Industrial Automation
Enclosed Type

Single Output 350W Non-PFC Data Sheet

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Description

This is an AC to DC switching mode power supply which can output 350 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). This PSU has high c/p (capability/price) value for various industrial applications.

Features

* Full AC input voltage range design.
* Withstand 300Vac surge voltage for 5 seconds
* Full Protections: Short-circuit/ Over-voltage/ Over-current/ Over temperature
* Built-in smart FSC (fan speed control) and fan on/off is controlled by output loading
* 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-1351-24NL	HA-1351-12NL
Output		
Rated power	350W	
Rated voltage	24V	12V
Rated current	14.6A	29.0A
Ripple & Noise(max.) (note #2)	150mV	150mV
Line & load regulation	±1%	
Hold-up time(typ.)	16ms	
Timing: AC ON delay / rising (max.)	3 sec / 30ms	
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.)	6.8A/100Vac; 3.4A/200Vac	
Inrush current (typ.)	60A/230Vac (cold start)	
Frequency range	50-60Hz	
Leakage current (max.)	2.0mA at 240Vac	
Efficiency (typ.)	87.0%	83%
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℃ / (storage) -40~85℃	
Humidity	(operating) 10~90% RH non-condensing / (storage) 5~95% RH	
Altitude (max.)	5000 meters	
Mechanical		
Dimension	212(L)*115(W)*40mm(H)	
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)	
Weight (typ.)	860g	
Safety		
Standard	CB/IEC62368-1,TUV62368-1,UL62368-1,EN62368-1, BSMI CNS15598-1,KC62368-1	
Withstand voltage	Input-Output: 4242VDC / Input-FG: 2150VDC / Output-FG: 700VDC	
Isolation resistance(min.)	Input-Output: 100Mohm @ 500VDC, 25℃, 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: Class A	
EN61000-4-2	ESD: ±8KV contact discharge / ±15KV contact discharge	
EN61000-4-3	Radiated RF immunity: 3V/m	
EN61000-4-4	EFT: ±1KV (AC port)	
EN61000-4-5	Surge: ±2KV DM / ±4KV CM	
EN61000-4-6	Conducted RF immunity: 3V/m	
EN61000-4-8	Magnetic field immunity: 1A/m	
EN61000-4-11	Voltage dip immunity	

Notes

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

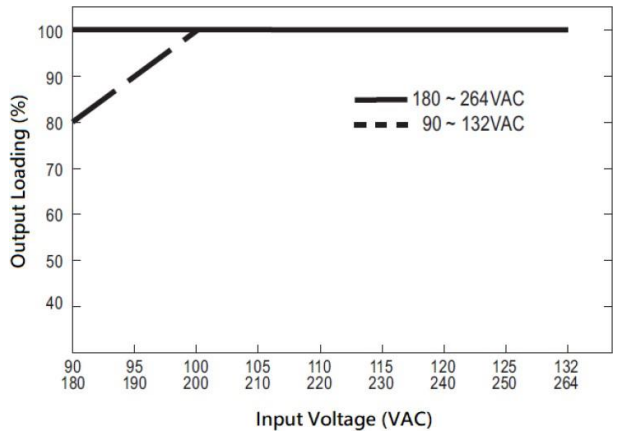
specifically.

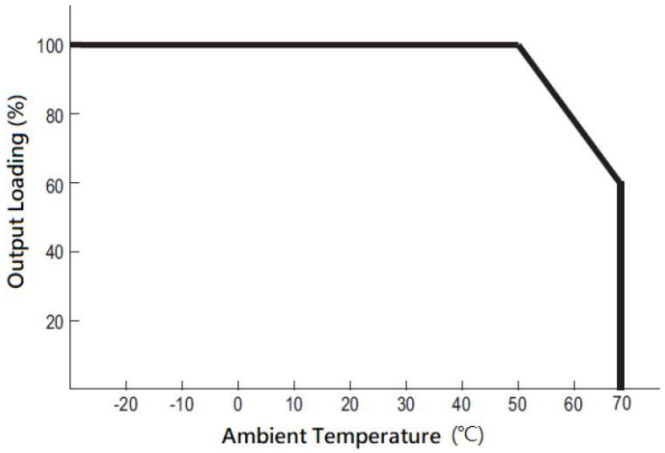
#2: Ripple noise is measured by a 30cm length, twisted wires with 0.47uF MLCC & 47uF low ESR capacitor.

#3: Calculated by Telcordia SR332 at 25℃ ambient temperature.

#4: When operating altitude is higher than 2000m, the environment temperature derating factor is 0.36℃/100m.

#5: De-rating curve of AC input voltage and ambient temperature:





Mechanical Specification