



**Sparkle Power Inc.**  
 A Leading Power Supply Manufacturer  
 Web site: [www.sparklepower.com](http://www.sparklepower.com)



**SPI4002UB**  
**(RoHS Compliant)**  
**400 Watts ATX/EPS12V 2U Switching Power Supply**

**Features**

- Complied with ATX12V/ EPS12V standard
- Active Power Factor Correction (PFC) meet EN61000-3-2
- High efficiency and reliability
- Compatible with European Union Directive 2002/95/EC (Restriction on Hazardous Substances).
- Remote ON/OFF function
- Internal 12V DC fan included
- Noise Killer (thermal fan speed control function)
- Low noise and ripple
- Output over voltage, short circuit, and over current protection
- 100% Hi-pot, ATE, and burn-in tested
- Re-settable power shut down
- Complies with FCC part 15 subpart J class B 115Vac operation, and CISPR 22 class B at 230Vac operation
- Approved by : UL,CSA22.2 NO or CUL 60950-1, TUV or VDE, EMC,FCC ,CE, CB report.

**Input Characteristics**

**Input Range:** 90 ~ 264Vac, Full Range Input  
**Frequency:** 47 ~ 63Hz  
**Input Current:** Max 6A @ 115Vac, 3A @ 230Vac  
**Inrush Current:** 80A @ 115Vac, 120A @ 230Vac at cold start

**Output Characteristics**

Output Voltage	Minimum Load	Normal Load	Maximum Load	Load Reg.	Ripple & Noise
+3.3V	0.5A	10A	20A	± 5%-4%	50mV P-P
+5V	0.5A	10A	20A	± 5%-4%	50mV P-P
+12V1	0.2A	9A	18A	± 5%-5%	120mV P-P
+12V2	0.5A	8A	16A	± 5%-5%	120mV P-P
-12V	0.0A	0.25A	0.5A	± 9%-5%	120mV P-P
-5V	0.0A	0.1A	0.2A	± 5%-5%	100mV P-P
+5Vsb	0.1A	1.25A	2.5A	± 5%-4%	50mV P-P

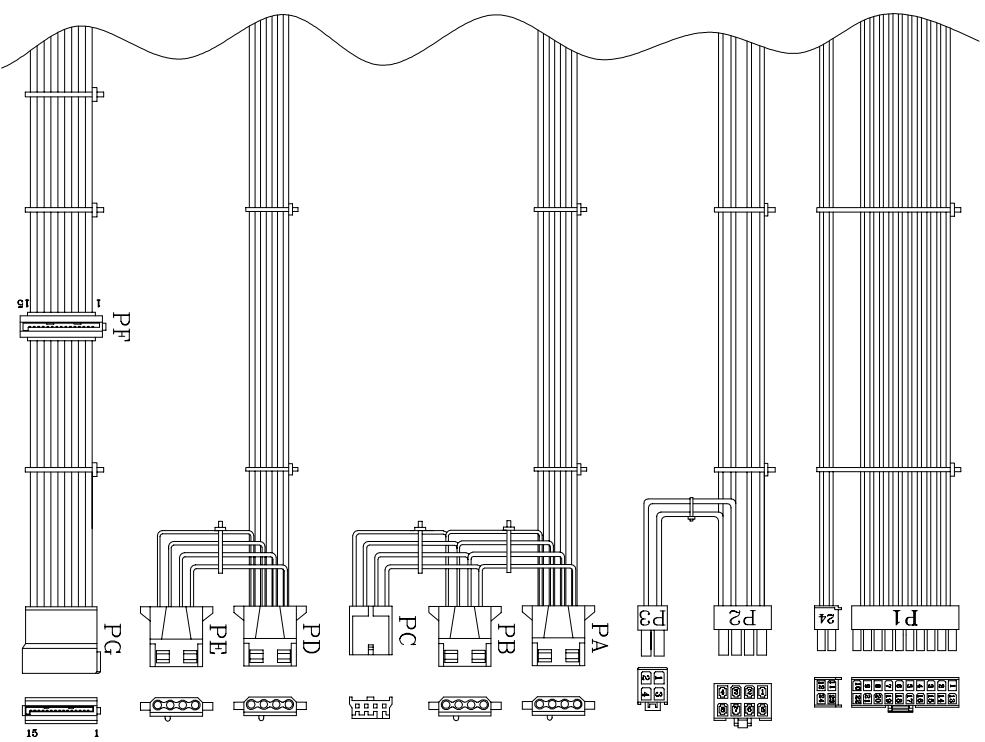
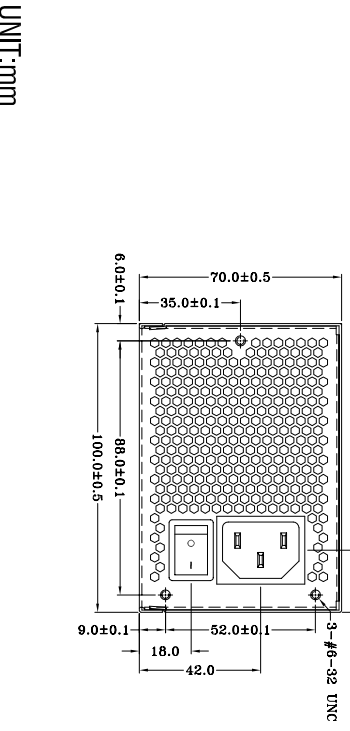
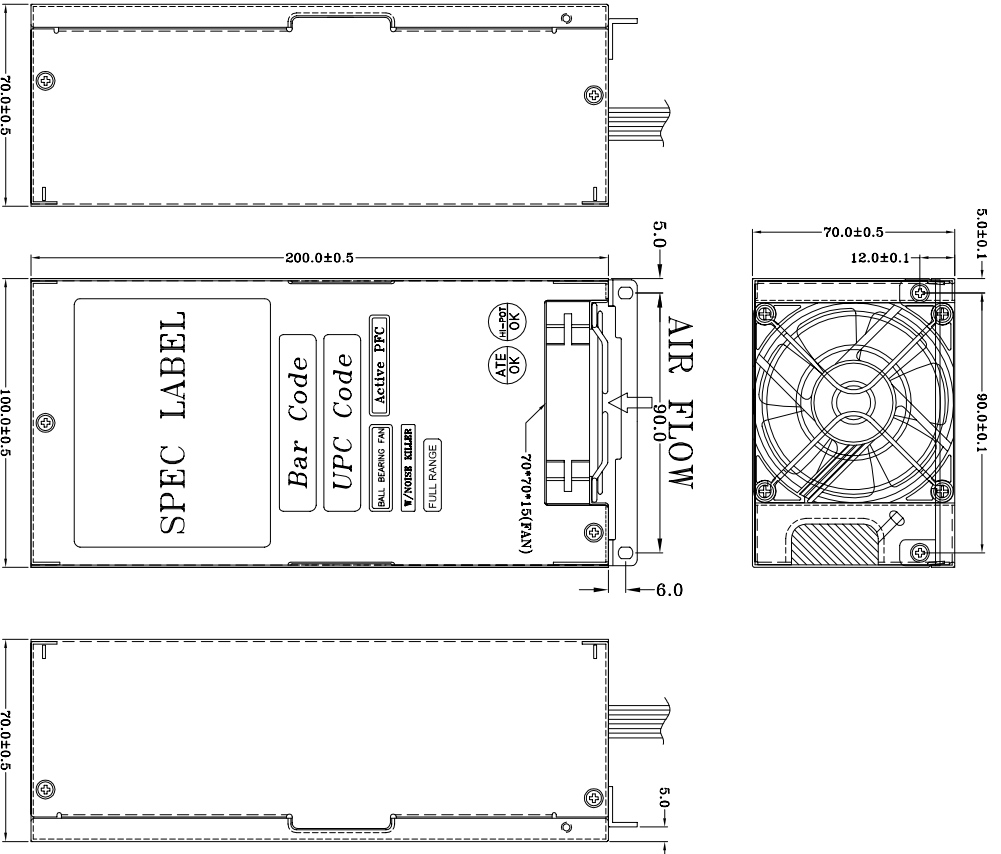
\*+3.3V and +5V total output not exceed 140W  
 \*+12V1 and +12V2 total output not exceed 30A  
 \* Total output for this subject power supply is 400W

**Specification**

- **Temperature Range:** Operating: 0°C ~ +50°C on full load; storage & shipping: -20°C ~ +80°C
- **Humidity:** 5-95% on operating,5- 95% on storage
- **Dielectric Withstand:** Primary frame ground 1800V AC for 1 second
- **Efficiency:** 70% at minimum measured at nominal AC main voltage and frequency with maximum load on all output
- **Rise time:** Less than 50ms
- **Hold-up Time:** 18 ms minimum at nominal input voltage
- **Power Good Signal:** Power on delay time 100 ~ 500ms, off delay 1ms minimum (TTL and CMOS compatible)
- **Leakage Current:** Less than 3.5mA at 264Vac, 50Hz
- **MTBF:** 100,000 hours on maximum load at +25°C
- **Dimensions (LxWxH):** 200x100x70mm /7.9x3.9x 2.7 inch

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REF. ID.	PN	SIGNAL	WIRE COLOR	GAUGE	CONNECTOR TYPE	CABLE LENGTH				
P1	1	+3.3VDC	ORANGE	18	JTW	500±15mm				
	2	+3.3VDC	ORANGE	18	C4202H02	500±15mm				
	3	COM	BLACK	18	-A20P+					
	4	+5VDC	RED	18	C4202H02					
	5	COM	BLACK	18	-A4P+					
	6	+5VDC	RED	18	OR EQUIV					
	7	COM	BLACK	18						
	8	PWR-OK	GRAY	18						
	9	+5V8B	PURPLE	18						
	10	+12V2	YELLOW	18						
	11	+12V2	YELLOW	18						
	12	+3.3VDC	ORANGE	18						
	13	+3.3VDC	ORANGE	18						
	14	+3.3VDC	BROWN	22						
	15	+12VDC	BLUE	18						
	16	COM	BLACK	18						
	17	PS-ON	GREEN	18						
	18	COM	BLACK	18						
P2	19	COM	BLACK	18						
	20	-5V	WHITE	18						
	21	+5VDC	RED	18						
	22	+5VDC	RED	18						
	23	+5VDC	RED	18						
	24	COM	BLACK	18						
	P3	1	COM	BLACK	18					
		2	COM	BLACK	18					
		3	+12V1	YELLOW/BLACK	18	MOLEX 39-01-2040 or EQUIV.	100±10mm			
		4	+12V1	YELLOW/BLACK	18					
		1	+12V2	YELLOW	18					
		2	COM	BLACK	18					
		3	COM	BLACK	18					
		4	COM	BLACK	18					
		PA	1	+12V2	YELLOW	18	AMP 1-460424-0-500±15mm or EQUIV.	500±15mm		
			2	COM	BLACK	18				
			3	COM	BLACK	18				
			4	+5V	RED	18				
PB			1	+12V1	YELLOW/BLACK	18	AMP 1-460424-0-150±10mm or EQUIV.	150±10mm		
			2	COM	BLACK	18				
			3	COM	BLACK	18				
			4	+5V	RED	18				
			PE	1	+12V2	YELLOW	18	AMP 1-460424-0-150±10mm or EQUIV.	150±10mm	
				2	COM	BLACK	18			
	3			COM	BLACK	22				
	4			+5V	RED	22				
	PC			1	+12V1	YELLOW	22			
				2	COM	BLACK	22			
				3	COM	BLACK	22			
				4	+5V	RED	22			
				PF	1	+12V2	YELLOW	18	AMP 1-460424-0-150±10mm or EQUIV.	150±10mm
					2	COM	BLACK	18		
		3			+5V	RED	18			
		4			COM	BLACK	18			
		5			+3.3VDC	ORANGE	18			
		6			+5VDC	RED	18			
7		COM			BLACK	18				
8		COM			BLACK	18				
9		+5V			RED	18				
10		COM			BLACK	18				
11		+12V2	YELLOW		18					
12		COM	BLACK		18					
13		+5V	RED		18					
14		COM	BLACK		18					
15	+12V2	YELLOW	18							
16	COM	BLACK	18							
17	+5V	RED	18							
18	COM	BLACK	18							
PG	1	COM	BLACK	18						
	2	+5V	RED	18						
	3	COM	BLACK	18						
	4	COM	BLACK	18						
	5	+3.3VDC	ORANGE	18						

NOTE:  
 1. ALL THE LENGTH OF OUTPUT WIRES EXCLUDE HOUSING.  
 2. 產地標籤依業務指示加貼。

FSP研發部  
 96.11.16  
 暫用文件

SPI P/N.: SPI4002UB-B204

MODEL NO. : SPI4002UB	TITLE: ASSY	SHEET: 1 OF 1	REV: 01
R&D	PE	DRAWN	DATE
INTERIOR COUNTERSIGN:			Nov.16.2007
			樂家龍