



### Features

- Meet Efficiency Level VI
- Operation up to 5, 000 meters
- Full Range AC Input from 90 to 264 Vac
- IEC320-C14 AC Inlet
- Single regulated output from 12/19/24 /48/54Vdc Output
- Output Power: from 96W to 135W
- High efficiency and reliability
- Class I Power Adapter
- OVP, OCP, Short circuit and thermal protection
- UL/cUL, FCC, TUV, EMC safety approvals
- Meet NRCAN, COC Tier 2, GEMS, CONUEE efficiency requirements
- Meet KC, CCC, RCM, BSMI, PSB, BIS, CU, PSE, NOM safety requirements
- 100% burn-in/Hi-Pot/ATE
- Operation in tropical climate environment
- Custom designs available

Level VI



### Description

The SPI FSP096/135-AxAN2 series are highly reliable AC-DC switching power supplies with output power from 120W to 150W. All models of adapters provide different output voltages 12VDC, 19VDC, 24VDC, 48VDC, and 54VDC with optional DC plug that fit into the demands for various types of consumer, commercial, and industrial electronic devices. They are enclosed in a 94V-0 rated polycarbonate case with an IEC320-C14 inlet to mate with various AC power cords for world-wide use. All models meet FCC Part 15 class B, IC ICES-003, and EMC emission limitations, and comply with Department of Energy (DOE) and Energy-related Products (ErP) standards.

### Applications

- Desktop/All-in-One/Notebook PCs
- LCD/LED Monitors
- POS systems
- Office electronic devices
- Telecommunication devices
- Test measurement equipment
- Industrial equipment

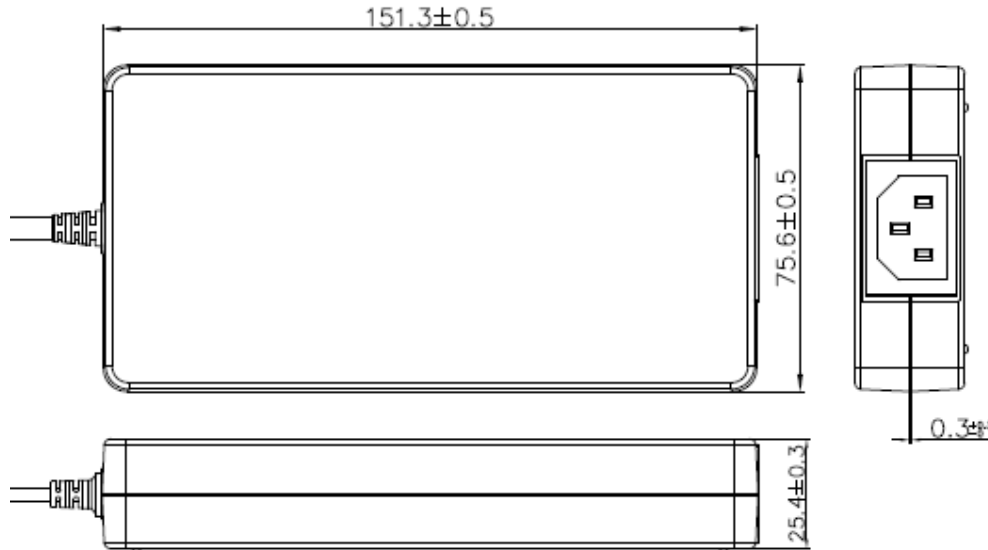


### Specifications:

	Model	FSP096-AHAN2	FSP120-ABAN2	FSP120-AAAN2	FSP120-AFAN2	FSP120-AWAN2	FSP135-ABAN2
<b>Output</b>	Rated Voltage	12V	19V	24V	48V	54V	19V
	Current	0 ~ 8A	0 ~ 6.32A	0 ~ 5.0A	0 ~ 2.5A	0 ~ 2.2A	0 ~ 7.1A
	Watts	96W	120W	120W	120W	120W	135W
	Voltage Regulation	±5%					
	Overshoot	±10%					
	Dynamic Load Change	±10%					
	Ripple & Noise (Max.)	350mVp-p					
	Turn on Time (Max.)	3Sec					
	Rise Time (Max.)	50ms					
	Hold up Time (Min.)	10ms					
	Efficiency (Typical)	88% ~ 89% DOE VI & CoC Tier 2	91% DOE VI & CoC Tier 2	90% DOE VI & CoC Tier 2	90% ~ 91% DOE VI & CoC Tier 2	92% DOE VI & CoC Tier 2	91% DOE VI & CoC Tier 2
<b>Input</b>	Voltage Range	90 ~ 264Vac					
	Frequency Range	47 ~ 63Hz(±1Hz)					
	Current (Max.)	1.8A	1.8A	1.8A	1.8A	1.8A	1.8A
	Inrush Current (cold start, full load, 25°C)	70A @100Vac 103A@240Vac	38.4A@110Vac 109A@240Vac	40A@110Vac 108A@240Vac	40A@110Vac 113A@240Vac	50.4A@110Vac 121A@240Vac	40A@110Vac 112A@240Vac
	Leakage Current (Max.)	0.25mA at 264VAC/50Hz					
	No Load Power Consumption	0.15W					
<b>Protection</b>	Short Circuit Protection	output shut down and auto-recovery after Fault condition removed					
	Over Current Protection	output shut down and auto-recovery after Fault condition removed					
	Over Voltage Protection	output shut down at 160% of voltage and recovery after AC reset					
	Over Temperature Protection	output shut down at abnormal temperature and recovery after AC reset					
<b>Safety &amp; Compliance</b>	Safety Approvals	CB,UL/cUL, TUV					
	EMI/EMC	FCC Part 15 Class B, EMC					
	RoHS	2011/65/EU					
	Hi Pot	Input to output 1.5KV for 1 minute					
	Insulation Resistance	Input to Output at 500Vdc ≥20MΩ					
<b>Environment</b>	Operating Temperature/ Humidity	0~40°C/20~80%					
	Storage Temperature/ Humidity	-20~80°C/10~90%					
	Vibration	(1) Non-operating, 0.01g <sup>2</sup> /Hz at 5Hz, slopping to 0.02g <sup>2</sup> /Hz at 20Hz, And maintain 0.02g <sup>2</sup> /Hz from 20Hz ~ 500Hz (2) PSD=3.13grms, 15 minutes/axis (3) Vibration duration:15minutes (4) Vibration waveform: Random (5) Force Direction X,Y,Z					
<b>Other</b>	Dimension ((L*W*H)	151.3 x 75.6 x 25.4 mm					
	Adapter Weight (Typical)	450g					
	MTBF	Above 500K hours, Telcordia SR-332 (25°C)					
<b>Note</b>	Contact SPI for further information						



### Mechanical Drawing (mm)



### Optional Output DC Plugs

Profile & Dimension	Pinouts	Description	Suitable for SPI Models	Suggested Mating Connector
	1: -V    2: -V 3: -V    4: +V 5: +V    6: +V	6-pin connector Molex receptacle housing 39-01-2060 with female terminal #5556 series or equivalent	FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2	Molex plug housing 39-01-2066 with male terminal #5558 series or equivalent
	1: -V    2: -V 3: -V    4: +V 5: +V    6: +V	6-pin connector Molex receptacle housing 39-01-2065 with female terminal #5556 series or equivalent	FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2	Molex plug housing 39-01-2066 with male terminal #5558 series or equivalent
	1: +V    2: +V 3: -V    4: -V Shell: -V & AC GND	Female 4-pin plug without lock (molding type) Singatron 3MP-3432 or equivalent	FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2	4-pin connector Singatron 2MJ3002, 2MJ-3432, or equivalent
	1: +V    2: +V 3: -V    4: -V Shell: -V & AC GND	Male 4-pin plug without lock (molding type)	FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2	4-pin socket Kycon P/N: KPJX-4S-S or equivalent



## FSP096/135-AxAN2 Series AC-DC POWER SUPPLY

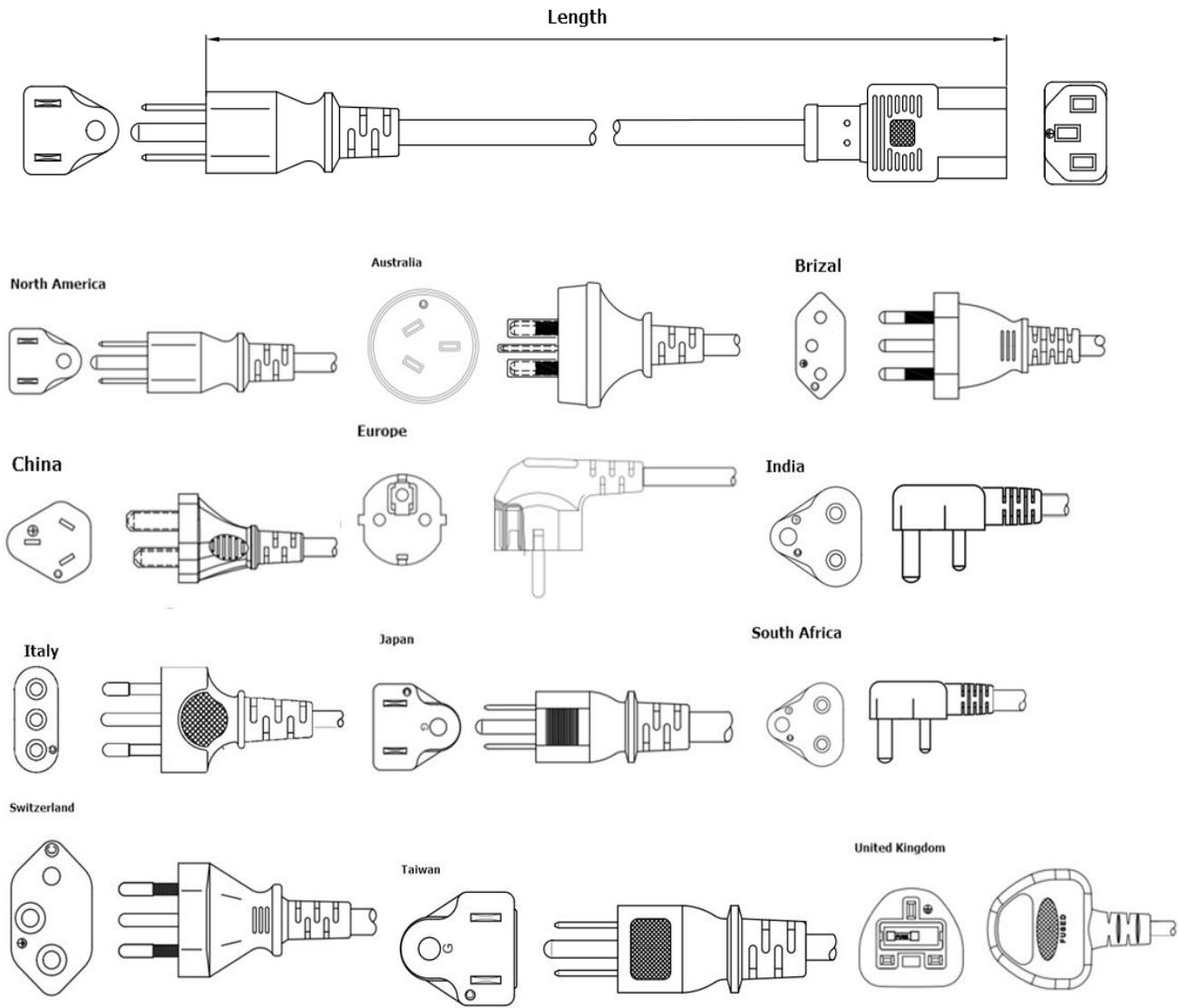
	<p>1: +V    2: +V 3: -V    4: -V Shell: -V &amp; AC GND</p>	<p>Male 4-pin plug with lock (molding type)</p>	<p>FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2</p>	<p>4-pin socket Kycon P/N: KPJX-4S-S or equivalent</p>
	<p>1: -V    2: +V</p>	<p>2-pin receptacle housing Molex 39-01-3025 with female terminal #5556 series or equivalent</p>	<p>FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2</p>	<p>Molex plug housing 39-01-2021 with male terminal #5558 series or equivalent</p>
	<p>Center: +V Sleeve: -V</p>	<p>Barrel female connector (Fork &amp; Groove type)</p>	<p>FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2</p>	<p>Switchcraft, Type: RA712 or equivalent</p>
	<p>Center: +V Sleeve: -V</p>	<p>Barrel female connector (Fork &amp; Groove type)</p>	<p>FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2</p>	<p>Switchcraft, Type: RA722 or equivalent</p>
	<p>Center: +V Sleeve: -V</p>	<p>Barrel right angle female connector (Fork &amp; Groove type)</p>	<p>FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2</p>	<p>Switchcraft, Type: RA712 or equivalent</p>
	<p>Center: +V Sleeve: -V</p>	<p>Barrel right angle female connector (Fork &amp; Groove type)</p>	<p>FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2</p>	<p>Barrel right angle female connector (Fork &amp; Groove type)</p>
	<p>Center: +V Sleeve: -V</p>	<p>EIAJ RC-5320A plug type B with internal pin EIAJ-05 plug</p>	<p>FSP096-AHAN2 FSP120-ABAN2 FSP120-AAAN2 FSP120-AFAN2 FSP120-AWAN2 FSP135-ABAN2</p>	<p>Lumberg 1613 11 or Lumberg 1614 05 or equivalent</p>

Note: Contact SPI for further information



### Optional AC Power Cords

Country	Cable Type	Length	SPI P/N
North America	SVT	1830 mm +/- 50	PCR-B3US-183C
Australia	H05VV-F	1830 mm +/- 50	PCR-B3AU-183B
Brazil	H05VV-F	1830 mm +/- 50	PCR-B3BR-183B
China	RVV 300/500	1830 mm +/- 50	PCR-B3CN-183B
India	H05VV-F	1830 mm +/- 50	PCR-B3OUK-183B
Italy	H05VV-F	1830 mm +/- 50	PCR-B3IT-183B
Japan	VCTF	1830 mm +/- 50	PCR-B3JP-183A
South Africa	H05VV-F	1830 mm +/- 50	PCR-B3SA-183B
Switzerland	H05VV-F	1830 mm +/- 50	PCR-B3SW-183B
Taiwan	VCTF	1830 mm +/- 50	PCR-B3TW-183A
United Kingdom	H05VV-F	1830 mm +/- 50	PCR-B3UK-183B



Note: Contact SPI for further information  
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