

Industrial Computer ATX Series



850W 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 850 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 ATX form factor.
- * Meet 80+gold and support 200% peak power (note#6).
- * 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

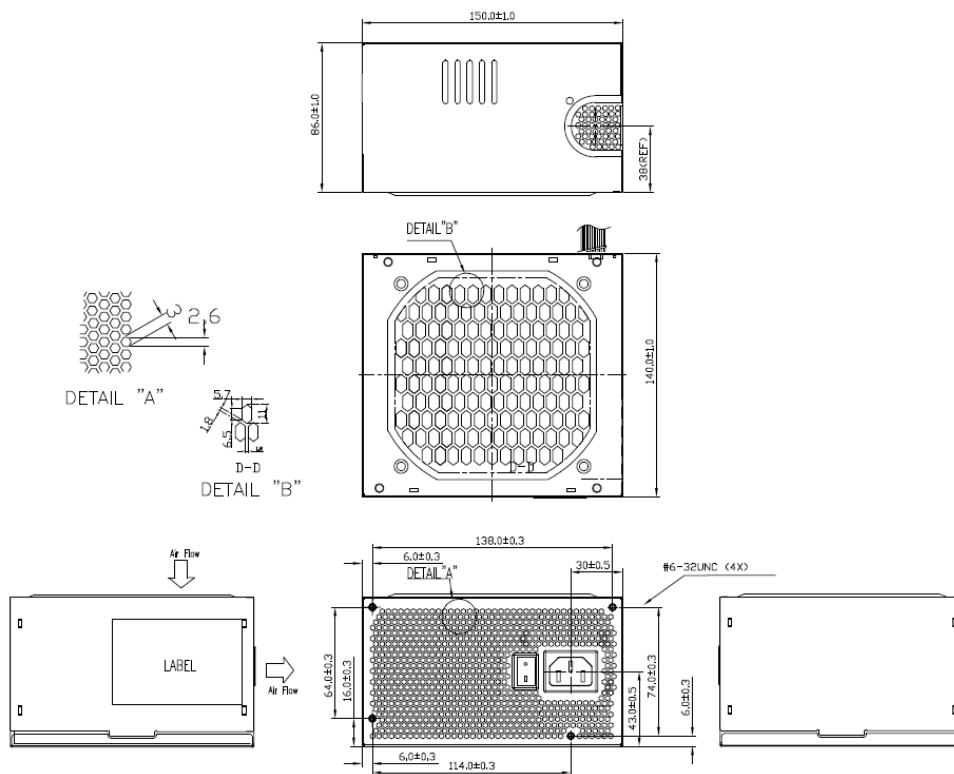
Model Name	PS-5851-60CL				
Output					
Rated power	850W				
Rated voltage	12V	5V	3.3V	-12V	5Vsb
Rated current	70.8A	20A	20A	0.3A	3A
Ripple & Noise(max.) (note #2)	120mV	50mV	50mV	120mV	50mV
Line & load regulation	±5%	±5%	±5%	±10%	±5%
Hold-up time(typ.) (note #5)	16ms				
Timing: AC ON delay / rising (max.)	2 sec / 20ms				
Input					
Rated voltage range	100~240Vac				
Operated voltage range	90~264Vac, 300Vac for 5 sec				

Current range (max.)	10A/100Vac (850W)
Inrush current	No component damaged ($i^2 \cdot t$).
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=0.25W (at REM_OFF, efficiency>50%)
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) 0~40°C / (storage) -40~85°C
Humidity	(operating) 10~90% RH non-condensing / (storage) 5~95% RH
Altitude (max.)	5000 meters
Mechanical	
Dimension	150(L)*140(W)*86(H) mm
Vibration	10~500 Hz, 5G 20min./1cycle per axis for all axes (X, Y, Z)
Weight (typ.)	1.9kg
Safety	
Standard	CB/IEC62368-1,TUV62368-1,UL62368-1,EN62368-1
Withstand voltage	Input-Output: 4242VDC / Input-FG: 2150VDC
Isolation resistance(min.)	Input-Output: 100Mohm @ 500VDC, 25°C, 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.
- #6: With 12V-2x6 connector, it can support 200% peak power. Without 12V-2x6 connector, it can support 150% peak power.

Mechanical Specification



CONNECTOR	PIN #	FUNCTION	WIRE(UL2468)		CONNECTOR	PIN #	FUNCTION	WIRE(UL2468)		
			COLOR	TYPE				COLOR	TYPE	
P1	1	+3.3V	BLACK	18AWG	P4-P6 & P16	1	+12V	BLACK	18AWG	
	2	+3.3V	BLACK			2	+12V	BLACK		
	3	CDM	BLACK			3	+12V	BLACK		
	4	+5V	BLACK			4	CDM	BLACK		
	4-1	+5V Sence	BLACK	5		CDM	BLACK	20AWG		
	5	CDM	BLACK	6		CDM	BLACK			
	6	+5V	BLACK	7		CDM	BLACK			
	7	CDM	BLACK	8		CDM	BLACK			
	8	PGD	BLACK	18AWG	600W	1	+12V	BLACK	UL1430 16AWG	
	9	+5Vsb	BLACK			2	+12V	BLACK		
	10	+12V	BLACK			3	+12V	BLACK		
	10-1	+12V Sence	BLACK			4	+12V	BLACK		
	11	+12V	BLACK	5		+12V	BLACK	20AWG		
	12	+3.3V	BLACK	6		+12V	BLACK			
	13	+3.3V	BLACK	7		CDM	BLACK			
	13-1	+3.3V Sence	BLACK	8		CDM	BLACK			
	14	-12	BLACK	18AWG		9	CDM	BLACK		28AWG
	15	CDM	BLACK			10	CDM	BLACK		
	15-1	CDM	BLACK			11	CDM	BLACK		
	16	PS_ON	BLACK			12	CDM	BLACK		
17	CDM	BLACK	18AWG	S1	CHD-PWR_STABLE	BLACK	28AWG			
18	CDM	BLACK		S2	CHD-CHL_PRES	BLACK				
19	CDM	BLACK		S3	SENSE_0	BLACK				
20				S4	SENSE_1	BLACK				
P2	21			18AWG						
	22	+5V	BLACK							
	23	+5V	BLACK							
	24	CDM	BLACK							
P3A & P3B	1	CDM	BLACK	18AWG						
	2	CDM	BLACK							
	3	CDM	BLACK							
	4	CDM	BLACK							
P8-P10 & P12-P14	5	+12V	BLACK	20AWG						
	6	+12V	BLACK							
	7	+12V	BLACK							
	8	+12V	BLACK							
P11 & P15	1&5	CDM	BLACK	20AWG						
	2&6	CDM	BLACK							
	3&7	+12V	BLACK							
	4&8	+12V	BLACK							

