

# Industrial Automation Enclosed Type



## Single Output 400W PFC Model Data Sheet

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### Description

This is a high-power factor (PF), AC to DC switching mode power supply unit which can output 400 watts continuous with forced cooling by a smart FSC (fan speed control) circuitry. It complies with worldwide safety and EMC regulations (refer to details below). And also, it is suitable for various industrial applications.

### Features

- \* Full AC input voltage range design.
- \* High power factor and less fictitious power.
- \* Withstand 300Vac surge voltage for 5 seconds.
- \* Full Protections: Short-circuit/ Over-voltage/ Over-current/ Over temperature.
- \* LED indicator for normal output voltage operating.
- \* 1U low profile.
- \* IEC/EN 62368-1 design compliance.
- \* Up to 5000 meters operating altitude (note#4)
- \* High efficiency and high reliability.



### Electrical Specification

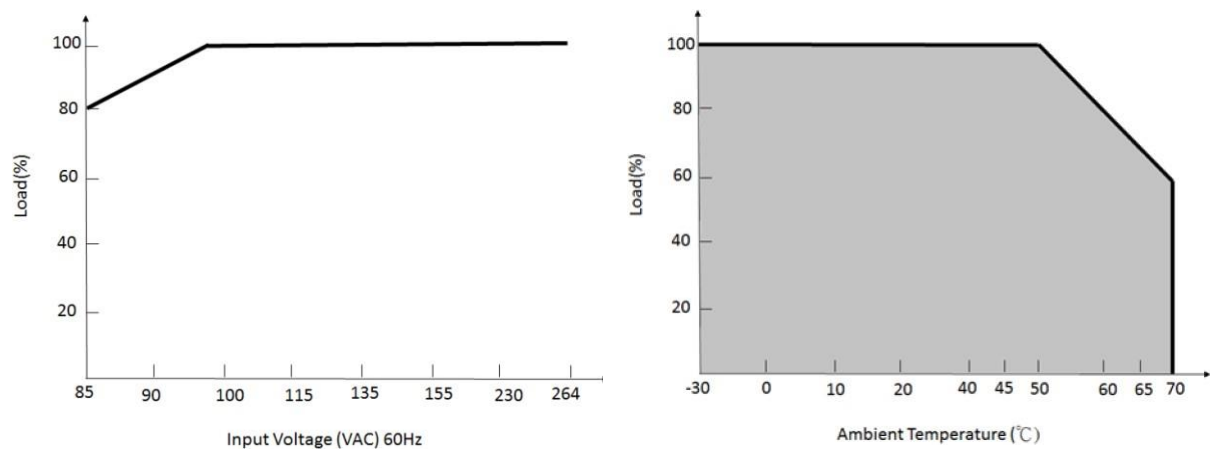
Model Name	PA-1401-1LA-ROHS
<b>Output</b>	
Rated power	400W
Rated voltage	24V
Rated current	16.7A
Ripple & Noise(max.) (note #2)	200mV/400mV(burst mode)
Line & load regulation	±3%
Hold-up time(typ.)	16ms
Timing: AC ON delay / rising (max.)	1.5 sec / 30ms
<b>Input</b>	
Rated voltage range	100~240Vac
Operated voltage range (note #5)	90~264Vac, 300Vac for 5 sec
Current range (max.)	5A/100Vac; 2.5A/200Vac
Power factor (typ.)	>0.99/115Vac; >0.95/230Vac

Inrush current (typ.)	100A/230Vac (cold start)
Frequency range	50-60Hz
Leakage current (max.)	1.5mA at 240Vac
Efficiency (typ.)	89.0%
<b>Protection Function</b>	
Over voltage (max.)	140% of rated voltage, latch-off protection
Over current (max.)	135% of rated current, latch-off protection
Short circuit at O/P	No damage, latch-off protection.
Over temperature	No damage, latch-off protection
<b>Others</b>	
MTBF (min.) (note#3)	700K hours @ rated load
<b>Environment</b>	
Temperature (note#5)	(operating) 0~70°C / (storage) -40~85°C
Humidity	(operating) 10~90% RH non-condensing / (storage) 5~95% RH
Altitude (max.)	5000 meters
<b>Mechanical</b>	
Dimension	212(L)*115(W)*40mm(H)
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)
Weight (typ.)	900g
<b>Safety</b>	
Standard	CB/IEC62368-1,UL62368-1,EN62368-1
Withstand voltage	Input-Output: 4242VDC / Input-FG: 2150VDC / Output-FG: 700VDC
Isolation resistance(min.)	Input-Output: 100Mohm @ 500VDC, 25°C, 70%RH
<b>EMC</b>	
EN55032 (CISPR32)	Conducted EMI: class A / Radiated EMI: class A
FCC	Conducted EMI: class A / Radiated EMI: class A
EN61000-3-2	Harmonic distortion: Class D
EN61000-4-2	ESD: ±8KV contact discharge / ±15KV contact discharge
EN61000-4-3	Radiated RF immunity: 10V/m
EN61000-4-4	EFT: ±2KV (AC port)
EN61000-4-5	Surge: ±1KV DM / ±2KV CM
EN61000-4-6	Conducted RF immunity: 10V/m
EN61000-4-8	Magnetic field immunity: 30A/m
EN61000-4-11	Voltage dip immunity

## Notes

#1: All specification defined at 230Vac/50Hz, rated power and 25°C ambient temperature if not mentioned specifically.

- #2: Ripple noise is measured by a 30cm length, twisted wires with 0.47uF MLCC & 47uF low ESR capacitor.
- #3: Calculated by Telcordia SR332 at 25°C ambient temperature.
- #4: When operating altitude is higher than 2000m, the environment temperature derating factor is 0.36°C/100m.
- #5: De-rating curve of AC input voltage and ambient temperature:



Mechanical Specification

