AMEOFP250-TZ

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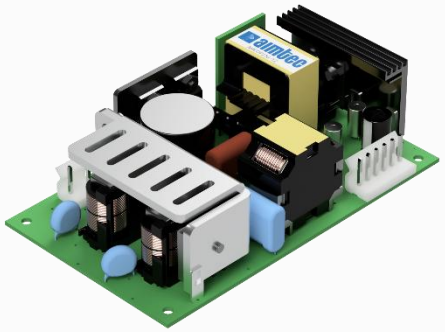


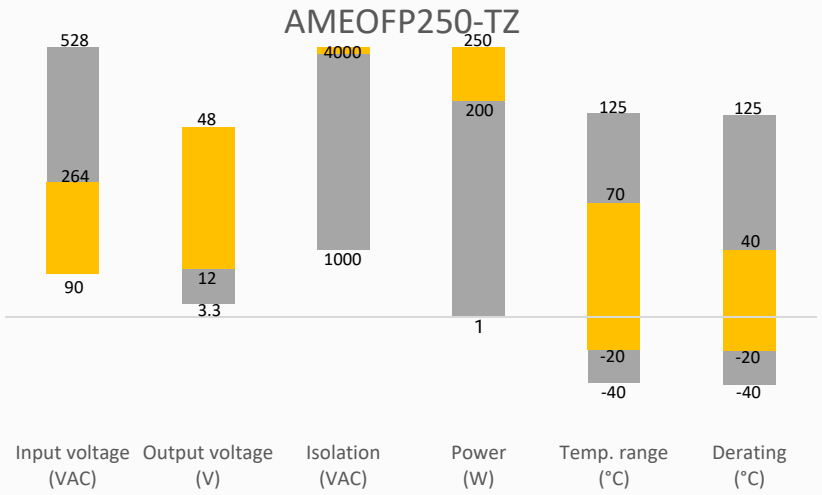
Open Frame

The AMEOFP250-TZ series is one of Aimtec's compact (3"x5"x1.3") 250W AC/DC converter with active PFC. It features a universal AC input, which also accepts a DC input voltage, is cost-effective, has a high efficiency and high reliability and comes with double or reinforced isolation.
These converters offer excellent EMC and safety performance, meets CE EN62368-1 and UL62368-1 standards and can be widely used in industrial, LED, street light control, security, telecommunications, and smart home applications.

Features

- Universal Input: 90 - 264VAC
- Low leakage current: 3.5mA max.
- Output short circuit, over-current, over-voltage,
- Approvals: CE EN62368-1 and UL62368-1
- Designed to meet IEC62368-1

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Models & Specifications

Model	Input Voltage (VAC/Hz)	Cooling method	Max Output wattage (W)	Output Voltage (V)	Output Voltage Adjustable Range (V)	Max Output Current (A)	Efficiency @230VAC Typ. (%)
AMEOFP250-12SH40TZ	90-264/ 47-63	Free air	200	12	11.4-12.6	16.67	91
		11.3CFM	250			20.83	
AMEOFP250-24SH40TZ	90-264/ 47-63	Free air	200	24	22.8-25.2	8.33	94
		11.3CFM	250			10.41	
AMEOFP250-48SH40TZ	90-264/ 47-63	Free air	200	48	45.6-50.4	4.16	93
		11.3CFM	250			5.20	
AMEOFP250-55SH40TZ	90-264/ 47-63	Free air	200	55	52.25-57.75	3.63	93
		11.3CFM	250			4.54	

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current			3.5	A
Inrush current	120VAC, cold start		50	A
	240VAC, cold start		100	A
Leakage current	264VAC		3.5	mA
Power factor	115VAC, 100% load		0.95	

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Line regulation	Full load	±1		%
Load regulation	0-100% load	±5		%
Ripple & Noise*	12Vout	120		mV p-p
	24Vout	300		mV p-p
	48Vout	400		mV p-p
	55Vout	400		mV p-p
Hold up time	115VAC, 80% load	≥10		ms

* Ripple and Noise are measured at 20MHz bandwidth. Open frame models are measured with a 10μF electrolytic capacitor and a 0.1μF ceramic capacitor. Enclosed models are measured with a 47μF electrolytic capacitor and a 0.1μF ceramic capacitor. Please refer to the application note for specific details.

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage ≤ 10mA		4000	VDC
Tested I/PE voltage	3 sec, leakage ≤ 10mA		1800	VAC
Tested O/PE voltage	3 sec, leakage ≤ 10mA		500	VDC
Resistance I/O*	500VDC	>20		MΩ

* Tested under 25±5°C ambient temperature with relative humidity <95% and no condensation.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Over current protection	12Vout, Auto recovery		27	A
	24Vout, Auto recovery		14	A
	48Vout, Auto recovery		7	A
	55Vout, Auto recovery		6	A
Over voltage protection	12Vout, shut down, Auto recovery		15.6	VDC
	24Vout, shut down, Auto recovery		32	VDC
	48Vout, shut down, Auto recovery		60	VDC
	55Vout, shut down, Auto recovery		65	VDC
Short circuit protection	Continuous, Auto recovery			
Operating temperature	See derating graph	-20 to +70		°C
Storage temperature		-40 to +85		°C
Operating altitude			5000	m
Power Derating	+50 °C to +70 °C	2.5		%/°C
	12V +40 °C to +70 °C, free air convection	2.5		%/°C
	90VAC to 100VAC, free air convection	1		%/VAC
Temperature coefficient		±0.03		%/°C
Cooling	Free air convection, forced air convection 11.3CFM			
Humidity	Non-condensing, storage	>5	95	% RH
	Non-condensing, operating	>20	90	% RH
Case material		Metal (1100 Aluminum, SUS304)		
Weight		310		g
Dimensions (L x W x H)	5.00 x 3.00 x 1.32 inches (127.0x 76.2 x 33.4 mm) above PCB			
MTBF	> 500,000 hrs (SR332, issue 2, t=+25°C)			

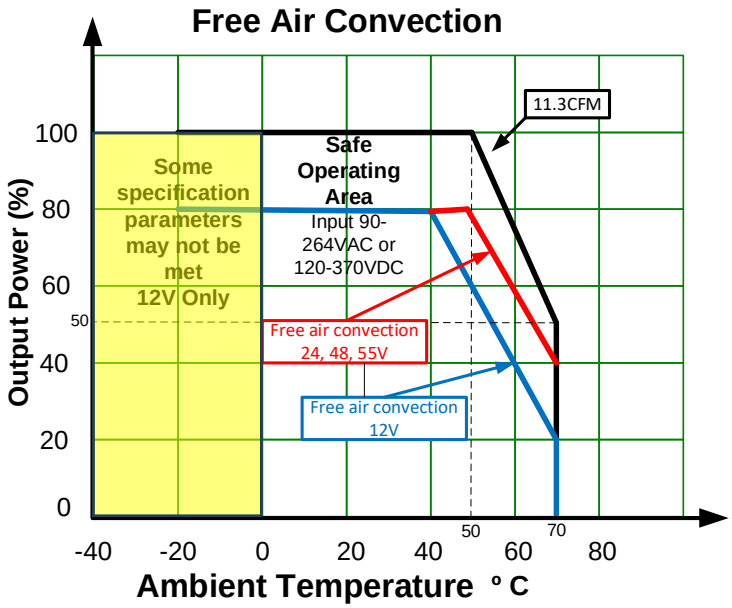
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

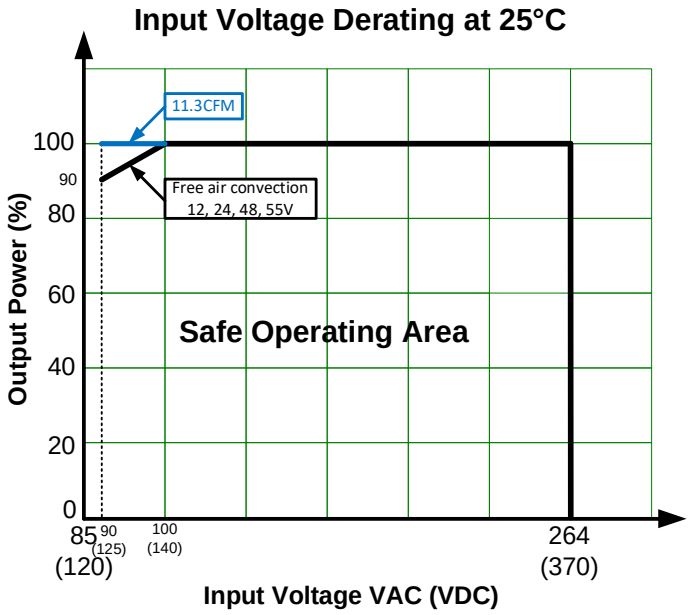
Safety Specifications

Parameters		
Agency approvals	CE EN62368-1, UL62368-1	
Standards	Design to meet IEC62368-1	
	EMC - Conducted and radiated emission*	CISPR32 / EN55032, conducted class B CISPR32 / EN55032, radiated class B with protective earth connection CISPR32 / EN55032, radiated class B without protective earth connection
	EMC - Harmonic current emissions*	IEC 61000-3-2 class D
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±8KV, Air ±15KV, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±2KV, Criteria A
	Surge Immunity	IEC 61000-4-5 L-L ±2KV L-G ±4KV, Criteria A

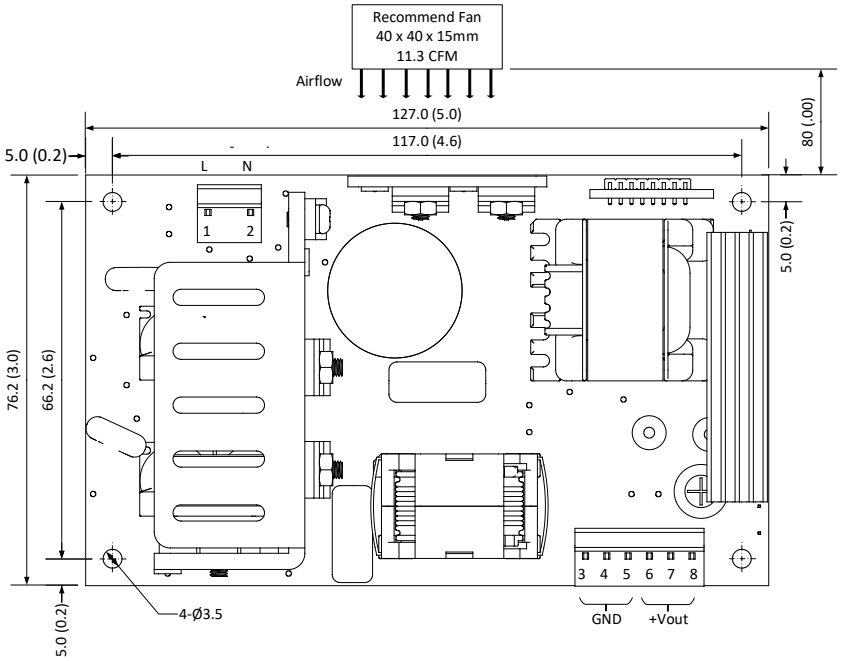
*** The power supply is considered as a component and will be installed in an end-product. All the EMC tests are performed with the power supply mounted on a 1mm thick 360mm x 360mm metal plate. The EMC compliance of the end-product must be reconfirmed.**

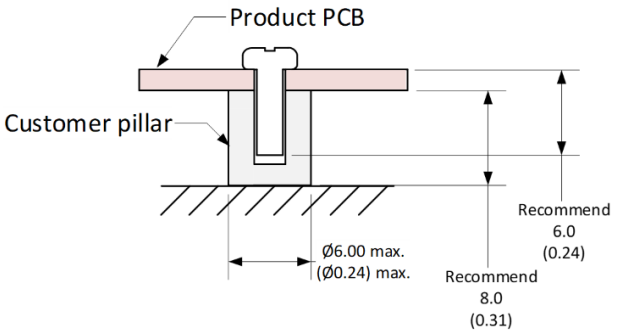
Derating

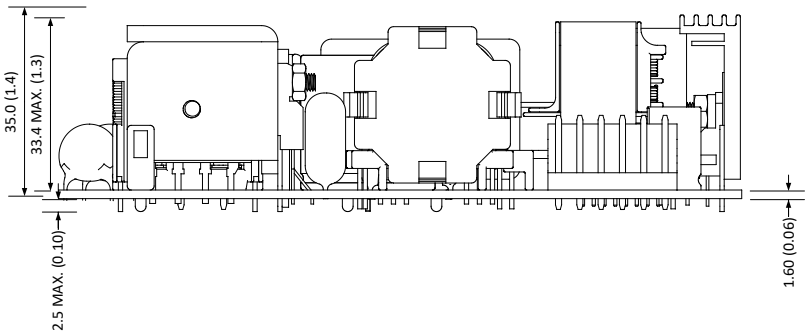

Free Air Convection
11.3CFM
Some specification parameters may not be met 12V Only
Safe Operating Area
Input 90-264VAC or 120-370VDC
Free air convection 24, 48, 55V
Free air convection 12V
Output Power (%)
100
80
60
50
40
20
0
-40
-20
0
20
40
50
60
70
80
Ambient Temperature ° C


Input Voltage Derating at 25°C
11.3CFM
Free air convection 12, 24, 48, 55V
Safe Operating Area
Output Power (%)
100
90
80
60
40
20
0
85
(120)
90
(125)
100
(140)
264
(370)
Input Voltage VAC (VDC)

Dimensions







Note:
Unit: mm [inch]
General tolerance: ±1.00 (±0.04)
Mounting screw: M3
Mounting screw tightening torque: 0.4N max.

Note:

It is needed to have ≥ 10mm distance between the product and external components for safety.

Pin	Function	Recommended connectors
1	AC Input (L)/ +V Input	TKP P8800I-03-N2 WST M3-I39601S JWT A3961WV2-3P-D or equivalent
2	AC Input (N)/ -V Input	
3	-V Output	TKP P8800I-06 94V-0 WST M6-I39601 94V-0 JWT A3961WV0-6P or equivalent
4	-V Output	
5	-V Output	
6	+V Output	
7	+V Output	
8	+V Output	