



全漢企業股份有限公司

SPI Electronic Co., Ltd.

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SPECIFICATION



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SPECIFICATION

FSP180-ACA

P.E	R/D	APPROVED	REV.
Anson Liao	Jen Wen	LJ Wei	00

表單編號：7000P-0105



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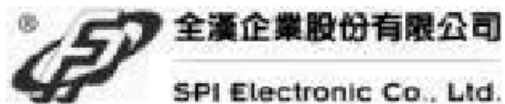
SPI Electronic Co., Ltd.

Electrical Specification

History

REV.	Description	Date	Drawn	Mechanical	Electrical	Approved
<u>000</u>	SPEC ISSUE	7-6-'04	GiGi Yu	Sum Chen	Jenwen.Wang	LJ Wei
<u>00</u>	Item 3.2 revised	4-4-'06	GiGi Yu	Sum Chen	Jenwen.Wang	LJ Wei

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Electrical Specification

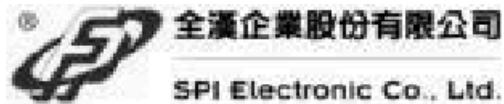
Electrical Requirements

1. Input Characteristics:

ITEM	CONDITION	SPECIFICATION
1.1 Rated Input Voltage		100V / 240V
1.2 Input Voltage Range		90VAC to 264VAC
1.3 Input Frequency Range		47Hz to 63Hz (\pm 1Hz)
1.4 Input Current	100Vac, 240Vac / 9A load	\leq 2.5A
1.5 Input Current Harmonic		IEC1000-3-2
1.6 Efficiency: (Warm up 10minutes later)	100Vac / 9A 240Vac / 9A	\geq 87% \geq 87%
1.7 Inrush Current	100Vac, 240Vac / 9A load	Shall be less than the rating of adapter critical component (including rectifiers, fuse surge and current limiting device)
1.8 Power Saving	100Vac, 240Vac / 0A Load	TBD

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Electrical Specification

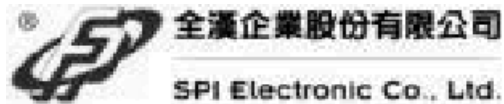
2. Output Characteristics:

※Measured at the end of DC cable.

ITEM	CONDITION	SPECIFICATION
2.1 Output Rated Voltage		20V
2.2 Output Current	at constant voltage mode	0A to 9A
2.3 Output Voltage Setting	at the output end of DC cable	19V ~21V
2.4 Output Voltage Ripple and Noise: (0.1uF Ceramic Cap. and 35V 47uF Aluminum Cap. Paralleled between the end of output cable)	90Vac / 9A 264Vac / 9A	≤ 380mVp-p
2.5 Turn-On Delay Time:	At 100Vac / 180W load, output voltage shall remain regulation	≤ 3Sec.
2.6 Hold Up Time:	At 100Vac or 240Vac / 180W load, output voltage shall remain regulation	≥ 3mS
2.7 Rise Time:	At 100Vac / 180W load, DC output rise time from 5% to 95% of Vo	100mS

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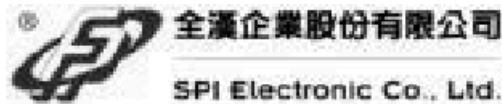
Electrical Specification

3. Protection Characteristics:

ITEM	CONDITION	SPECIFICATION
3.1 Over-Voltage Protection	The adapter will enter into shut down that means no output while over voltage happened at output terminal that caused by internal fault. the output trip voltage will be less than <u>25V</u> . That might be return to normal state by AC reset.	Shutdown and no damage Latch
3.2 Over Current Protection:	(10.5A~14A)	Latched
3.3 Over Temperature Protection:	No deformation and no discoloration on case and will be shut down. That will be return to normal state by AC reset.	No broken, no smoke.
3.4 Short circuit Protection	short circuit is applied to the output, the adapter shall shut down .	Auto recovery

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Electrical Specification

4. Environmental Characteristics:

ITEM	CONDITION	SPECIFICATION
4.1 Electric Fast Transients: Refer to IEC1000-4-4 level 3	Impulse: $\pm 1\text{kV}$ applied to L, N and chassis, pulse duration 50nS period 5 minutes. Impulse: $\pm 2\text{kV}$ applied to L, N and chassis, pulse duration 50nS period 5 minutes.	No function error No damage
4.2 Lightning Surge: Refer to IEC1000-4-5 level 3	$\pm 1\text{kV}$ applied between line and line, pulse rise time 1.2us and duty time 50uS, 10 times test each one. $\pm 2\text{kV}$ applied between line and line or line and power ground (signal ground), pulse rise time 1.2us and duty time 50uS, 10 times test each one.	No function error No damage
4.4 Electron Static Discharge: (Refer to IEC1000-4-2 Energy Storage Capacitor 150pF; Discharge resistor 330 Ω)	Air Discharge: $\pm 15\text{KV}$ min. Contact Discharge: $\pm 8\text{KV}$ min.	No function error No function error
4.5 Cooling	Natural air cooling	
4.6 EMI: Adapter comply with the following national standards: EMI Conducted Emission EMI Radiated Emission	Max. load. The adapter internal filter to meet	FCC CLASS B CISPR22 CLASS B VCCI CLASS II
4.7 Safety conforming:		Depends on customer's requirement.
4.8 Leakage Current	240Vac / 60Hz 100Vac / 60Hz	$\leq 0.25\text{mA}$
4.9 Insulation Resistance:	Between AC input and secondary applied 500Vdc for 1 minute.	$\geq 30\text{M}\Omega$

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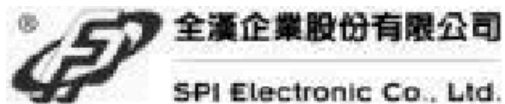
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ITEM	CONDITION	SPECIFICATION
4.10 Dielectric Strength: (Hi-Pot)	Between AC input and secondary AC 3KV, test time 1 minute, and cut off current shall be less than 10mA AC 3kV, Test time 1 sec. in production line	
4.11 Temperature:	Operating Storage	0 to 40°C -20 to +80°C
4.12 Humidity:	Operating Storage	20% ~ 80% 10% ~ 90%

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5. Mechanical Characteristics:

ITEM	CONDITION	SPECIFICATION
5.1 Dimension (Length x Width x Height)		170x85x41mm
5.2 Adapter weight Case material		860g (typical)
5.3 Input AC socket Type		IEC60320 C14 Type
5.4 Output DC Cable Length Wire style		1800±50mm UL 1571 14AWG

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