



FSP030M-K Series

FEATURES

- Fixed or interchangeable AC plugs models are provided
- Certified medical safety IEC 60601-1
- Wide input range 80-264 VAC
- Fixed AC plug models meet IP22
- Meet Energy Efficiency DOE Level VI
- No load power consumption $\leq 0.1W$
- High altitude 5000 meters operation
- 100% burn-in at full rated load
- Over voltage protection
- Over current protection
- Compliant with RoHS requirement

SAFETY STANDARD APPROVAL



DESCRIPTION

The FSP030M-K series are high efficiency wall mount adapter with fixed AC plug or interchangeable AC plug, which can deliver 20-30 watts continuous output power. The fixed AC plug model with USA type or European type. The interchangeable AC plug model is shipped with a selected AC plug and additional types of AC plug can be purchased from the factory. All models meet EN55011 and FCC class B emission limits, and are designed for medical applications.

INPUT SPECIFICATIONS

Input voltage:	80-264 VAC
Input frequency:	47-63 Hz
Input current:	< 1.0 A (rms) / 115 VAC < 0.6 A (rms) / 230 VAC
Touch current:	< 100 μA / 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart
Maximum output power:	See rating chart
Protection:	
Over voltage:	Provided on output. Set at 112% to 140% of its rated output voltage.
Over current:	The power supply will shut down without damage and enter auto-recovery mode.
Temperature coefficient:	All outputs $\pm 0.04\%$ / $^{\circ}C$ maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 μs after a 25% step load change.

ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20 $^{\circ}C$ to +60 $^{\circ}C$
Storage temperature:	-40 $^{\circ}C$ to +85 $^{\circ}C$
Operating humidity:	10% to 90% RH non-condensing
Storage humidity:	5% to 95% RH non-condensing
Temperature derating:	Derate from 100% at +40 $^{\circ}C$ linearly to 50% at +60 $^{\circ}C$

GENERAL SPECIFICATIONS

Efficiency:	See rating chart
Hold-up time:	8 ms minimum at 115 VAC
Line regulation:	$\pm 1\%$ maximum at full load
Inrush current:	60 A @ 115 VAC or 120 A @ 230 VAC, at 25 $^{\circ}C$ cold start
Operating altitude :	5000 meters
Withstand voltage:	4000 VAC from input to output (2 MOPP)
MTBF:	300,000 hours at full load at 25 $^{\circ}C$ 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 A and 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, 10 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

OUTPUT VOLTAGE/CURRENT RATING CHART

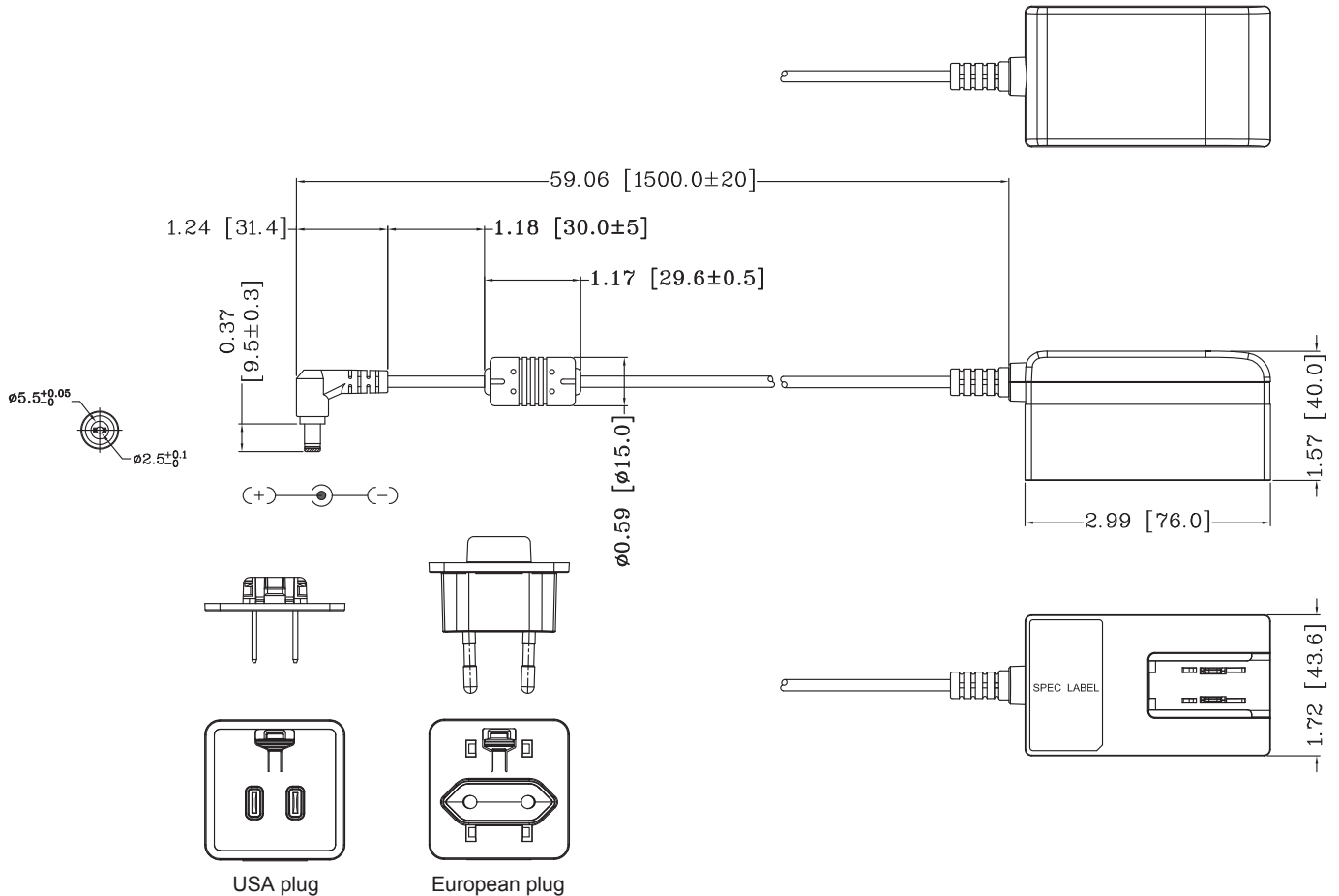
Model ⁽¹⁾			Output						Average Active Efficiency (typical) @ 115 / 230 VAC
Interchangeable AC plug ⁽¹⁾	Fixed USA AC plug	Fixed European AC plug	V _o	Min. Current	Max. Current	Tolerance	Ripple & Noise ⁽²⁾	Max. Power	
FSP020M-KPM-U	FSP020M-KPU	FSP020M-KPE	5 V	0 A	4.00 A	±5%	100 mV	20 W	83.5% / 83.5%
FSP027M-KRM-U	FSP027M-KRU	FSP027M-KRE	9 V	0 A	3.00 A	±5%	100 mV	27 W	87.0% / 87.0%
FSP027M-KSM-U	FSP027M-KSU	FSP027M-KSE	10 V	0 A	2.70 A	±5%	100 mV	27 W	87.0% / 87.0%
FSP030M-KHM-U	FSP030M-KHU	FSP030M-KHE	12 V	0 A	2.50 A	±5%	120 mV	30 W	87.5% / 87.5%
FSP030M-KGM-U	FSP030M-KGU	FSP030M-KGE	15 V	0 A	2.00 A	±5%	150 mV	30 W	87.5% / 87.5%
FSP030M-KDM-U	FSP030M-KDU	FSP030M-KDE	18 V	0 A	1.67 A	±5%	180 mV	30 W	87.5% / 87.5%
FSP030M-KAM-U	FSP030M-KAU	FSP030M-KAE	24 V	0 A	1.25 A	±5%	240 mV	30 W	87.5% / 87.5%

NOTES:

- FSP0xxM-KxM-U models are shipped with USA AC plug, FSP0xxM-KxM-E models are shipped with European plug, If need another AC plugs which are to be order separately by referring available types to note #5 in mechanical specifications below.
- Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 47 μ F electrolytic capacitor in parallel with a 0.1 μ F ceramic capacitor across the output.

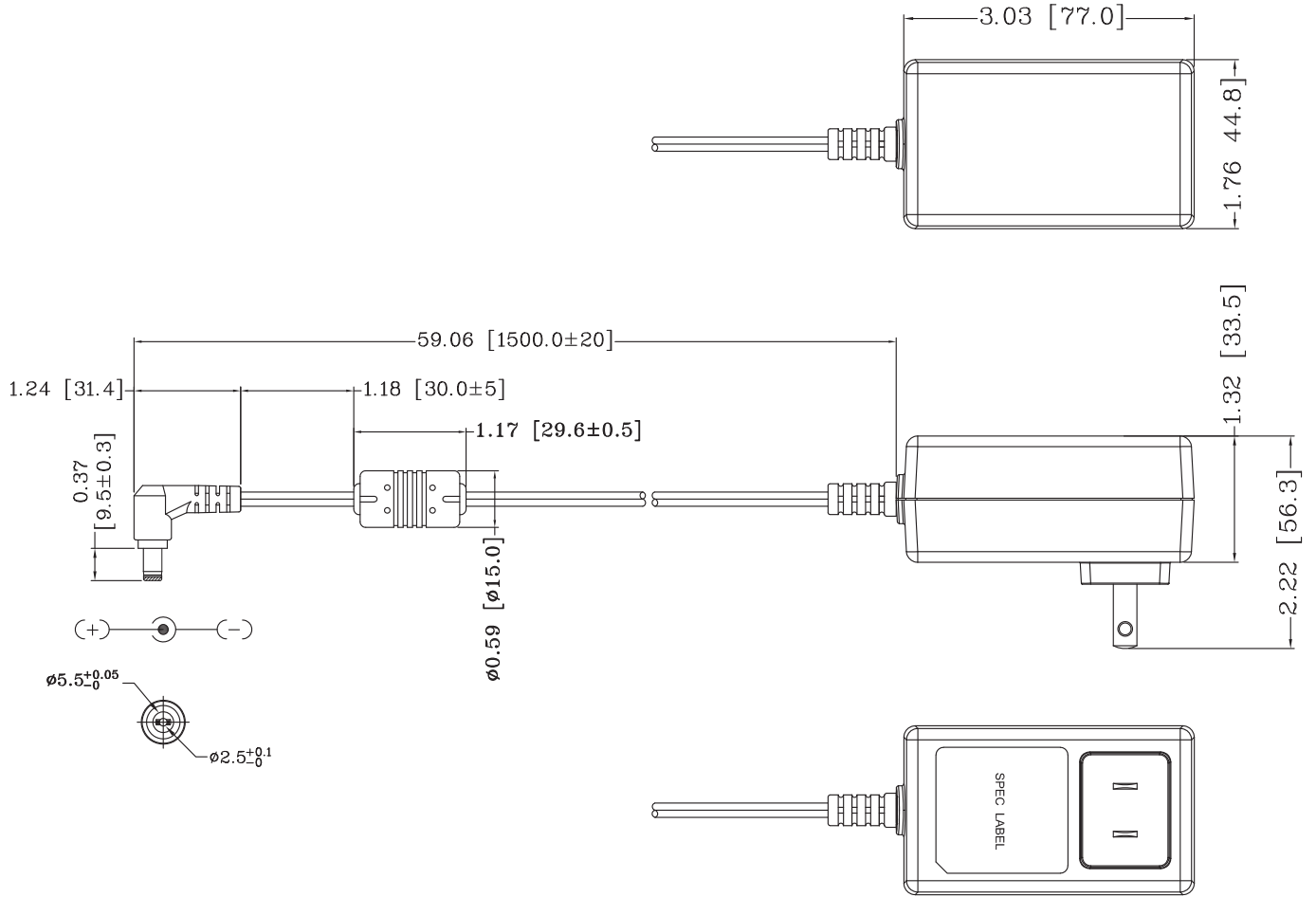
MECHANICAL SPECIFICATIONS

Interchangeable AC Plug



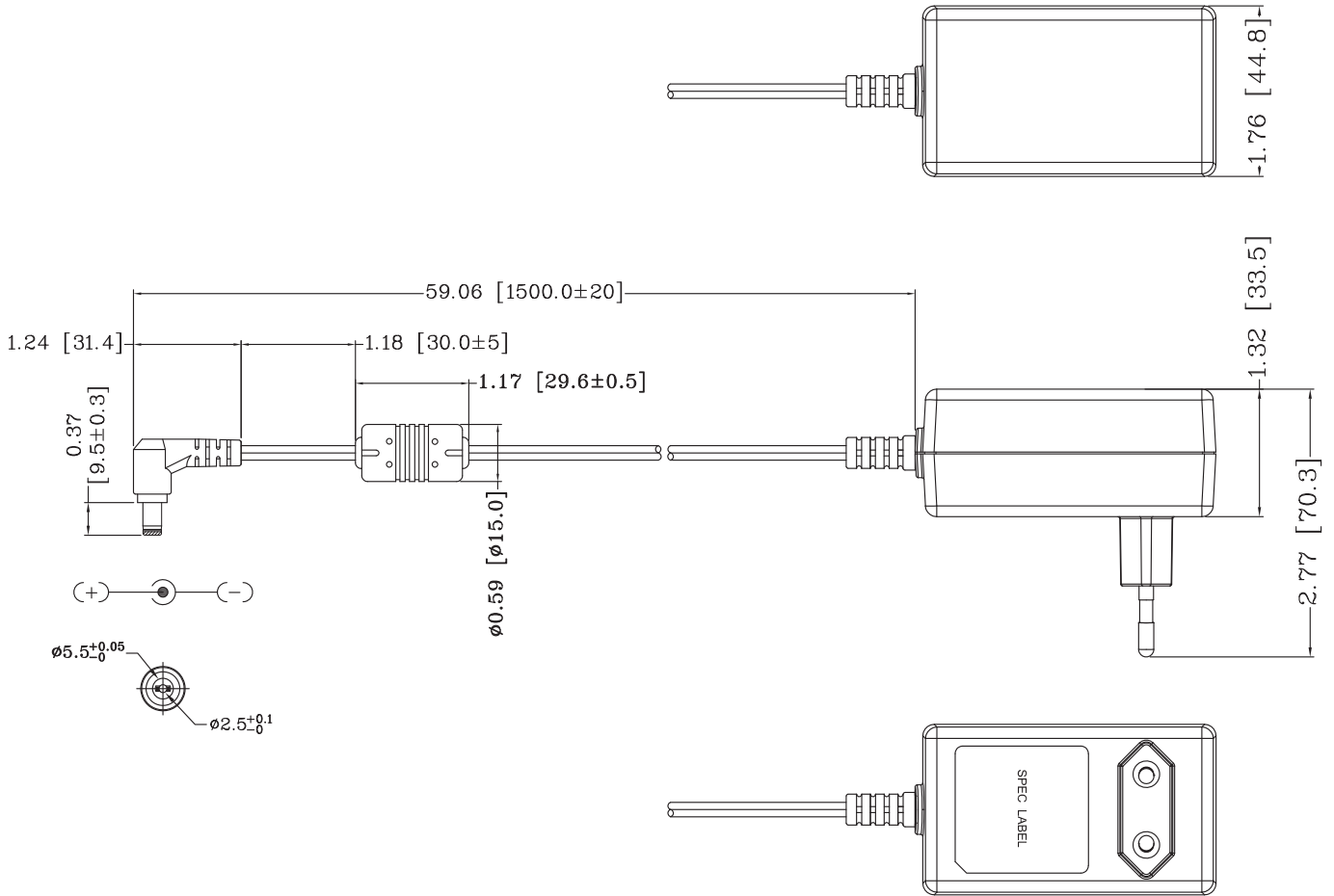
MECHANICAL SPECIFICATIONS

Fixed USA AC Plug



MECHANICAL SPECIFICATIONS

Fixed European AC Plug



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 168 grams (0.37 lbs.) approx.
4. Output connector is 5.5 mm O.D., 2.5 mm I.D., 9.5 mm long barrel female 90o connector, center positive voltage.
5. Interchangeable AC plugs can be ordered by referring to the following ordering numbers:

Type	USA plug	European plug	UK plug	Australia plug
Ordering no.	5OE00036	5OE00086	5OE00063	5OE00065
Safety Approval	cULus approved	TÜV approved	None	None