

ZWX240

SPECIFICATIONS(1/2)

A235-01-01D

MODEL			ZWX240				
ITEMS			V1	V2	V3	V4	V5 (5V SB)
1	Nominal Output Voltage	V	+3.3	+5	+12	-12	+5
2	Minimum Output Current	A	0	0	0	0	0
3	Maximum Output Current (Convection)	A	7.0	6.0	8.0	0.2	1.4
4	Maximum Output Power Each CH (Convection)	W	23.1	30.0	96.0	2.4	7.0
5	Total Output Power (Convection)	W	120				
6	Maximum Output Current (Forced Air)	A	9.8	8.4	11.2	0.3	2.0
7	Maximum Output Power Each CH (Forced Air)	W	32.3	42.0	134.4	3.6	10.0
8	Total Output Power (Forced Air)	W	204				
9	Peak Output Current (*1)	A	14.0	12.0	16.0	0.3	2.0
10	Peak Output Power Each CH (*1)	W	46.2	60.0	192.0	3.6	10.0
11	Total Peak Output Power (*1)	W	240				
12	Efficiency (100/200VAC)(Typ) (*2)	-	81%/84%				
13	Input Voltage Range (*4)	-	85-265VAC (47-63Hz)				
14	Input Current (100/200VAC)(Typ) (*2)	-	2.6A/1.3A				
15	Inrush Current (100/200VAC)(Typ) (*5)	-	14A/28A at Cold Start (Ta=25°C)				
16	PFHC	-	Designed to meet IEC61000-3-2				
17	Power Factor (100/200VAC)(Typ) (*2)	-	0.99/0.93				
18	Output Voltage Accuracy	%	±5	±5	±5	±5	±5
19	Output Voltage Range	-	Fixed	Fixed	Fixed	Fixed	Fixed
20	Maximum Ripple & Noise (*3,*6)	-10≤Ta<0°C	mV	160	180	180	160
		0≤Ta≤50°C	mV	120	150	150	120
21	Maximum Line Regulation (*3,*6,*7)	mV	20	48	48	20	20
22	Maximum Load Regulation (*3,*6,*8)	mV	100	300	300	100	100
23	Over Current Protection (*9)	A	10.3-	8.82-	11.8-	0.32-	2.1-
24	Over Voltage Protection (*10)	-	V1 : 114%-130%(3.76-4.3V), V2 : 115%-140%(5.74-7V) V3 : 112%-130%(13.4-15.6V)				
25	Hold-up Time (Typ) (*2)	-	20ms at 100VAC				
26	Leakage Current (*3,*11)	-	Less than 0.75mA				
27	Remote Sensing	-	Possible (V1 only)				
28	ON/OFF Control (PS_ON)	-	TTL compatible (H : Output Inhibit, L : Output Enable) : Designed to meet ATX standard.				
29	Series / Parallel Operation	-	-				
30	Operating Temperature (*12)	-	-10 - +50°C : 100%, 60°C : 60%, 70°C : 20%				
31	Operating Humidity	-	30 - 90%RH (No Dewdrop)				
32	Storage Temperature	-	-30 - +85°C				
33	Storage Humidity	-	10 - 95%RH (No Dewdrop)				
34	Cooling (*12)	-	Convection Cooling / Forced air Cooling (System air Cooling) : 0.85 m ³ /min				
35	Withstand Voltage	-	Input-FG : 2kVAC(20mA), Input-Output : 3kVAC(20mA) Output-FG : 500VAC(100mA) for 1min.				
36	Isolation Resistance	-	More than 100MΩ at 25°C and 70%RH Output-FG : 500VDC				
37	Vibration	-	At no operating 10 - 55Hz(Sweep for 1min.) 19.6 m/s ² Constant, X,Y,Z 1 hour each.				
38	Shock	-	Less than 392 m/s ² at no operating.				
39	Safety	-	Approved by UL60950-1, CSA60950-1, EN60950-1, EN50178(OV II), Designed to meet Den-an Appendix12 (J60950-1)				
40	Conducted Emission (*3)	-	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B				
41	Radiated Emission (*3)	-	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B				

SPECIFICATIONS(2/2)

A235-01-02C

MODEL			ZWX240				
			V1	V2	V3	V4	V5 (5V SB)
42	Immunity	-	Designed to meet IEC61000-4-2, -3, -4, -5, -6, -8, -11				
43	Weight (Typ.)	g	650				
44	Size (W x H x D)	mm	106 x 36 x 225 (Refer to Outline Drawing)				

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

=NOTE=

- *1. Operating time at peak output is less than 5sec.
(Average output power and current are less than Maximum output power and current.)
 - *2. At total output power (Forced air) (V1=9.0A, V2=8.0A, V3=10.6A, V4=0.2A, V5=1.0A), Ta=25°C.
 - *3. At total output power (Forced air).
 - *4. For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100 - 240VAC (50/60Hz).
 - *5. Not applicable for the inrush current to Noise Filter for less than 0.2ms.
 - *6. Please refer to Fig. A for measurement of line & load regulation and ripple voltage.
 - *7. 85 - 265VAC , constant load.
 - *8. No load-Full load, constant input voltage.
 - *9. Avoid to operate at overload or short circuit condition for more than 30 seconds.
- V1,V2 and V3
: OCP circuit will shut down output except V5 with delay (more than 5s), manual reset (PS_ON reset or re power on.).
- V4 : Constant current limit with automatic recovery.
- V5 : Constant current limit in conjunction with all output with automatic recovery.
- *10. OVP circuit will shut down output, manual reset (PS_ON reset or re power on.).
 - *11. Measured by the each measuring method of UL, CSA, EN and DENAN (at 60Hz), Ta=25°C.
 - *12. At forced air cooling, standard mounting. Refer to output derating curve.(A235-01-03_, A235-01-04_)

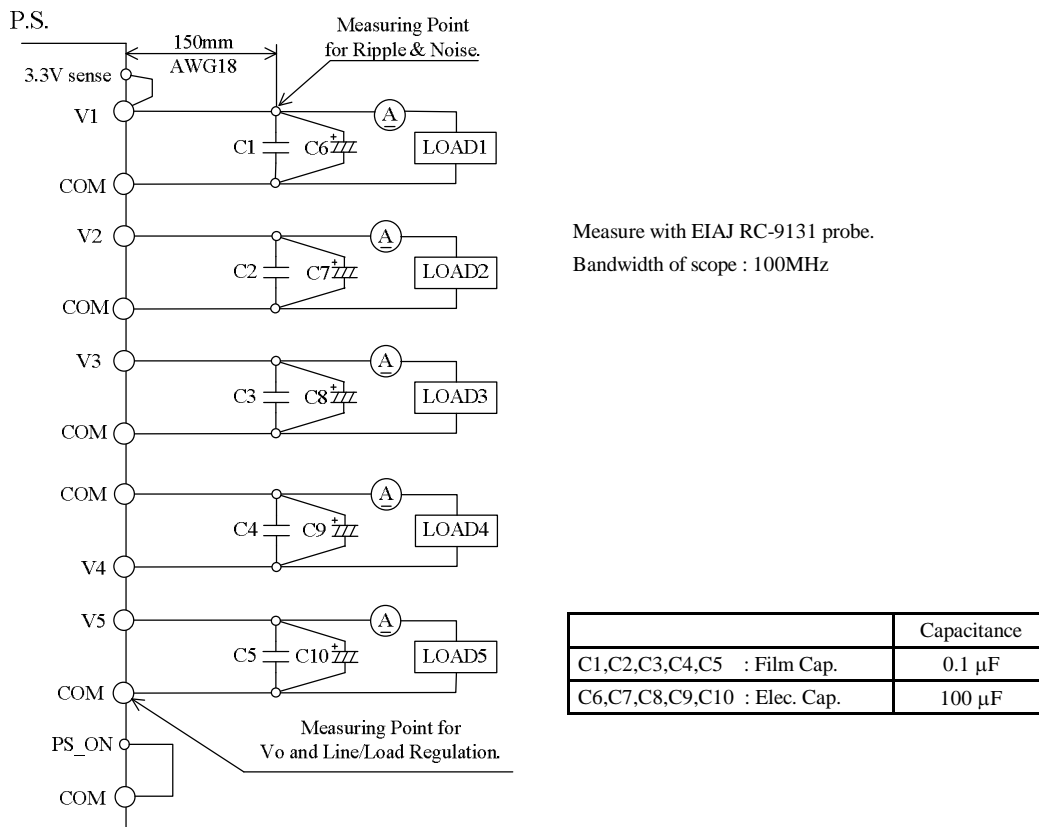


Fig.A

ZWX240

OUTPUT DERATING

A235-01-03A

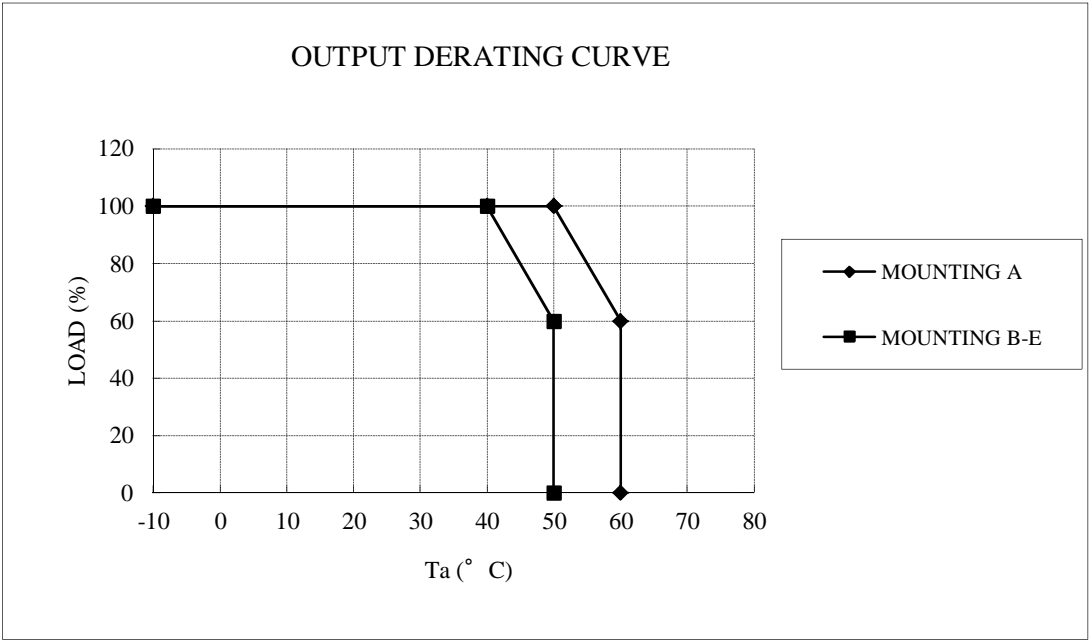
(This specifications sheet also apply to option model /L1, /L2.)

*COOLING : CONVECTION COOLING

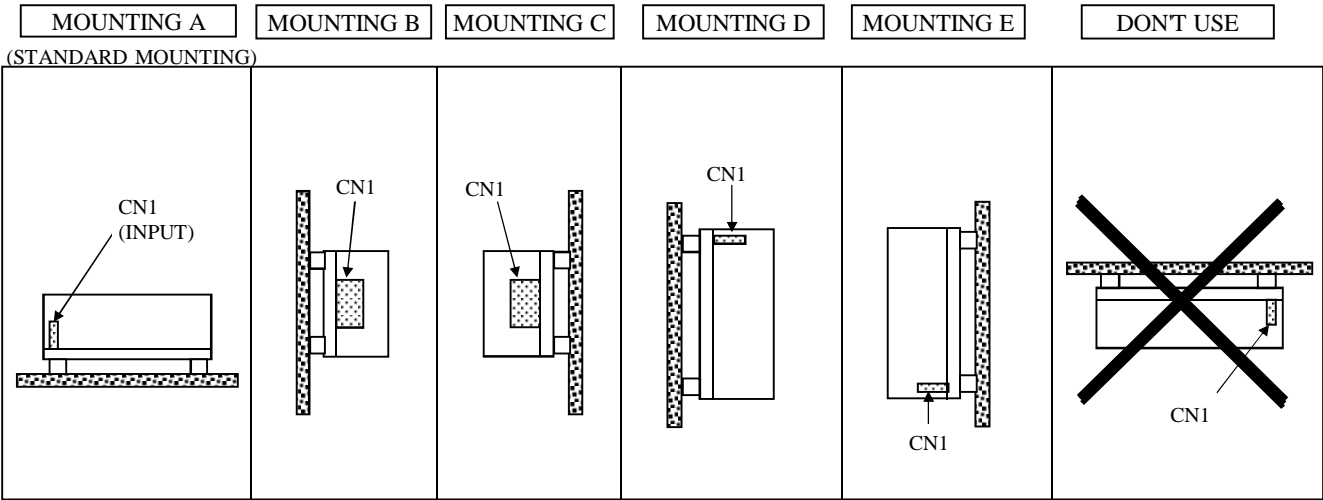
Ta (°C)	LOAD (%)	LOAD (%)
	MOUNTING A	MOUNTING B-E
-10 - +40	100	100
50	100	60
60	60	-

Load (%) is percent of total output power (Convection) : 120W max.

Also apply Load(%) to maximum output current (Convection) and combined maximum output power (Convection).



* PEAK OUTPUT CURRENT DOSE NOT NEED DERATING.



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OUTPUT DERATING

A235-01-04A

(This specifications sheet also apply to option model /L1, /L2.)

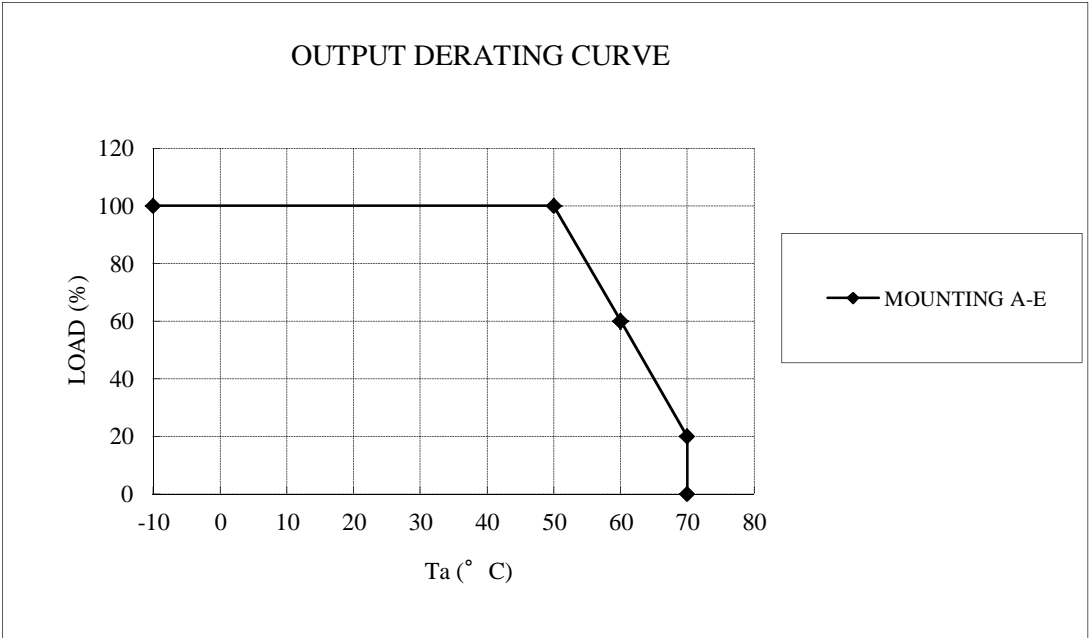
*COOLING : FORCED AIR COOLING

Ta (°C)	LOAD (%)
	MOUNTING A-E
-10 - +50	100
60	60
70	20

Load (%) is percent of total output power (Forced air) : 204W max.

Also apply Load(%) to maximum output current (Forced air).

Air flow $\geq 0.85\text{m}^3/\text{min}$: Air must flow through component side.



* PEAK OUTPUT CURRENT DOSE NOT NEED DERATING.

MOUNTING A

MOUNTING B

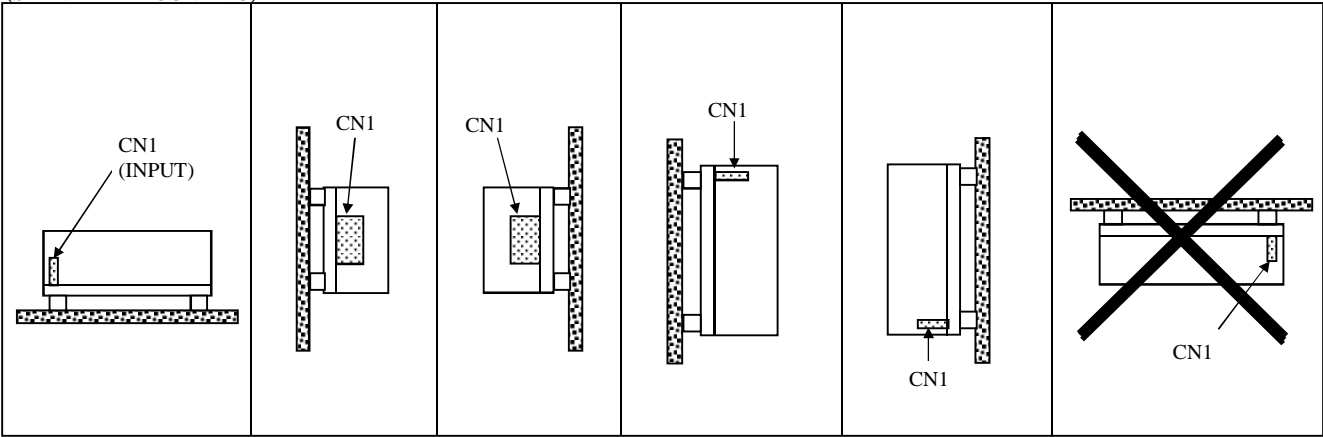
MOUNTING C

MOUNTING D

MOUNTING E

DONT USE

(STANDARD MOUNTING)

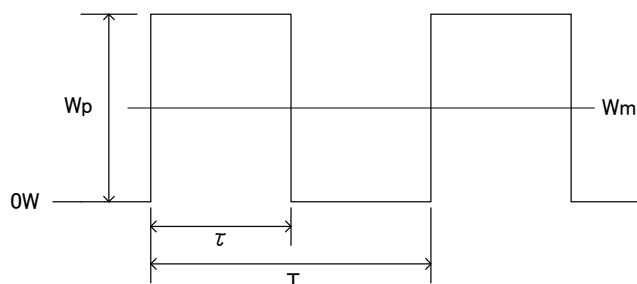


Peak Output Power Condition

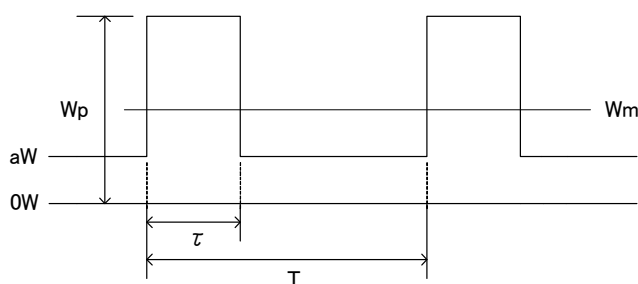
A235-01-05A

(This specifications sheet also apply to option model /L1, /L2.)

Relation between peak output current and peak output power (W_p) must satisfy formulas below.
 The mean output power during peak output (W_m) have to be less than total output power specified in the spec sheet (W_{avg}) in both cases for forced air cooling and convection cooling.
 Also operating time at peak output (τ) should be less than 5sec.
 (Forced Air Cooling : Duty $\leq 50\%$, Convention Cooling : Duty $\leq 10\%$)



$$W_{avg} \geq W_m = \frac{W_p \times \tau}{T}$$



$$W_{avg} \geq W_m = \frac{(W_p - a) \times \tau}{T} + a$$

$$\text{Duty} = \frac{\tau}{T} \times 100 (\%)$$

- W_p : Peak output power (W)
- W_{avg} : Total output power of Specification (W)
- W_m : Average output power (W)
- τ : Pulse width of peak output power (sec)
- (Operating time at peak output)
- T : Period (sec)