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AM15CW-LPZ



1” x 1”

The AM15CW-LPZ is a 15W DC/DC converter that offers a regulated output which contributes to a more stable and reliable output performance. It features a wide 4:1 input voltage range of 9-75VDC, which will benefit your new system design.

This series offers great operating temperatures, from -40°C to 85°C. Furthermore, an isolation of 1500VDC, a high MTBF of 1,000,000h, continuous output short circuit protection (OSCP), over-current protection (OCP), over-voltage protection (OVP), and under voltage lock-out (UVLO) come standard with the series.

The AM15CW-LPZ is suitable for distributed power supply systems, industrial controls, power grid, instruments and communications applications.

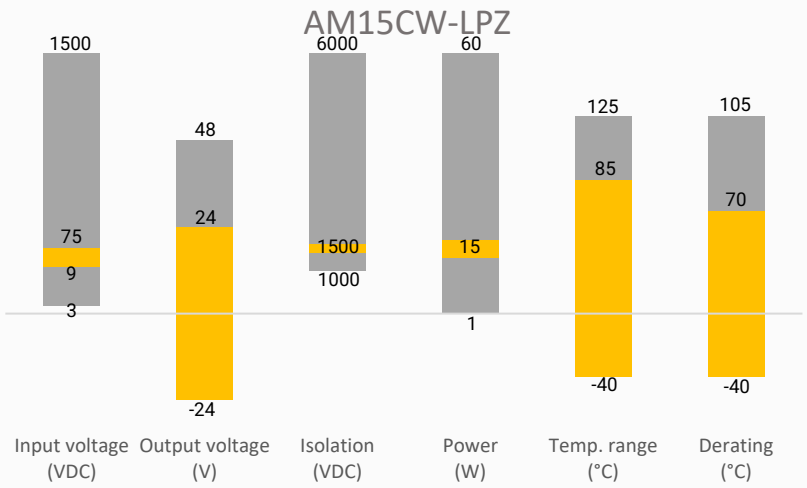
Features

- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 1500VDC
- Low ripple & noise, 50mV (p-p), typ.
- Regulated Output
- 1” x 1” package
- Output short circuit, over-current, over-voltage, input under voltage protection

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Instrumentation

Models & Specifications

Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current (mA TYP.)		Output Current Max (mA)	Maximum Capacitive Load (µF)	Efficiency Full Load Typ. (%)
			No Load	Full Load			
AM15CW-2403SLPZ	24 (9-36)	3.3	30	625	4000	4700	88
AM15CW-2405SLPZ	24 (9-36)	5	30	694	3000	4700	90
AM15CW-2412SLPZ	24 (9-36)	12	6	694	1250	1000	90
AM15CW-2415SLPZ	24 (9-36)	15	6	687	1000	820	91
AM15CW-2418SLPZ	24 (9-36)	18	6	687	833	470	90
AM15CW-2424SLPZ	24 (9-36)	24	10	687	625	270	91
AM15CW-4803SLPZ	48 (18-75)	3.3	15	313	4000	4700	88
AM15CW-4805SLPZ	48 (18-75)	5	15	348	3000	4700	90
AM15CW-4812SLPZ	48 (18-75)	12	3	344	1250	1000	91
AM15CW-4815SLPZ	48 (18-75)	15	3	344	1000	820	91
AM15CW-4824SLPZ	48 (18-75)	24	4	344	625	270	91

Dual Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Max (mA TYP.)		Output Current Max (mA)	Maximum Capacitive Load (µF)	Efficiency (%) Full Load Typ.
			No Load	Full Load			
AM15CW-2405DLPZ	24 (9-36)	±5	30	694	±1500	1500	87
AM15CW-2412DLPZ	24 (9-36)	±12	30	694	±625	470	90
AM15CW-2415DLPZ	24 (9-36)	±15	30	694	±500	330	90
AM15CW-2424DLPZ	24 (9-36)	±24	30	694	±312	200	89
AM15CW-4805DLPZ	48 (18-75)	±5	15	348	±1500	1500	86
AM15CW-4812DLPZ	48 (18-75)	±12	15	348	±625	470	89
AM15CW-4815DLPZ	48 (18-75)	±15	15	348	±500	330	89
AM15CW-4824DLPZ	48 (18-75)	±24	15	348	±312	200	90

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage Types			4:1	
Filter	Pi Filter			
Startup time		10		mS
Startup input voltage	24Vin models		9	VDC
	48Vin models		18	VDC
Input under-voltage lockout	24Vin models	≥5.5	6.5	VDC
	48Vin models	≥12	15.5	VDC
Absolute maximum rating	24Vin models, 1 sec.	≥-0.7	50	VDC
	48Vin models, 1 sec.	≥-0.7	100	VDC
Input reflected current		30		mA
On/Off control	ON - open or pulled high (3.5- 12 VDC) OFF - pulled low to GND (0 - 1.2 VDC), idle current 7mA max.			

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested isolation voltage	Input / output 60 sec, ≤ 1mA	1500		VDC
Resistance	500VDC	≥1000		MΩ
Capacitance	Input to output, 100KHz/0.1V	1000		pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage Tolerance	Full load @Vin (nom.)	±1	±3	%
Line regulation	Full load	±0.2	±0.5	%
Load regulation	Full load	±0.5	±1	%
Cross Regulation	Dual output models, 50% load on 1st output and 10~100% load on 2nd output		±5	%
Transient recovery time	25% load step change	300	500	μs
Transient recovery deviation	25% load step change, 3.3/5Vout models	±3	±7	%
	25% load step change, others	±3	±5	%
External Trim Adj. Range			±10	%
Ripple & Noise	20MHz bandwidth	50	100	mV pk-pk

General Specifications

Parameters	Conditions	Minimum	Typical	Maximum	Units
Switching frequency	100% load		300		KHz
Over Current protection	Input voltage range	110	150	190	%Io
Over voltage protection	Input voltage range	110		160	%Vo
Short Circuit Protection	Continuous, Auto recovery				
Operating temperature	With derating	-40		85	°C
Storage temperature		-55		125	°C
Temperature coefficient	100% Load			± 0.02	%/ °C
Cooling	Free air convection				
Humidity	Non-condensing	5		95	% RH
Maximum soldering temperature	1.5mm from case for 10 sec			+300	°C
Case material	Aluminum alloy				
Weight			15		g
Dimensions (L x W x H)	1.00 x 1.00 x 0.47 inches (25.40 × 25.40 × 12.00 mm)				
MTBF	> 1 000 000 hrs (MIL-HDBK -217F, 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.

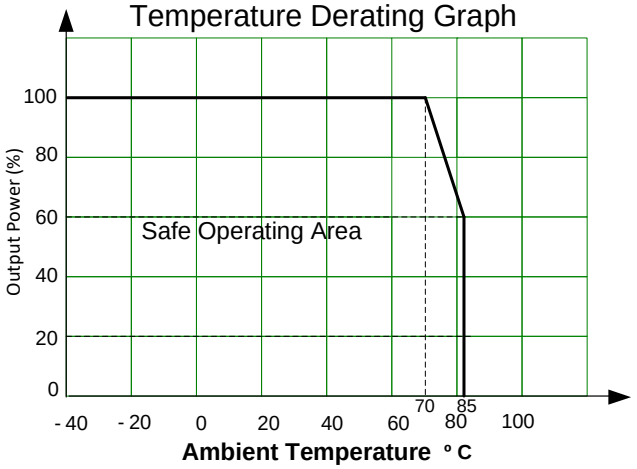
Safety Specifications

Parameters		
Standards	Designed to meet UL/EN/IEC62368-1	
	EMI - Conducted and radiated emission	CISPR32/EN55032, Class B
	Electrostatic Discharge Immunity	IEC/EN 61000-4-2

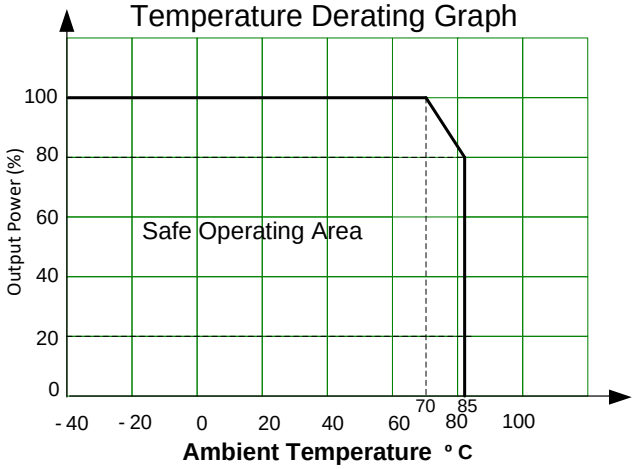
	RF, Electromagnetic Field Immunity	IEC/EN 61000-4-3
	Electrical Fast Transient/Burst Immunity	IEC/EN 61000-4-4
	Surge Immunity	IEC/EN 61000-4-5
	RF, Conducted Disturbance Immunity	IEC/EN 61000-4-6
	Vibration	IEC/EN61373, category 1/grade B

Derating

3.3/5Vout models

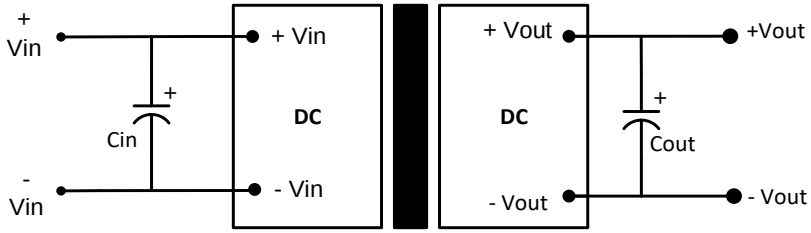


12/15/18/24Vout models

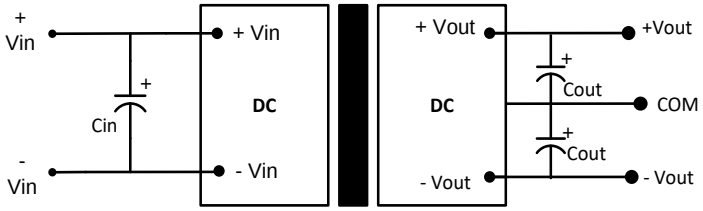


Typical Application Circuit

Single output models



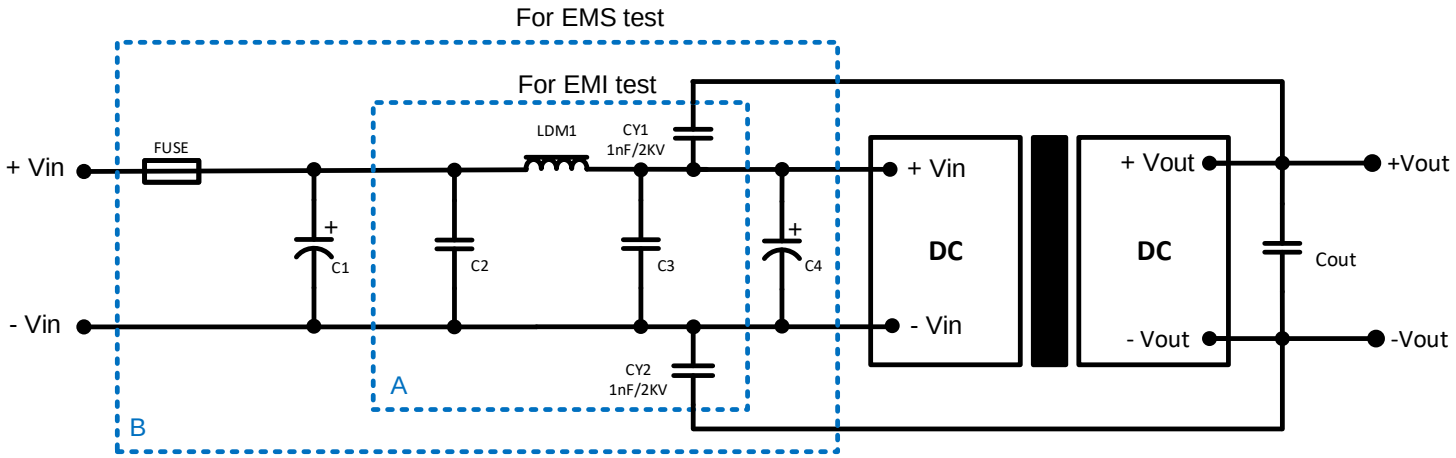
Dual output models



Single Output Models			
Vin	Cin	Vout	Cout
24VDC	100µF	3.3VDC	100µF/50V
48VDC	100µF	5VDC	100µF/50V
		12VDC	100µF/50V
		15VDC	100µF/50V
		18VDC	100µF/50V
		24VDC	47µF/50V

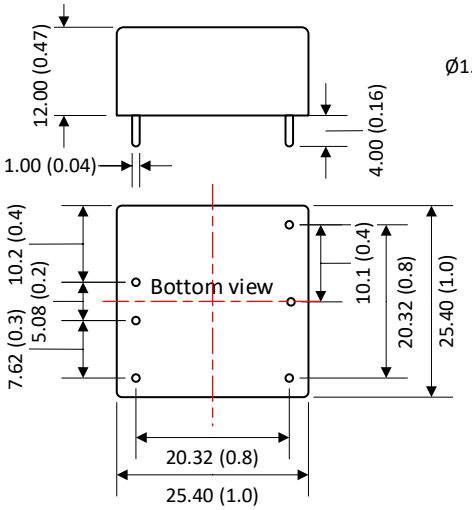
Dual Output Models			
Vin	Cin	Vout	Cout
24VDC	100µF	±5VDC	100µF/50V
48VDC	100µF	±12VDC	100µF/50V
		±15VDC	100µF/50V
		±24VDC	47µF/50V

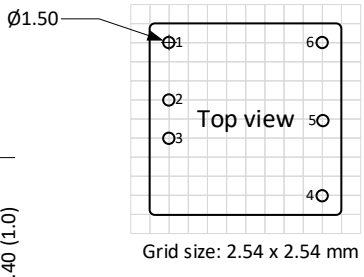
EMC Application Circuit



	24Vin	48Vin
C1, C4	330µF/50V	330µF/100V
C2, C3	4.7µF/50V	4.7µF/100V
Cout	Refer to typical application circuit	
LDM1	2.2µH/4A	2.2µH/2A

Dimensions





Grid size: 2.54 x 2.54 mm

Pin Out Specifications		
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-V Input	-V Input
3	+V Input	+V Input
4	+V Output	+V Output
5	Trim	Com
6	-V Output	-V Output

Note:
Unit: mm (inch)
Pin tolerance: ±0.05 (0.002)
General tolerance: ±0.5 (0.02)

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 the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.