SPECIFICATIONS(1/2)

A235-01-01/L1-B (This specifications sheet also apply to other option model /L2.)

Nominal Output Voltage	V2 V3 V4 V5 (5V SB) +5 +12 -12 +5 0 0 0 0 5.0 8.0 0.2 1.4 0.0 96.0 2.4 7.0 120 3.4 11.2 0.3 2.0 2.0 134.4 3.6 10.0 204 2.0 16.0 0.3 2.0 0.0 192.0 3.6 10.0 240 81%/84% 85-265VAC (47-63Hz) 2.0 2.6A/1.3A 14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5 ±5 ±5 ±5 ±5 ±5 ±5 ixed Fixed Fixed 80 180 160 160 50 150 120 120 48 48 20 20 00 300 100 100 </th					
Nominal Output Voltage	+5					
2 Minimum Output Current A 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					
3 Maximum Output Current (Convection) A 7.0 6.0 8.0 0.2 1	1.4					
Maximum Output Power Each CH (Convection)	120 3.4					
Convection 23.1 30.0 96.0 2.4 3.6	120 3.4					
Total Output Power (Convection)	3.4					
6 Maximum Output Current (Forced Air) A 9.8 8.4 11.2 0.3 2.7	3.4					
7 Maximum Output Power Each CH (Forced Air) W (Forced Air) 32.3 42.0 134.4 3.6 1 9 Peak Output Power (Forced Air) W 204 204 9 Peak Output Current (*1) A 14.0 12.0 16.0 0.3 2 10 Peak Output Power (*1) W 46.2 60.0 192.0 3.6 1 11 Total Peak Output Power (*1) W 240 240 240 12 Efficiency (100/200VAC) (Typ) (*2) - 81%/84% 85-265VAC (47-63Hz) 14 11 Input Current (100/200VAC) (Typ) (*2) - 85-265VAC (47-63Hz) 14 11 put 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 14A/28A at Cold Start (Ta=25°C) 17 Power Factor (100/200VAC) (Typ) (*2) - 0.99/0.93 14A/28A at Cold Start (Ta=25°C) 17 Power factor (100/200VAC) (Typ) (*2) - 15 put 14A/28A at Cold Start (Ta=25°C) 17 Power factor (100/200VAC) (Typ) (*2)	2.0					
Standard Color Standard Standard Color Standard C	204 2.0					
8	2.0					
Peak Output Current (*1)	2.0					
10	240 81%/84% 85-265VAC (47-63Hz) 2.6A/1.3A 14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5 ±5 ±5 ±5 ixed Fixed Fixed Fixed 80 180 160 160 50 150 120 120 48 48 20 20 00 300 100 100 .82- 11.8- 0.32- 2.1130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. -+50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
11 Total Peak Output Power (*1) W 240	240 81%/84% 85-265VAC (47-63Hz) 2.6A/1.3A 14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5 ±5 ±5 ±5 ixed Fixed Fixed Fixed 80 180 160 160 50 150 120 120 48 48 20 20 00 300 100 100 .82- 11.8- 0.32- 2.1130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. -+50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
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	81%/84% 85-265VAC (47-63Hz) 2.6A/1.3A 14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5					
12 Efficiency (100/200VAC) (Typ) (*2) - 819/84% 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	81%/84% 85-265VAC (47-63Hz) 2.6A/1.3A 14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5					
Input Voltage Range	85-265VAC (47-63Hz) 2.6A/1.3A 14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5 ±5 ±5 ±5 ixed Fixed Fixed Fixed 80 180 160 160 50 150 120 120 48 48 20 20 00 300 100 100 .82- 11.8- 0.32- 2.1- -130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. -+50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
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	2.6A/1.3A 14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5					
15 Inrush Current (100/200VAC) (Typ) (*5) -	14A/28A at Cold Start (Ta=25°C) Designed to meet IEC61000-3-2 0.99/0.93 ±5					
16 PFHC PFHC Power Factor (100/200VAC)(Typ)	Designed to meet IEC61000-3-2 0.99/0.93 ±5					
17 Power Factor (100/200VAC)(Typ) (*2) -	0.99/0.93 ±5 ±5 ±5 ±5 ixed Fixed Fixed Fixed 80 180 160 160 50 150 120 120 48 48 48 20 20 00 300 100 100 .82- 11.8- 0.32- 2.1- -130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. +50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
18 Output Voltage Accuracy 96 ±5 ±5 ±5 ±5 19 Output Voltage Range - Fixed F	±5 ±5 ±5 ±5 ixed Fixed Fixed Fixed 80 180 160 160 160 50 150 120 120 48 48 48 20 20 20 00 300 100 100 100 82- 11.8- 0.32- 2.1- 130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable): Designed to meet ATX standard. - +50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
19 Output Voltage Range	Sixed Fixed Fixed Fixed					
Maximum Ripple & Noise (*3,*6) -10≤Ta<0°C mV 160 180 180 160 1	80					
(*3,*6) 0≤Ta≤50°C mV 120 150 150 120 120	50					
Maximum Line Regulation	48					
22 Maximum Load Regulation (*3,*6,*8) mV 100 300 300 100 1	00 300 100 100 .82- 11.8- 0.32- 2.1130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard+50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
23 Over Current Protection (*9) A 10.3- 8.82- 11.8- 0.32- 24 24 Over Voltage Protection (*10) - V1 : 114%-130%(3.76-4.3V), V2 : 115%-140%(5.74-7V) 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) 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 - Convection Cooling / Forced air Cooling (System air Cooling) : 0.85 n 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	82- 11.8- 0.32- 2.1130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard +50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
24 Over Voltage Protection (*10) - V1 : 114%-130%(3.76-4.3V), V2 : 115%-140%(5.74-7V)	-130%(3.76-4.3V), V2:115%-140%(5.74-7V) V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. - +50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
V3 : 112%-130%(13.4-15.6V)	V3:112%-130%(13.4-15.6V) 20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. +50°C:100%, 60°C:60%, 70°C:20% 30-90%RH (No Dewdrop)					
25 Hold-up Time (Typ)	20ms at 100VAC Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. +50°C: 100%, 60°C: 60%, 70°C: 20% 30 - 90%RH (No Dewdrop)					
Less than 0.75mA Possible (V1 only)	Less than 0.75mA Possible (V1 only) patible (H: Output Inhibit, L: Output Enable) : Designed to meet ATX standard. - +50°C: 100%, 60°C: 60%, 70°C: 20% 30 - 90%RH (No Dewdrop)					
Possible (V1 only)	Possible (V1 only) patible (H : Output Inhibit, L : Output Enable) : Designed to meet ATX standard +50°C: 100%, 60°C: 60%, 70°C: 20% 30 - 90%RH (No Dewdrop)					
TTL compatible (H : Output Inhibit, L : Output Enable)	patible (H : Output Inhibit, L : Output Enable) : Designed to meet ATX standard. - +50°C: 100%, 60°C: 60%, 70°C: 20% 30 - 90%RH (No Dewdrop)					
Designed to meet ATX standard.	: Designed to meet ATX standard. 					
29 Series / Parallel Operation - - - - - - - - -	+50°C:100%, 60°C:60%, 70°C:20% 30 - 90%RH (No Dewdrop)					
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 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	30 - 90%RH (No Dewdrop)					
31 Operating Humidity - 30 - 90%RH (No Dewdrop)	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 n 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						
34 Cooling (*12) - Convection Cooling / Forced air Cooling (System air Cooling) : 0.85 n 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						
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	Convection Cooling / Forced air Cooling (System air Cooling): 0.85 m ³ /min					
Output-FG: 500VAC(100mA) for 1min. 36 Isolation Resistance - More than 100MΩ at 25°C and 70% RH Output-FG: 500VDC						
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 1hour each.						
38 Shock - Less than 392 m/s ² at no operating.	Less than 392 m/s ² at no operating.					
39 Safety - Approved by UL60950-1, CSA60950-1, EN60950-1, EN50178(OV	50950-1, CSA60950-1, EN60950-1, EN50178(OV II),					
Designed to meet Den-an Appendix12 (J60950-1)						
	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B					
To Conducted Limbston (3) - Designed to meet EN33011/EN33022-B, FCC-ClassB, VCCI-B	Designed to meet EN55011/EN55022-B, FCC-ClassB, VCCI-B					

SPECIFICATIONS(2/2)

A235-01-02/L1

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

	MODEL		ZWX240/L1				
	ITEMS		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	800				
44	Size (W x H x D)	mm	109 x 45.5 x 255 (Refer to Outline Drawing)				

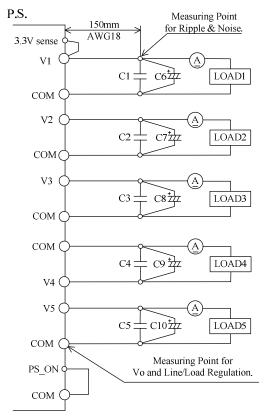
^{*}Read instruction manual carefully, before using the power supply unit.

=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_)



Measure with EIAJ RC-9131 probe. Bandwidth of scope: 100MHz

 Capacitance

 C1,C2,C3,C4,C5 : Film Cap.
 0.1 μF

 C6,C7,C8,C9,C10 : Elec. Cap.
 100 μF

Fig.A