

Industrial Adapter 12V & 24V Series

LITEON

Single Output 60W Non-PFC Data Sheet

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Description

This series is a class 1, single-output AC to DC 60W green adapter with C6 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 socket
- * Withstand 300Vac surge voltage for 5 seconds
- * Full Protections: Short-circuit/ Over-voltage/ Over-current/ Over temperature operating.
- * Energy efficiency level VI compliance
- * Slim and compact in size
- * 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-1600-12	HA-1600-24
Output		
Rated power	60W	
Rated voltage	12V	24V
Rated current	5.0A	2.5A
Ripple & Noise(max.) (note #2)	300mV	400mV
Line & load regulation	±5%	
Hold-up time(typ.)	10ms	
Timing: AC ON delay / rising (max.)	3 sec / 30ms	
Input		
Rated voltage range	100~240Vac	
Operated voltage range	90~264Vac, 300Vac for 5 sec	
Current range (max.)	1.7A/100Vac	
Inrush current	No component damaged (<I ² *t).	
Frequency range	50-60Hz	

Leakage current (max.)	0.25mA at 240Vac	
Average efficiency (min.)	89%	89%
Protection Function		
Over voltage (max.)	150% of rated voltage, hiccup mode protection until fault is removed	
Over current (max.)	160% 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)	300K 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	90.0(L)*65.0(W)*21mm(H)	
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)	
Weight (typ.)	185g	
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

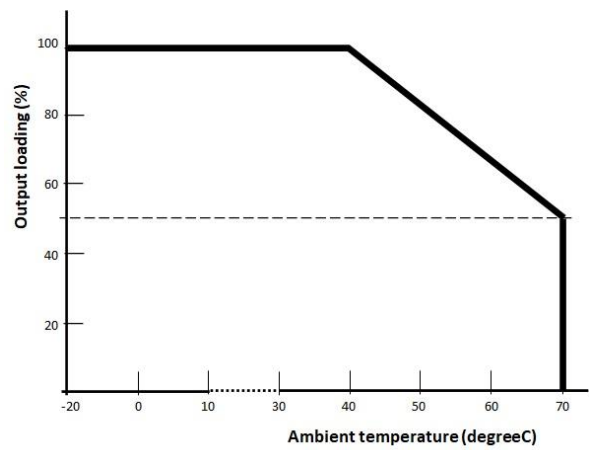
#1: All specification defined at 230Vac/50Hz, rated power and 25°C ambient temperature if not mentioned specifically.

#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 ambient temperature:



Mechanical Specification

