TECHNICAL SPECIFICATION

PRODUCT	Medical Power Adapter	SERIES	XH-PH200

Picture



Features

- 200W medical power adapter
- Meet IEC/EN60601-1 medical safety certification
- Protection EMC Class II power
- Wide operating voltage range
- Perfect Protections: Short circuit/Overload/Over voltage/Over current
- 3 years product warranty

*** Application：** Standard active medical equipment

■ Model Selector

Models	Output Voltage	Output Current	Ripple & Noise (MAX)	MAX Total Regulation
PH200-12	12V	13.0A	50mV	±2%
PH200-13.2	13.2V	12.0A	50mV	50mV
PH200-15	15V	10.6A	100 mV	±2%
PH200-19	19V	9.0A	150mV	±2%
PH200-24	24V	7.0A	150mV	±2%
PH200-48	48V	3.5A	200mV	±2%

■ Description

PH200 series is a highly reliable, 200W medical desktop single-output green power adapter, equipped with general standard plug. It complies with latest medical safety standards IEC/EN60601-1 and 2 x MOPP. The efficiency of PH200 series is up to 90%, lower than the ultra-low no-load power consumption of 0.5W. It offers ultra-wide input voltage range from 90VAC to 264VAC, and supplies different output voltages range between 12VDC and 48VDC.

The supreme feature allow adaptor to save the energy when it is either under the operating mode and standby mode. The perfect protection management and flame retardant plastic case ensure the safety and high reliability of the products. With addition of compact structure, natural heat dissipation, and so on, which can satisfy the demands for various types of medical devices.

■ Safety Approvals

CB	CB certification	Medical	Medical grade, Safety Approvals
ROHS	RoHS Compliant	2×MOPP	2 x MOPP Input to Output Isolation
ECO	Eco-Design	BF rated	Type BF Rated Power Supplies

- Safety approval: IEC/EN60601-1. 3.1 version
  GB9706.1-2016
- EMC：IEC/EN60601-1-2 4.0 version
  YY0505-2012

■ Input Specifications

Input Voltage Range	100 ~ 240 Vac	
Start-up Voltage Range	90 ~ 264 Vac	
Input Frequency Range	47 ~ 63 Hz	
Efficiency	≥90%	
AC Current	1.0A(Min) / 2.3A(Max)	Rated load
Inrush Current	25 A	Rated load
Power Factor	⩾0.96	Rated load

■ Output Specifications

Model	PH200-12	PH200-13.2	PH200-15	PH200-19	PH200-24	PH200-48
Output Voltage	12V	13.2V	15V	19V	24V	48V
Voltage Range	11.5-12.5V	12.7-13.7V	14.5-15.5V	18.5-19.5V	23.5-24.5 V	47.5-48.5 V
Output Current	13.0A	12.0A	10.6A	9.0A	7.0A	3.5A
Output Power	156W	158W	159W	171W	168W	168W
Output Ripple	≤100mv					
Load Regulation	±2.0%					
Line Regulation	±1.0%					
Setup / Rise Time	1000ms，30ms/230VAC 1500ms，30ms/115VAC at full load					
Hold Up Time	50ms/230VAC 16ms/115VAC at full load					

■ Other Specifications

Standby Power Consumption	0.5W at 220Aac input/ full load
Power-on Output Delay	15mS / 30mS(MAX) at 220Aac input/ full load
Power On/Off Overshoot	5% / Rated input voltage, rated load
Product Service Life	The environment temp. is 25 ° C and the rated load is ⩾5 years

■ Protection specification

Overload Protection	105% ~ 160% rated output power (CC mode, Auto recovery)
Over Voltage Protection	Shut down output voltage, re-power on to recover
Short circuit	Auto-recovery after the fault is removed

■ Environmental indicators

Working Temp.	-10℃ ~ +50 ℃	
Working Humidity	5 ~ 90% RH non-condensing	
Storage Temp.	-20 ~ 85 ℃	
Storage Humidity	5 ~95% RH non-condensing	
Temp. Coefficient	±0.03% (0 ~40℃)	
Vibration Resistance	10 ~ 500Hz，2G 10 mins/1cycle	X、Y、Z axes/60 mins
Operating Altitude	0 ~ 3000 meters	For operation above 3500m (5000ft), the maximum operating temperature decreases by 2 ℃ for every 305m increase
Seismic Grade	4 Zone	

Noise	35 dB

■ Safety & EMC

Safety Standards	IEC 60601-1:2005 + A1:2012 approved IEC 60601-1-6:2010 + A1:2013 approved		
EMC Emission	Project	Test Level / Note	Standard
	Conducted Emission (CE)	CLASS B	EN60601-1-2 IEC60601-1-2
	Radiated Emission (RE)	CLASS B	EN60601-1-2 IEC60601-1-2
	Harmonic Current	CLASS A	EN61000-3-2 IEC61000-3-2
	Voltage Flicker	Pst≤1.0, P1t≤0.65, Steady state voltage change dc<3.3%, Maximum relative voltage change /d max<3.3%, Relative voltage change /d(t)>500mS≤4%	EN61000-3-3 IEC61000-3-3
EMC Immunity	ESD	15KV Air discharge 8KV Contact discharge	EN61000-4-2 IEC61000-4-2
	RF	10V/m (80MHz~2.7GHz) 9~28V/m(385MHz~5.78GHz)	EN61000-4-3
	EFT	±2KV	EN61000-4-4 IEC61000-4-4
	SURGE	±1KV/Line-Line ±2KV/Line-Ground	EN61000-4-5 IEC61000-4-5
	CS	10V	EN61000-4-6 IEC61000-4-6
	MFI	30A/m	IEC6000-4-8
	Voltage DIP & interruption	Dip 100%U,5000ms,250 periods	EN61000-4-11 IEC61000-4-11 (Note：240Vac/50Hz test)
		Dip 70%Ut,500ms，25 periods	
		Dip 40%Ut,100ms,5 periods	

		Dip 0%Ut， 10ms,half period	

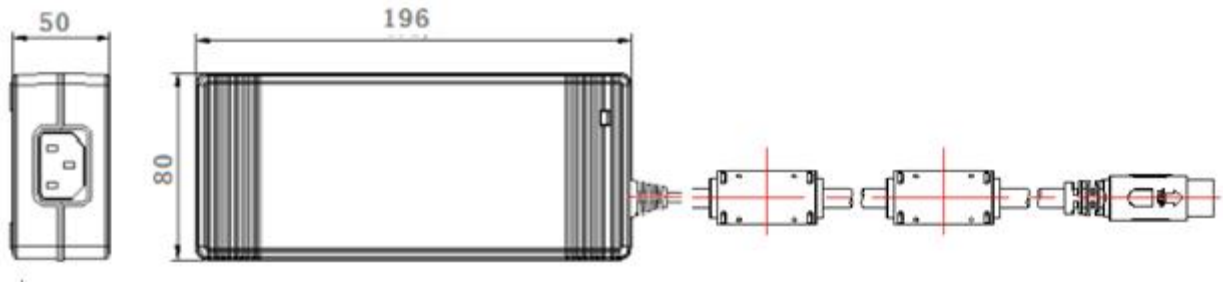
■ Isolation Level

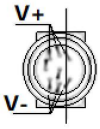
TEST ITEM	Grade	Standard
Input to Output	4000VAC	50Hz, 4000V 1 min, Leakage Current≤5mA, No breakdown and flaring.
Input to Ground	1500VAC	50Hz, 1500V 1 min, Leakage Current≤5mA, No breakdown and flaring.
Output to Ground	500VDC	500V, DC 1 min, Leakage Current≤5mA, No breakdown and flaring.
Isolation Resistance	10MΩ	>10 MΩ & 90% RH & 500 VDC
Earth Leakage Current	240VAC	Leakage Current≤0.5mA
Isolation Level	Primary - secondary:2×MOPP	

■ Others

MTBF	720K hrs min. MIL-HDBK-217F (25℃)
External Dimension (mm)	196×80×50mm（L×W×H）
Weight (g)	≤980g

■ Mechanical Specification



DC Output Plug option	Connectors and pictures
Din 8 Pin Male	 
Din 4 Pin Male	  1、2：V+; 3、4：V-

NO.	Connectors	Note
1	Ac input socket adopts AC Inlet IEC320-C14	1：AC L、2：GND、3：AC N
2	DC output cable length:1200±50mm	Optional Customization