TECHNICAL DATASHEET

65W Medical USB PD Type–C Adapter

FSP065M Series

FSP065M Series

FEATURES

· USB Power Delivery Type-C Adapter
· IEC60601-1 & IEC 62368-1
· Class I design
· Energy efficiency DOE Level VI
· No load power consumption ≦ 0.21W
· EN55011 class B compliance

SAFETY STANDARD APPROVAL

c UL us E211696 TÜVRheinland CERTIFIED EN 60601-1 IEC 60601-1 CE

DESCRIPTION

This series of medical USB Power Delivery adapters are Class I design (with safety-protected earth) with IEC-320/C14 or IEC 320/C6 AC inlet. Maximum 65W continued output power at 40℃ operation temperature. High-efficiency features comply with US DOE requirements. All models meet EN 55011 conducted and radiated emission.

INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	≤ 1.7 A (rms) / 100 VAC ≥ 0.8 A (rms) / 240 VAC
Input protection:	T3.15AH/250V Internal fuse fitted in line and neutral
Touch current:	≤ 100 μA / 264 VAC, 63 Hz
Earth Leakage Current:	≤ 150 μA / 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart
Maximum output power:	65W
Protection:	
OVP:	Latch off
OCP & Shorted:	Auto recovery
OTP:	Latch off

ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	0℃~+40℃
Storage temperature:	-20℃~+85℃
Operating humidity:	5% to 95% RH non-condensing
Storage humidity:	5% to 95% RH non-condensing

GENERAL SPECIFICATIONS

Efficiency:	See rating chart
Hold-up time:	> 6 ms minimum at 100Vac/60Hz or 230Vac/50Hz
Line regulation:	±1% maximum at full load
Inrush current:	3 A @ 115 VAC or 100 A @ 230 VAC, at 25℃ cold start
Operating altitude :	5000 meters
Withstand voltage:	4000 VAC from input to output (2 MOPP) 1500 VAC from input to ground (1 MOPP) 500 VAC from output to ground
MTBF:	150,000 hours at full load at 25℃ ambient , calculated per SR332
EMC Performance (IEC60601-1-2)	
EN55011:	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, 3 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 >95% reduction for 10 ms

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OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Input Socket	Output						Average Active Efficiency (typical) @115V / 230V(2)
		Voltage	Min. Current	Max. Current	Tolerance	Ripple & Noise(1)	Max. Power	
FSP065M-DUA	C14	5/9/12/15/20V	0 A	3/3/3/3/3.25A	±5%	5/9/12V ≤ 250 mV 15/20V ≤ 300 mV	65W	≥88%
FSP065M-DUB	C6	5/9/12/15/20V	0 A	3/3/3/3/3.25A	±5%	5/9/12V ≤ 250 mV 15/20V ≤ 300 mV	65W	≥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 10μF electrolytic capacitor to simulate system loading.
2. Average Active Efficiency measurements shall be tested at 100%, 75%, 50%, 25%, and 10% of nameplate output current and no load condition.