

HWS100/ME

## SPECIFICATIONS

A227-01-01/ME

ITEMS		MODEL	HWS100 -5/ME	HWS100 -12/ME	HWS100 -15/ME	HWS100 -24/ME	HWS100 -48/ME
1	Nominal Output Voltage	V	5	12	15	24	48
2	Maximum Output Current	A	20	8.5	7	4.5	2.1
3	Maximum Output Power	W	100	102	105	108	100.8
4	Efficiency (Typ) (*1)	100VAC	% 83	% 83	% 83	% 84	% 84
		200VAC	% 86	% 86	% 86	% 87	% 87
5	Input Voltage Range (*2)	-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC				
6	Input Current (100/200VAC)(Typ) (*1)	A	1.3/0.65				
7	Inrush Current(Typ) (*3)	-	14A at 100VAC, 28A at 200VAC, Ta=25°C, Cold Start				
8	PFHC	-	Designed to meet IEC61000-3-2				
9	Voltage Fluctuations / Flicker Emissions	-	Designed to meet IEC61000-3-3				
10	Power Factor (100/200VAC)(Typ) (*1)	-	0.99/0.95				
11	Output Voltage Range	V	4.0 - 6.0	9.6 - 14.4	12.0 - 18.0	19.2 - 28.8	38.4 - 52.8
12	Maximum Ripple & Noise (*4)	0≤Ta<70°C	mV 120	mV 150	mV 150	mV 150	mV 200
		-10≤Ta<0°C	mV 160	mV 180	mV 180	mV 180	mV 240
13	Maximum Line Regulation (*5)	mV	20	48	60	96	192
14	Maximum Load Regulation (*6)	mV	40	96	120	192	384
15	Temperature Coefficient	-	Less than 0.02% / °C				
16	Over Current Protection (*7)	A	21.0 ≤	8.92 ≤	7.35 ≤	4.72 ≤	2.20 ≤
17	Over Voltage Protection (*8)	V	6.25 - 7.25	15.0 - 17.4	18.8 - 21.8	30.0 - 34.8	55.2 - 64.8
18	Hold-up Time (Typ) (*9)	-	20ms				
19	Leakage Current (*10)	-	Less than 0.5mA. 0.2mA(Typ) at 100VAC / 0.4mA(Typ) at 230VAC				
20	Remote Sensing	-	Possible				
21	Parallel Operation	-	-				
22	Series Operation	-	Possible				
23	Operating Temperature (*11)	-	-10 to +70°C (-10 to +50°C:100%,+60°C:60%,+70°C:20%)				
24	Operating Humidity	-	30 to 90%RH (No dewdrop)				
25	Storage Temperature	-	-30 to +85°C				
26	Storage Humidity	-	10 to 95%RH (No dewdrop)				
27	Cooling	-	Convection cooling				
28	Withstand Voltage	-	Input - FG : 2kVAC (20mA), Input - Output : 3kVAC (20mA) Output - FG : 500VAC (100mA) for 1min				
29	Isolation Resistance	-	More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC				
30	Vibration	-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s <sup>2</sup> Constant, X,Y,Z 1hour each.				
31	Shock (In package)	-	Less than 196.1m/s <sup>2</sup>				
32	Safety (*12)	-	Approved by UL60601-1, EN60601-1, CSA-C22.2 No.601.1-M90				
33	Line DIP	-	Designed to meet SEMI-F47 (200VAC Line only)				
34	Conducted Emission	-	Designed to meet EN55011/EN55022-B, FCC-B, VCCI-B				
35	Radiated Emission	-	Designed to meet EN55011/EN55022-B, FCC-B, VCCI-B				
36	Immunity	-	Designed to meet IEC61000-4-2(Level 3), -3(Level 3), -4(Level 3), -5(Level 3,4), -6(Level 3), -8(Level 4), -11				
37	Weight(Typ.)	-	450g				
38	Size (W x H x D)	mm	28 x 82 x 160 ( Refer to Outline Drawing )				

\*Read instruction manual carefully, before using the power supply unit.

=NOTES=

- \*1. At 100/200VAC, Ta=25°C and maximum output power.
- \*2. For cases where conformance to various safety specs (UL, EN, CSA) are required, to be described as 100 - 230VAC(50/60Hz).
- \*3. Not applicable for the in-rush current to Noise Filter for less than 0.2ms.
- \*4. Measure with JEITA RC-9131A probe, Bandwidth of scope :100MHz.
- \*5. 85 - 265VAC , constant load.
- \*6. No load-Full load, constant input voltage.
- \*7. Constant current limit and Hiccup with automatic recovery.  
Not operate at over load or dead short condition for more than 30seconds.
- \*8. OVP circuit will shutdown output, manual reset (Re power on).
- \*9. At 100/200VAC , nominal output voltage and maximum output current.
- \*10. Measured by the each measuring method of UL,EN and CSA(at 60Hz).  
When using it as a patient care equipment, all outer surfaces of the equipment shall be constructed of nonconductive material. See clause 19.5DV.2 of UL60601-1.
- \*11. Ratings - Derating at standard mounting.  
- Load (%) is percent of maximum output power or maximum output current, whichever is greater.  
- As for other mountings, refer to derating curve (A227-01-02\_).
- \*12. As for UL60601-1, EN60601-1 and CSA-C22.2 No.601.1-M90, basic insulation.