Industrial Computer Flex ATX Series

250W Multiple Output Active PFC Data Sheet

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Description

This is a high-power factor (PF), multiple-output AC to DC switching mode power supply unit which can provide up to 250 watts continuous with forced cooling by a smart FSC (fan speed control) circuitry. There is a built-in auxiliary converter (5VSB) for better energy saving. It complies with 80+gold as well as worldwide safety and EMC regulations (refer to details below). It is suitable for various industrial PC 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.
- * INTEL® standard Flex ATX (1U) form factor.
- * Meet 80+gold and support 150% peak power.
- * IEC/EN 62368-1 design compliance.
- * Up to 5000 meters operating altitude (note#4)
- * High efficiency and high reliability.
- * REM_ON/OFF and PWR_OK signal





Electrical Specification

Model Name	HS-5251-06LG					
Output						
Rated power	250W					
Rated voltage	12V	5V	3.3V	-12V	5Vsb	
Rated current	17A	12A	9A	0.3A	3A	
Ripple & Noise(max.) (note #2)	120mV	50mV	50mV	120mV	50mV	
Line & load regulation	±5%	±5%	±5%	±10%	±5%	
Hold-up time(typ.) (note #5)	16ms					
Timing: AC ON delay / rising (max.)	2 sec / 20ms					
Input						
Rated voltage range	100~240Vac					
Operated voltage range	90~264Vac, 300Vac for 5 sec					



Current range (max.)	3.5A/100Vac		
Inrush current	No component damaged (<l<sup>2*t).</l<sup>		
Frequency range	50-60Hz		
Leakage current (max.)	3.5mA at 240Vac		
Efficiency (min.)	87% - 90% - 87% (at 20% - 50% - 100% of rated loading)		
Standby power saving (min.)	Pin<1W at 5Vsb/0.1A		
	Pin<0.5W at Po=0.23W (at REM_OFF, efficiency>45%)		
Protection Function			
Over voltage (max.)	140% of rated voltage, latch-off protection (for +12V/+5V/+3.3V)		
Over current (max.)	Latch-off protection (for +12V/+5V/+3.3V)		
Short circuit at O/P	Latch-off protection (for +12V/+5V/+3.3V)		
Over temperature	Latch-off protection		
Others			
MTBF (min.) (note#3)	700K hours @ rated load		
Environment			
Temperature (note#5)	(operating) $0\sim50^{\circ}$ / (storage) -40 \sim 85 $^{\circ}$		
Humidity	(operating) 10~90% RH non-condensing / (storage) 5~95% RH		
Altitude (max.)	5000 meters		
Mechanical			
Dimension	150.0(L)*81.5(W)*40.5(H) mm		
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)		
Weight (typ.)	620g		
Safety			
Standard	CB/IEC62368-1,TUV62368-1,UL62368-1,EN62368-1,		
	CCC GB4943.1,BSMI CNS15598-1,KC62368-1		
Withstand voltage	Input-Output: 4242VDC / Input-FG: 2150VDC		
Isolation resistance(min.)	Input-Output: 100Mohm @ 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: Class D		
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: ±1KV DM / ±2KV 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 with 0.1uF MLCC & 10uF low ESR capacitor.

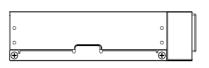
#3: Calculated by Telcordia SR332 at 25° C ambient temperature.

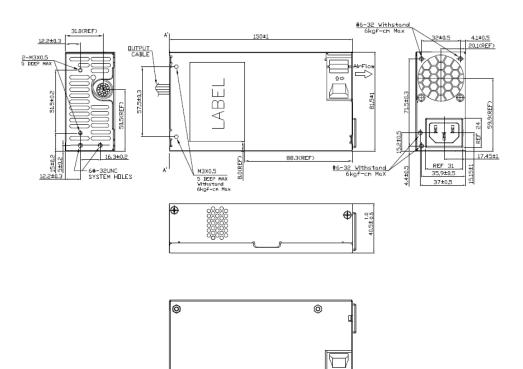
#4: When operating altitude is higher than 2000m, the environment temperature derating factor is 0.36°C/100m.

#5: Hold up time will be evaluated at 80% of rated load.

Mechanical Specification

(Refer to below drawing for case openings)





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