Power Factor Correction

The AZ-PFC Series is a power factor correction module with full range AC input voltage, high power density and high efficiency. Function integration design with no need for any peripheral circuit, simplifies operation, greatly shortening customers' power system development cycle, thermal design and reliability verification cycle. Digital design provides powerful monitoring and alarming functions related to input voltage, output voltage, ambient temperature and fan speed.

FEATURES:

- Universal AC input
- Efficiency up to 97%
- Power density up to 41.3 W/In.³
- Various parameter monitoring
- Modbus-RTU communication protocol
- One external temperature measurement
- Intelligent fan control & Monitor
- Easy to Install & use

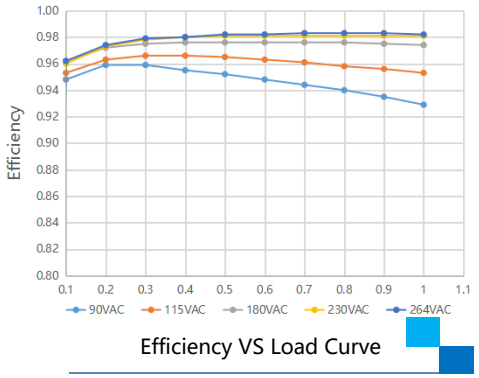
MODEL	AZX1500-PFC/E	AZ3000-PFC/E	AZ4500-PFC/E
DC Voltage Rated		392V	
Rated Current	4.28A	8.57A	11.84A
Rated Power (1)	1680W	3360W	4639W
Input Voltage		90~264V AC	
Efficiency(Typ)	97%	97.5%	96.5%

Note
All parameters not specially mentioned are measured at 230VAC input, full load,25°C of ambient temperature.
1.De-rating may apply in low input voltage. Please check the de-rating curve for more details.

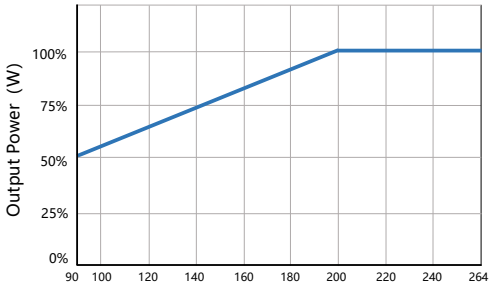
	Min	Typ	Max	Units	Notes & Conditions
Input Specifications					
AC Input	90	-	264	Vac	Normal input 115VRMS/230VRMS
DC Input	127	-	370	Vdc	
Operating Frequency (1)	47	-	63	HZ	50/60HZ Typ
Input Current		-	22	A	264/90 VAC
Input Fuse		25		A	Each line
Inrush Current		30		A	115VAC,25℃ cold start
		60		A	230VAC,25℃ cold start
Power Factor	-	0.98	-		115VAC,full load
	-	0.98	-		230VAC,full load
Static Power consumption	-	-	5	W	25℃
Equipment class		Class I			
Note 1.Contact factory for 400Hz application					
Output Specifications					
Output Voltage Rated		392		Vdc	
Output Voltage Tolerance		±1		%	No Load
Output Ripple&Noise (1)	-	8	-	Vdc	115VAC,Full load,Pk-Pk
	-	9	-	Vdc	230VAC,Full load,Pk-Pk
Efficiency	-	94.5	-	%	115VAC,Full load
	-	97.5	-		230VAC,Full load
Hold-up time	-	6	-	ms	115VAC 0°
	-	6	-		230VAC 0°
Fall Time	-	225	-	ms	115VAC 0°
	-	225	-		230VAC 0°
Line Regulation (2)	-	0.5	-	%	90VAC~264VAC,Full load
Load Regulation	-	0.5	-	%	0%~100% load 230VAC
Stand-by Power	-	1.2	-	W	12V,100mA
VPP Output Ripple&Noise (1)		160		mV	
Note. Do not short or reversely connect +V and -V. Doing this can cause damage to the power supply. 1.Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terinated with a 0.1uF & 47uF parallel capacitor 2.De-rating may apply in low input voltage. Please check the de-rating curve for more details.					
Alarm Specifications					
Output UVA		360		Vdc	Under voltage alarm
Output OVA		440		Vdc	Over voltage alarm
Input UVA		85/120		Vac/Vdc	Under voltage alarm
Input OVA		275/389		Vac/Vdc	Over voltage alarm，aotuo recovery below 260VAC
AC FAIL		50		ms	
Over temperature alarm					
Ambient temp		53		℃	
Heat-Sink temp		95		℃	
Measurement					
AC voltage measurement accuracy		≤± (Vin*1%+0.5V) / Vin		%	
AC voltage measurement resolution		10mV		mV	
AC voltage measurement maximum refresh rate		2.5 Times/Sec			
AC voltage measurement range		80~310V AC/113~450V DC		AC/DC	
Output voltage measurement accuracy		≤± (Vout*1%+0.5V) / Vout		%	
Temperature measurement accuracy		1		℃	
Temperature display resolution		0.1		℃	
Fan speed measurement					
Cooling Specifications (Forced Air)					
Fan Speed		0~9000		RPM	Intelligent fan control
Fan Noise Level		48.7		dB	Fan Independent testing
Mechanical					
Weight		1060		g	
Size (LxWxH)		280*65*63.5		mm	Reference Mechanical Drawing
Warranty		3		Years	

Environmental Specifications			
Temperature			
Operating	-25~70	℃	Supports cold start from -40°C (Note.1)
Storage	-40~85	℃	
Humidity			
Operating	10~90	%	Relative,Non-condensing
Storage	5~95	%	Relative,Non-condensing
Altitude			
Operating	-200~3000	M	
Non-Operating	-200~5000	M	
Note: 1.50% load start up at -40°C is possible. However, it may not fulfil all the specifications after 10min later,it could be working as the full load			
Communication Specifications			
Communication port	12V TTL，Non-isolation		
Baud rate	1200~19200	Bit/S	Default 2400 Bit/S
Safety			
Leakage Current	1	mA	Vin=264VAC,Fi=50Hz(Input-Output)
Safety Agency	Meet IEC-62368		

DE-Rating Curve

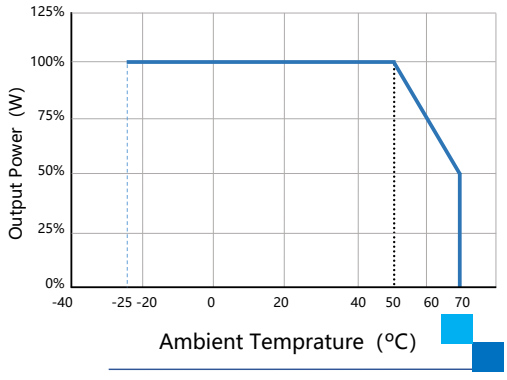


Efficiency VS Load Curve



Input Voltage Derating Curve

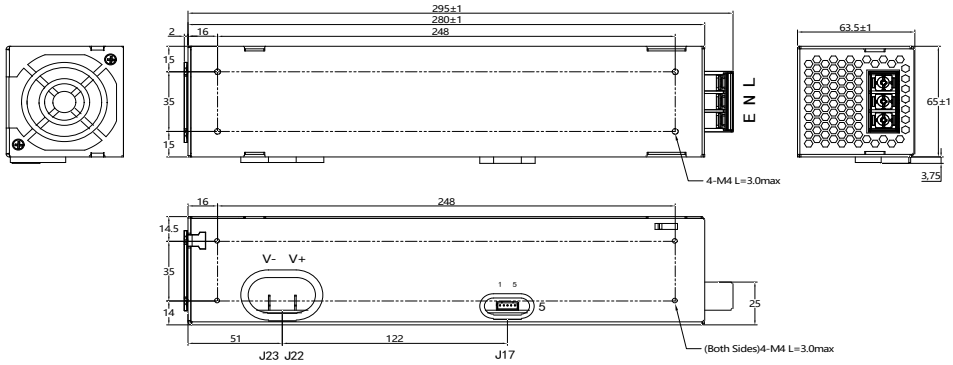
Temp VS Load



Ambient Temprature (ºC)

Mechanical Drawings

unit:mm



Pin		Function	Manafacture	Housing	Contact	Details
CN1	L	AC Input L	JST	FN2-4 RBC2-4		12-14 AWG
	N	AC Input N				
	E	AC Input FG				
J22	+	VOUT+	TE	3-350819-2		TAB SIZE 6.35x0.81mm
J23	-	VOUT-				
J17	1	TEMP MONITOR	JST/CJT	PHR-5/A2001H-5P	SPH-002T-P0.5S/A2001-TP	24~28 AWG
	2	GND				
	3	RX				
	4	TX				
	5	VPP				

Note

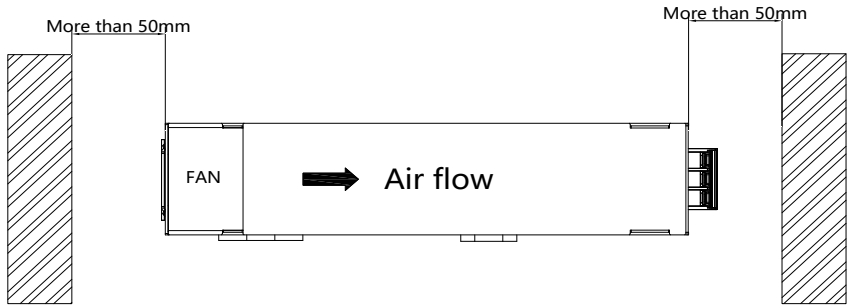
Please connect safety ground to E CN1 the unit.

Mounting Method

1.There are ventilating holes on the front and back side panels，Do not obstruct: allow 50mm at least for air flow.

2.The Maximum allowable penetration of screw is 4mm.Incomplete threading should not be penetrated.

3.Recommended the torque of mounting screw:M4 screw: 1.27N · m (13.0kgf · cm)



Notes:

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