



### Features

- Meet Efficiency Level VI I; CoC Version 5 Tier 2
- Operation up to 5, 000 meters
- Full Range AC Input from 90 to 264 Vac
- IEC320-C14 AC Inlet
- Single regulated output from 19/24 /48/54Vdc Output
- Output Power: 90W
- 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 FSP090-AxAN3 series are highly reliable AC-DC switching power supplies with output power from 90W. All models of adapters provide different output voltages 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

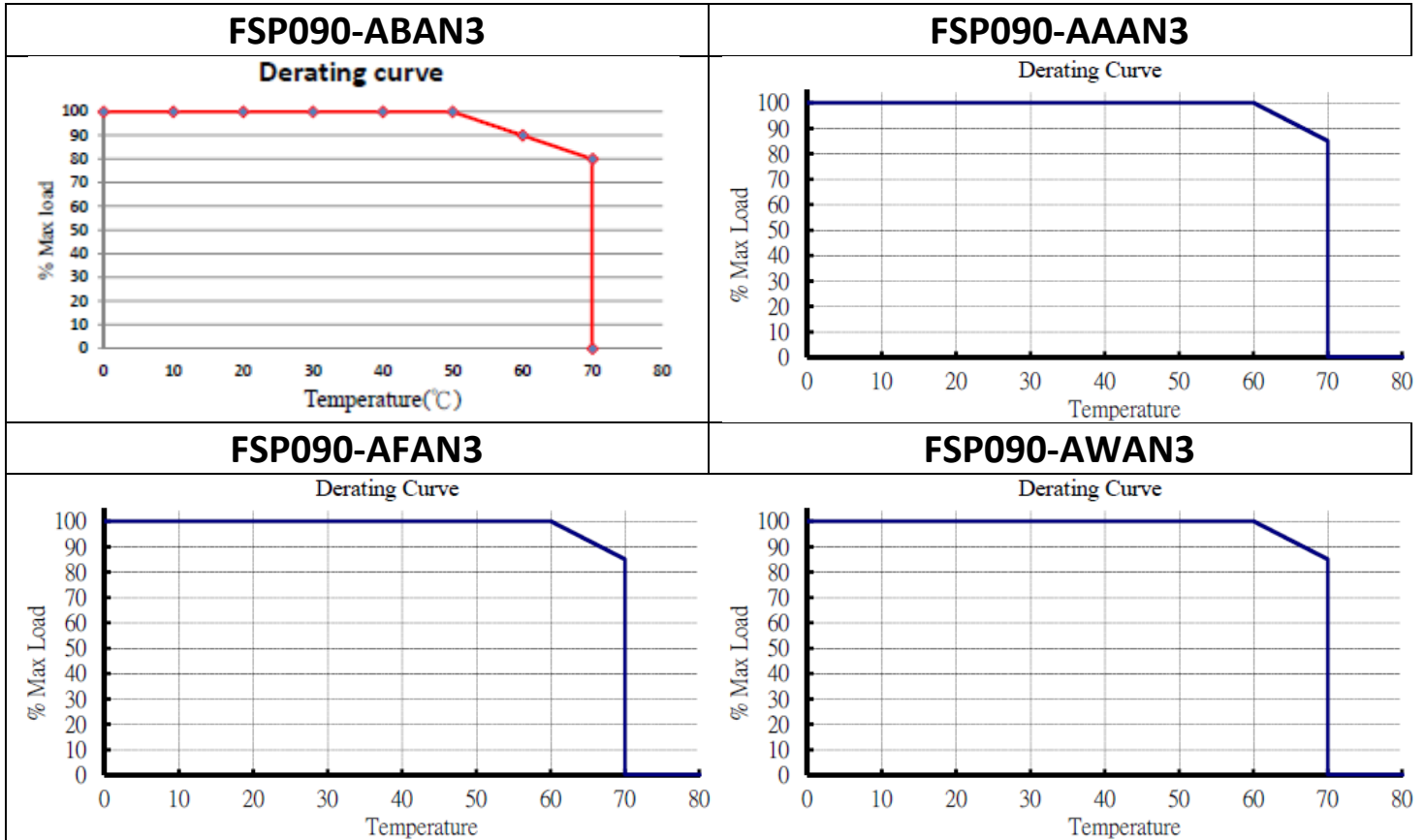


### Specifications:

	Model	FSP090-ABAN3	FSP090-AAAN3	FSP090-AFAN3	FSP090-AWAN3
Output	Rated Voltage	19V	24V	48V	54V
	Current	0 ~ 4.74A	0 ~ 3.75A	0 ~ 1.88A	0 ~ 1.67A
	Watts	90W	90W	90W	90W
	Voltage Regulation	±5%			
	Overshoot	±10%			
	Dynamic Load Change	±10%			
	Ripple & Noise (Max.)	350mVp-p			
	Turn on Time (Max.)	3Sec			
	Rise Time (Max.)	50ms		60ms	
	Hold up Time (Min.)	10ms			
	Efficiency (Typical)	~ 89%	~ 90%	91% ~ 92%	90% ~ 91%
Input	Voltage Range	90 ~ 264Vac			
	Frequency Range	47 ~ 63Hz(±1Hz)			
	Current (Max.)	1.2A	1.2A	1.2A	1.2A
	Inrush Current (cold start, full load, 25°C)	49.6A @100Vac 124A@240Vac	50A@110Vac 115A@240Vac	56.5A@110Vac 120A @240Vac	50A@110Vac 117A @240Vac
	Leakage Current (Max.)	0.25mA at 264VAC/50Hz			
	No Load Power Consumption	0.15W			
Protection	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			
Safety & Compliance	Safety Approvals	CB,UL/cUL, TUV			
	EMI/EMC	FCC Part 15 Class B, EMC			
	RoHS	2011/65/EU; (EU) 2015/863			
	Hi Pot	Input to output 1.5KV for 1 minute			
	Insulation Resistance	Input to Output at 500Vdc ≥20MΩ			
Environment	Operating Temperature/ Humidity	0~40°C/20~80% (safety) 40 to 70°C Linearly de-rating, need to check safety with system			
	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			
Other	Dimension ((L*W*H)	140.1 x 65.1 x 25.4 mm			
	Adapter Weight (Typical)	360g			
	MTBF	Above 500K hours, Telcordia SR-332 (25°C)			
Note	Contact SPI for further information				

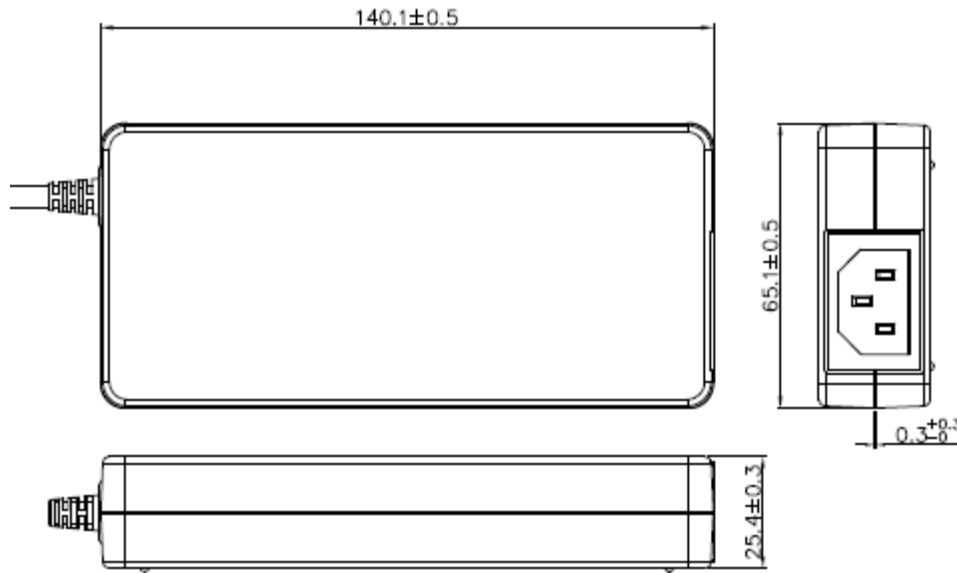


### Power Derating



### Mechanical Drawing (mm)

## FSP090-AxAN3 Series AC-DC POWER SUPPLY



### 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	FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3	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	FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3	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	FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3	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)	FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3	4-pin socket Kycon P/N: KPJX-4S-S or equivalent



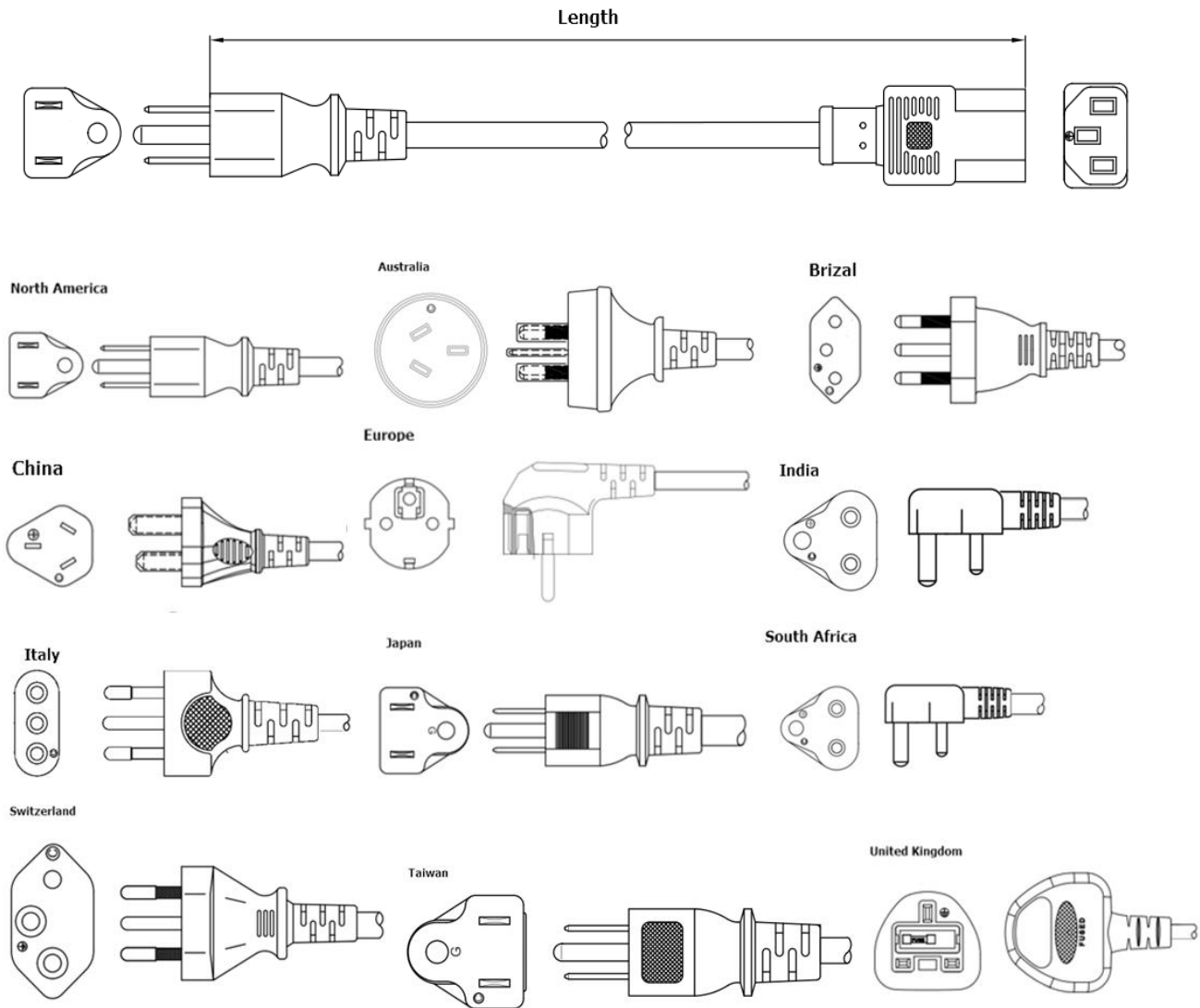
## FSP090-AxAN3 Series AC-DC POWER SUPPLY

	<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>FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3</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>FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3</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>FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3</p>	<p>Switchcraft, Type: RA712 or equivalent</p>
	<p>Center: +V Sleeve: -V</p>	<p>Barrel female connector (Fork &amp; Groove type)</p>	<p>FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3</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>FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3</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>FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3</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>FSP090-ABAN3 FSP090-AAAN3 FSP090-AFAN3 FSP090-AWAN3</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



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