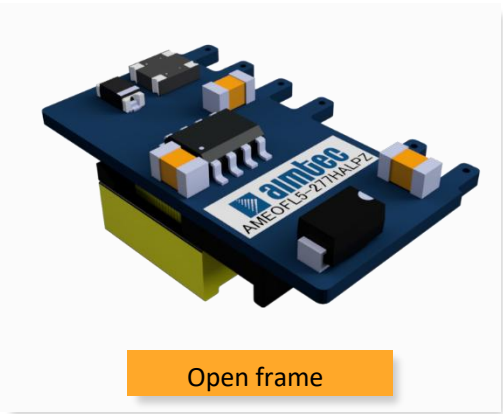


Click to
ORDER
samples

AMEOFL5-277HALPZ



Open frame

The AMEOFL5-277HALPZ series is one of Aimtec’s highly efficient, green 5W AC-DC converter series. It features an ultra-wide input range accepting either AC or DC voltage, high efficiency, compact size in an open-frame, low power consumption and CLASS II reinforced insulation.

This 5W converter offers great operating temperatures, from -40°C to 85°C and also boasts an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of 1,000,000h, output short circuit protection (OSCP) and an output over-current protection (OCP) come standard with the series.

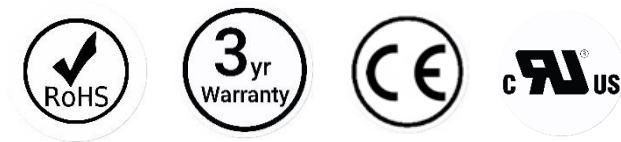
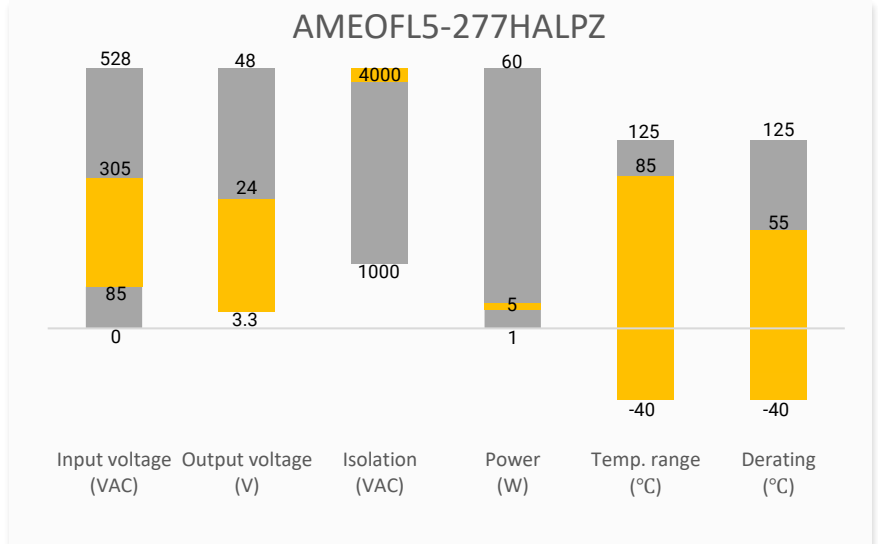
All models are suitable for industrial control, electric power, instrumentation and smart home applications.

Features

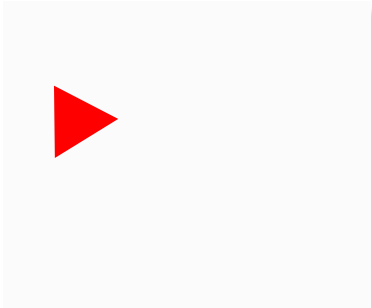


- Universal Input: 85 - 305VAC/70 - 430VDC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 180mV(p-p), max.
- Output short circuit, over-current
- Open frame package

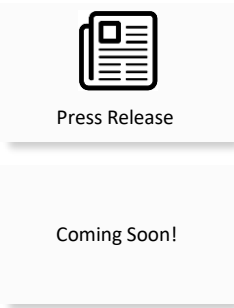
Summary



Training

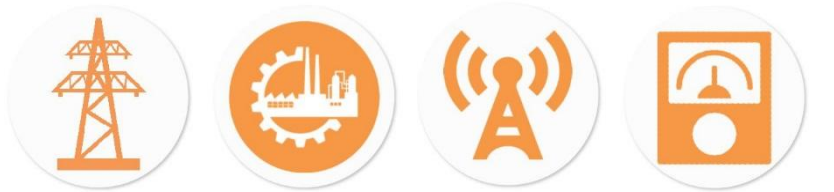


Product Training Video
(click to open)



Application Notes

Applications



Power Grid Industrial Telecom Instrumentation

Models & Specifications

Single Output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load (μ F)	Efficiency @ 230VAC (%)
AMEOFL5-3S277HALPZ	85~305/47~63	70~430	2.64	3.3	0.8	1500	69
AMEOFL5-5S277HALPZ	85~305/47~63	70~430	5	5	1	1500	76
AMEOFL5-9S277HALPZ	85~305/47~63	70~430	5	9	0.56	680	77
AMEOFL5-12S277HALPZ	85~305/47~63	70~430	5	12	0.42	470	78
AMEOFL5-15S277HALPZ	85~305/47~63	70~430	5	15	0.34	330	79
AMEOFL5-24S277HALPZ	85~305/47~63	70~430	5	24	0.21	100	81

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC		100	mA
	230VAC		70	mA
Inrush current	115VAC	20		A
	230VAC	40		A
External fuse	Slow blow type, required	1		A

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	10% - 100% load	± 5		%
Line regulation	Full load, 3.3Vout	± 2.5		%
	Full load, others	± 1.5		%
Load regulation	10% - 100% load	± 3		%
Ripple & Noise	20MHz bandwidth, 10% - 100% load	80	180	mV p-p

NOTE: The output minimum load is 10%

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, 5mA max		4000	VAC
Insulation Resistance	500VDC	>100		M Ω

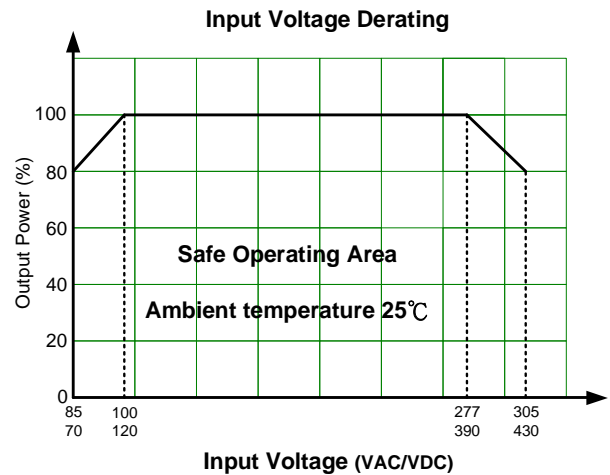
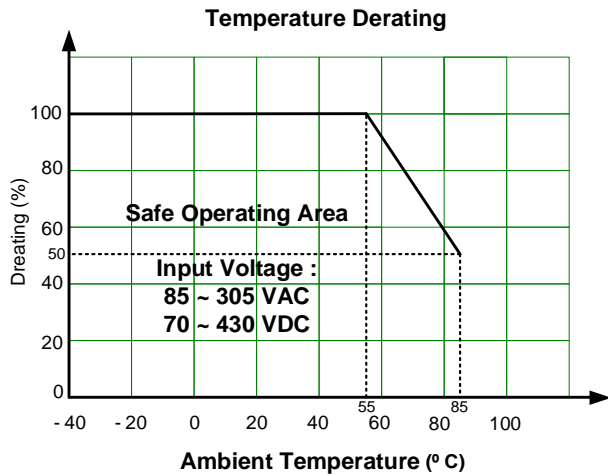
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		65		Khz
Safety class		Class II		
Over Current protection	Auto recovery	≥ 110		% of Iout
Short circuit protection		Hiccup, Continuous, Auto recovery		
No-load power consumption	230VAC	0.1	0.15	W
Power derating	+55 °C to +85 °C	1.67		% /°C
	85VAC ~ 100VAC	1.33		% /VAC

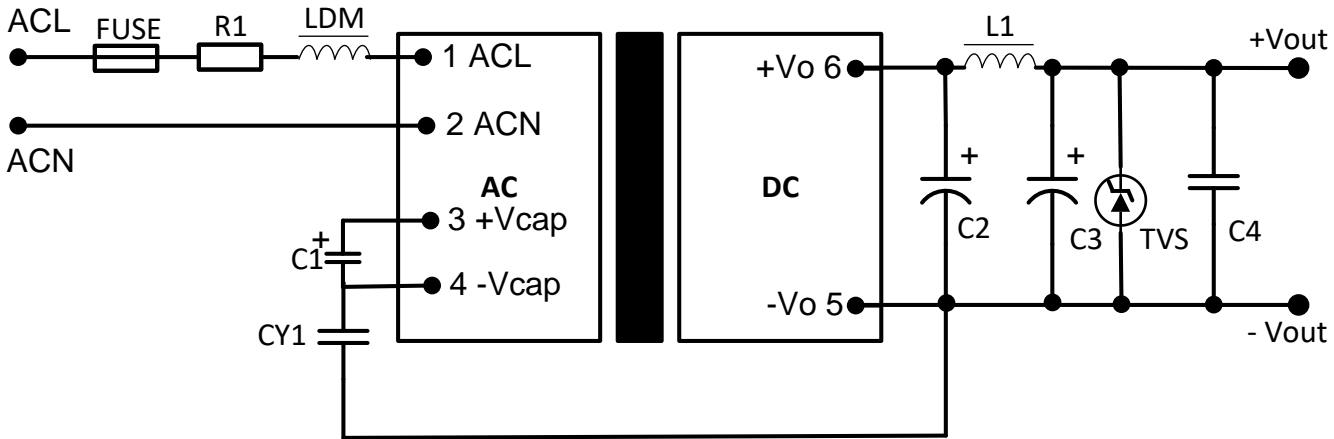
	277VAC ~ 305VAC	0.72		% /VAC
Operating temperature		-40 to +85		°C
Storage temperature		-40 to +105		°C
Temperature coefficient		±0.15		% /°C
Cooling	Free air convection			
Storage Humidity			95	% RH
Weight		6		g
Dimensions (L x W x H)	1.04 x 0.58 x 0.43 inches (26.40 x 14.8 x 11.00 mm)			
MTBF	> 1 000 000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load			
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		
Agency Approvals	UL 62368-1	
Standards	Designed to meet IEC/EN62368-1, IEC/EN60335-1, IEC/EN61558-1	
	EMC - Conducted and radiated emission	CISPR32 / EN55032, Class B (With EMC recommended circuit)
	Electrostatic Discharge Immunity	IEC/EN61000-4-2 Contact ±6KV, Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC/EN61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC/EN61000-4-4 ±2KV, Criteria B (With typical application circuit) IEC/EN61000-4-4 ±4KV, Criteria B (With EMC recommended circuit)
	Surge Immunity	IEC/EN61000-4-5 L-L ±1KV, Criteria B (With typical application circuit) IEC/EN61000-4-5 L-L ±2KV, Criteria B (With EMC recommended circuit)
	RF, Conducted Disturbance Immunity	IEC/EN61000-4-6 10Vr.m.s, Criteria A

Derating



Typical Application Circuit

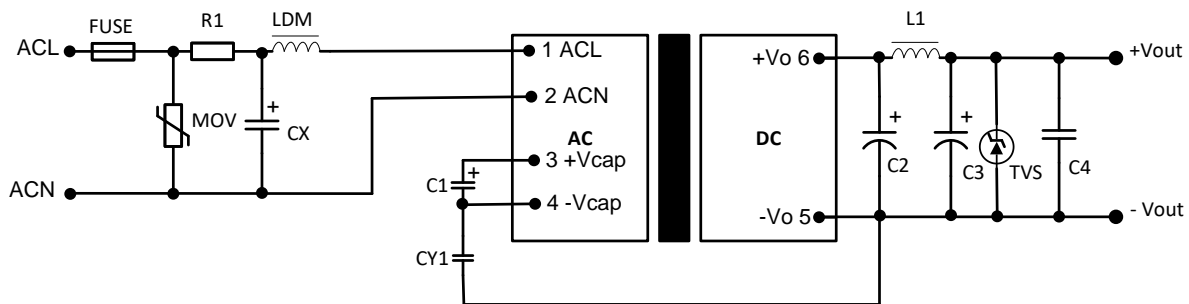


This circuit is the basic design reference, components with "" are required for the converter's operation.

FUSE to be 1A, slow blow and is also required for safety. R1* is 12Ω, 3W, wire-wound resistor.

Vout	C1*	C2*	C3*	C4	CY1*	L1*	TVS
3.3V, 5V	10uF, 450V	560uF, 16V	100uF, 35V	0.1uF, 50V	1nF, 400VAC	2.2uH, 3A	SMBJ7.0A
9V, 12V	10uF, 450V	330uF, 25V	100uF, 35V	0.1uF, 50V	1nF, 400VAC	2.2uH, 3A	SMBJ12A
15V, 24V	10uF, 450V	330uF, 35V	47uF, 35V	0.1uF, 50V	1nF, 400VAC	3.3uH, 2A	SMBJ20A

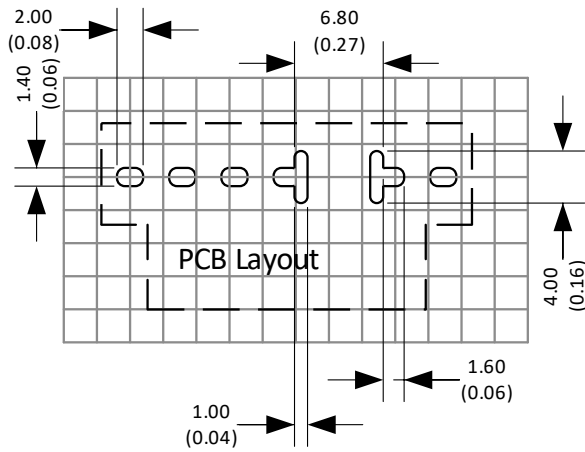
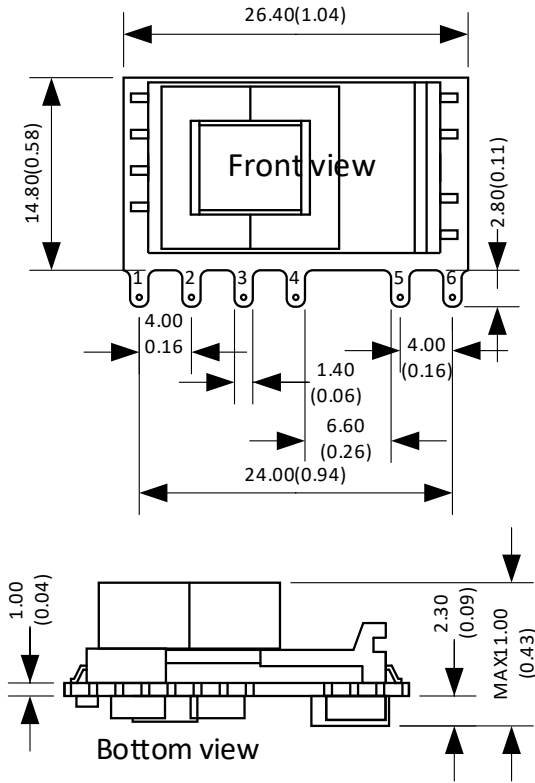
EMC Recommended Circuit



Components above with "" are required for the converter's operation. "R1" is wire-wound resistor. For other components, please refer to the typical application circuit

Component	FUSE*	R1*	MOV	LDM	CX
Spec	2A, 300V	12Ω, 3W	14D561	2.2mH, 0.24A	0.1uF, 310VAC

Dimensions



Unless otherwise specified unit: mm(inch)
 General tolerance: $\pm 1.00 (\pm 0.04)$
 Pin thickness: $\pm 0.10 (\pm 0.004)$
 Footprint grid 2.54x2.54 mm

Pin Output Specifications	
Pin	Function
1	+V Input (L)
2	-V Input (N)
3	+V_Cap
4	-V_Cap
5	-V Output
6	+V Output

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.