

90W Medical Adapte

FSP090M Series

FEATURES

- Compact size 145 × 71 × 29 mm
- Certified medical safety IEC 60601-1
- Meet Energy Efficiency DOE Level VI
- No load power consumption $\leq 0.21W$
- High altitude 5000M operation
- Meet EN55011 and FCC Class B
- Over voltage protection
- Over current protection
- Over temperature protection
- Compliant with RoHS requirement



SAFETY STANDARD APPROVAL



DESCRIPTION

The FSP090M series are high efficiency desktop adapter with IEC 320/C14 AC inlet, which can deliver 90 watts continuous output power. All models meet EN55011 and FCC class B emission limits, and are designed for medical applications.

INPUT SPECIFICATIONS

| | |
|------------------|--|
| Input voltage: | 90-264 VAC |
| Input frequency: | 47-63 Hz |
| Input current: | < 1.5 A (rms) / 115 VAC < 0.8 A (rms) / 230 VAC |
| Touch current: | < 100 μ A / 264 VAC, 60 Hz |

OUTPUT SPECIFICATIONS

| | |
|-------------------------|---|
| Output voltage/current: | See rating chart |
| Maximum output power: | See rating chart |
| Protection: | |
| Over voltage: | The power supply will shut down while over-voltage happened. |
| Short circuit: | Output can be short-circuited without damage, and will recover automatically after short-circuit condition is removed. |
| Over current: | Output current shall be limited between 160% max load and auto recovery or latch protection. |
| Over temperature: | The power supply will shut down while over-temperature happened. It will shutdown operation after the fault condition is removed. |

ENVIRONMENTAL SPECIFICATIONS

| | |
|------------------------|-----------------------------|
| Operating temperature: | 0°C~+40°C |
| Storage temperature: | -40°C~+85°C |
| Operating humidity: | 5% to 95% RH non-condensing |
| Storage humidity: | 5% to 95% RH non-condensing |

GENERAL SPECIFICATIONS

| | |
|--------------------------------|--|
| Power factor: | 0.97 Typical at 115 VAC |
| Efficiency: | See rating chart |
| Hold-up time: | 10 ms minimum at 115Vac/60Hz |
| Line regulation: | $\pm 1\%$ maximum at full load |
| Inrush current: | 50 A @ 115 VAC or 100 A @ 230 VAC, at 25°C cold start |
| Operating altitude : | 5000 meters |
| Withstand voltage: | 4000 VAC from input to output (2 MOPP) 1500 VAC from input to ground (1 MOPP) |
| MTBF: | 100,000 hours at full load at 25°C ambient , calculated per MIL-HDBK-217F |
| EMC Performance (IEC60601-1-2) | |
| EN55011: | Class B conducted, class B radiated |
| FCC: | Class B conducted, class B radiated |
| VCCI: | Class B conducted, class B radiated |
| EN61000-3-2: | Harmonic distortion, Class D |
| EN61000-3-3: | Line flicker |
| EN61000-4-2: | ESD, ± 15 KV air and ± 8 KV contact |
| EN61000-4-3: | Radiated immunity, 10 V/m |
| EN61000-4-4: | Fast transient/burst, ± 2 KV |
| EN61000-4-5: | Surge, ± 1 KV diff., ± 2 KV com. |
| EN61000-4-6: | Conducted immunity, 3 Vrms |
| EN61000-4-8: | Magnetic field immunity, 30 A/m |
| EN61000-4-11: | Voltage dip immunity, 30% reduction for 500 ms, 60% reduction for 100 ms, and >95% reduction for 10 ms |

90W Medical Adapter

FSP090M Series

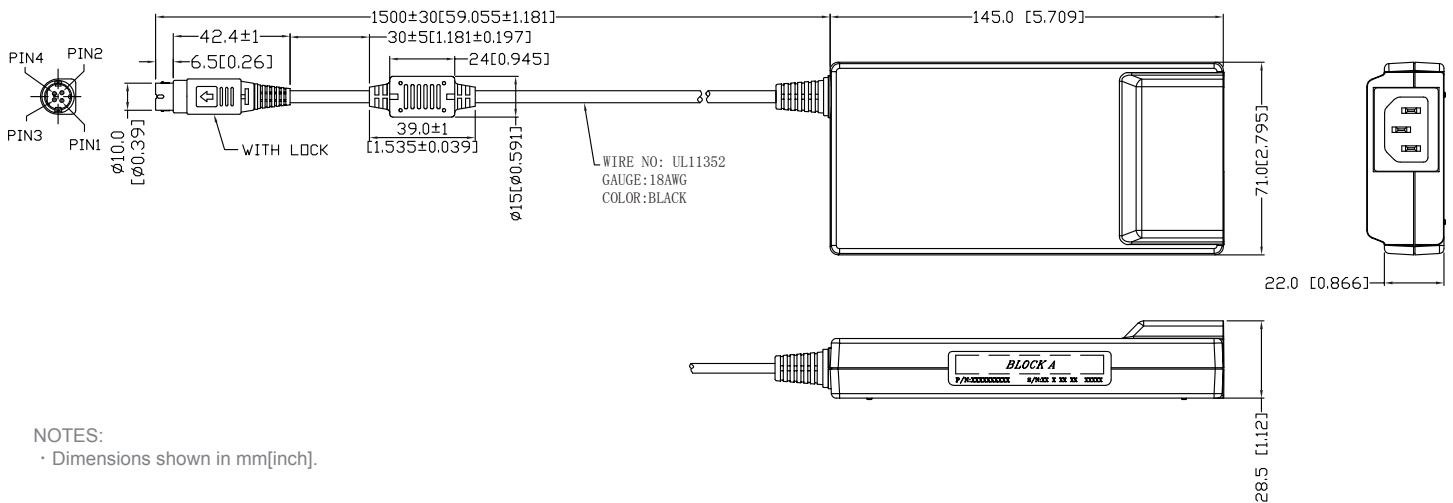
OUTPUT VOLTAGE/CURRENT RATING CHART

| Model | Output | | | | | | Average Active Efficiency (typical) @ 115 / 230 VAC |
|-------------|---------|--------------|--------------|-----------|-------------------------------|------------|---|
| | Voltage | Min. Current | Max. Current | Tolerance | Ripple & Noise ⁽¹⁾ | Max. Power | |
| FSP090M-RHA | 12 V | 0 A | 7.50 A | ±5% | 150 mV | 90W | 88% / 88% |
| FSP090M-RGA | 15 V | 0 A | 6.00 A | ±5% | 200 mV | 90W | 88% / 88% |
| FSP090M-RBA | 19 V | 0 A | 4.74 A | ±5% | 200 mV | 90W | 88% / 88% |
| FSP090M-RAA | 24 V | 0 A | 3.75 A | ±5% | 240 mV | 90W | 88% / 88% |

NOTES:

1. Ripple and noise measurements shall be made with an oscilloscope of at least 20MHz bandwidth. Output shall be bypassed at the connector with a 0.1µF ceramic disk capacitor and a 47µF electrolytic capacitor to simulate system loading.

MECHANICAL SPECIFICATIONS



NOTES:

· Dimensions shown in mm[inch].

PIN CHART

| Pin No. | PIN 1 | PIN 2 | PIN 3 | PIN 4 | Shield |
|----------|-------------------|-------|-----------------------|-------|--------|
| Polarity | Output Voltage(+) | | Output Voltage Return | | |