

Radiated & Conducted EMI per EN55022-B & FCC Class B.

Universal AC Input

Output Adjustment (10%)

High Quality Design

Input Transient Protection

Power Factor & Harmonic Correction

Worldwide Safety Agency Approvals

High Current Capability on the _PPF Version for Thermal Printer Applications

Lambda's 2 year Warranty

Lambda's ZWS Series of single output power supplies is a PCB style power supply with continuous wide range or auto-ranging AC input. They are engineered to EN61000-4 (-2,-3,-4,-5,-6), and models from 75 watts and above include a built-in passive filter to meet the Power Factor & Harmonic Correction requirements of EN61000-3-2 with radiated and conducted EMI to curve B.

Available in nine package sizes from 5 to 150 watts with output voltages from 3.3 to 48 volts using high performance components, Lambda's ZWS Series will prove to be the economical choice for high reliability and quality, ensuring maximum up-time. For global applications, the ZWS has been designed with the global market in mind featuring world-wide safety approvals including: UL1950, CSA950, EN60950 and will carry the CE Mark.

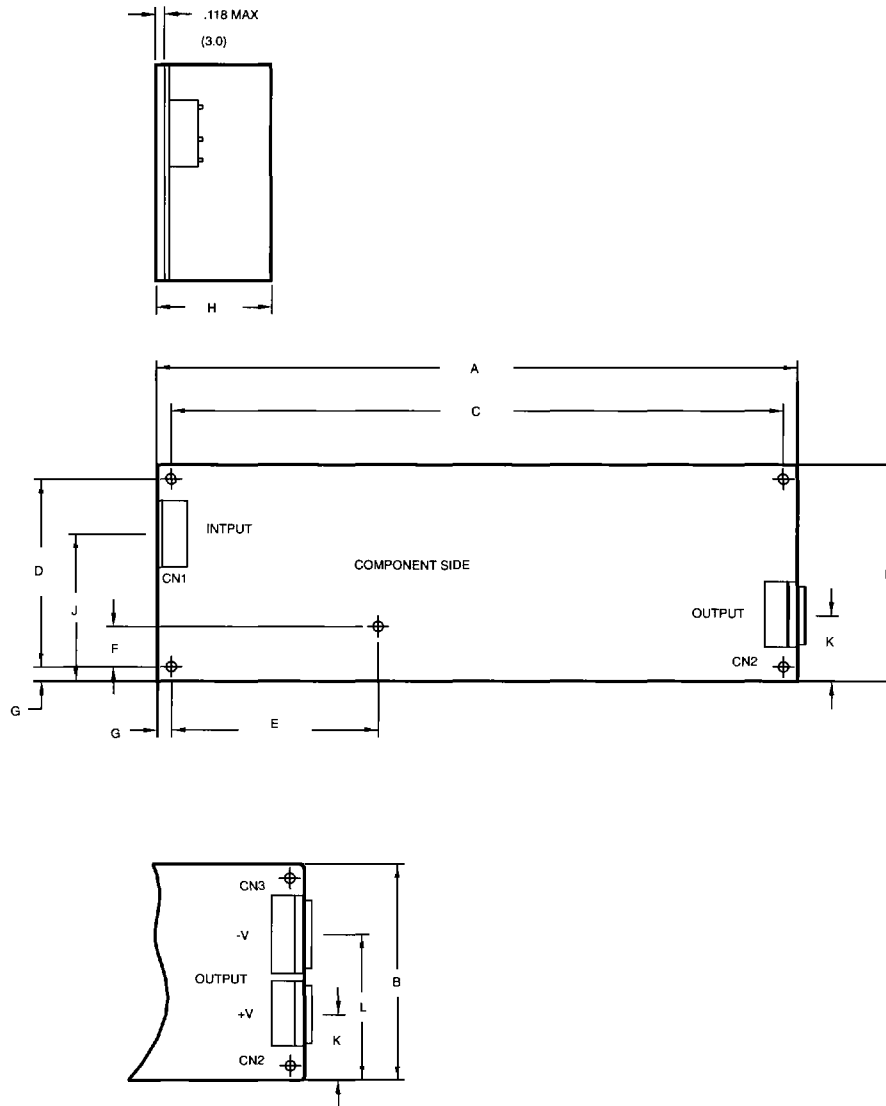
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VSB	Lower Cost 85-132Vac	12
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AC Input	ZWS5 to ZWS50: 85-265VAC, 47-440Hz ZWS75 to ZWS150PF: 85-132, 170- 265VAC, 47-63Hz (Autostrap).
DC Input	ZWS5 to ZWS50: 120-330VDC.
Efficiency	Dependent upon model type @ 100VAC, 100% load, 25°C ambient : Examples: ZWS5: 62% 3V, 67% 5V, 68% 12V & 15V, 70% 24V. ZWS150: 72% 3V, 78% 5V, 80% 12V & 15V, 82% 24 to 48V.
Power Factor Correction	ZWS75 to ZWS150PF, Conforms to EN61000-3-2 Class D.
Input Transient Protection ..	EN61000-4-2, -3, -4, -5, -6.
Inrush Current Limiting	25°C ambient, cold start ZWS5 to ZWS50, 15A @ 100VAC, 30A @ 200VAC. ZWS75 to ZWS150, 30A @ 100/200VAC.
EMI	Conforms to EN55022 Curve B, FCC Class B, VCC1-2.
Output Voltage Adj Range ..	±10%.
Line Regulation	20mV for 3.3 & 5V, 48mV for 12V, 60mV for 15V, 96mV for 24V, 144mV for 36V, 192mV for 48V. Except ZWS120PPF: 24mV for 24V, 36mV for 36V.
Load Regulation	40mV for 3.3 & 5V, 96mV for 12V, 120mV for 15V, 150mV for 24V, 240mV for 36V, 300mV for 48V. Except ZWS120PPF: 120mV for 24V, 180mV for 36V.
Minimum Load	None.
Ripple and Noise	120mV for 3.3 & 5V, 150mV for 12,15V; 200mV for 24V, 300mV for 36V, 400mV for 48V. Except ZWS120PPF: 240mV for 24V, 360mV for 36V.
Hold-up Time	17ms @ 100VAC, 25°C and @ maximum average output power.
Overcurrent Protection	Current limiting with automatic recovery. Avoid prolonged operation in overload or dead short. ZWS5 to ZWS50, ~ 125%. ZWS75, ZWS100 & ZWS150, ~ 130%. ZWS120, ~ 205%.
Overvoltage Protection	ZWS5 to ZWS30, output clamped by zener diode ~ 140%. ZWS50 to ZWS150, converter shutdown, manual input reset ~ 125%.
Cooling	Natural Convection, See Tables.
Operating Temperature Range	-10°C to +60°C.
Storage Temperature	-30°C to +85°C.
Temperature Coefficient	Typically less than 0.02%.
Humidity	10% to 90% RH (non-condensing).
Isolation	Input to Output ~ 3.0kVAC. Input to Chassis (FG) ~ 2.0kVAC. Output to Chassis (FG) ~ 500VAC for 1 minute.
Isolation	Output to Chassis (FG) →100Mohm @ 25°C and 70% RH.
Remote Sensing	None.
Input and Output Connections	Molex or JS (J option).
Safety Agency Approval	UL1950, CSA950, EN60950, Dentori, CE Mark.
Options	/A Cover (Additional deratings may apply) /J JST input & output connectors in place of Molex.
Warranty	2 years.

OUTPUT	POWER (W)	MAX CURRENT AMPS AT			MODEL
		40°	50°	60°	
3.3V (2.97-3.63)	3.3	1.00	1.00	0.70	ZWS5-3
	6.6	2.00	2.00	1.40	ZWS10-3
	9.9	3.00	3.00	2.10	ZWS15-3
	19.8	6.00	6.00	4.20	ZWS30-3
	33	10.00	10.00	7.00	ZWS50-3
	49.5	15.00	15.00	10.50	ZWS75PF-3
5V (4.5-5.5)	66	20.00	20.00	12.00	ZWS100PF-3
	99	30.00*	30.00*	21.00*	ZWS150PF-3
	5	1.00	1.00	0.70	ZWS5-5
	10	2.00	2.00	1.40	ZWS10-5
	15	3.00	3.00	2.10	ZWS15-5
	30	6.00	6.00	4.20	ZWS30-5
12V (10.8-13.2)	50	10.00	10.00	7.00	ZWS50-5
	75	15.00	15.00	10.50	ZWS75PF-5
	100	20.00	20.00	12.00	ZWS100PF-5
	150	30.00*	30.00*	21.00*	ZWS150PF-5
	5	0.42	0.42	0.30	ZWS5-12
	10	0.85	0.85	0.60	ZWS10-12
15V (13.5-16.5)	15	1.25	1.25	0.87	ZWS15-12
	30	2.50	2.50	1.75	ZWS30-12
	51	4.30	4.30	3.00	ZWS50-12
	76	6.30	6.30	4.40	ZWS75PF-12
	102	8.50	8.50	5.10	ZWS100PF-12
	150	12.50*	12.50*	8.50*	ZWS150PF-12
24V (21.6-26.4)	5	0.34	0.34	0.24	ZWS5-15
	10	0.70	0.70	0.50	ZWS10-15
	15	1.00	1.00	0.70	ZWS15-15
	30	2.00	2.00	1.40	ZWS30-15
	52	3.50	3.50	2.50	ZWS50-15
	75	5.00	5.00	3.50	ZWS75PF-15
36V (32.4-39.6)	100	6.70	6.70	4.00	ZWS100PF-15
	150	10.00*	6.00*	7.00*	ZWS150PF-15
	5	0.22	0.22	0.15	ZWS5-24
	10	0.45	0.45	0.30	ZWS10-24
	15	0.65	0.65	0.45	ZWS15-24
	31	1.30	1.30	0.91	ZWS30-24
48V (43.2-52.8)	50	2.10	2.10	1.47	ZWS50-24
	76	3.20	3.20	2.24	ZWS75PF-24
	103	4.30	4.30	2.60	ZWS100PF-24
	122	5.00	5.00	3.50	ZWS120PPF-24
	151	6.30*	6.30*	4.40*	ZWS150PF-24
	32	0.90	0.90	0.63	ZWS30-36
36V (32.4-39.6)	50	1.40	1.40	0.98	ZWS50-36
	75	2.10	2.10	1.47	ZWS75PF-36
	100	2.80	2.80	1.68	ZWS100PF-36
	122	3.40	3.40	2.38	ZWS120PPF-36
	151	4.20*	4.20*	2.94*	ZWS150PF-36
	33	0.70	0.70	0.49	ZWS30-48
48V (43.2-52.8)	52	1.10	1.10	0.77	ZWS50-48
	76	1.60	1.60	1.12	ZWS75PF-48
	100	2.10	2.10	1.26	ZWS100PF-48
	153	3.20*	3.20*	2.24*	ZWS150PF-48

*ZWS150 current ratings are with 0.7m/s forced air cooling.

ZWS Series



DIMENSIONS:

MODEL	A	B	C	D	E	F	G	H	J	K	L
ZWS5	3.86 (98.0)	1.77 (44.9)	3.580 (90.9)	1.500 (38.1)	-	-	.14 (3.5)	.83 (21.0)	1.05 (26.6)	.54 (13.7)	-
ZWS10	4.14 (105.1)	1.97 (50.0)	3.860 (98.0)	1.690 (42.9)	-	-	.14 (3.5)	.83 (21.0)	.99 (25.1)	.67 (17.0)	-
ZWS15	4.93 (125.2)	1.97 (50.0)	4.650 (118.1)	1.690 (42.9)	-	-	.14 (3.5)	.83 (21.0)	1.04 (26.4)	.57 (14.4)	-
ZWS30	5.24 (133.0)	2.17 (55.1)	4.850 (123.1)	1.770 (43.1)	-	-	.20 (5.0)	1.02 (25.9)	.20 (5.0)	1.16 (29.4)	-
ZWS50	7.68 (195.0)	2.17 (55.1)	7.290 (185.1)	1.770 (43.1)	-	-	.20 (5.0)	1.02 (25.9)	1.32 (33.5)	.72 (18.2)	-
ZWS75	8.74 (221.9)	2.17 (55.1)	8.350 (212.0)	1.770 (43.1)	3.330 (84.5)	-	.20 (5.0)	1.38 (35.0)	1.04 (26.4)	.88 (22.3)	-
ZWS100	8.74 (221.9)	2.44 (61.9)	8.350 (212.0)	2.050 (52.0)	3.230 (82.0)	.280 (7.1)	.20 (5.0)	1.38 (35.0)	1.00 (25.4)	1.02 (25.9)	-
ZWS120	8.188 (208.0)	3.149 (80.0)	7.795 (198.0)	2.755 (70.0)	3.031 (77.0)	.748 (19.0)	(5.0)	1.574 (40.0)	1.043 (26.5)	1.850 (47.0)	-
ZWS150	8.74 (221.9)	2.95 (74.9)	8.350 (212.0)	2.560 (65.0)	2.930 (74.4)	.550 (13.9)	.20 (5.0)	1.58 (40.1)	2.01 (51.0)	1.90 (48.2)	.88 (22.3)

WEIGHT:

MODEL	GRAMS
ZWS5	120g
ZWS10	120g
ZWS15	140g
ZWS30	270g
ZWS50	370g
ZWS75	500g
ZWS100	600g
ZWS120	650g
ZWS150	800g

NOTE:

1. DIMENSIONS ARE IN INCHES EXCEPT DIMENSIONS () ARE IN MM.
2. 5- .137(3.5) HOLES ARE FOR CUSTOMER CHASSIS MTG. ALL HOLES MUST BE SCREWED DOWN IN ORDER TO CONFORM WITH VIBRATION SPEC.
3. KEEP .16(4.0) MIN DISTANCE BETWEEN PC-BOARD EDGE AND CUSTOMER CHASSIS.