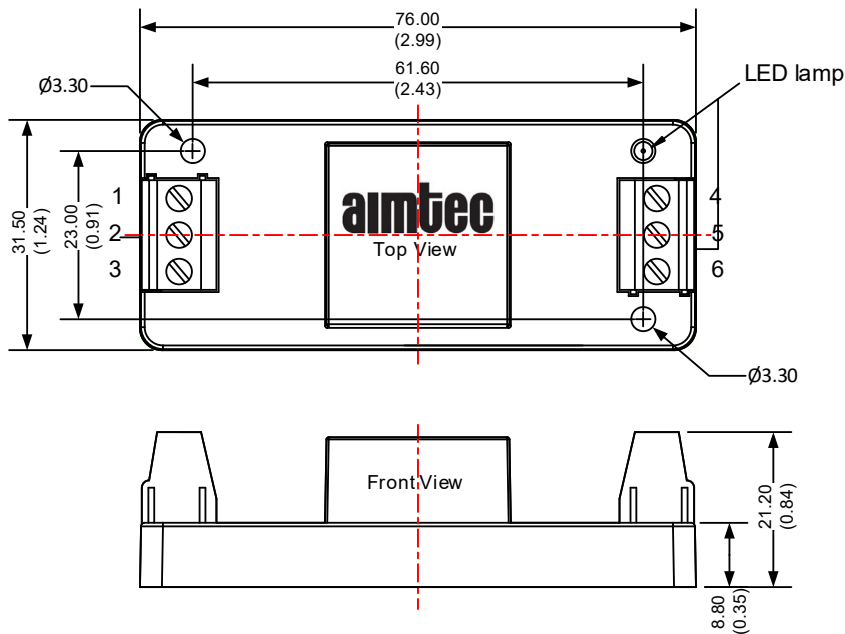
Pin Out Specifications

Pin	Single	Dual
1	+V Input	+V Input
2	-V Input	-V Input
3	+V Output	+V Output
4	No pin	Common
5	-V Output	-V Output

Heatsink Option: AM6CW-NZ-K



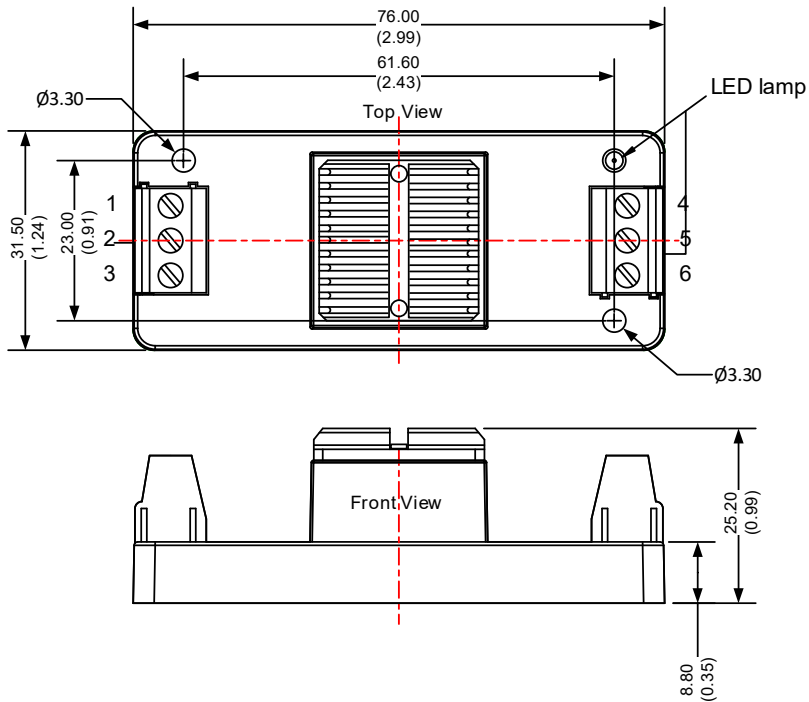
Screw Terminal Option: AM6CW-NZ-ST



Pin	Single	Dual
1	NC	NC
2	-V Input	-V Input
3	+V Input	+V Input
4	-V Output	-V Output
5	NC	Common
6	+V Output	+V Output

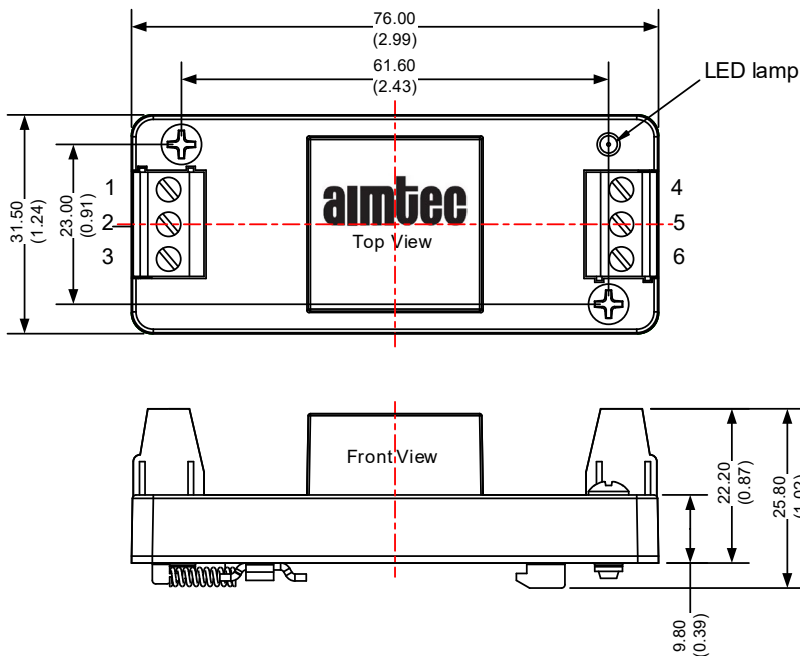
Note:
Unit: mm (inch)
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N*m
General tolerances: ± 0.50 (± 0.02)

Screw Terminal with heatsink Option: AM6CW-NZ-K-ST



Note:
Unit: mm (inch)
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N*m
General tolerances: ± 0.50 (± 0.02)

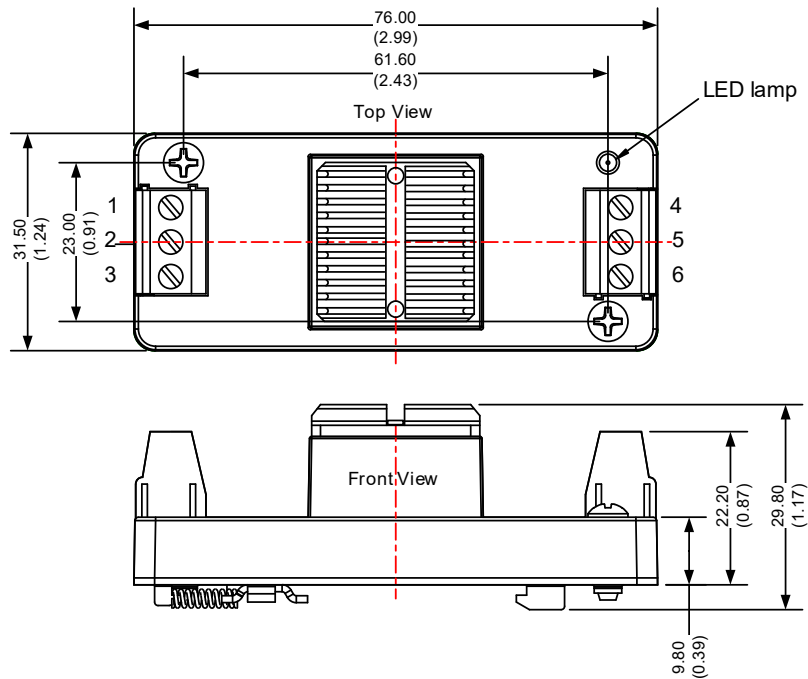
DIN-RAIL Option: AM6CW-NZ-STD



Pin	Single	Dual
1	NC	NC
2	-V Input	-V Input
3	+V Input	+V Input
4	-V Output	-V Output
5	NC	Common
6	+V Output	+V Output

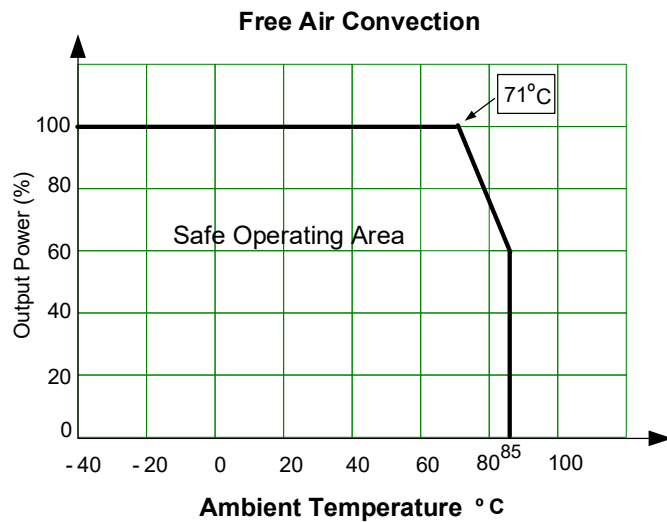
Note:
Unit: mm (inch)
Mounting rail: TS35
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N*m
General tolerances: ± 0.50 (± 0.02)

DIN-RAIL with heatsink Option: AM6CW-NZ-K-STD



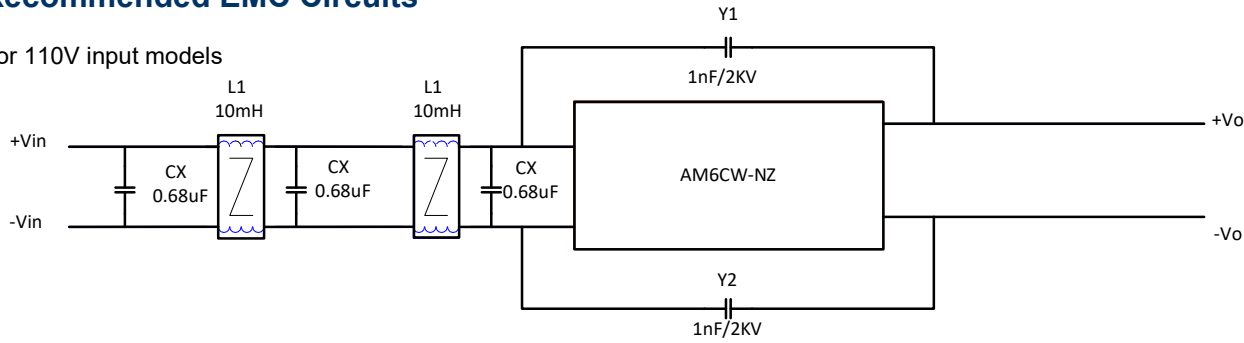
Note:
 Unit: mm (inch)
 Mounting rail: TS35
 Wire range: 24-12 AWG
 Tightening torque: Max 0.4 N*m
 General tolerances: ± 0.50 (± 0.02)

Derating

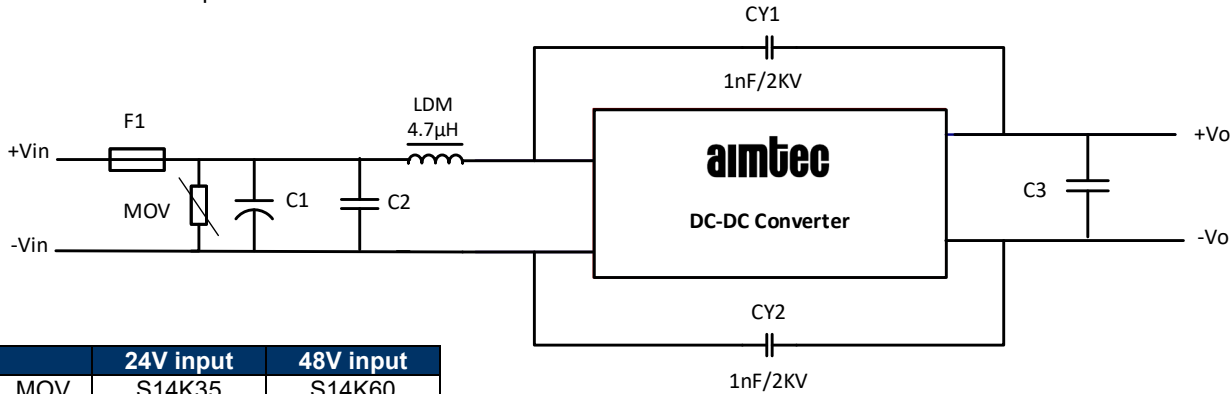


Recommended EMC Circuits

For 110V input models

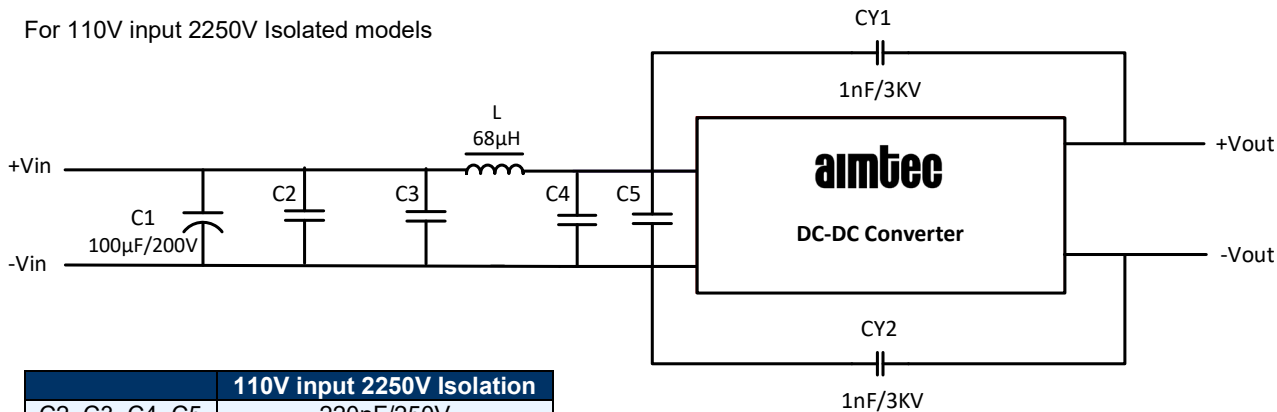


For 24V and 48V Input models



	24V input	48V input
MOV	S14K35	S14K60
C1	330μF/50V	330μF/100V
C2	1μF/50V	1μF/100V
C3	10μF/50V	10μF/100V

For 110V input 2250V Isolated models



	110V input 2250V Isolation
C2, C3, C4, C5	220nF/250V

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity < 75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.