Industrial Adapter
12V & 19V & 24V Series

Single Output 230W PFC Data Sheet

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Description

This series is a class 1, single-output AC to DC 230W green adapter with both C6 and C14 inlet type. It can be operated from AC 90V~264V with good efficiency performance for various ITE, industrial and networking application. It also complies world-wide Safety and EMC regulations.

Features

* Full AC input voltage design with C6/C14 socket
* Withstand 300Vac surge voltage for 5 seconds
* Full Protections: Short-circuit/ Over-voltage/ Over-current/ Over temperature operating.
* Energy efficiency level VII compliance
* Various DC plug types available
* IEC/EN 62368-1 design compliance
* Up to 5000 meters operating altitude (note #4)
* High reliability

Electrical Specification

Model Name	-----	HA-1231-19	HA-1231-24
Output			
Rated power	230W		
Rated voltage	-----	19V	24V
Rated current	-----	12.1A	9.6A
Ripple & Noise(max.) (note #2)	-----	400mV	600mV
Line & load regulation	±5%		
Hold-up time(typ.)	16ms		
Timing: AC ON delay / rising (max.)	3 sec / 50ms		
Input			
Rated voltage range	100~240Vac		
Operated voltage range	90~264Vac, 300Vac for 5 sec		
Current range (max.)	3A/100Vac		
Inrush current	No component damaged ($<I^2*t$).		
Frequency range	50-60Hz		

Leakage current (max.)	0.1mA at 240Vac		
Average efficiency (typ.)	-----	90%	90%
Protection Function			
Over voltage (max.)	150% of rated voltage, latch-off protection		
Over current (max.)	170% 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)	500K 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	155(L)*75(W)*25.4mm(H)		
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)		
Weight (typ.)	500g		
Safety			
Standard	IEC/EN 60950-1, K60950-1, IEC/EN 62368-1, CNS14336-1		
Withstand voltage	Input-Output: 4242VDC / Input-FG: 2150VDC		
Isolation resistance(min.)	Input-Output: 30Mohm @ 500VDC, 25℃, 70%RH		
EMC			
EN55032 (CISPR32)	Conducted EMI: class B / Radiated EMI: class B		
FCC	Conducted EMI: class B / Radiated EMI: class B		
EN61000-3-2	Harmonic distortion: not applicable		
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: 3A/m		
EN61000-4-11	Voltage dip immunity		

Notes

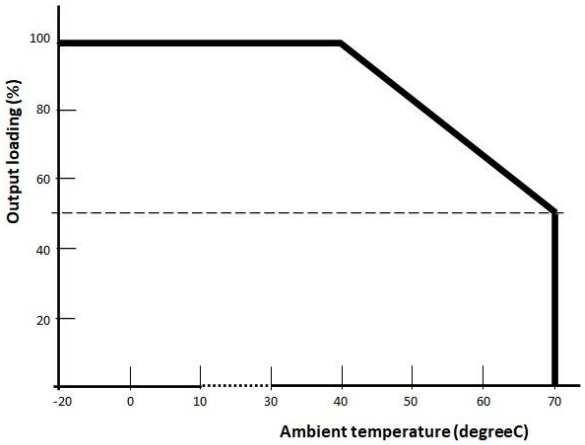
#1: All specification defined at 230Vac/50Hz, rated power and 25℃ ambient temperature if not mentioned specifically.

#2: Ripple noise is measured 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 ambient temperature:



Mechanical Specification