

Industrial Automation Panel Mount Series



Single Output 200W Non-PFC Data Sheet

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Description

This is an AC to DC switching mode power supply which can output 200 watts continuous with convection cooling. It complies with worldwide safety and EMC regulations (refer to details below). This PSU has high c/p (capability/price) value for various industrial applications.

Features

- * Selected AC input voltage by a slide switch.
- * 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	HA-1201-24NL	HA-1201-12NL
Output		
Rated power	200W	
Rated voltage	24V	12V
Rated current	8.8A	17A
Ripple & Noise(max.) (note #2)	150mV	150mV
Line & load regulation	±1%	
Hold-up time(typ.)	16ms	
Timing: AC ON delay / rising (max.)	1.5 sec / 50ms	
Input		
Rated voltage range	100V~120Vac(L) / 200V~240Vac(H), by a slide switch	
Operated voltage range (note #5)	90V~132Vac(L) / 180V~264Vac(H), 300Vac for 5 sec	
Current range (max.)	4.5A/100Vac; 2.6A/200Vac	
Inrush current (typ.)	60A (cold start)	
Frequency range	50-60Hz	

Leakage current (max.)	2mA at 240Vac	
Efficiency (typ.)	89.0%	87.5%
Protection Function		
Over voltage (max.)	140% of rated voltage, hiccup mode protection until fault is removed	
Over current (max.)	140% of rated current, hiccup mode protection until fault is removed	
Short circuit at O/P	No damage, hiccup mode protection until fault is removed	
Over temperature	No damage, auto recovery until temperature is back to normal	
Others		
MTBF (min.) (note#3)	700K hours @ rated load	
Environment		
Temperature (note#5)	(operating) -20~70°C / (storage) -40~85°C	
Humidity	(operating) 10~90% RH non-condensing / (storage) 5~95% RH	
Altitude (max.)	5000 meters	
Mechanical		
Dimension	215(L)*115(W)*30mm(H)	
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)	
Weight (typ.)	490g	
Safety		
Standard	IEC/EN 60950-1, K60950-1, IEC/EN 62368-1, CNS14336-1	
Withstand voltage	Input-Output: 4242VDC / Input-FG: 2150VDC / Output-FG: 700VDC	
Isolation resistance(min.)	Input-Output: 100Mohm @ 500VDC, 25°C, 70%RH	
EMC		
EN55032 (CISPR32)	Conducted EMI: class A / Radiated EMI: class A	
FCC	Conducted EMI: class A / Radiated EMI: class A	
EN61000-3-2	Harmonic distortion: Not applicable	
EN61000-4-2	ESD: ±4KV contact discharge / ±8KV contact discharge	
EN61000-4-3	Radiated RF immunity: 10V/m	
EN61000-4-4	EFT: ±2KV (AC port)	
EN61000-4-5	Surge: ±2KV DM / ±4KV CM	
EN61000-4-6	Conducted RF immunity: 10V/m	
EN61000-4-8	Magnetic field immunity: 30A/m	
EN61000-4-11	Voltage dip immunity	

Notes

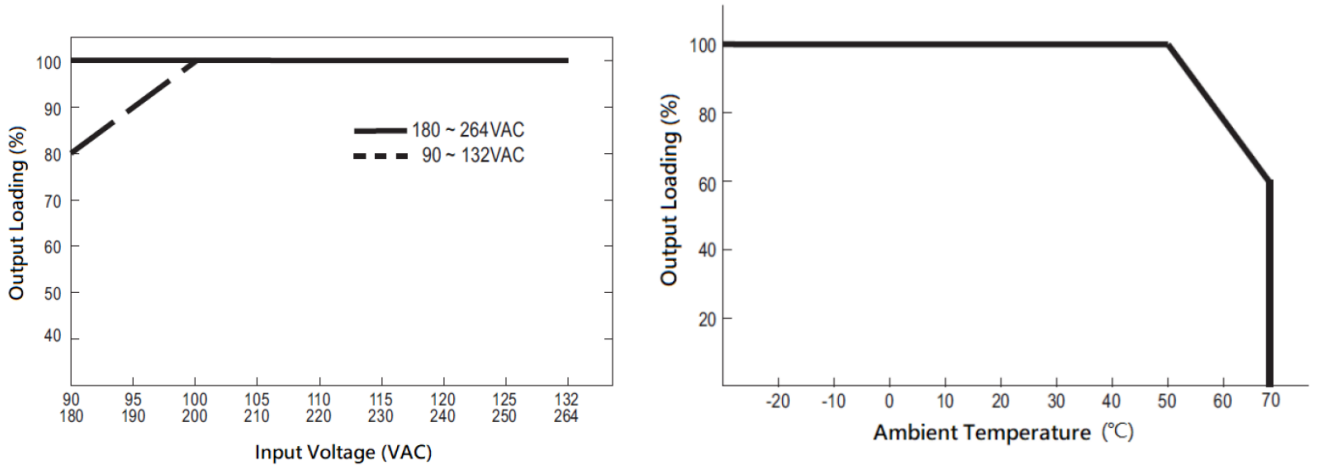
#1: All specifications are defined at 230Vac/50Hz, rated power and 25°C ambient temperature if not mentioned specifically.

#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

