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SPECIFICATION



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全漢企業股份有限公司

Full-Han Enterprise Co., Ltd.

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SPECIFICATION

FSP090-ASC

P.E	R/D	APPROVED	REV.
Larry Chang	Paul Chu	LJ Wei	001

表單編號：



全漢企業股份有限公司

SPI Electronic Co., Ltd.

Electrical Specification

History

REV.	Description	Date	Drawn	Mechanical	Electrical	Approved
<u>000</u>	SPEC ISSUE	Sep.21'06	Paul Chu	Grant Lu	Paul Chu	LJ Wei
<u>001</u>	Revise Turn-On Delay Time (item 2.6)	Dec.09'06	Paul Chu	Grant Lu	Paul Chu	LJ Wei

MODEL NO. **FSP090-ASC**SHEET 2 OF 8

Electrical Specification

Electrical Requirements

1. Input Characteristics:

ITEM	CONDITION	SPECIFICATION
1.1 Rated Input Voltage		100Vac / 240Vac
1.2 Input Voltage Range		90Vac to 264Vac
1.3 Input Frequency Range		47Hz to 63Hz (\pm 1Hz)
1.4 Input Voltage Harmonic Distortion		\leq 8%
1.5 Input Current	100Vac , 240Vac / 4.74A load	\leq 1.5A
1.6 Efficiency (warm up 10 minutes later)	100Vac / 4.74A 240Vac / 4.74A	\geq 85% \geq 85%
1.7 No Load Power Consumption (Power saving)	240Vac / 0A load (Measured by HIOKI 3332)	\leq 1W

Electrical Specification

2. Output Characteristics:

※Measured at the end of DC cable.

ITEM	CONDITION	SPECIFICATION
2.1 Output Rated Voltage		19V
2.2 Output Current	At constant voltage mode	0A to 4.74A
2.3 Output Voltage Setting	At the output end of DC cable	18.05 ~ 19.95V
2.4 Output Voltage Ripple and Noise: (0.1uF Ceramic Cap. and 25V / 47uF Aluminum Cap. Paralleled between the end of output cable ,BW=20M Hz)	100Vac / 4.74A 240Vac / 4.74A	≤300mVp-p
2.5 Output Overshoot Voltage	From 90W load to half load , half load to 0W , the output overshoot voltage	≤ 8% of Vo
2.6 Turn-On Delay Time	At 100Vac / 90W load , output voltage shall remain regulation	≤ 3 Sec.
2.7 Hold Up Time	At 100Vac or 240Vac / 90W load, output voltage shall remain regulation	≥ 4 mS
2.8 Rise Time	At 100Vac or 240Vac / 90W load, DC output rise time from 5% to 95% of Vo	≤ 80mS
2.9 Dynamic Load Change	Output load step from ±50% change of half load , S/R=0.5A/us, 100Hz & 1KHz 50% duty. Output voltage within spec.	18.05 ~ 19.95V

Electrical Specification

3. Protection Characteristics:

ITEM	CONDITION	SPECIFICATION
3.1 Short Circuit Protection	The adapter can withstand continuous short at DC output and no damage , it will enter into normal condition if the fault condition is removed.	No broken , no smoke. (Auto – recovery mode)
3.2 Over Current Protection	The max. output current will be 8A while output is constant resistor mode.	(Auto – recovery mode)
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 , reset Time \leq 2 minutes.	(Latch mode)

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 L,N and chassis , pulse duration 50nS , period 5 minutes. Impulse: $\pm 2\text{kV}$ applied 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 , 5 times test each one . $\pm 2\text{kV}$ applied between line and power ground (signal ground) , pulse rise time 1.2us and duty time 50uS , 5 times test each one .	No function error No damage
4.3 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
4.4 Cooling	Natural air cooling	
4.5 EMI: Adapter comply with the following national standards: EMI Conducted Emission EMI Radiated Emission	FCC. DOCKET 20780. PART 15J. CLASS B CISPR22 : 1993 / EN55022 (1994) : CLASS B VCCI CLASS II	Test with system
4.6 Safety conforming	UL , c-UL , VDE , NEMKO + CB	
4.7 Leakage Current	240Vac / 60Hz 100Vac / 60Hz	$\leq 250\mu\text{A}$ $\leq 120\mu\text{A}$
4.8 Insulation Resistance	Between AC input and secondary applied 500Vdc for 1 minute.	$\geq 30\text{M}\Omega$
4.9 Dielectric Strength: (Hi-Pot)	Between AC input and secondary applied AC 3kV , test time 1 minute , and cut off current shall be less than 10mA. AC 3kV , test time 1 sec. for production line.	

MODEL NO. FSP090-ASC
SHEET 6 OF 8



全漢企業股份有限公司

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Electrical Specification

ITEM	CONDITION	SPECIFICATION
4.13 Temperature	Operating Storage	0 to 35°C -20 to +80°C
4.14 Humidity	Operating Storage	20% ~ 80% 10% ~ 90%

MODEL NO. **FSP090-ASC**SHEET 7 OF 8

Electrical Specification

5. Mechanical Characteristics:

ITEM	CONDITION	SPECIFICATION
5.1 Dimension (Length x Width x Height)		145mm*62mm*33.5mm
5.2 Adapter weight Case material		450g (typical)
5.3 Input AC socket Type With I/O switch		IEC 320 C8 Type
5.3 Output DC Cable Length		1500 ± 50mm
5.5 Color		
Case		Black
DC Cable (including Molding Core)		Black