

**ZWS240BP/R**

SPECIFICATIONS

A253-01-01/R-B

ITEMS		MODEL	ZWS240BP -24/R	ZWS240BP -36/R	ZWS240BP -48/R
1	Nominal Output Voltage	V	24	36	48
2	Average Output Current	A	10	6.7	5.0
3	Peak Output Current (*1)	A	20.0	13.4	10.0
4	Average Output Power	W	240.0	241.2	240.0
5	Peak Output Power (*1)	W	480.0	482.4	480.0
6	Efficiency (Typ)	100VAC %	88		
		(*2) 200VAC %	91		
7	Input Voltage Range (*3)(*14)	-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC		
8	Input Current (Typ) (*2)	A	2.8/1.5		
9	Inrush Current (Typ) (*2)(*4)	-	15A at 100VAC, 30A at 200VAC, Ta=25°C, Cold Start		
10	PFHC	-	Designed to meet IEC61000-3-2		
11	Power Factor (Typ) (*2)	-	0.98/0.93		
12	Output Voltage Range	V	21.6 - 27.5	32.4 - 39.6	39.6 - 52.8
13	Maximum Ripple & Noise (*5)	0≤Ta≤70°C mV	240	360	480
		-10≤Ta<0°C mV	360	540	720
14	Maximum Line Regulation (*5)(*6)	mV	96	144	192
15	Maximum Load Regulation (*5)(*7)	mV	192	288	384
16	Temperature Coefficient (*5)	-	Less than 0.02% / °C		
17	Over Current Protection (*8)	A	20.10 -	13.47 -	10.05 -
18	Over Voltage Protection (*9)	V	28.8 - 33.6	41.4 - 48.6	55.2 - 64.8
19	Hold-up Time (Typ) (*2)	-	20ms		
20	Leakage Current (*10)	-	Less than 0.5mA. 0.2mA(Typ) at 100VAC / 0.4mA(Typ) at 230VAC		
21	Remote Control (*11)	-	Possible		
22	Parallel Operation	-	-		
23	Series Operation	-	Possible		
24	Operating Temperature (*12)	-	Convection : -10 to +70°C (-10 to +50°C:100%, +60°C:65%, +70°C:30%)		
25	Operating Humidity	-	30 to 90%RH (No Condensing)		
26	Storage Temperature	-	-30 to +75°C		
27	Storage Humidity	-	10 to 90%RH (No Condensing)		
28	Cooling	-	Convection Cooling		
29	Withstand Voltage	-	Input - FG : 2kVAC (10mA), Input - Output : 3kVAC (10mA) Output - FG : 500VAC (20mA) for 1min		
30	Isolation Resistance	-	More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC		
31	Vibration	-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s <sup>2</sup> Constant, X,Y,Z 1hour each.		
32	Shock	-	Less than 196.1m/s <sup>2</sup>		
33	Safety	-	Approved by UL62368-1, CSA62368-1, EN62368-1, UL60950-1, CSA60950-1, EN60950-1 (Expire date of 60950-1 : 20/12/2020), EN50178(OV II) Designed to meet DENAN at 100VAC Only.		
34	Conducted Emission (*13)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B		
35	Radiated Emission (*13)	-	Designed to meet EN55011/EN55032-B, FCC-B, VCCI-B		
36	Immunity	-	Designed to meet IEC61000-6-2 IEC61000-4-2, -3, -4, -5, -6, -8, -11		
37	Weight (Typ)	g	520		
38	Size (W x H x D)	mm	84 x 42 x 180 ( Refer to Outline Drawing )		

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

=NOTES=

\*1. Operating time at peak output is less than 5sec, duty is less than 40%. For details, refer to peak output condition (A253-01-03 ).

When the peak output more than 5 sec is continued, the output is shut down, manual reset.  
\*2. At 100VAC/200VAC, Ta=25°C, nominal output voltage and average 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 inrush current to Noise Filter for less than 0.2ms.

\*5. Please refer to Fig. A for measurement of Vo, line & load regulation and ripple voltage.

\*6. 90 - 265VAC, constant load.

\*7. No load-Average load, constant input voltage.

\*8. Constant current limit with automatic recovery. Avoid to operate at over load or short circuit condition.

\*9. OVP circuit will shut down output, manual reset (Re power on).

\*10. Measured by the each measuring method of UL, CSA, EN and DENAN (at 60Hz), Ta=25°C.

\*11. As for Remote control mode, refer to Fig. B.

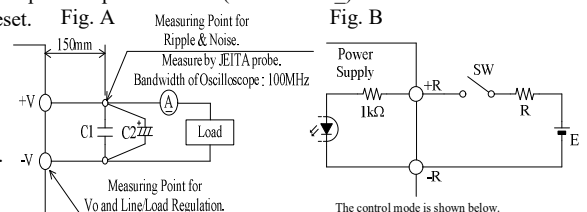
\*12. Output Derating - Derating at standard mounting. Refer to output derating curve (A253-01-02 ).

- When forced air cooling, refer to forced air cooling specifications (A253-01-04\_, A253-01-05/R-, A253-01-06\_).

- Load (%) is percent of average output power or average output current, do not exceed its derating of average load.

\*13. At Ta=25°C and average output power.

\*14. Output derating needed when input voltage less than 90VAC. Refer to output derating vs. input voltage (A253-01-02\_).



The control mode is shown below.	
-R & R terminal condition	Output condition
SW ON (Higher than 4.5V)	ON
SW OFF (Lower than 0.8V)	OFF
External voltage level : E	External resistance : R
4.5 - 12.5VDC	No required
12.5 - 24.5VDC	1.5kΩ

C1 : Film Cap. 0.1μF  
C2 : Elect. Cap. 100μF

**ZWS240BP/R**

SPECIFICATIONS (FORCED AIR COOLING)

A253-01-05/R-A

ITEMS		MODEL	ZWS240BP -24/R	ZWS240BP -36/R	ZWS240BP -48/R
1	Nominal Output Voltage	V	24	36	48
2	Average Output Current	A	12.5	8.4	6.3
3	Peak Output Current (*1)	A	20.0	13.4	10.0
4	Average Output Power	W	300.0	302.4	302.4
5	Peak Output Power (*1)	W	480.0	482.4	480.0
6	Efficiency (Typ)	100VAC	%		
		(*)2 200VAC	%		
7	Input Voltage Range (*3)(*4)	-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC		
8	Input Current (Typ) (*5)	A	3.6/1.8		
9	Hold-up Time (Typ) (*5)	-	16ms(typ) at 100VAC & Rated O/P Power, 20ms(typ) at 100VAC & 75% Load		
10	Operating Temperature (*6)	-	-10 to +70°C (-10 to +60°C:100%, +70°C:70%)		
11	Cooling (*7)	-	Forced Air Cooling		
12	Conducted Emission (*8)	-	Designed to meet EN55011/EN55032-A, FCC-A, VCCI-A		
13	Radiated Emission (*8)	-	Designed to meet EN55011/EN55032-A, FCC-A, VCCI-A		

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

\*For other specification items, refer to specifications(A253-01-01/R- ).

=NOTES=

- \*1. Operating time at peak output is less than 5sec, duty is less than 40%. For details, refer to peak output condition (A253-01-03\_).  
When the peak output more than 5 sec is continued, the output is shut down, manual reset.
- \*2. At 100VAC/200VAC, Ta=25°C, nominal output voltage and average 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. Output derating needed when input voltage less than 90VAC. Refer to output derating vs. input voltage (A253-01-02\_).
- \*5. At 100VAC/200VAC, Ta=25°C, nominal output voltage and average output power.
- \*6. Output Derating - Derating at standard mounting. Refer to output derating curve (A253-01-06\_).  
- Load (%) is percent of average output power or average output current, do not exceed its derating of average load.
- \*7. Forced air cooling with air velocity more than 1.5m/s (measured at component side of PCB, air must flow through component side)
- \*8. At Ta=25°C and average output power.