TECHNICAL DATASHEET

20W-30W Medical POWER SUPPLIES

FSP030M Series

FSP030M Series

FEATURES

- Wide Input voltage range 85~264Vac
- High altitude 5000M operation
- Meet IEC60601-1-2 and EN55011
- IEC60601-1-11 approval
- High efficiency compliant with DOE Level VI requirements
  * No load power consumption less than 0.1W
  * Average active efficiency greater than 85% @ 30W

SAFETY STANDARD APPROVAL

c UL us E211696

EN 60601-1
IEC 60601-1
TÜVRheinland CERTIFIED

CE

DESCRIPTION

This series of AC/DC wall mount switching power supplies can deliver 20watts or 30watts continuous output power. Product is with fixed North America AC plug or fixed European AC plug. High efficiency complies with Energy Star requirement. All models meet IEC60601-1-2、EN55011 class B emission limits and certified with IEC60601-1-11.

INPUT SPECIFICATIONS

Input voltage:	85-264 VAC
Input frequency:	47-63 Hz
Input current:	0.1A(rms,240Vac) to 0.8A (rms,115 VAC) @100% Loading
Touch current:	100 μA max. @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage /current:	See rating chart.
Maximum output power:	See rating chart.
Ripple and noise:	3% peak to peak maximum @ 25℃
Protection:	
OVP:	Auto-recovery
OCP & Shorted:	Auto-recovery
Temperature coefficient:	±0.04% /℃ maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change

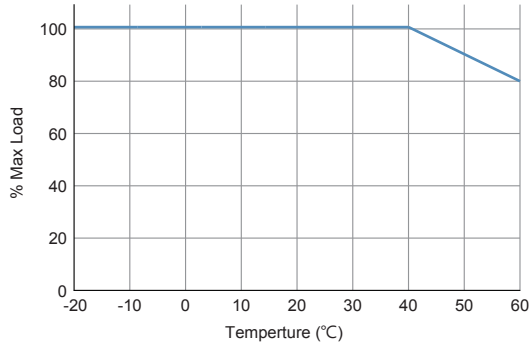
ENVIRONMENTAL SPECIFICATIONS

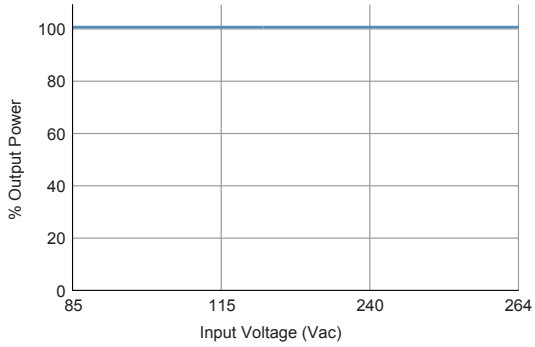
Operating temperature:	0℃ to +40℃
Storage temperature:	-20℃ to +80℃
Relative humidity:	5% to 90% non-condensing
Operation Altitude:	5000 meters

GENERAL SPECIFICATIONS

Hold-up time:	8 ms minimum at 115 VAC
Turn on delay time:	2 s maximum at 115 VAC or 230VAC
Efficiency:	83%/88%@115Vac/230Vac
Line regulation:	±0.5% maximum at full load
Inrush current:	The cold inrush current must not cause the input fuse to open or cause damage to components.
Withstand voltage:	4000 VAC from input to output (2 MOPP)
MTBF:	300,000 hours at full load at 25℃ ambient, calculated per MIL-HDBK-217F
EMC Performance (IEC60601-1-2)	
EN55011:	Class B conducted, Class B radiated
EN61000-3-2:	Harmonic distortion, Class A
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, 3 A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 510 ms, 60% reduction for 204 ms, and 100% reduction for 17 ms

OUTPUT POWER DERATING CURVE





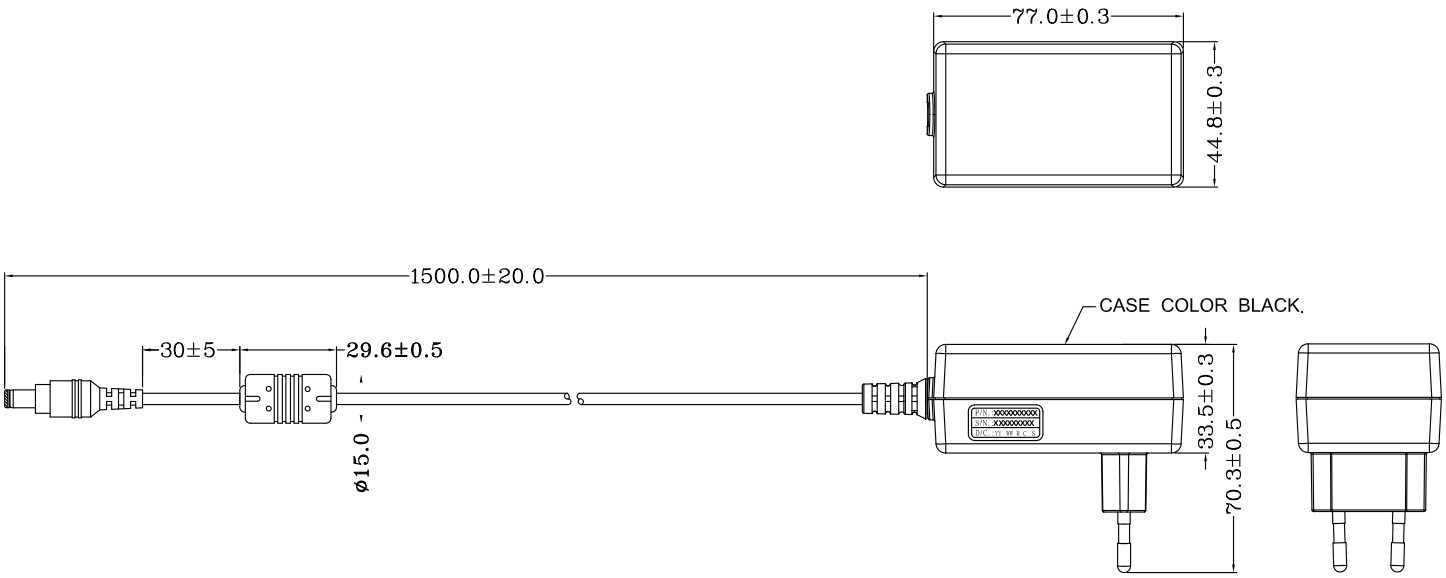
OUTPUT VOLTAGE/CURRENT RATING CHART

Model[1]	Output						Average Active Efficiency (typical) @ 115 / 230 VAC
	V1	Min. Current	Max. Current	Tolerance	Ripple & Noise[2]	Max. Power	
FSP020M-DPE	5 V	0 A	4 A	±5%	150 mV	20 W	83 / 83%
FSP030M-DHE	12 V	0 A	2.5 A	±5%	150 mV	30 W	88 / 88%
FSP020M-DPU	5 V	0 A	4 A	±5%	150 mV	20 W	83 / 83%
FSP030M-DHU	12 V	0 A	2.5 A	±5%	150 mV	30 W	88 / 88%

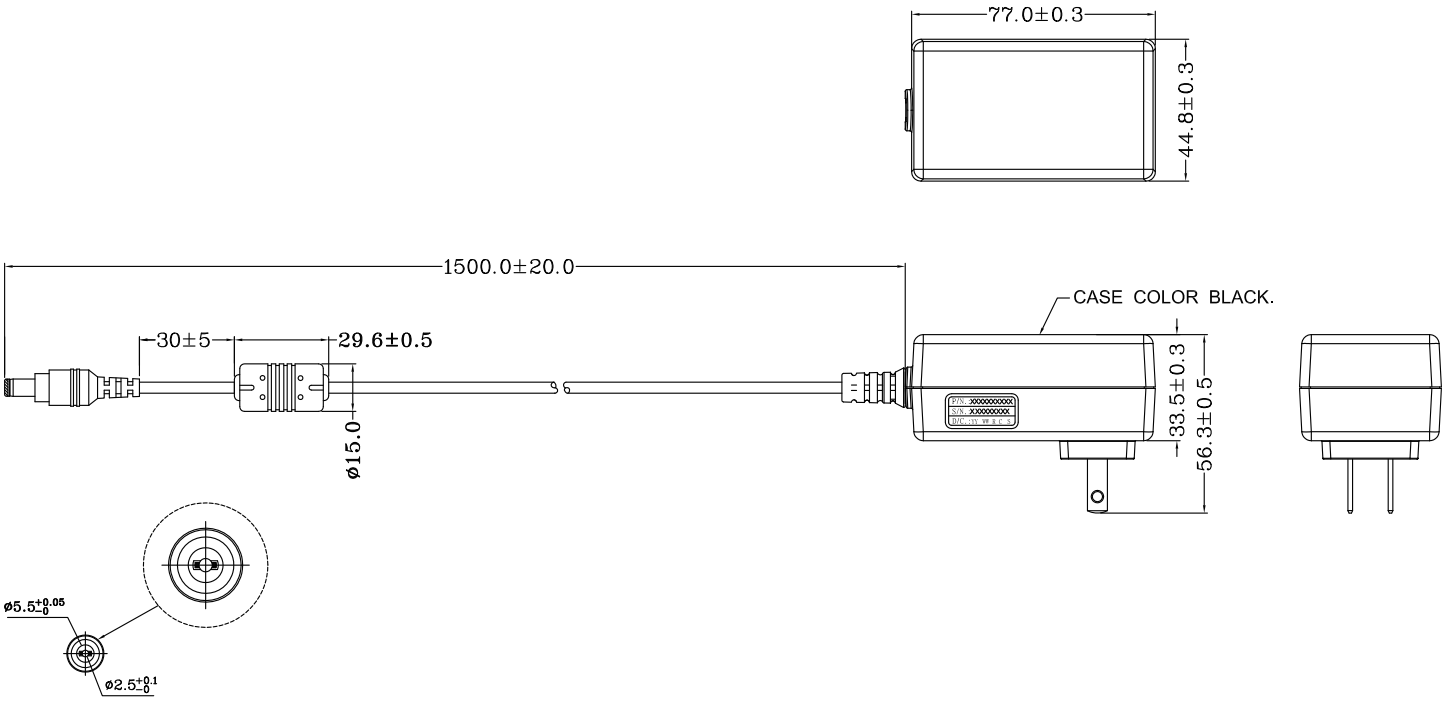
NOTES:
1. FSP020/30M-DxU models are with fixed North American AC plug for safety approval cULus only, and FSP020/30M-DxE models with fixed European AC plug for safety approval TÜV & CE only.
2. Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 10 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

MECHANICAL SPECIFICATIONS

FSP020M/030M-DXE



FSP020M/030M-DXU



NOTES:
1. Dimensions shown in mm
2. Tolerance 1 maximum
3. Weight: 160grams (0.35 lbs.) approx.