

Linear	Desktop
Enclosed or L Bracket	Open Frame
PCB Mount	Rack Mount Hot Swap

# AC-DC Selector

Applications	# of Outputs	Output Power (W)												
		5	10	15	30	50	100	300	500	1000	1500	2500		
High Reliability Industrial (Five Year Warranty)	Single				NNS									
					HWS									
							JWS							
										LZSA				
	Dual			NND										
	Triple					JWT								
Industrial (Three Year Warranty)	Single & Multiple			HK-A (Single Output, 115VAC input)										
								NV						
					MTW									
									Vega					
											Alpha			
				LS										
Datacom Commercial (One - Two Year Warranty)	Single		KW, KPS, KM											
			ZWS, ZWSAF, ZWSPAF											
					DT									
					H									
					SC, SC120, ZP									
							SWS							
								PFE						
										FPS (1U)				
										TH (1U)				
		Multiple		KW, KM										
				LWD, LWT										
				H										
				DT										
					SC, ZP									
						ZWD, ZWQ								
Programmable	Single							ZUP						
DIN Rail Mount	Single				DSP, DPP, DLP-PU*									
							DLP							

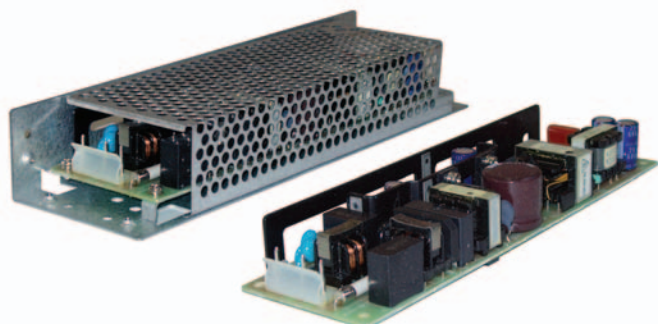
\* See website

# ZWS-AF Series

**50W to 150W Single Output Low Cost, Worldwide Use**

- ◆ Universal Input (85 - 265VAC)
- ◆ Power factor Corrected
- ◆ Input transient protected
- ◆ 2 year warranty
- ◆ High quality design
- ◆ Peak Power capability

**RoHS**



### Key Market Segments & Applications

Factory Automation	Process Control, NC-Machining, Automotive, Packaging Equipment, Materials Handling, Chemical Processing, Robots
Test & Measurement	Burn-in & Test, Automated Test, Instrumentation, Measurement
Light Industrial	Gaming, Vending, Printers

### ZWS Features and Benefits

Feature	Benefit
◆ Input Transient Protected	◆ Withstands harsh environments
◆ 2 Year Warranty	◆ Lower Cost of Ownership
◆ Power Factor Corrected	◆ Supports Global Use
◆ Peak Power capability	◆ Can drive high current start up devices

### Specifications

MODELS		ZWS50AF	ZWS75AF	ZWS100AF	ZWS150AF
ITEMS					
AC Input Voltage range	VAC	85-265VAC (47-63Hz)			
DC Input Voltage range	VDC	120-370VDC			
Input Current (Typ) (1)	A	0.8/0.4	1.2/0.6	1.4/0.7	2.0/1.0
Inrush Current	A	14/28 25°C Ambient, Cold Start			
Power Factor (1)	-	Meets EN61000-3-2 (0.99/0.95)			
Maximum Ripple and Noise	mV	3.3 & 5V: 120mV; 12 to 24V: 150mV; 36 & 48V: 200mV			
Temperature Coefficient	-	<0.02%/°C			
Overcurrent Protection (4)	-	>105% of Peak Current Capability			
Hold Up Time (Typ) (1)	ms	20ms			
Leakage Current	-	0.5mA max 0.1mA (Typ) at 100VAC 0.16mA (Typ) at 230VAC			
Remote On / Off	-	See installation manual (Not available with /A cover option)			
Operating Temperature	-	Convection cooling - See table on page 2			
Storage Temperature	-	0.7m/s air -10°C to +70°C, derate linearly to 70% load from 60°C to 70°C (2)			
Humidity (non condensing)	-	-30° to +85°C			
Withstand Voltage	-	Operating: 30 - 90% RH, storage 10-95% RH			
Isolation Resistance	-	I/P~Grnd 2kVAC (20mA), I/P~O/P 3kVAC (20mA), O/P~Grnd 500VAC (100mA) for 1 min.			
Vibration (non operating)	-	>100M at 25C & 70%RH, Output to Ground 500VDC			
Shock	-	10 - 55Hz (1 minute sweep), 19.6m/s <sup>2</sup> constant X, Y, Z 1 hour			
Safety Agency Approvals	-	< 196.1 m/s <sup>2</sup>			
Conducted & Radiated EMI	-	UL60950-1, CSA60950-1, EN60950-1, EN50178, CE Mark			
Immunity	-	designed to meet EN55011, EN55022-B, FCC Class B, VCCI-B			
Weight (Typ)	g	210	290	380	500
Size (W x H x D)	mm	55 x 26 x 195	55 x 32 x 222	62 x 35 x 222	75 x 40 x 222
Warranty	yrs	Two Years			

Notes:

(1) 100/200VAC

(2) ZWS150AF -10 to 60°C, derate linearly to 70% load from 50°C to 60°C

(3) The peak current draw must not exceed a 10 second duration with a duty cycle of 35%

(4) Constant current limit with automatic recovery. Do not operate in a over-load or shorted output condition for more than 30 seconds.

(5) An overvoltage condition on the output will shut down the power supply. The power supply must be re-set by cycling the AC input.

## Output Ratings

Model	Voltage	Output Adjust Range (V)	Max Curr. (A)	Max Peak Curr. (A) <sup>2</sup>	Max Output Power (W)	Peak Output Power <sup>2</sup> (W)	Eff. (%)	Max Load Reg.(mV)	Max Line Reg.(mV)	OVP (V) <sup>5</sup>
ZWS75AF3	3.3V	2.85-3.63	15.0	-	49.5	-	67	40	20	3.79-4.95
ZWS100AF3	3.3V	2.85-3.63	20.0	-	66.0	-	69	40	20	3.79-4.95
ZWS150AF3	3.3V	2.97-3.63	30.0	-	99.0	-	74	40	20	3.79-4.95
ZWS50AF5	5V	4.5-5.5	10.0	-	50.0	-	75	40	20	5.75-7.0
ZWS75AF5	5V	4.5-5.5	15.0	-	75.0	-	75	40	20	5.75-7.0
ZWS100AF5	5V	4.5-5.5	20.0	-	100.0	-	75	40	20	5.75-7.0
ZWS150AF5	5V	4.5-5.5	30.0	-	150.0	-	77	40	20	5.75-7.0
ZWS50AF12	12V	10.8-13.2	4.3	5.2	51.6	62.4	78	96	48	13.8-16.2
ZWS75AF12	12V	10.8-13.2	6.3	7.5	75.6	90.0	78	96	48	13.8-16.2
ZWS100AF12	12V	10.8-13.2	8.5	10.0	102.0	120.0	79	96	48	13.8-16.2
ZWS150AF12	12V	10.8-13.2	12.5	15.0	150.0	180.0	79	96	48	13.8-16.2
ZWS50AF15	15V	13.5-16.5	3.5	4.2	52.5	63.0	79	120	60	17.3-20.3
ZWS75AF15	15V	13.5-16.5	5.0	6.0	75.0	90.0	79	120	60	17.3-20.3
ZWS100AF15	15V	13.5-16.5	6.7	8.0	100.5	120.0	79	120	60	17.3-20.3
ZWS150AF15	15V	13.5-16.5	10.0	12.0	150.0	180.0	81	120	60	17.3-20.3
ZWS50AF24	24V	21.6-26.4	2.1	2.6	50.4	62.4	81	150	96	27.6-32.4
ZWS75AF24	24V	21.6-26.4	3.2	3.8	76.8	91.2	82	150	96	27.6-32.4
ZWS100AF24	24V	21.6-26.4	4.3	5.0	103.2	120.0	81	150	96	27.6-32.4
ZWS150AF24	24V	21.6-26.4	6.3	7.5	151.2	180.0	82	150	96	27.6-32.4
ZWS75AF36	36V	32.4-39.6	2.1	2.5	75.6	90.0	82	200	144	41.4-48.6
ZWS100AF36	36V	32.4-39.6	2.8	3.4	100.8	122.4	82	200	144	41.4-48.6
ZWS150AF36	36V	32.4-39.6	4.2	5.0	151.2	180.0	82	200	144	41.4-48.6
ZWS75AF48	48V	43.2-52.8	1.6	1.9	76.8	91.2	82	240	192	55.2-64.8
ZWS100AF48	48V	43.2-52.8	2.1	2.5	100.8	120.0	82	240	192	55.2-64.8
ZWS150AF48	48V	43.2-52.8	3.2	3.8	153.6	182.4	82	240	192	55.2-64.8

## Other Lambda Industrial Products

VSB/VSC	5W-150W Single output 115VAC input
SC	30W-120W Single, dual & triple output
HWS	15W-1500W Single output
ZWSPAF	150W-480W Peak power, single output
ZWD, ZWQ	100W-440W Dual and quad output

## Derating - Convection Cooling

Model	40°C	45°C	50°C	55°C	60°C
ZWS50AF	100%	100%	100%	85%	70%
ZWS75AF	100%	100%	100%	85%	70%
ZWS100AF	100%	100%	100%	80%	60%
ZWS150AF	100%	87%	75%	62%	50%

## Options

Suffix	Description
-	Molex Input & Output Connectors
/A	With cover & L Bracket
/J	JST Input & Output Connectors*
/JA	JST Connectors & Cover

\* Recommended for new designs