

TDK | 东京电子 ZWS100BAF-24 PDF



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50W to 300W Single Output Power Supplies, Low Cost & High Reliability Worldwide Use

Features	Benefits
• 10 Year e-cap Lifetime	• Better Field Reliability
• 5 Year Warranty	• Lower Cost of Ownership
• Convection Cooling	• Easier Use



Specification		ZWS50-BAF	ZWS75-BAF	ZWS100-BAF	ZWS150-BAF	ZWS300-BAF
ITEMS						
AC Input Voltage range	-	85 - 265VAC (47-63Hz)				
DC Input Voltage range	-	120 - 370VDC				
Input Current (typical) (1)	A	3V model: 0.45/0.25 others: 0.65/0.35	3V model: 0.7/0.35 others: 0.95/0.5	3V model: 0.9/0.45 others: 1.3/0.65	3V model: 1.3/0.65 others: 1.9/0.95	12 & 15V models: 3.7/1.9. others: 3.6/1/8
Inrush Current - cold start (1)	A	15/28	14/28	28	14/28	15/ 30
PFHC	-	All models with Active Power Factor Correction - Designed to meet EN/IEC61000-3-2				
Power Factor (1)	-	3V model: 0.96/0.85 others: 0.97/0.91	3V model: 0.96/0.85 others: 0.97/0.91	3V model: 0.96/0.89 others: 0.98/0.93	0.97/0.93	
Temperature Coefficient	-	<0.02%/ °C				
Hold Up time (Typ) (1)	ms	20ms				18ms (typ) at 100Vac & full Load (20ms at 100Vac & 80% load)
Leakage Current (3)	mA	0.2 / 0.4 max.				
Remote On/Off	-	Option (see table next page)				
Cooling	-	All models are convection cooling				
Operating Temperature (2) (Convection)	-	-10°C to +70°C, derate linearly to 50% load from 50°C to 70°C				-10° to +70°C, derate linearly to 40% load from 45° to 70°C (from 40°C for 12 & 15V models)
Operating Temperature (2) (Forced Air)	-	Refer to output derating specifications				
E-cap lifetime (5)	-	Up to 10 years; 45°C ambient, 100% full load, 24 hours				
Storage Temperature	°C	-30°C to +75°C				
Humidity (non condensing)	-	Operating: 30 - 90% RH, Storage: 10 - 90% RH				
Withstand Voltage	-	I/P to Gnd 2kVAC (10mA), I/P to O/P: 3kVAC (10mA), O/P to Gnd: 500VAC (20mA) for 1mn				
Isolation Resistance	Ω	>100MΩ at 25°C & 70%RH, Output to Gnd: 500VDC				
Vibration (non operating)	-	10 - 55Hz (1 minute sweep), 19.6m/s ² constant X, Y, Z 1 hour each				
Shock	-	<196.1 m/s				
Safety agency Certifications	-	IEC/EN/UL/CSA60950-1, IEC/EN/UL/CSA62368-1, EN50178 (OV II), CE Mark				
Conducted & Radiated EMI	-	EN55011 / EN55022-B, FCC-B, VCCI-B				
Immunity	-	IEC61000-6-2 ; IEC61000-4-2, -3, -4, -5, -6, -8, -11				
Weight (Typ)	g	165	230	290	390	540
Size (W x H x D) (4)	mm	50 x 26 x 132	50 x 33 x 150	62 x 33 x 155	75 x 37 x 160	84 x 42 x 180
Warranty	yrs	5				

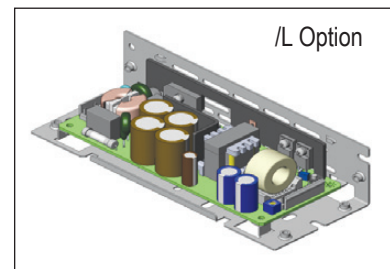
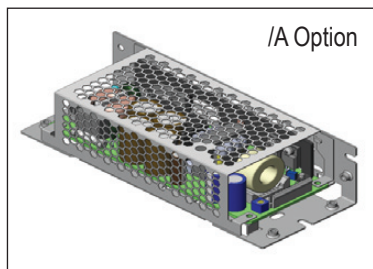
Notes:

- (1) 100 / 200VAC Input, nominal output voltage and max. output power
- (2) Refer to Thermal Specifications & Application Notes
- (3) 100 / 230VAC input
- (4) Refer to Outline Drawing
- (5) Refer to Reliability Data

Model Selector										
Model	Output Voltage (V)	Output Adjust Range (V)	Max. Current (A)	Max. Output Power (W)	Efficiency at 200VAC (%)	Max. Ripple and Noise (mv pk-pk)	Load Reg. (mV)	Line Reg. (mV)	OCP (A)	OVP (V)
ZWS50BAF-3	3.3	2.97-3.63	10	33.0	78	160	40	20	>10.5	3.79-4.95
ZWS50BAF-5	5	4.5-5.5	10	50.0	84	160	40	20	>10.5	5.75-7.0
ZWS50BAF-12	12	10.8-13.2	4.3	51.6	85	180	96	48	>4.51	13.8-16.2
ZWS50BAF-15	15	13.5-16.5	3.5	52.5	86	180	120	60	>3.67	17.3-20.3
ZWS50BAF-24	24	21.6-26.4	2.1	50.4	87	180	150	96	>2.2	27.6-32.4
ZWS50BAF-48	48	39.5-52.8	1.1	52.8	86	240	240	192	>1.15	55.2-64.8
ZWS75BAF-3	3.3	2.97-3.63	15	49.5	78	160	40	20	>15.7	3.79-4.95
ZWS75BAF-5	5	4.5-5.5	15	75.0	84	160	40	20	>15.7	5.75-7.0
ZWS75BAF-12	12	10.8-13.2	6.3	75.6	85	180	96	48	>6.61	13.8-16.2
ZWS75BAF-15	15	13.5-16.5	5	75.0	86	180	120	60	>5.25	17.3-20.3
ZWS75BAF-24	24	21.6-26.4	3.2	76.8	87	180	150	96	>3.36	27.6-32.4
ZWS75BAF-48	48	39.5-52.8	1.6	76.8	88	240	240	192	>1.68	55.2-64.8
ZWS100BAF-3	3.3	2.97-3.63	20	66.0	84	160	40	20	>21.0	3.79-4.95
ZWS100BAF-5	5	4.5-5.5	20	100.0	86	160	40	20	>21.0	5.75-7.0
ZWS100BAF-12	12	10.8-13.2	8.5	102.0	88	180	96	48	>8.93	13.8-16.2
ZWS100BAF-15	15	13.5-16.5	6.7	100.5	88	180	120	60	>7.04	17.3-20.3
ZWS100BAF-24	24	21.6-26.4	4.3	103.2	89	180	150	96	>4.52	27.6-32.4
ZWS100BAF-48	48	39.5-52.8	2.1	100.8	90	240	240	192	>2.21	55.2-64.8
ZWS150BAF-3	3.3	2.97-3.63	30	99	84	160	40	20	>31.5	3.79-4.95
ZWS150BAF-5	5	4.5-5.5	30	150	87	60	40	20	>31.5	5.75-7
ZWS150BAF-12	12	10.8-13.2	12.5	150	88	180	96	48	>13.13	13.8-16.2
ZWS150BAF-15	15	13.5-16.5	10	150	89	180	120	60	>10.5	17.3-20.3
ZWS150BAF-24	24	21.6-26.4	6.3	151.2	90	180	150	96	>6.62	27.6-32.4
ZWS150BAF-48	48	39.5-52.8	3.2	153.6	91	240	240	192	>3.36	55.2-64.8
ZWS300BAF-12	12	9.6-13.2	25.0 ⁽¹⁾	300 ⁽¹⁾	89	180	100	48	>26.25	13.8-16.2
ZWS300BAF-15	15	13.5-16.5	20.0 ⁽¹⁾	300 ⁽¹⁾	89	180	120	60	>23.1	17.3-20.3
ZWS300BAF-24	24	21.6-27.5	12.5 ⁽¹⁾	300 ⁽¹⁾	91	180	150	96	>14.7	28.8-33.6
ZWS300BAF-36	36	32.4-39.6	8.4 ⁽¹⁾	302.4 ⁽¹⁾	91	300	240	144	>9.87	41.4-48.6
ZWS300BAF-48	48	39.5-52.8	6.3 ⁽¹⁾	302.4 ⁽¹⁾	91	300	240	192	>7.35	55.2-64.8

Notes: (1) Values given for Convection Cooling: refer to detailed Specifications & Application Notes for 0.7m/s & 1.4m/s Forced Air

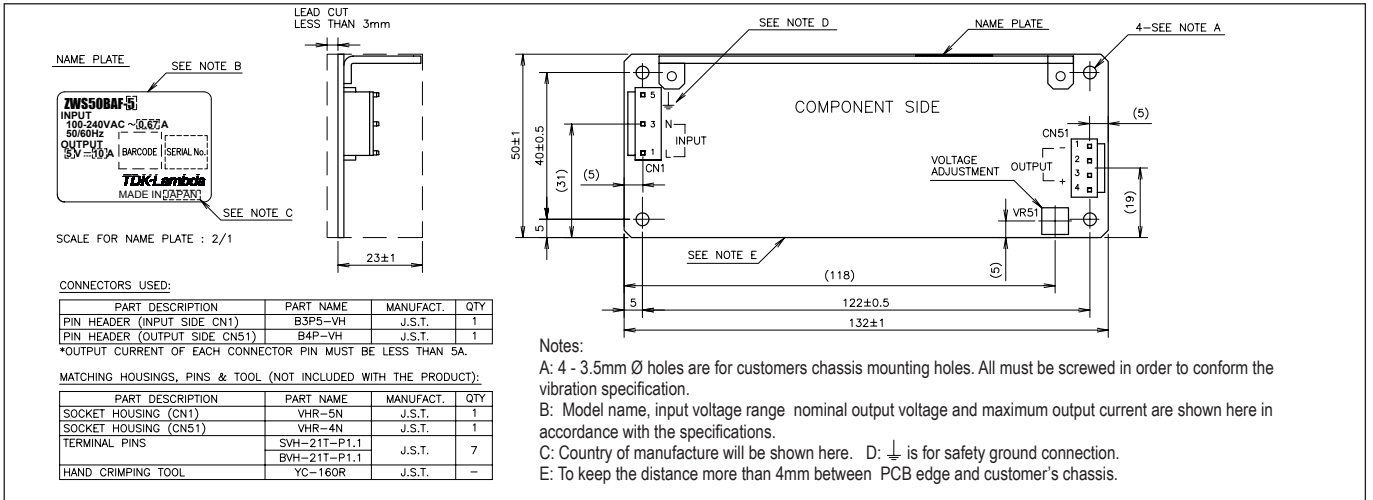
Option Description	Suffix
L-Plate and Cover	/A
L-Plate	/L
Conformally coated PCB	/CO2
Remote on/off	/R
Terminal Block	/T
Terminal Block with L-Plate & Cover	/TA



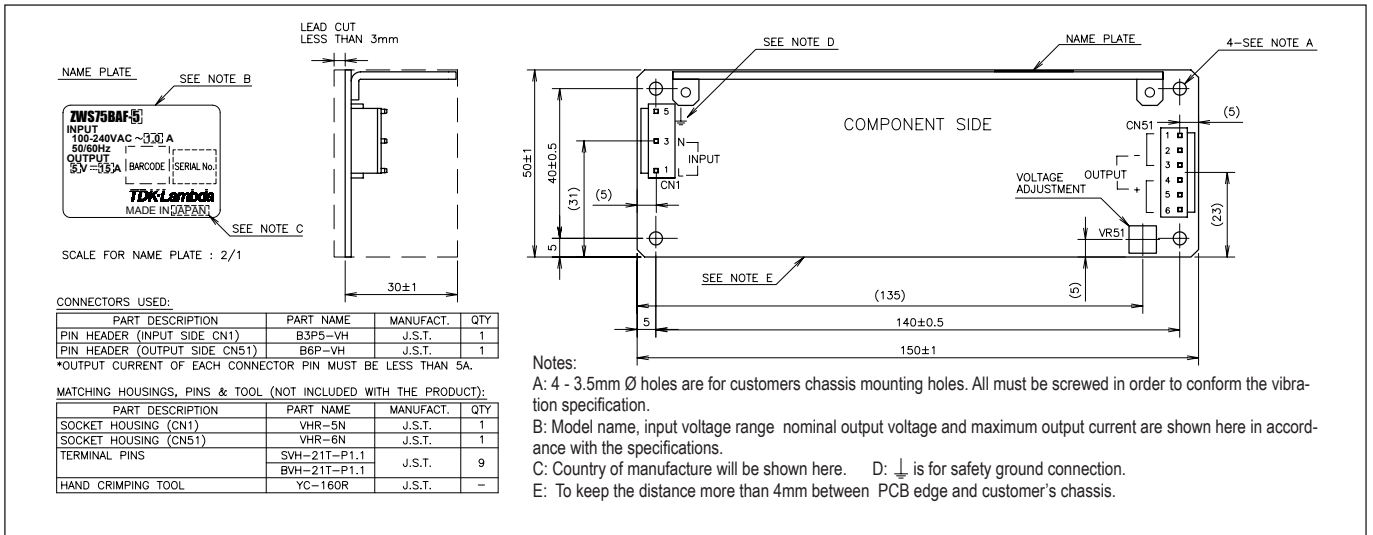
ZWS-BAF Option Matrix								
Power	/A	/L	/CO2	/FV <small>available for 12 24 & 48V models</small>	/R	/T	/TL	/TA
50W	✓	✓	✓	✓				
75W	✓	✓	✓	✓				
100W	✓	✓	✓	✓	✓			
150W	✓	✓	✓	✓	✓			
300W	✓	✓	✓		✓	✓	✓	✓

Note: Contact Sales for availability of /TL option

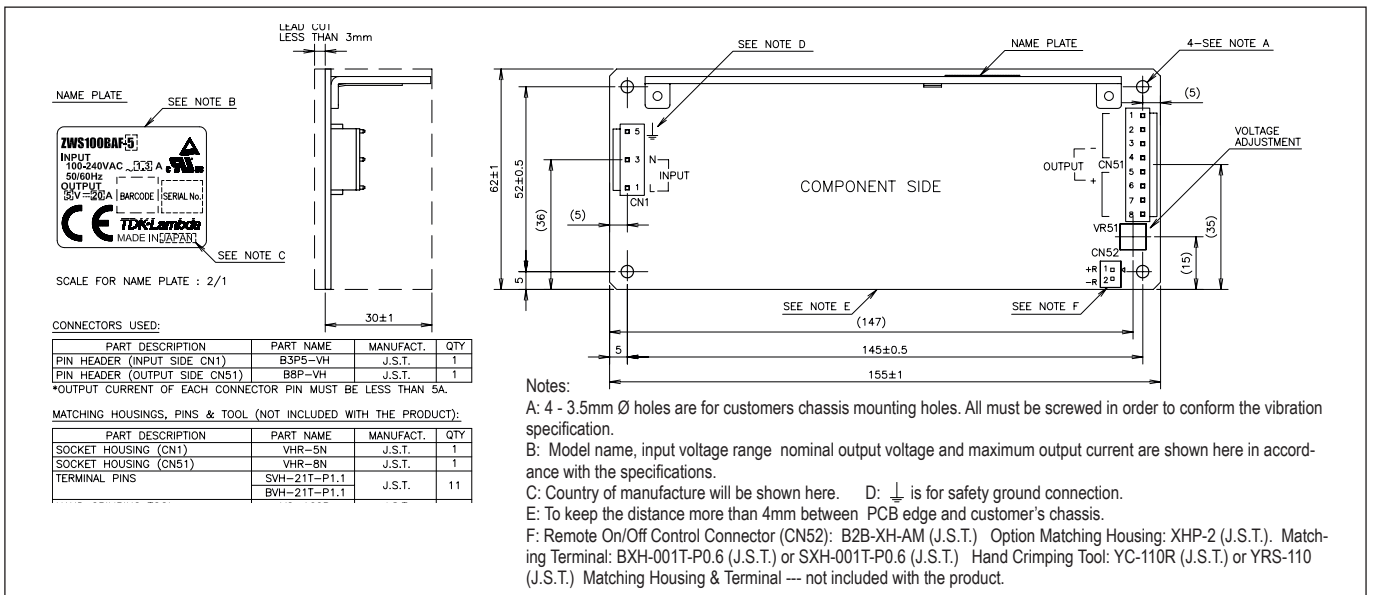
Outline Drawing ZWS50BAF



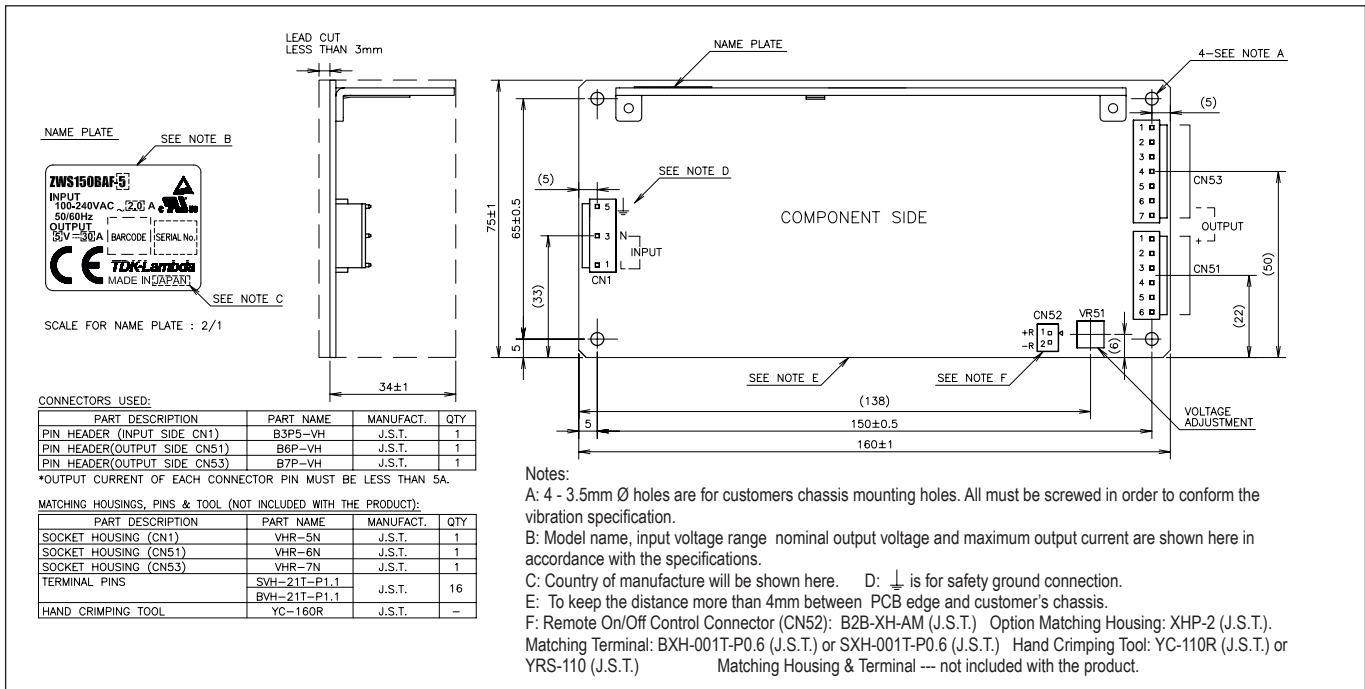
Outline Drawing ZWS75BAF



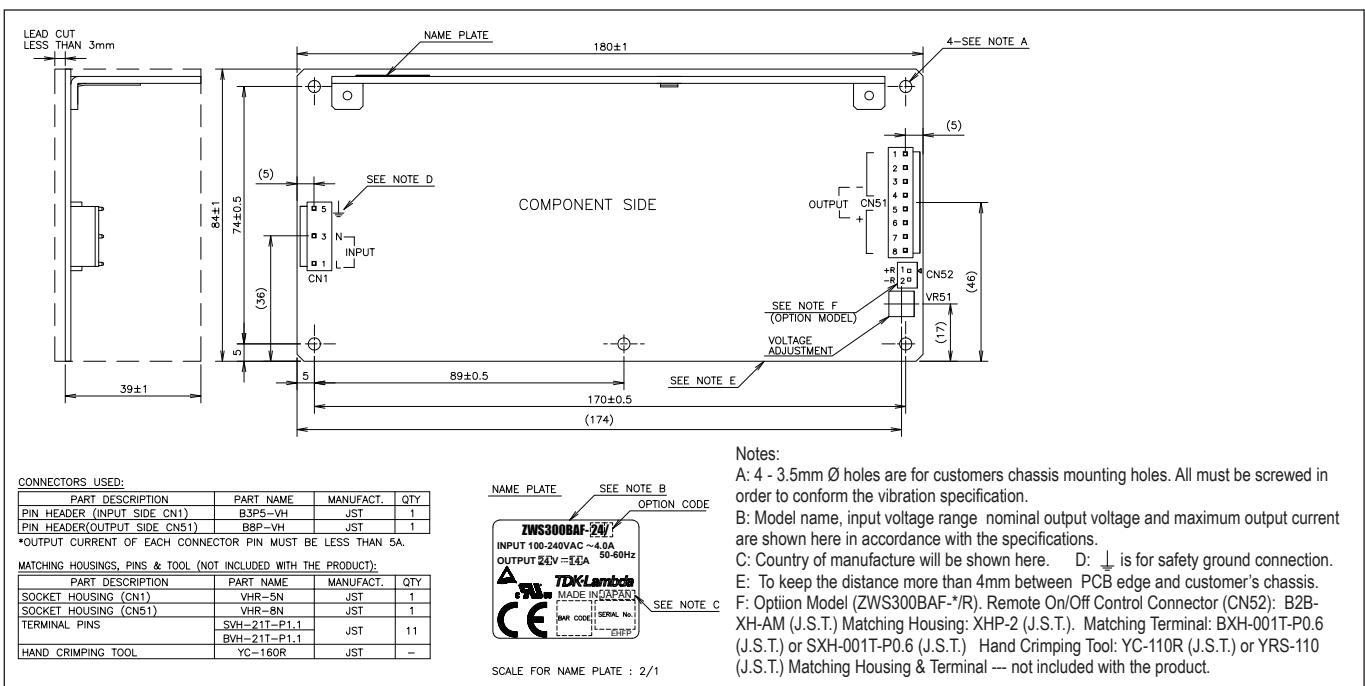
Outline Drawing ZWS100BAF



Outline Drawing ZWS150BAF



Outline Drawing ZWS300BAF



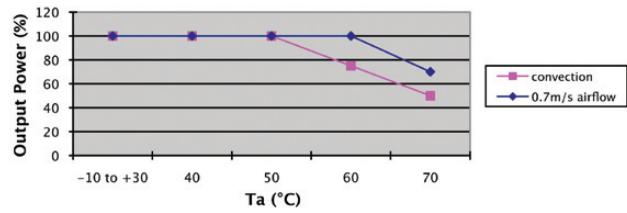
ZWS-BAF Output Derating

ZWS-BAF 50 to 150W Models

Mounting A, B ⁽¹⁾
Load %

Ta (°C)	Convection	0.7m/s airflow
-10 - 35	100%	100%
40	100%	100%
45	100%	100%
50	100%	100%
60	75%	100%
70	50%	70%

ZWS-BAF 50 to 150W Models

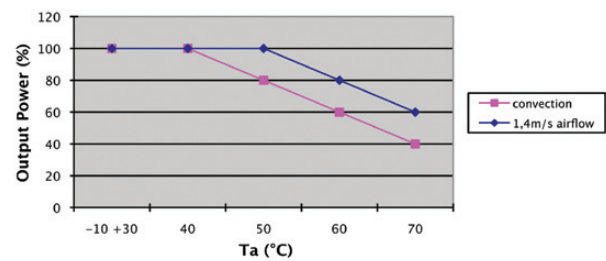


ZWS-BAF 300W 12V & 15V Models

Mounting A ⁽¹⁾
Load %

Ta (°C)	Convection	1.4m/s airflow
-10 - +30	100%	100%
40	100%	100%
50	80%	100%
60	60%	80%
70	40%	60%

ZWS-BAF 300W 12V & 15V Models

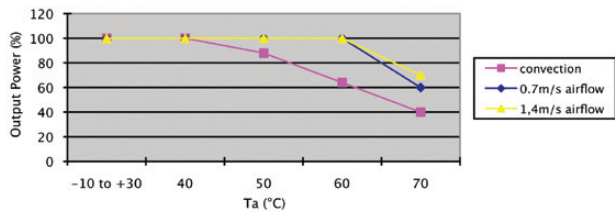


ZWS-BAF 300W 24V, 36V & 48V Models

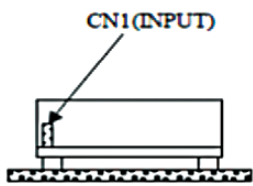
Mounting A, B ⁽¹⁾
Load %

Ta (°C)	Convection	0.7m/s airflow	1.4m/s airflow
-10 - +30	100%	100%	100%
40	100%	100%	100%
50	88%	100%	100%
60	64%	100%	100%
70	40%	60%	70%

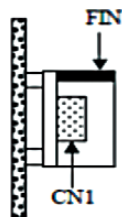
ZWS-BAF 300W 24V, 36V & 48V Models



Standard Mounting



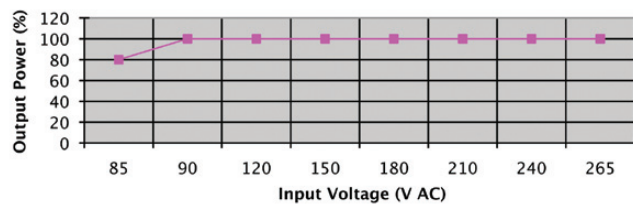
Mounting A



Mounting B

Note: (1) For other Mounting orientations, refer to Detailed Specifications & Application Notes

ZWS-BAF 300W all Models



ZWS-BAF 300W all models

Input Voltage VAC	LOAD %
85	80
90 - 265	100



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