



# ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

## EPF400-380



### General Description

- PFC Unit for ET-series
- **High Efficiency 95% in AC240V Input by Convection Cooling**
- Power Factor 0.99 at AC240V Input
- Wide Range Input (AC85-264V)

### Application

Industrial

### Input

Input Voltage: AC100-240V 5.5A  
AC200-240V 4.1A  
DC120-220V 4.0A

Input Voltage Range: AC85~264V &  
DC120~220V @400W  
Output  
AC170~264V @630W  
Output

Input Current: 2.0-0.9 A

Frequency: 50/60Hz

Input Frequency Range: 45-65Hz

Phase: Single

Inrush Current: \*1 25A(typ.) at AC100V  
50A(typ.) at AC240V  
35A (typ.) at DC220V

Leakage Current: 1mA (maximum) at 25°C  
(rated input/output and  
rated input frequency)

### Features

1. Power Factor Correction

### Options

N/A

ETA USA

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Output Characteristic	Unit	Models	
		EPF400-380	
<b>Output Power</b> (*De-rating by Input Voltage and Mounting directions will be applied)	W	400W when AC85~264V or DC 120V to 220V input*	630W when AC 170~264V input*
<b>Rated Output Voltage</b>	Vdc	340~380V	
<b>Output Current</b>	A		
<b>Voltage Adjust Range</b>	V	±10% of Rated Output Voltage(at no load within the input range)	
<b>Output Voltage Tolerance</b>	V	350 ± 2 [V] At AC 100V input, 400W output	
<b>Ripple&amp;Noise(max)*2</b>	mVpp	30/40 , measured by a Bayonet Probe at the end of the output connector with 20MHz bandwidth scope	
<b>Regulation</b>			
a. Line Regulation	mV	30V Max at PFC operating range or DC120 to 220V input Output voltage will be bridge rectified when AC 255~264V input	
b. Load Regulation *3	mV	50V max at PFC operating range or DC 120 to 220V input Changing load from 0 to the rated value with fixed input voltage	
c. PFC operating range output power		PFC > 0.8 when taking more power than values: When input 100VAC: 20W or more When input 240VAC: 155W or more	
Temperature effect		25V Max at -10 to +50C ambient temperature	
Notes:		This power supply operates in hiccup mode from no-load to some value of load. In this case, output voltage may have some bounce other than the ripple voltage. Output voltage may get up to 390V at that condition. Hiccup operation will stop at some load level, examples: When AC 100V input: Approx 20W or more When AC 240V input: Approx 75W or more	

#### Conditions:

\*1 cold start

\*2 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth

\*3 when output current changed from 50% to 150% of rated output current rapidly at rated input

\*4 at -10 to +50°C

\*5 for 7hour period after 1hour warm-up at 25°C and rated input/output

\*6 safety approved at 25°C



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## HIGH QUALITY SWITCHING POWER SUPPLIES

### Environmental Specification

Operating Temperature	-10 to +50 °C
Operating Humidity	20 to 90%/RH(non-condensing)
Storage Temperature	-20 to +85 °C
Storage Humidity	20 to 90%/RH(non-condensing)
Withstanding Voltage	Input-Output: Non-isolated Input-FG (Chassis): AC 2,500V for 1minute Sens-current 20 mA
Isolation Resistance	Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation tester
Vibration	5-10Hz:10mm, 10-55Hz:19.6m/s <sup>2</sup> , 3 minute period along X,Y,Z axes (non-operating)
Shock	196m/s <sup>2</sup> except for terminals
Cooling	Convection
Mounting Direction	Horizontal (PSU bottom as bottom); Vertical (Q1 side placed as bottom)

### Environmental Agencies

Line Conducted Noise	Built to meet EN55022 Class A, EN55022 Class B using external line filter.
Line Harmonic Distortion	Built to meet IEC61000-3-2
Safety	UL: UL60950-1, C-UL: EN60950-1 and the electrical appliance and material safety law based

### Function/Protection

Over current Protection	None (Overload and output short breaks the power supply down)
Over voltage Protection	More than 395V after detected the overvoltage, shut the output and stop the operation. To restart, remove the cause of failure and turn ON again after shut-off Bridge rectified voltage will appear at Output when operation stopped.)
Remote Sense	not available

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