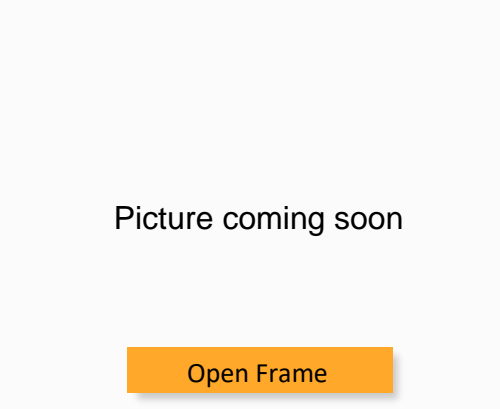




AMEOF10-277NZ

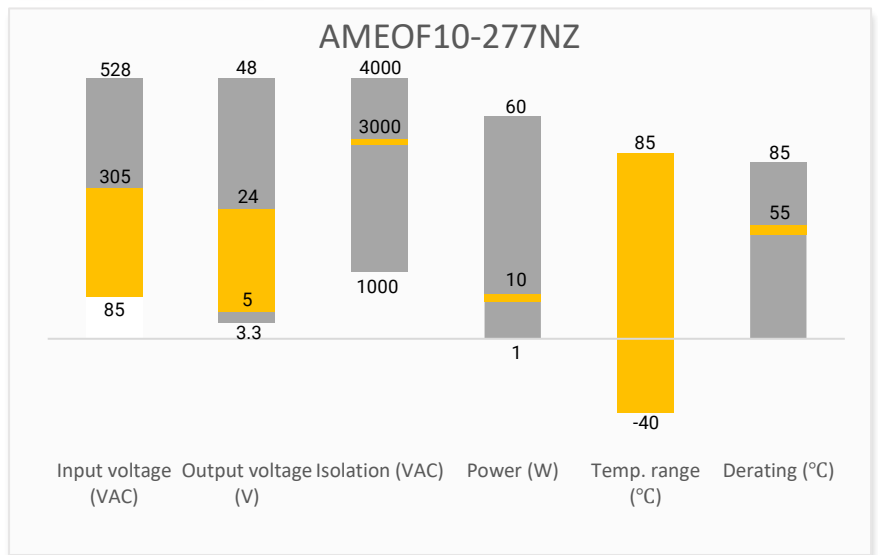


AMEOF10-277NZ series is one of Aimtec highly efficient green 10W AC-DC converters. They feature a wide input voltage range of 85-305VAC, high efficiency up to 82%, low power consumption and CLASS II reinforced insulation. The large variety of EMC external circuits meet the needs of multiple industries. This new series offers great operating temperatures, from -40°C to 85°C and an isolation of 3000VAC for improved reliability and system safety. Furthermore, a high MTBF of 300,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series. All models are suitable for industrial controls, instrumentation and smart home applications with size constraints.

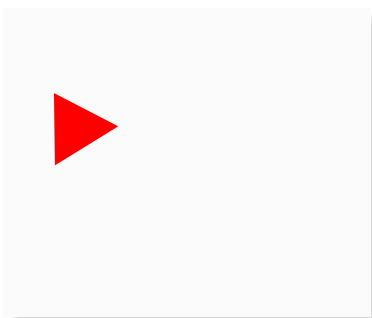
Features

- Universal Input: 85 - 305VAC/100 - 430VDC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 3000VAC
- Low ripple & noise, 150mV(p-p), max.
- Output short circuit, over-current, over voltage protection
- Open frame package


Summary



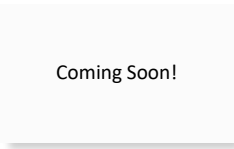
Training



Product Training Video
(click to open)



Press Release



Coming Soon!

Applications



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 (%)
AMEOF10-03S277NZ	85~305/47~63	100~430	6.6	3.3	2.0	1500	70
AMEOF10-05S277NZ	85~305/47~63	100~430	10	5	2	1500	76
AMEOF10-09S277NZ	85~305/47~63	100~430	10	9	1.1	1000	78
AMEOF10-12S277NZ	85~305/47~63	100~430	10	12	0.83	680	80
AMEOF10-15S277NZ	85~305/47~63	100~430	10	15	0.67	470	81
AMEOF10-24S277NZ	85~305/47~63	100~430	10	24	0.42	330	82

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input Current	115VAC		300	mA
	230VAC		150	
Inrush current	115VAC	15		A
	230VAC	30		
External fuse	Slow blow type			A

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Full load	± 1	± 2	%
Line regulation	Full load	± 0.5	± 1	%
Load regulation	0-100% load	± 1	± 1.5	%
Ripple & Noise	20MHz bandwidth	80	150	mV p-p

Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, 5mA max		3000	VAC

General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Safety class	Class II			
Over Current protection	Auto recovery	≥ 110		% of Iout
Short circuit protection	Hiccup, Continuous			
Over voltage protection	5V output model	≤ 9 VDC (output voltage clamp or hiccup)		
	9V output model	≤ 15 VDC (output voltage clamp or hiccup)		
	12V / 15V output model	≤ 25 VDC (output voltage clamp or hiccup)		
	24V output model	≤ 35 VDC (output voltage clamp or hiccup)		
Power derating	-40 °C to -25 °C	2.67		% / °C
	+55 °C to +85 °C	2.5		
	85VAC ~ 100VAC	1		

	277VAC ~ 305VAC	0.54	
Operating temperature	-40 to +85		°C
Storage temperature	-40 to +105		°C
Temperature coefficient	±0.02		% / °C
Cooling	Free air convection		
Storage Humidity	95		% RH
Weight	11		g
Dimensions (L x W x H)	1.75 x 0.94 x 0.59 inches (44.50 x 24.00 x 15.00mm)		
MTBF	> 300 000 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

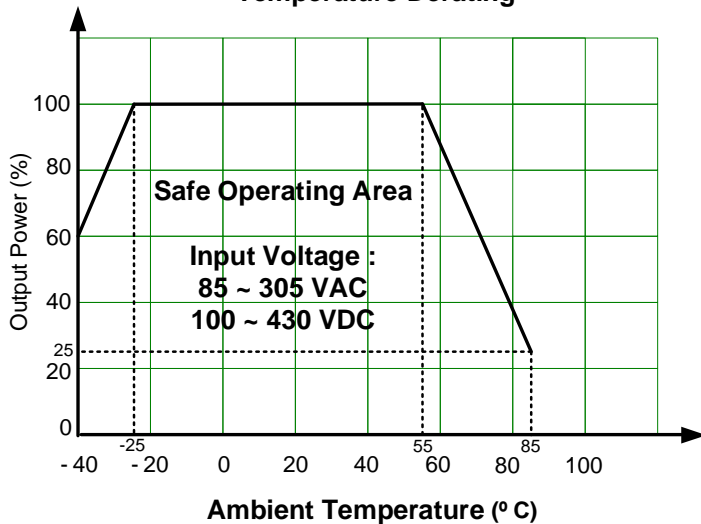
Parameters

Standards	Design to meet EN60335 / EN62368	
	EMC - Conducted and radiated emission	CISPR32 / EN55032, Class A (With EMI class A recommended circuit) CISPR32 / EN55032, Class B (With EMI class B recommended circuit)
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±6KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±2KV, Criteria B (With EMS Class III recommended circuit) IEC 61000-4-4 ±4KV, Criteria B (With EMS Class IV recommended circuit)
	Surge Immunity	IEC 61000-4-5 L-L ±1KV, Criteria B (With EMS Class III recommended circuit) IEC 61000-4-5 L-L ±2KV, Criteria B (With EMS Class IV recommended circuit) IEC 61000-4-5 L-L ±4KV, Criteria B (With EMC surge ±4kV recommended circuit)
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 0%, 70%, Criteria B

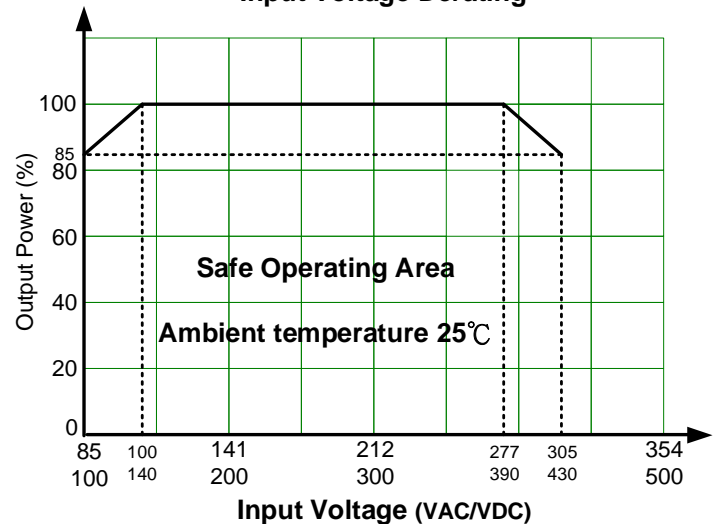
Derating



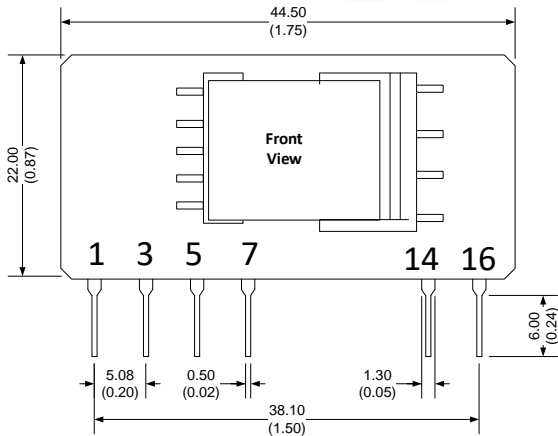
Temperature Derating



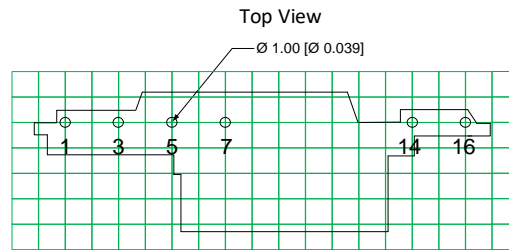
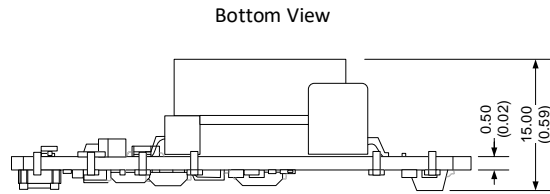
Input Voltage Derating



Dimensions



Note:
Unit: mm [inch]
Pin section tolerances: ± 0.10 [± 0.004]
General tolerances: ± 0.50 [± 0.020]

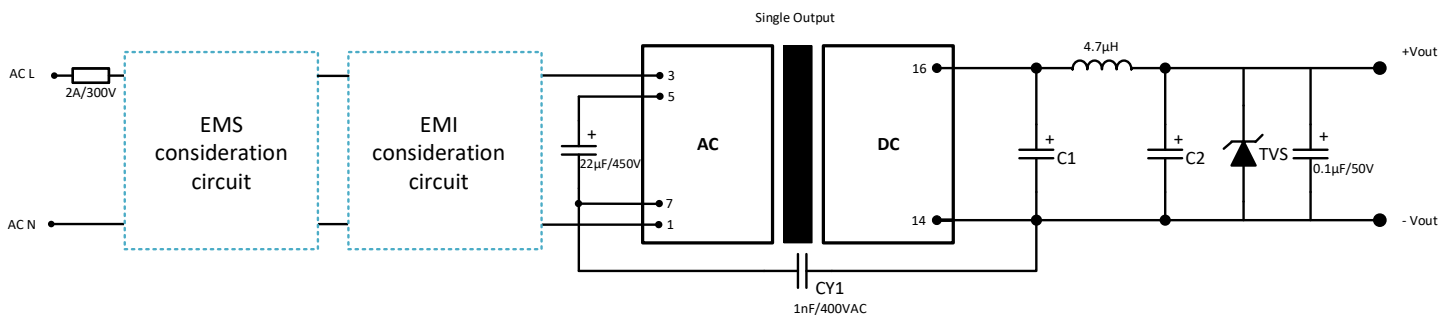


Pin Output Specifications

Pin	Function
1	-V Input (N)
3	+V Input (L)
5	+V_Cap
7	-V_Cap
14	-V Output
16	+V Output

1. It is necessary to add C1 between pin5 to pin7
2. It is necessary to add circuit to the output, such as the recommended circuit
3. The layout of the device is for reference only, please refer to the actual product

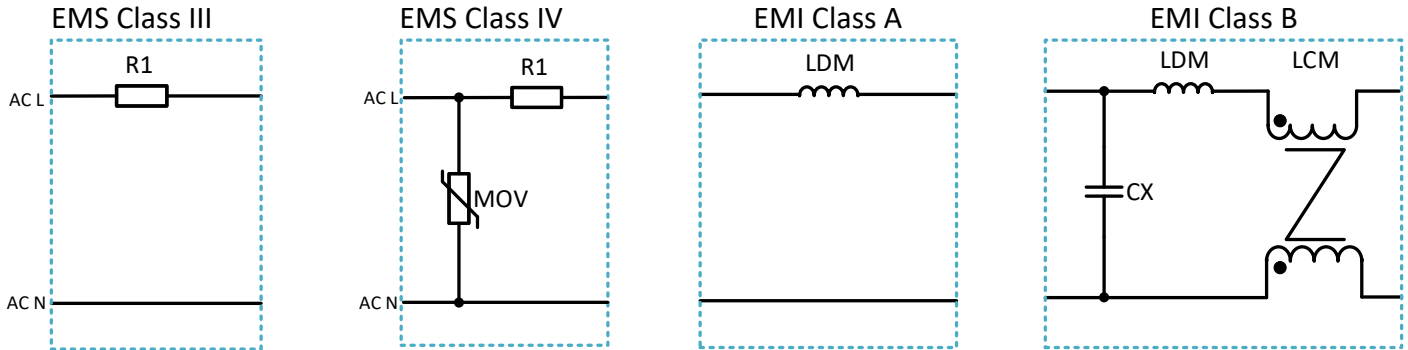
Recommended EMC external circuit



With the variable combination of below EMS and EMI circuits which offer the different level of protection.

A suppressor diode (TVS) is recommended to protect the application in case of a converter failure and specification should be 1.2 times of the output voltage.

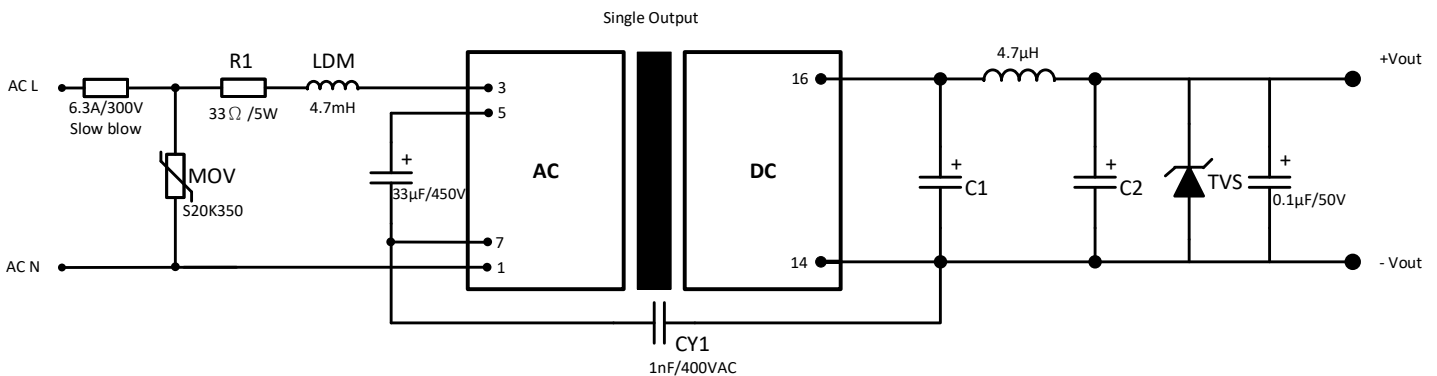
EMI & EMS Recommended Circuit



Component	EMS		EMI	
	Class III	Class IV	CLASS A	CLASS B
MOV	-	S14K350	-	-
R1	12Ω/3W	12Ω/3W	-	-
CX	-	-	N/C	0.1μF/310VAC
LCM	-	-	N/C	3.5mH
LDM	-	-	4.7mH	0.33mH
FUSE	1A/300V	2A/300V	2A/300V	2A/300V

Model name	C1	C2
AMEOF10-05S277NZ	470μF/16V	150μF/35V
AMEOF10-09S277NZ	270μF/16V	100μF/35V
AMEOF10-12S277NZ	270μF/16V	100μF/35V
AMEOF10-15S277NZ	470μF/35V	47μF/35V
AMEOF10-24S277NZ	220μF/35V	47μF/35V

Recommended EMC circuit for ±4kV Surge



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.