

FSP1300-50AQB

FEATURES

- Meet Intel ATX V3.1
- Meet 80 Plus Platinum
- Certified IEC 62368-1 3rd
- High Reliability
- Over Current Protection
- Over Temperature Protection
- Over Voltage Protection

SAFETY STANDARD APPROVAL



DESCRIPTION

FSP1300-50AQB is an industrial level of switching power supply. This power is designed to meet newest Intel ATX 3.1 standard, and high efficiency. Therefore, it is suitable for edge AI or GPGPU applications in “Industrial 4U or tower chassis” equipments.

GENERAL SPECIFICATIONS

Input power at power off: < 0.5W (5Vsb)
 Operating altitude: 5,000 meters
 MTBF: ≥ 100,000Hrs, full load at 25°C
 Efficiency (115Vac input): 90%; 92%; 89% at 100%; 50%; 20% load

INPUT SPECIFICATIONS

Input voltage: 90-264 VAC
 Input frequency: 47-63 Hz
 Input current: 115Vac / 15.0A, 230Vac / 9.0A Max.

ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0~50°C
 Storage temperature: -20~+80°C
 Operating humidity: 5~85% RH non-condensing
 Storage humidity: 5~95% RH non-condensing

OUTPUT SPECIFICATIONS

Max. output power: 1300W
 Hold-up time: 230V / 50Hz: 13m Sec. minimum

Rise time: Power-on time: < 200 ms
 +5/+3.3/+12Vdc: < 20 ms
 PWR_OK rise: ≤ 250 ms
 PWR_OK delay: < 250 ms

Protection:

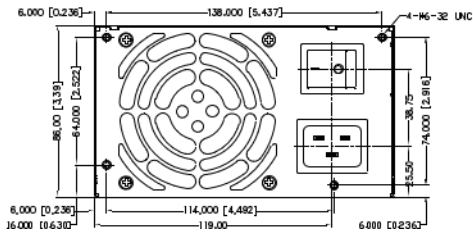
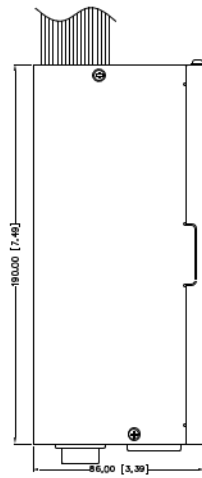
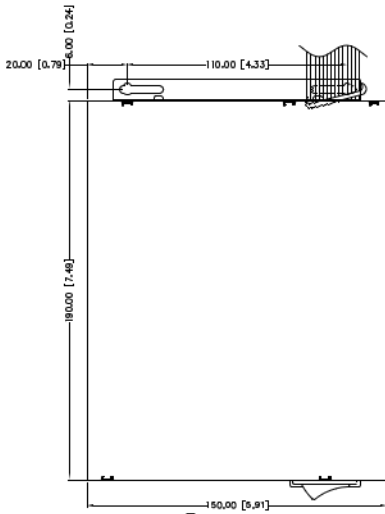
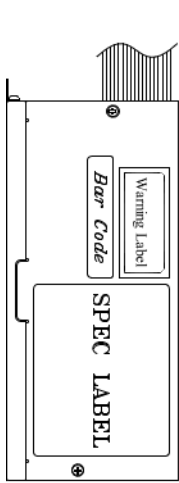
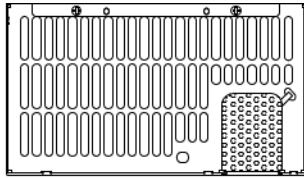
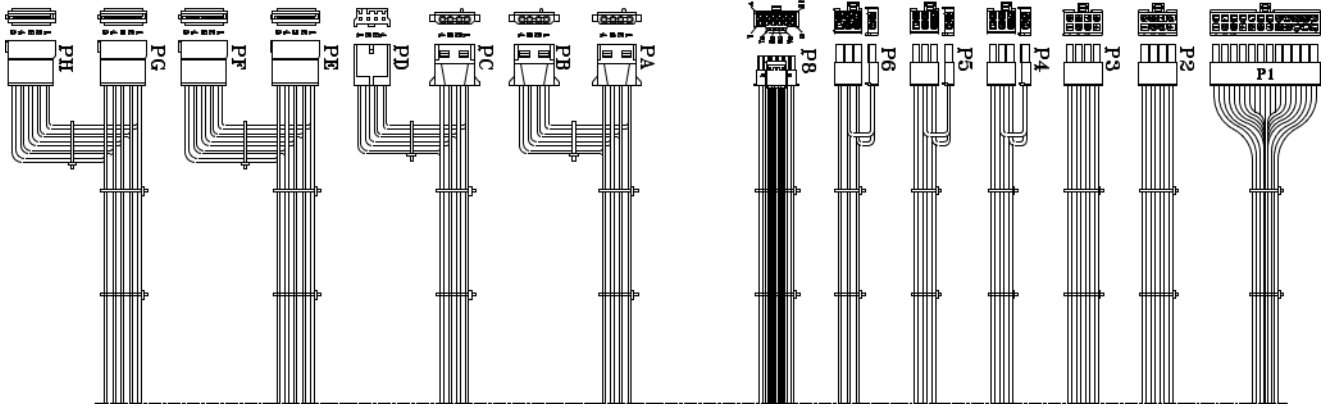
Over voltage: +3.3Vdc: 3.76V~4.8V
 +5Vdc: 5.75V~7.0V
 +12Vdc: 13.5V~15.5V
 Over current: +3.3dc: 34A~50A
 +5Vdc: 34A~50A
 +12Vdc: 130A~162A
 Short circuit: Shutdown & latch off without damage PSU

OUTPUT RATING CHART:

Outputs	+3.3V	+5V	+12V	+12V	+5Vsb
Max. current	30.0A	30.0A	108.3A	0.5A	5.0A
Min. current	0.0A	0.0A	0.0A	0.0A	0.0A
Regulation	± 5%	± 5%	± 5%	± 10%	± 5%
Ripple/Noise	50mV	50mV	120mV	120mV	50mV

MECHANICAL & AC CONNECTOR SPECIFICATIONS

Unit: mm



REF. ID	PIN NO.	SIGNAL	WIRE COLOR	GAWGE	CONNECTOR TYPE	CABLE LENGTH
P8	1	+12V	YELLOW	18	WST	500±20mm
	2	+12V	YELLOW	18	FB12-	
	3	+12V	YELLOW	18	150006F84Z	
	4	+12V	YELLOW	18	-B	
	5	+12V	YELLOW	18	or EQUIV. (Black)	
	6	+12V	YELLOW	18		
	7	COM	BLACK	18		
	8	COM	BLACK	18		
	9	COM	BLACK	18		
	10	COM	BLACK	15		
	11	COM	BLACK	18		
	12	COM	BLACK	18		
	S1	4pin sense	BLUE	26		
	S2	4pin sense	BLUE	26		
	S3	SENSE0	BLUE	26		
	S4	SENSE1	BLUE	26		

REF. ID	PIN NO.	SIGNAL	WIRE COLOR	GAWGE	CONNECTOR TYPE	CABLE LENGTH
P1	1	+3.3V	ORANGE	18	WST	500±20mm
	2	+3.3V	ORANGE	18	P24-142002 or EQUIV.	
	3	GNDsense	BLACK	24		
		GNDsense	BLACK	24		
	4	+5V	RED	18		
		COM	BLACK	18		
	5	GNDsense	BLACK	24		
		GNDsense	BLACK	24		
	6	+5V	RED	18		
		5Vsense	RED	24		
	7	COM	BLACK	18		
	8	PW-OK	GRAY	24		
		+5Vsb	PURPLE	24		
		+5Vsb	PURPLE	24		
		+5Vsb	PURPLE	24		
		-12V	YELLOW	18		
	10	+12Vsense	YELLOW	24		
		12Vsense	YELLOW	24		
	11	+12V	YELLOW	18		
	12	+3.3V	ORANGE	18		
	+3.3V	ORANGE	18			
13	3.3Vsense	BROWN	24			
	3.3Vsense	BROWN	24			
14	-12V	BLUE	24			
	-12V	BLUE	24			
	COM	BLACK	18			
15	GNDsense	BLACK	24			
	GNDsense	BLACK	24			
16	PS-ON	GREEN	24			
	COM	BLACK	18			
17	COM	BLACK	18			
	COM	BLACK	18			
18	GNDsense	BLACK	24			
	GNDsense	BLACK	24			
19	GNDsense	BLACK	24			
	GNDsense	BLACK	24			
20						
21	+5V	RED	18			
22	+5V	RED	18			
23	+5V	RED	18			
24	COM	BLACK	18			
P2	1	COM	BLACK	18	WST	500±20mm
	2	COM	BLACK	18	P8-142002 or EQUIV.	
	3	COM	BLACK	18		
	4	COM	BLACK	18		
P3	5	+12V	YELLOW	18		70±10mm
	6	+12V	YELLOW	18		
P4	7	+12V	YELLOW	18		500±20mm
	8	+12V	YELLOW	18		
	9	+12V	YELLOW	18		
	10	+12V	YELLOW	18		
P5	1	+12V	YELLOW	18	WST	500±20mm
	2	+12V	YELLOW	18	P8-142002	
	3	+12V	YELLOW	18	K318-B	
	4	+12V	YELLOW	18	or EQUIV. (Black)	
	5	COM	BLACK	18		
	6	COM	BLACK	18		
P6	7	COM	BLACK	18		70±10mm
	8	COM	BLACK	18		
PA	1	+12V	YELLOW	18	WST	500±20mm
	2	COM	BLACK	18	P4-A10202	
	3	COM	BLACK	18	or EQUIV.	
	4	+5V	RED	18		
PC	1	+12V	YELLOW	18	WST	155±10mm
	2	COM	BLACK	18	P4-A10202	
	3	COM	BLACK	18	or EQUIV.	
PB	1	+12V	YELLOW	18	WST	155±10mm
	2	COM	BLACK	18	P4-A10202	
	3	COM	BLACK	18	or EQUIV.	
	4	+5V	RED	18		
PD	1	+5V	RED	24	AMP	155±10mm
	2	COM	BLACK	24	171822-4	
	3	COM	BLACK	24	or EQUIV.	
	4	+12V	YELLOW	24		
PE	1	+3.3V	ORANGE	18	MOLEX	500±20mm
	2	COM	BLACK	18	SD-67562	
	3	+5V	RED	18	-001	
PG	4	COM	BLACK	18	or EQUIV.	500±20mm
	5	+12V	YELLOW	18		
PF	1	+3.3V	ORANGE	18	MOLEX	155±10mm
	2	COM	BLACK	18	SD-67562	
	3	+5V	RED	18	-001	
	4	COM	BLACK	18	or EQUIV.	
PH	5	+12V	YELLOW	18		155±10mm
	6	+12V	YELLOW	18		

- Note:
1. ALL THE LENGTH OF OUTPUT WIRES EXCLUDE HOUSING.
 2. TOLERANCE: .XX = ± 0.5 [0.02]; .XXX = ± 0.25 [0.01]