

Industrial Computer Flex ATX Series



500W 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 500 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-5501-05LG				
Output					
Rated power	500W				
Rated voltage	12V	5V	3.3V	-12V	5Vsb
Rated current	41.6A	18A	15A	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.)	8A/100Vac
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) 0~50°C / (storage) -40~85°C
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.)	860g
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°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

CONN-CTOR	PIN #	FUNCTION	COLOR	TYPE
P1	1	3.3V	ORANGE	20AWG
	2	3.3V	ORANGE	
	3	GND	BLACK	
	4	5V	RED	
	4-1	5V Sense	RED	24AWG
	5	GND	BLACK	20AWG
	6	5V	RED	
	7	GND	BLACK	
	8	POK	GRAY	
	9	5Vsb	PURPLE	20AWG
	10	+12 V	YELLOW	
	11	+12 V	YELLOW	
	12	3.3V	ORANGE	
	13	3.3V	ORANGE	24AWG
	13-1	3.3Vsense	BROWN	
	14	-12V	BLUE	
	15	GND	BLACK	
	16	PS ON	GREEN	24AWG
	17	GND	BLACK	20AWG
	18	GND	BLACK	
19	GND	BLACK		
20				
21	5V	RED	20AWG	
22	5V	RED		
23	5V	RED		
24	GND	BLACK		
P2	1	GND	BLACK	20AWG
	2	GND	BLACK	
	3	GND	BLACK	
	4	GND	BLACK	
P3	5	+12V	YELLOW	20AWG
	6	+12V	YELLOW	
	7	+12V	YELLOW	
	8	+12V	YELLOW	
P4	1	+12V	YELLOW	20AWG
	2	+12V	YELLOW	
	3	+12V	YELLOW	
	4	GND	BLACK	
	5	GND	BLACK	
	6	GND	BLACK	
	7	GND	BLACK	
	8	GND	BLACK	
PAPB	1	+12V	YELLOW	20AWG
	2	GND	BLACK	
	3	GND	BLACK	
	4	+5V	RED	
PC	1	+5V	RED	22AWG
	2	GND	BLACK	
	3	GND	BLACK	
	4	+12V	YELLOW	
PDPE	1	3.3V	ORANGE	20AWG
	2	GND	BLACK	
PFFG	3	+5V	RED	20AWG
	4	GND	BLACK	
	5	+12V	YELLOW	

