

**FEATURES:**

- Efficiency up to 87%
- Ultra Wide 4:1 input range
- Continuous Short Circuit Protection
- Operating temperature -40°C to + 85°C
- On/Off remote control
- Input Under-voltage Protection
- Over Voltage, Over Current Protection
- I/O Isolation 1500VDC & 3000VDC
- No-load power consumption $\leq 0.12\text{W}$

**Models****Single output**

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	I/O Isolation (VDC)	Capacitive load max (μF)	Efficiency (%)
AM10EW-2403SH30-NZ	9-36	3.3	2400	3000	5400	79
AM10EW-2405SH30-NZ	9-36	5	2000	3000	5400	82
AM10EW-2409SH30-NZ	9-36	9	1111	3000	680	85
AM10EW-2412SH30-NZ	9-36	12	833	3000	470	86
AM10EW-2415SH30-NZ	9-36	15	667	3000	330	87
AM10EW-2424SH30-NZ	9-36	24	416	3000	100	87
AM10EW-4803SH30-NZ	18-75	3.3	2400	3000	5400	79
AM10EW-4805SH30-NZ	18-75	5	2000	3000	5400	82
AM10EW-4812SH30-NZ	18-75	12	833	3000	470	86
AM10EW-4815SH30-NZ	18-75	15	667	3000	330	87
AM10EW-4824SH30-NZ	18-75	24	416	3000	100	87
AM10EW-11005S-NZ	40~160	5	2000	1500	2200	81
AM10EW-11012S-NZ	40~160	12	833	1500	220	85
AM10EW-11015S-NZ	40~160	15	667	1500	100	85
AM10EW-11024S-NZ	40~160	24	416	1500	47	86

Models**Dual output**

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	I/O Isolation (VDC)	Capacitive load max (μF)	Efficiency (%)
AM10EW-2405DH30-NZ	9-36	± 5	± 1000	3000	± 1000	82
AM10EW-2412DH30-NZ	9-36	± 12	± 416	3000	± 330	86
AM10EW-2415DH30-NZ	9-36	± 15	± 333	3000	± 220	87
AM10EW-4805DH30-NZ	18-75	± 5	± 1000	3000	± 1000	82
AM10EW-4812DH30-NZ	18-75	± 12	± 416	3000	± 330	86
AM10EW-4815DH30-NZ	18-75	± 15	± 333	3000	± 220	87

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24 48 110	9-36 18-75 40~160		VDC
Input Current (full load)	24 48 110		521 261 115	mA
Filter	π (Pi) Network			
Input Surge Voltage (1sec max.)	24 48 110		50 100 180	VDC
Start-up time	Nominal Input, resistive load		$\square\square$	ms
Reflected Input Ripple Current	24 48 110	40 30 30		mA

Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
Under-voltage lockout (24 & 48Vin)	24 48	6.5 15.5		V
Remote On/Off Control (24 & 48Vin)	On Off	3.5-12VDC or leave open 0-1.2VDC or connect to GND, idle current 5-8mA		

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	1 min, <1mA		1500 & 3000	VDC
Resistance		> 1000		MOhm
Capacitance	24 & 48 Vin, I/O, 100KHz/0.1V 110 Vin, I/O, 100KHz/0.1V	500 1000		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	5-100% load	±1	±3	%
Voltage balance (Dual Output Models)	Balanced Load	±1	±2	%
Line voltage regulation	Full Load (HL-LL)	±0.5	±1	%
Load voltage regulation	5-100% load	±0.5	±1.5	%
Cross Regulation	50% load on one output & 10-100% load on second load		±5	%
Short Circuit protection		Continuous		
Short Circuit restart		Auto Recovery		
Over Voltage Protection		120	160	% of Vo
Over Current Protection	24 & 48 Vin models only	140	190	% of Io
Transient Recovery Time	25% Load Step Change	500	1000	µs
Transient Deviation Response		±3	±5	%
Temperature coefficient		±0.03		%/°C
Ripple & Noise	20Mhz bandwidth	60	120	mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	350		KHz
Operating temperature	Derating above 71°C	-40 to +85		°C
Storage temperature		-55 to +125		°C
Max case temperature			105	°C
Cooling		Free air convection		
Humidity	Non condensing		95	%
Solder Temp Leads	1.5 mm from case 10 sec.		300	°C
Case material	Plastic (3000VDC Isolated models) Aluminum Alloy (1500VDC Isolated models)			
Weight	24 (3000VDC Isolated models) 22 (1500VDC Isolated models)			g
Dimensions (L x W x H)	3000VDC Isolated models - 2.03 x 1.04 x 0.47 inches 1500VDC Isolated models - 2.00 x 1.00 x 0.46 inches	51.50 x 26.50 x 12.00mm 50.80 x 25.40 x 11.80mm		
MTBF	>1 000 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

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.

Environmental Specifications

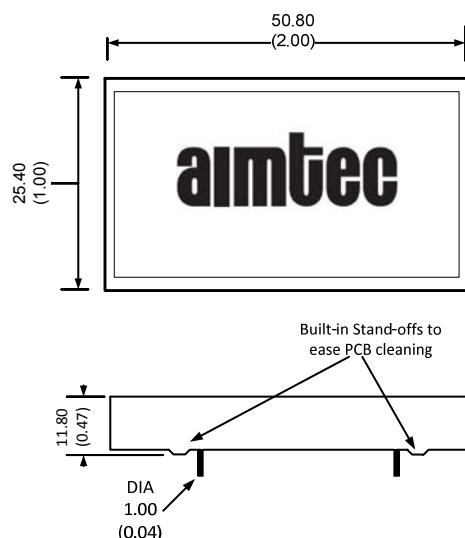
Parameters		
Vibration (24 & 48 Vin)	Test mode	10-55Hz
	Acceleration	10G, 30min one cycle, every axis tested
Vibration (110 Vin)	Test mode	5-150Hz
	Acceleration	2G, 30min one cycle, every axis tested
	Displacement	7.5mm

Safety Specifications

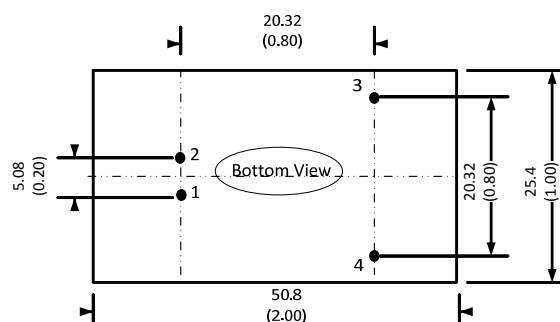
Parameters	
Approvals	CE, UL pending
Standards	EN 55022, class B (with the recommended EMC circuit)
	IEC61000-4-2, Contact $\pm 6\text{KV}$ (110Vin), Contact $\pm 4\text{KV}$ (24 & 48 Vin), Criteria B
	IEC61000-4-3, 10V/m, Criteria A
	IEC61000-4-4, $\pm 4\text{KV}$ (110Vin), $\pm 2\text{KV}$ (24 & 48 Vin with the recommended EMC circuit), Criteria B
	IEC61000-4-5, $\pm 2\text{KV}$, Criteria B, (with the recommended EMC circuit)
	IEC61000-4-6, 3 Vrms, Criteria A
	IEC61000-4-29, 0-70%, Criteria B
IEC/EN/UL 60950-1	

Pin Out Specifications 110Vin models

Pin	Single
1	Vin -
2	Vin +
3	+Vout
4	-Vout



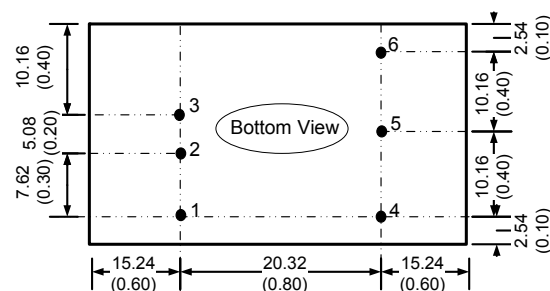
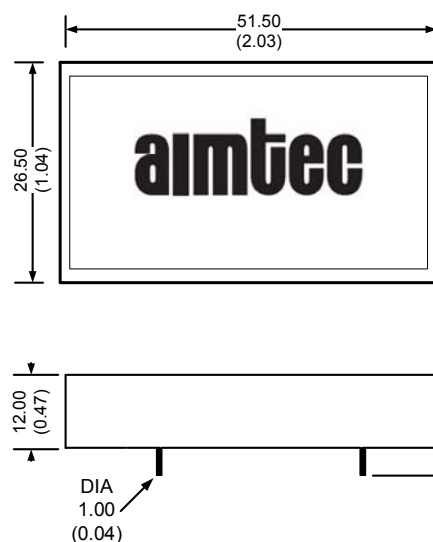
Dimensions 110Vin models



Notes:
All dimensions are typical
in millimeters (inches).
Tolerance ± 0.25 (± 0.01)

Pin Out Specifications 3000VDC Isolated models

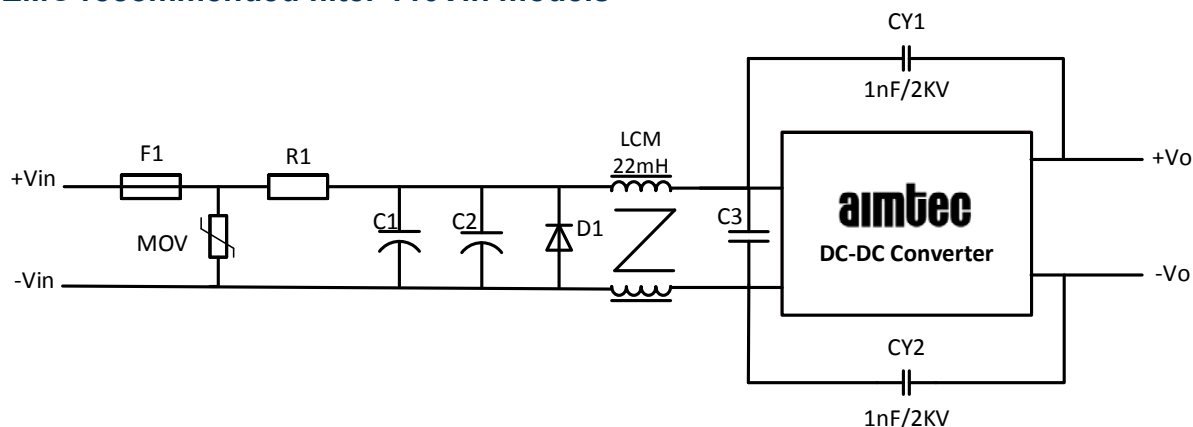
Pin	Single
1	On/Off Control
2	-Vin
3	+Vin
4	- Vout
5	No pin
6	+ Vout



Notes:
All dimensions are typical in
millimeters (inches).
Pin diameter Tolerance ± 0.10 (± 0.004)
Case Tolerance ± 0.50 (± 0.02)

Pin	Dual
1	On/Off Control
2	-Vin
3	+Vin
4	- Vout
5	Common
6	+ Vout

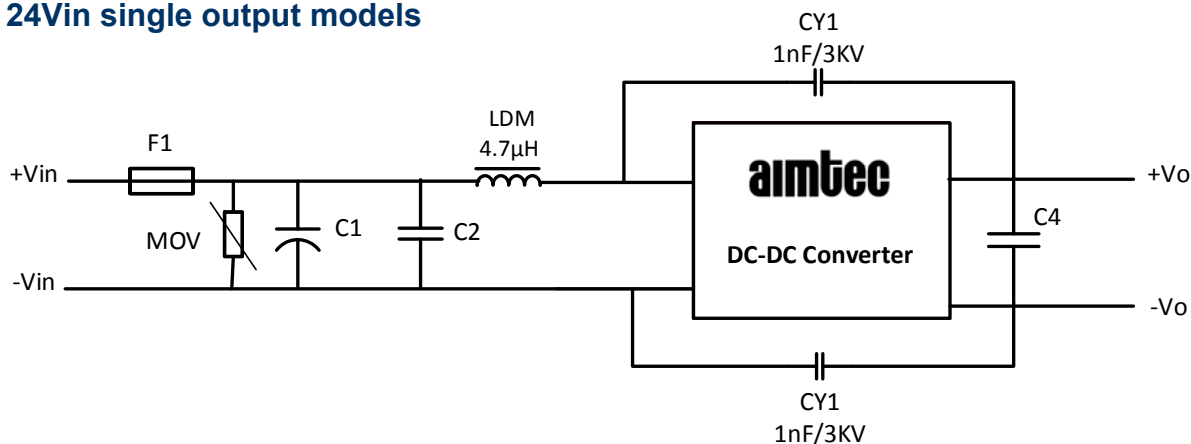
EMC recommended filter 110Vin models



MOV	C1 & C2	R1	C3	D1
S20K130	1 μ F / 200V	1 Ω	100 μ F / 200V	ER304

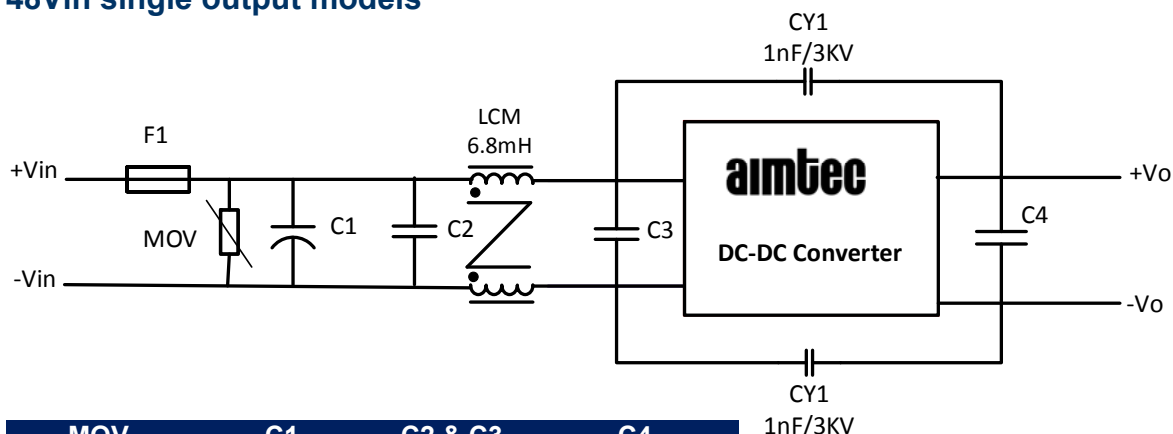
EMC recommended filter 3000VDC Isolated models

24Vin single output models



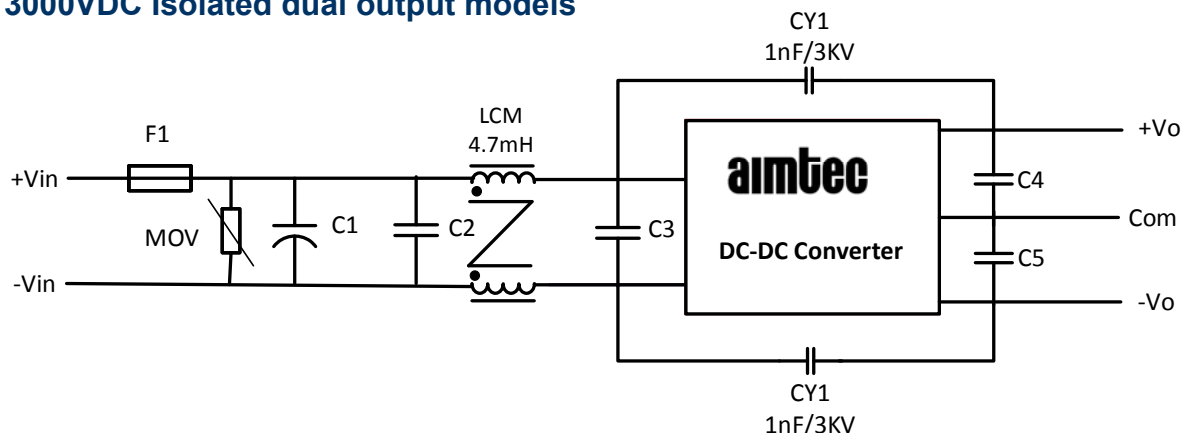
MOV	C1	C2	C4	CY1 & CY2	LDM
S20K30	330 μ F / 50V	1 μ F / 50V	10 μ F / 50V	1 nF / 3KV	4.7 μ H

48Vin single output models



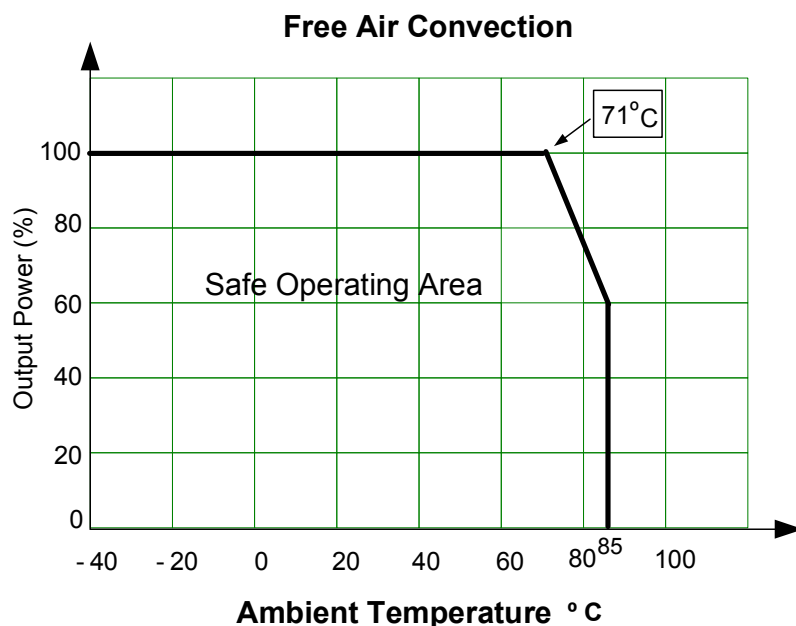
MOV	C1	C2 & C3	C4
S20K60	330 μ F / 100V	1 μ F / 100V	10 μ F / 50V

3000VDC Isolated dual output models



Vin	MOV	C1	C2 & C3	C4 & C5
24V	S20K30	330 μ F / 50V	1 μ F / 50V	10 μ F / 50V
28V	S20K60	330 μ F / 100V	1 μ F / 100V	

Derating



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