

ZWP300-650

SPECIFICATIONS (1/3)

PA646-01-01A

ITEMS		MODEL	ZWP300-650-24	ZWP300-650-30	ZWP300-650-36	ZWP300-650-48	
INPUT							
Input Voltage Range		(*3)	-	85 - 265VAC (47 - 63Hz) or 120 - 370VDC			
Efficiency (Typ.)		100/115VAC	%	90 / 91			
	(*2)	200/230VAC	%	93 / 94			
Input Current (Typ.)		100/115VAC	A	3.4 / 2.9			
	(*2)	200/230VAC	A	1.8 / 1.5			
Inrush Current (Typ.)	(*2)(*4)	100/200VAC	A	15 / 30 at 1st Inrush, 30 / 30 at 2nd Inrush			
Power Factor (Typ.)	(*2)	100/200VAC	-	0.98 / 0.92			
Leakage Current (Typ.)		(*10)	-	1.0mA			
OUTPUT							
Nominal Output Voltage		V	24	30	36	48	
Output Voltage Initial Set Accuracy		(*15)	-	±1%			
Output Voltage Adjustment Range		V	24.0 - 26.4	27.0 - 30.0	36.0 - 42.0	45.0 - 48.0	
Maximum Output Current		A	12.5	10	8.4	6.3	
Peak Output Current		(*1)	A	27.1	21.7	18.06	13.55
Maximum Output Power		W	300	300	302.4	302.4	
Peak Output Power		(*1)	W	650.4	651	650.2	650.4
Maximum Line Regulation		(*5)(*6)	mV	96	120	144	192
Maximum Load Regulation		(*5)(*7)	mV	192	240	288	384
Temperature Coefficient		-	Less than 0.02% / °C				
Maximum Ripple & Noise	0≤Ta≤50°C, 30% ~ 100% Load	-	1% of output voltage				
	0≤Ta≤50°C, 0% ~ 30% Load	-	1.5% of output voltage				
	(*5) -20≤Ta<0°C, 0% ~ 100% Load	-	2% of output voltage				
Hold-up Time		(*2)	ms	20			
Protective function							
Over Current Protection		(*8)	A	28.75 - 31.88	23.00 - 25.50	19.17 - 21.25	14.38 - 15.94
Over Voltage Protection		(*9)	V	29.0 - 34.0	32.0 - 37.0	45.0 - 52.0	52.0 - 61.0
FUNCTION							
Remote ON/OFF Control		-	-				
Remote Sensing		-	None				
Parallel Operation		-	None				
Series Operation		(*13)	-	Possible			
ENVIRONMENT							
Operating Temperature		(*11)	-	-20 to +70°C			
Storage Temperature		-	-30 to +75°C				
Operating Humidity		-	30 to 90%RH (Non Condensing)				
Storage Humidity		-	30 to 90%RH (Non Condensing)				
Vibration		(*14)	-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s ² Constant, X,Y,Z 1hour each.			
Shock		(*14)	-	Less than 196.1m/s ² (time : 11 ± 5 ms)			
Cooling		(*11)	-	Convection Cooling			
ISOLATION							
Withstand Voltage		-	Input - FG : 2.0kVAC (10mA), Input - Output : 3.0kVAC (10mA) Output - FG : 500VAC (20mA) for 1min				
Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH Output - FG : 500VDC				

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SPECIFICATIONS (2/3)

ITEMS		MODEL	ZWP300-650-24	ZWP300-650-30	ZWP300-650-36	ZWP300-650-48
STANDARD AND COMPLIANCE						
Safety		-	Approved by IEC/EN/UL/CSA 62368-1 (Altitude ≤ 5,000m) Approved by IEC/EN62477-1 (OVC III) (Altitude ≤ 2,000m) Designed to meet Den-an appendix 8 at 100VAC (creepage distance and clearance only)			
Conducted Emission	(*12)	-	Designed to meet EN55011/EN55032-B, FCC-ClassB, VCCI-B			
Radiated Emission	(*12)	-	Designed to meet EN55011/EN55032-B, FCC-ClassB, VCCI-B			
Harmonic Current	(*2)(*12)	-	Designed to meet IEC61000-3-2			
Immunity	(*12)	-	Designed to meet IEC61000-6-2 (IEC61000-4-2, -3, -4, -5, -6, -8, -11)			
MECHANICAL						
Weight (Typ.)		g	585			
Size (W x H x D)		mm	80 x 41 x 165 (Refer to Outline Drawing)			

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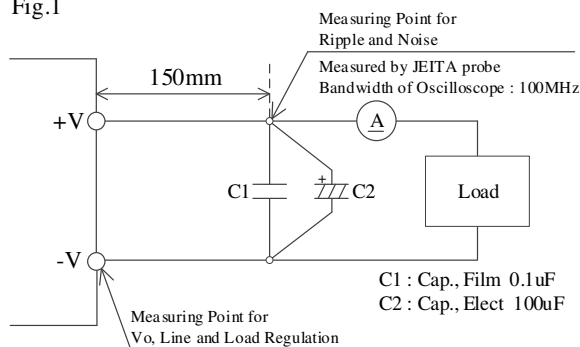
SPECIFICATIONS (3/3)

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

=NOTES=

- *1. Continuous peak output duration must be less than or equal to 5 sec with duty not more than 45%.
Peak output power for more than 5 sec will cause power supply to damage.
Input voltage range under peak load conditions is 90V - 265VAC.
When the peak loading condition, output derating is required. For details, refer to peak output condition (PA646-01-03_).
- *2. At $T_a=25^{\circ}\text{C}$, nominal output voltage, maximum output power.
- *3. For cases where conformance is required to meet various safety specs (UL, CSA, EN),
input voltage range shall be from 100 - 240VAC (50-60Hz).
- *4. Not applicable for the in-rush current to Noise Filter for less than 0.2ms.
- *5. Refer to Fig. A for measurement of V_o , line and load regulation, and ripple voltage.
- *6. Input voltage from 85 to 265VAC at constant output current.
- *7. Output current from no load to maximum load at constant input voltage.
- *8. Hiccup operation mode. Avoid to operate at over load or short circuit condition.
- *9. Inverter shut down method. When OVP is triggered, output will be shut down, and manual reset of power supply.
- *10. Apply the appropriate measurement method according to the required standard:
UL, CSA, EN (at 240VAC, 60Hz) and DENAN (at 60Hz), $T_a=25^{\circ}\text{C}$.
- *11. For details, Refer to OUTPUT DERATING CURVE (PA646-01-02_).
- *12. The result is evaluated by TDK-Lambda standard measurement condition.
Applicable to only AC input.
The power supply is considered as a component installed to an equipment.
The equipment should be re-evaluated to meet its EMC directives.
- *13. Refer to instruction manual (PA646-04-01_).
- *14. Using 4 mounting holes on baseplate.
The result is evaluated by TDK-Lambda standard measurement condition.
The equipment should be re-evaluated to meet its vibration and shock requirement.
- *15. Output voltage setting at the time of shipment. At 100VAC, nominal output voltage and maximum output current.

Fig.1



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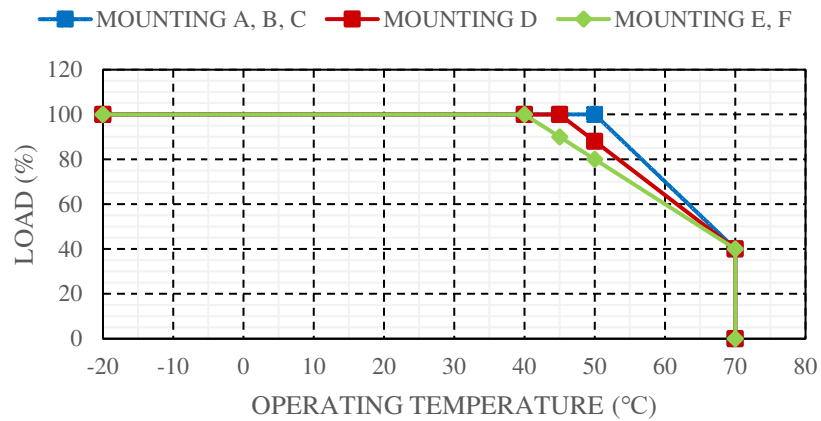
OUTPUT DERATING

PA646-01-02

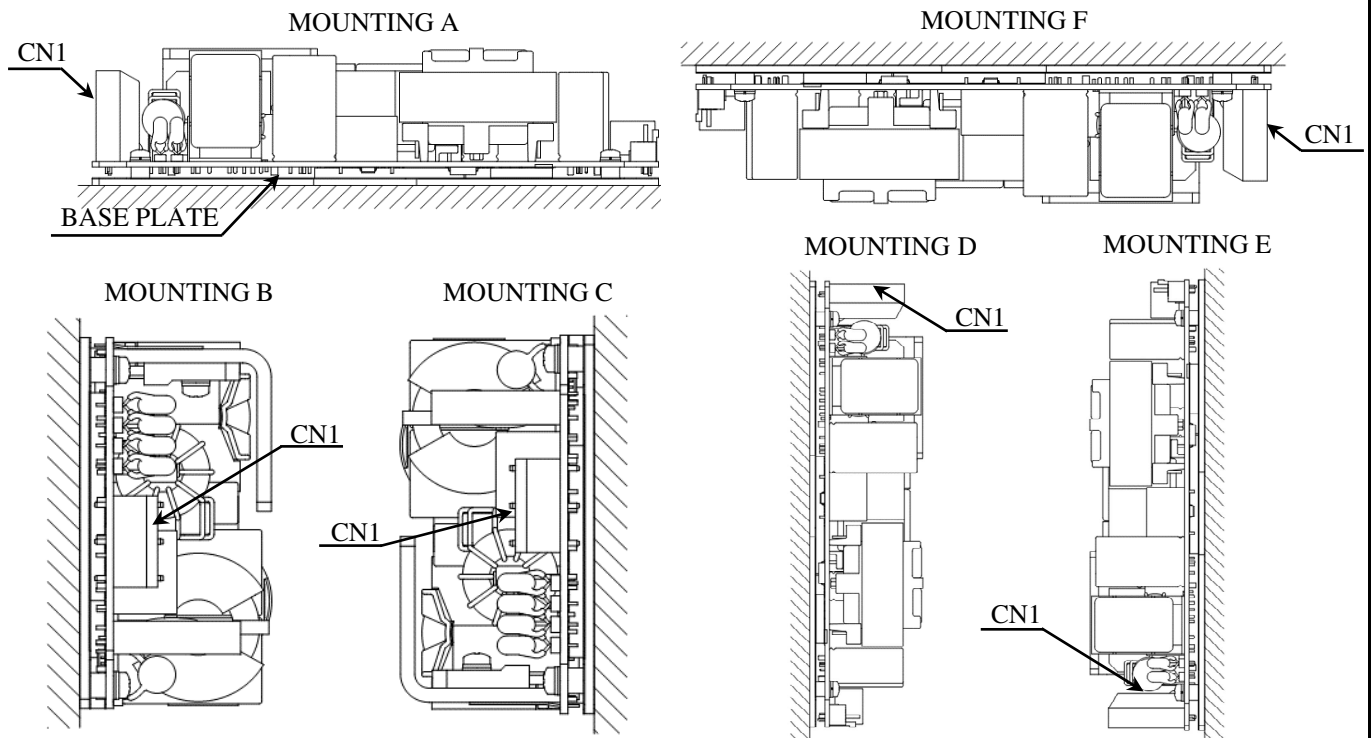
OUTPUT DERATING CURVE (OUTPUT CURRENT OR POWER VERSUS OPERATING AMBIENT TEMPERATURE)

Load (%) is percent of maximum output power and current. It must not exceed its specification and derating.
The OUTPUT DERATING CURVE also must be considered at peak loading.

Ta (°C)	LOAD (%)		
	MOUNTING A, B, C	MOUNTING D	MOUNTING E, F
-20 to +40	100	100	100
45	100	100	90
50	100	88	80
70	40	40	40



MOUNTING METHOD



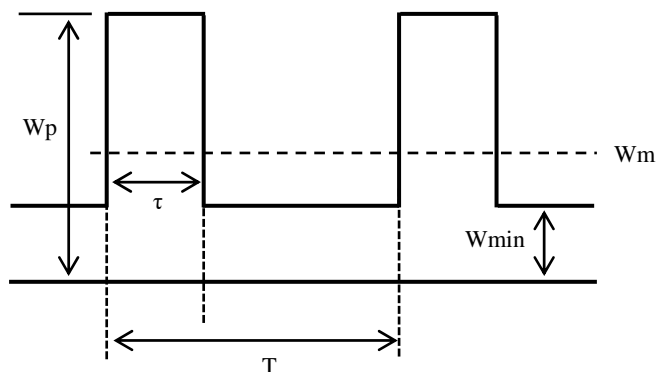
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PEAK OUTPUT CONDITION

PA646-01-03

PEAK OUTPUT CONDITION

Use this product to achieve its peak output power capability according to the following expression:



$$W_m \geq \sqrt{W_p^2 \times D + W_{min}^2 \times (1 - D)}$$

- W_p : Peak output power (W)
- W_m : Rated output power (W)
- W_{min} : Output power at light load (W)
- τ : Pulse width of peak output current (sec)
- T : Period (sec)
- Duty, D : $\tau / T \times 100\%$

PEAK OUTPUT POWER VERSUS PEAK PULSE WIDTH

INPUT VOLTAGE	PEAK OUTPUT POWER	PEAK PULSE WIDTH
V_{in} (AC)	W_p (W)	τ (sec)
$90 \leq V_{in} \leq 265$	650	5

