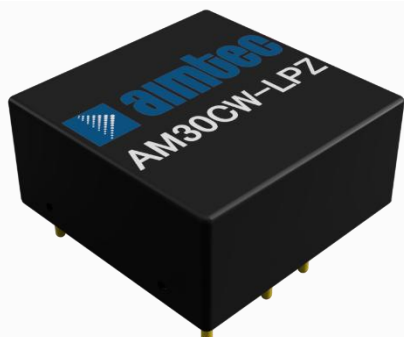


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AM30CW-LPZ



1" x 1"

The AM30CW-LPZ is a 30W 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 output short circuit protection (OSCP), over-current protection (OCP), over-voltage protection (OVP), and under voltage lock-out (UVLO) come standard with the series.

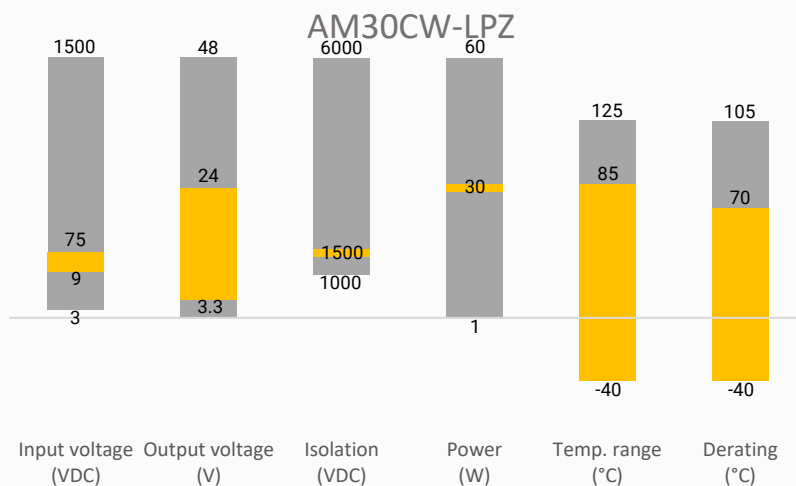
The AM30CW-LPZ is suitable for distributed power supply systems, industrial controls, power grid, instruments, and communications applications.

Features

- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 1500VDC
- Low ripple & noise, 100mV (p-p), typ.
- Regulated Output
- 1" x 1" package
- Output short circuit, over-current, over-voltage, input under voltage protection



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) Full Load	Maximum Capacitive Load (μF)	Efficiency Full Load Typ. (%)
			No Load	Full Load			
AM30CW-2403SLPZ	24 (9-36)	3.3	6	982	6000	10000	84
AM30CW-2405SLPZ	24 (9-36)	5	4	1420	6000	10000	88
AM30CW-2412SLPZ	24 (9-36)	12	4	1388	2500	1500	89
AM30CW-2415SLPZ	24 (9-36)	15	4	1388	2000	1000	89
AM30CW-2424SLPZ	24 (9-36)	24	4	1388	1250	750	90
AM30CW-4803SLPZ	48 (18-75)	3.3	10	497	6000	7200	83
AM30CW-4805SLPZ	48 (18-75)	5	8	710	6000	7200	87
AM30CW-4812SLPZ	48 (18-75)	12	8	710	2500	1000	88
AM30CW-4815SLPZ	48 (18-75)	15	8	710	2000	1500	88
AM30CW-4824SLPZ	48 (18-75)	24	8	710	1250	470	89

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage Types			4:1	
Filter	PI filter			
Absolute maximum rating	24Vin models, 1 sec.		-0.7~50	VDC
	48Vin models, 1 sec.		-0.7~100	VDC
Input reflected current	24Vin models	100		mA
	48Vin models	40		mA
Input Under Voltage turn off	24Vin models	5.5~7.5		VDC
	48Vin models	12~15.5		VDC
Startup Voltage	24Vin models		9	VDC
	48Vin models		18	VDC
Remote 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 / output, 100KHz/0.1V	2000		pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage Tolerance	5% to 100% load	±1	±3	%
Line regulation	Full load, LL to HL	±0.2	±0.5	%
Load regulation	5% to 100% load	±0.5	±1	%
Voltage adjustment			±10	%
Transient recovery time	25% load step change	250	500	μs
Transient recovery deviation	25% load step change	±3	±8	%

Ripple & Noise	20MHz bandwidth	100	200	mV pk-pk
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General Specifications

Parameters	Conditions	Minimum	Typical	Maximum	Units
Switching frequency	100% load		330		KHz
Over Current protection	Input voltage range	110	150		%Io
Over voltage protection	Input voltage range	110	140		%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
Maximum soldering temperature	1.5mm from case for 10 sec.			300	°C
Cooling	Free air convection				
Humidity	Non-condensing	5		95	% RH
Case material	Aluminum alloy				
Weight			21		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)				

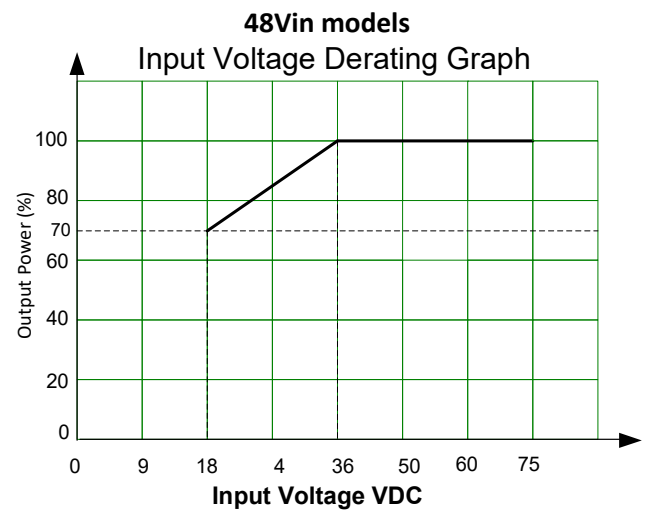
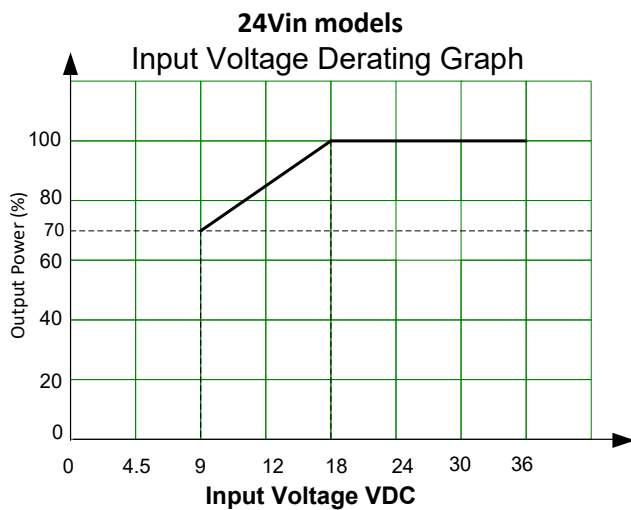
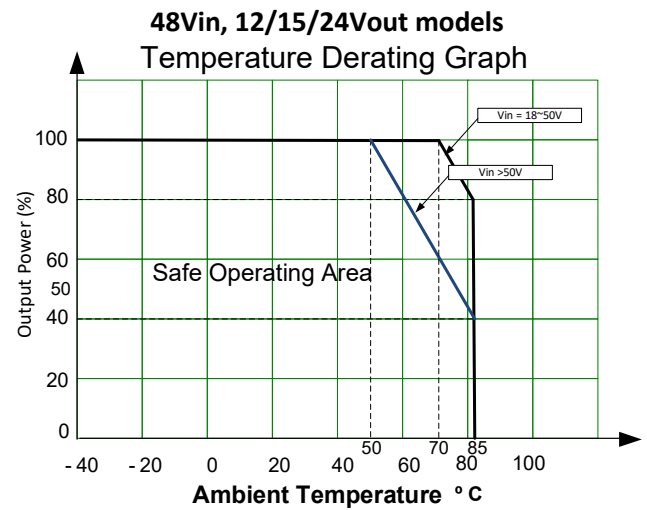
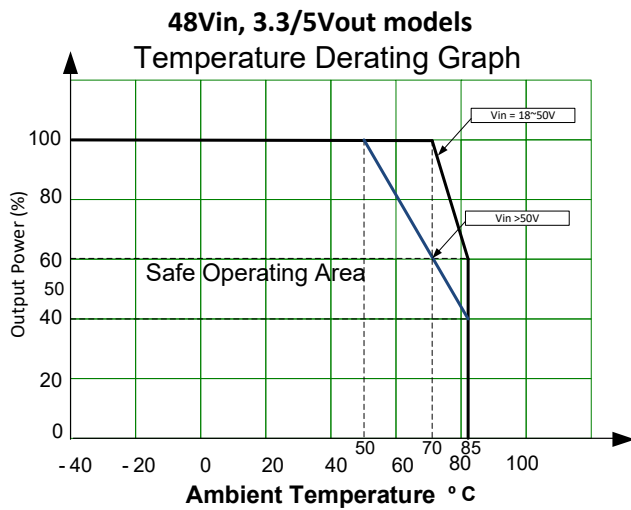
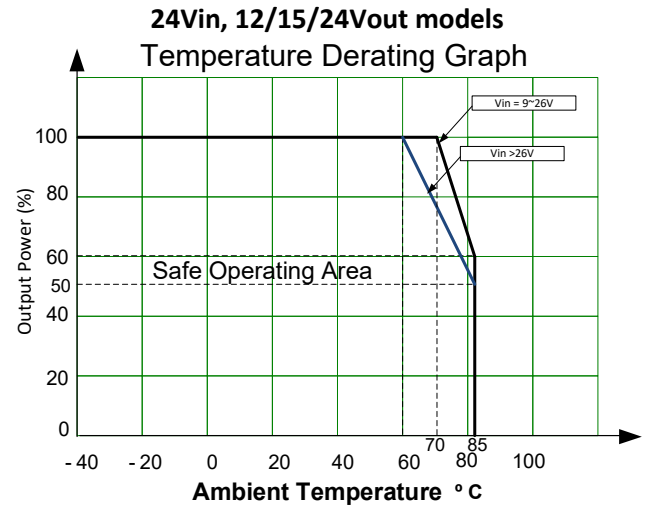
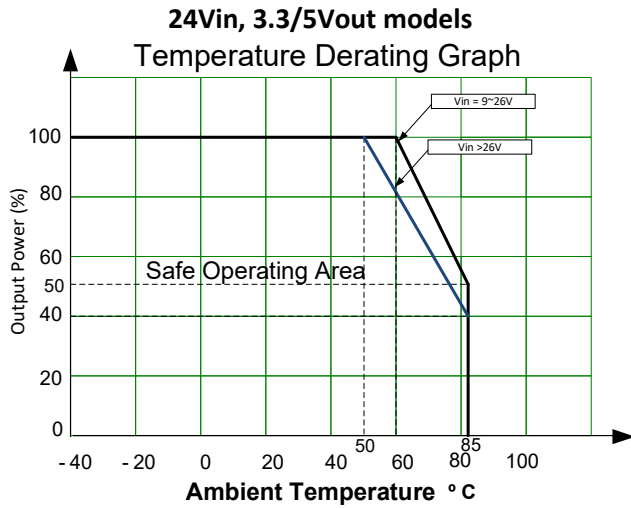
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

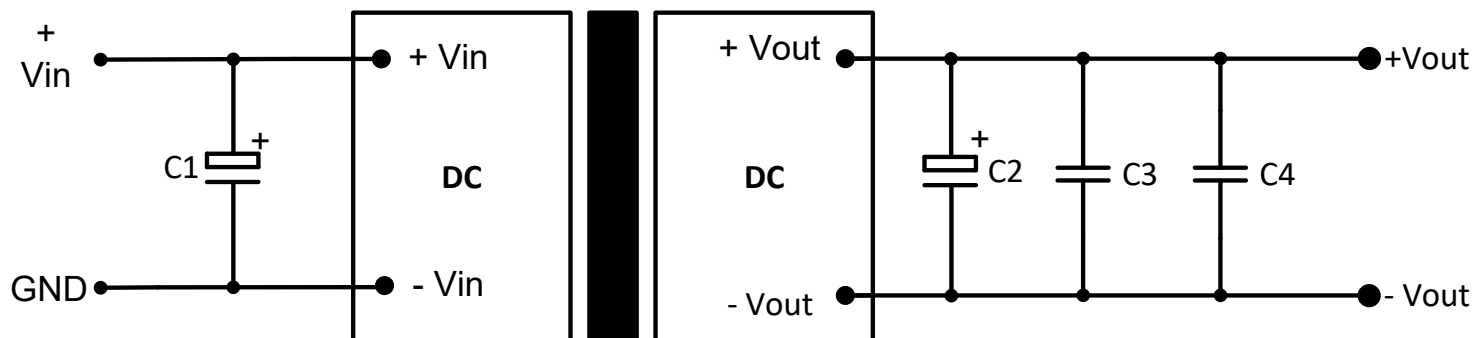
Parameters

Standards	Designed to meet IEC/UL/EN62368-1	
	EMI - Conducted and radiated emission	CISPR32/EN55032, Class A
	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



Typical Application Circuit



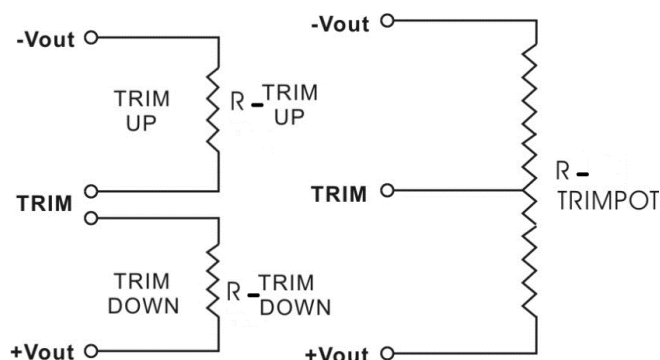
V_{in}	C1	C2	C3	C4
24VDC	100 μ F	470 μ F	10 μ F	0.1 μ F
48VDC	100 μ F	470 μ F	22 μ F	10 μ F

Trimming

Output voltage can be externally trimmed by utilizing the methods as shown below

Fixed Resistor

Variable Potentiometer



Leave open if not used.

3.3V Output

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	3.267	3.234	3.201	3.168	3.135	3.102	3.069	3.036	3.003	2.970
Rt down (KΩ)	1121.642	378.474	220.234	151.369	112.834	88.207	71.111	58.549	48.928	41.324
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	3.333	3.366	3.399	3.432	3.465	3.498	3.531	3.564	3.597	3.630
Rt up (KΩ)	243.933	139.191	95.012	70.649	55.211	44.554	36.755	30.799	26.103	22.305

5V Output

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	4.950	4.900	4.850	4.800	4.750	4.700	4.680	4.600	4.550	4.500
Rt down (KΩ)	36.242	18.716	9.546	3.907	0.089	--	--	--	--	--
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	5.060	5.100	5.150	5.200	5.250	5.300	5.350	5.400	5.450	5.500
Rt up (KΩ)	21957.654	131.637	49.119	25.428	14.188	7.626	3.324	0.287	--	--

12V Output

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	11.880	11.760	11.640	11.520	11.400	11.280	11.160	11.040	10.920	10.800
Rt down (KΩ)	522.185	269.246	175.390	126.441	96.391	76.066	61.403	50.325	41.660	34.698
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	12.120	12.240	12.360	12.480	12.600	12.720	12.840	12.960	13.080	13.200
Rt up (KΩ)	187.313	72.848	39.563	23.705	14.426	8.337	4.033	0.830	--	--

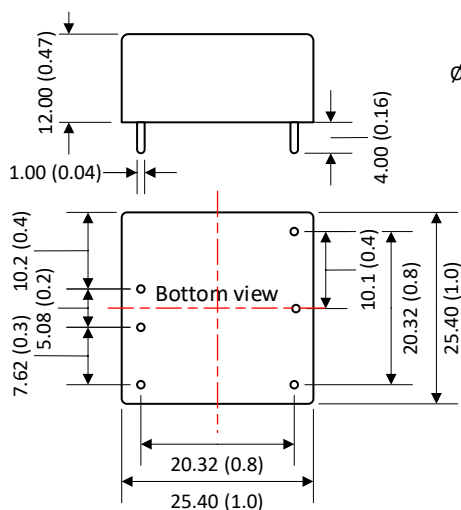
15V Output

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	14.850	14.700	14.550	14.400	14.250	14.100	13.950	13.800	13.650	13.500
Rt down (KΩ)	675.367	382.496	260.958	194.429	152.455	123.560	102.455	86.363	73.689	63.447
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	15.150	15.300	15.450	15.600	15.750	15.900	16.050	16.200	16.350	16.500
Rt up (KΩ)	323.076	105.467	56.466	34.831	22.640	14.818	9.373	5.365	2.291	--

24V Output

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	23.760	23.520	23.280	23.040	22.800	22.560	22.320	22.080	21.840	21.600
Rt down (KΩ)	635.592	358.741	246.163	185.102	146.779	120.487	101.330	86.750	75.282	66.025
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	24.240	24.480	24.720	24.960	25.200	25.440	25.680	25.920	26.160	26.400
Rt up (KΩ)	154.790	53.216	28.902	17.987	11.787	7.790	4.999	2.939	1.357	0.104

Dimensions



Note:
Unit: mm (inch)
Pin tolerance: ± 0.10 (0.004)
General tolerance: ± 0.5 (0.02)

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

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