

HWS300/HD

SPECIFICATIONS

A231-01-01/HD-B

ITEMS		MODEL	HWS300 -3/HD	HWS300 -5/HD	HWS300 -12/HD	HWS300 -15/HD	HWS300 -24/HD	HWS300 -48/HD	
1	Nominal Output Voltage	V	3.3	5	12	15	24	48	
2	Maximum Output Current (*1)	A	60	60	27	22	14(16.5)	7	
3	Maximum Output Power	W	198	300	324	330	336	336	
4	Efficiency (Typ) (*2)	100VAC	%	74	79	80	80	82	
		200VAC	%	77	82	83	83	85	
5	Input Voltage Range (*3)	-	85 - 265VAC (47 - 63Hz) or 120 - 330VDC						
6	Input Current (100/200VAC)(Typ) (*2)	A	2.7/1.4	3.8/1.9	4.1/2.1				
7	Inrush Current(Typ) (*4)	-	20A at 100VAC, 40A at 200VAC						
8	PFHC	-	Designed to meet IEC61000-3-2						
9	Power Factor (100/200VAC)(Typ) (*2)	-	0.99/0.95						
10	Output Voltage Range	V	2.64-3.96	4.0-6.0	9.6-14.4	12.0-18.0	19.2-28.8	38.4-52.8	
11	Maximum Ripple & Noise (*5)	0≤Ta≤71°C	mV	120	120	150	150	150	350
		-10≤Ta<0°C	mV	180	180	200	200	200	400
12	Maximum Line Regulation (*6)	mV	20	20	48	60	96	192	
13	Maximum Load Regulation (*7)	mV	30	30	72	90	144	288	
14	Temperature Coefficient	-	Less than 0.02% / °C						
15	Over Current Protection (*8)	A	63 ≤	63 ≤	28.4 ≤	23.1 ≤	16.7 ≤	7.4 ≤	
16	Over Voltage Protection (*9)	V	4.13-4.95	6.25-7.25	15.0-17.4	18.8-21.8	30.0-34.8	55.2-64.8	
17	Hold-up Time (Typ) (*10)	-	20ms						
18	Leakage Current (*11)	-	Less than 0.75mA. 0.2mA(Typ) at 100VAC / 0.44mA(Typ) at 230VAC						
19	Remote Sensing	-	Possible						
20	Remote ON/OFF control	-	Possible						
21	Monitoring Signal	-	PF(Open Collector Output)						
22	Parallel Operation	-	Possible						
23	Series Operation	-	Possible						
24	Operating Temperature (*12,*13)	-	-10 to +71°C (-10 to +50°C:100%,+71°C:50%) Guarantee Start up at -40°C to -10°C						
25	Operating Humidity	-	10 to 90%RH (No dewdrop)						
26	Storage Temperature	-	-40 to +85°C						
27	Storage Humidity	-	10 to 95%RH (No dewdrop)						
28	Cooling	-	Forced Air By Blower Fan						
29	Withstand Voltage	-	Input - FG : 2.5kVAC (20mA), Input - Output : 3kVAC (20mA) Output - FG: 500VAC (100mA), Output-CNT: 100VAC(100mA) for 1min						
30	Isolation Resistance	-	More than 100MΩ Output - FG : 500VDC More than 10MΩ Output -CNT : 100VDC at 25°C and 70%RH						
31	Vibration (*14)	-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s ² Constant, X,Y,Z 1hour each. Designed to meet MIL-STD-810F 514.5 Category 4,10						
32	Shock (In package)	-	Less than 196.1m/s ² Designed to meet MIL-STD-810F 516.5 Procedure I, VI						
33	Safety (*15)	-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020), EN50178, Designed to meet DENAN						
34	Line DIP	-	Designed to meet SEMI-F47 (200VAC Line only)						
35	Conducted Emission	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B						
36	Radiated Emission	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B						
37	Immunity	-	Designed to meet IEC61000-4-2(Level 2,3), -3(Level 3), -4(Level 3), -5(Level 3,4), -6(Level 3), -8(Level 4), -11						
38	Weight(Typ.)	-	1.0kg						
39	Size (W x H x D)	mm	61 x 82 x 165 (Refer to Outline Drawing)						

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

=NOTES=

- *1. () :Peak output current at 200VAC.Operating time at peak output is less than 10sec, duty is less than 35%.
- *2. At 100/200VAC, Ta=25°C and maximum output power.
- *3. For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 - 240VAC(50/60Hz).
- *4. Not applicable for the in-rush current to Noise Filter for less than 0.2ms.
- *5. Measure with JEITA RC-9131A probe, Bandwidth of scope :100MHZ.
- *6. 85 - 265 VAC , constant load.
- *7. No load-Full load, constant input voltage.
- *8. 3.3, 5V model: Constant current limit and hiccup with automatic recovery.
12 - 48V model: Constant current limit with automatic recovery.
Avoid to operate at over load or short circuit condition for more than 30seconds.
- *9. OVP circuit will shut the output down, manual reset (CNT reset or Re power on).
- *10. At 100/200VAC , nominal output voltage and maximum output current.
- *11. Measured by the each measuring method of UL,CSA,EN and DENAN(at 60Hz), Ta=25°C.
- *12. Ratings - Derating at standard mounting. /Refer to output derating curve.(A231-01-02/HD-_)
- Load (%) is percent of maximum output power or maximum output current, whichever is greater.
- *13. For -40°C - -10°C need 3minutes to stabilize the output voltage.
- *14. Category 4 exposure levels : Truck transportation over U.S. highways, Composite two-wheeled trailer.
- *15. As for DENAN, designed to meet at 100VAC.

OUTPUT DERATING

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Ta(°C)	LOAD(%)	
	MOUNTING A	MOUNTING B
-10 to +50	100	
71	50	

