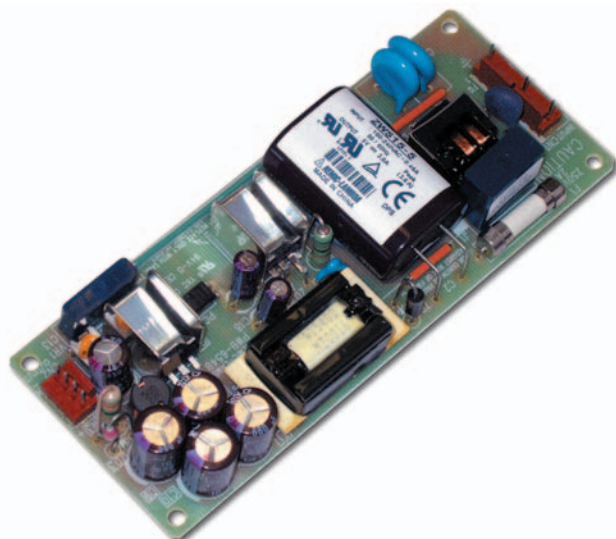


| | |
|-----------------------|---------------------|
| Linear | Desktop |
| Enclosed or L Bracket | Open Frame |
| PCB Mount | Rack Mount Hot Swap |

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 | | | | | | | | |
| | Dual | | | NND | | | | | | | | | | |
| | Triple | | | | | JWT | | | | | | | | |
| Industrial (Three Year Warranty) | Single & Multiple | | HK-A (Single Output, 115VAC input) | | | | | | | | | | | |
| | | | | | | | | NV | | | | | | |
| | | | | MTW | | | | | | | | | | |
| | | | | | | | | | Vega | | | | | |
| | | | | | | LS | | | | | | | Alpha | |
| Datacom Commercial (One - Two Year Warranty) | Single | | KW, KPS, KM | | | | | | | | | | | |
| | | | ZWS, ZWSAF, ZWSPAF | | | | | | | | | | | |
| | | | | | DT | | | | | | | | | |
| | | | | | H | | | | | | | | | |
| | | | | | SC, SC120, ZP | | | | | | | | | |
| | 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



Single Output, High Reliability

- ◆ Universal Input (85 - 265VAC)
- ◆ Power factor Corrected (>50W)
- ◆ 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, Detection |
| 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 | | ZWS5 ZWS10 | ZWS15 ZWS30 | ZWS50 |
|---------------------------------|----|--|--------------------------|---------------------------|
| ITEMS | | | | |
| AC Input Voltage range | - | 85-265VAC (47-440Hz) | | |
| DC Input Voltage range | - | 110 - 330VDC | | |
| Inrush Current (100/200VAC) (1) | A | 15 / 30 | | |
| Power Factor (Passive) | - | None | | |
| Temperature Coefficient | - | <0.02%/°C | | |
| Overcurrent Protection (2) | - | ~125% | | |
| Overvoltage Protection | V | ~140% diode clamp | | ~115 - 130%, manual reset |
| Hold Up Time (Typ) @ 100VAC | ms | 17 | | |
| Remote Sense | - | None | | |
| Operating Temperature | - | (open frame) -10°C~+60°C, derate linearly to 70% load from 50°C~60°C | | |
| Operating Temperature | - | (with cover) Additional derating applies, please consult Installation Manual | | |
| Storage Temperature | - | -30 to +85°C | | |
| Humidity (non condensing) | - | 10 - 95% RH | | |
| Cooling | - | Convection | | |
| Withstand Voltage | - | Input to Ground 2kVAC (20mA), Input to Output 3kVAC (20mA), Output to Ground 500VAC (100mA) for 1 min. | | |
| Isolation Resistance | - | >100M at 25C & 70%RH, Output to Ground 500VDC | | |
| Vibration (non operating) | - | 10 - 55Hz (1 minute sweep), 19.6m/s ² constant X, Y, Z 1 hour | | |
| Shock | - | < 196.1 m/s ² | | |
| Safety Agency Approvals | - | UL60950-1, CSA60950-1, EN60950-1, CE Mark | | |
| Conducted & Radiated | EM | EN55022-B, FCC Class B, VCCI-B | | |
| Recommended EMI Filter | - | MAW12R5-22 | MAW1201-22 MAW1202-22 | MAW1202-22 |
| Weight (Typ) | g | 120/120 | 140/270 | 370 |
| Size (WxHxD) | mm | See Outline Drawings | | |
| Warranty | - | 2 years | | |

Notes:

(1) 25C ambient (cold start)

(2) Avoid prolonged operation in overload

Output Ratings

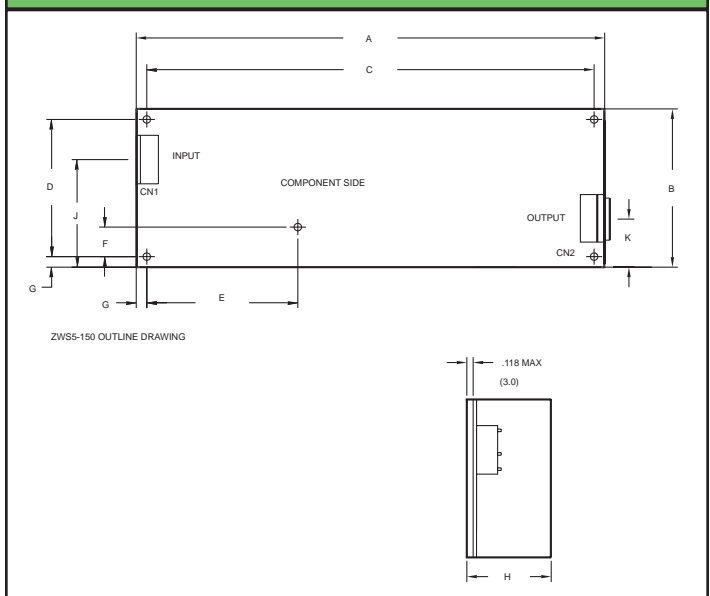
| Model | Voltage | Adjust Range | Max Curr. A | Peak Curr. A | Load Reg mV | Line Reg mV | Ripple Noise mV | Eff. % |
|----------|---------|--------------|-------------|--------------|-------------|-------------|-----------------|--------|
| ZWS5-3 | 3.3V | 2.97-3.63 | 1 | 1.2 | 40 | 20 | 120 | 62 |
| ZWS10-3 | 3.3V | 2.97-3.63 | 2 | 2.4 | 40 | 20 | 120 | 62 |
| ZWS15-3 | 3.3V | 2.97-3.63 | 3 | 3.6 | 40 | 20 | 120 | 63 |
| ZWS30-3 | 3.3V | 2.97-3.63 | 6 | 7.2 | 40 | 20 | 120 | 70 |
| ZWS50-3 | 3.3V | 2.97-3.63 | 10 | 12 | 40 | 20 | 120 | 73 |
| ZWS5-5 | 5V | 4.5-5.5 | 1 | 1.2 | 40 | 20 | 120 | 67 |
| ZWS10-5 | 5V | 4.5-5.5 | 2 | 2.4 | 40 | 20 | 120 | 70 |
| ZWS15-5 | 5V | 4.5-5.5 | 3 | 3.6 | 40 | 20 | 120 | 71 |
| ZWS30-5 | 5V | 4.5-5.5 | 6 | 7.2 | 40 | 20 | 120 | 75 |
| ZWS50-5 | 5V | 4.5-5.5 | 10 | 12 | 40 | 20 | 120 | 77 |
| ZWS5-12 | 12V | 10.8-13.2 | 0.42 | 0.51 | 96 | 48 | 150 | 68 |
| ZWS10-12 | 12V | 10.8-13.2 | 0.85 | 1.02 | 96 | 48 | 150 | 70 |
| ZWS15-12 | 12V | 10.8-13.2 | 1.25 | 1.5 | 96 | 48 | 150 | 71 |
| ZWS30-12 | 12V | 10.8-13.2 | 2.5 | 3 | 96 | 48 | 150 | 77 |
| ZWS50-12 | 12V | 10.8-13.2 | 4.3 | 5.16 | 96 | 48 | 150 | 80 |
| ZWS5-15 | 15V | 13.5-16.5 | 0.34 | 0.41 | 120 | 60 | 150 | 68 |
| ZWS10-15 | 15V | 13.5-16.5 | 0.7 | 0.84 | 120 | 60 | 150 | 71 |
| ZWS15-15 | 15V | 13.5-16.5 | 1 | 1.2 | 120 | 60 | 150 | 71 |
| ZWS30-15 | 15V | 13.5-16.5 | 2 | 2.4 | 120 | 60 | 150 | 77 |
| ZWS50-15 | 15V | 13.5-16.5 | 3.5 | 4.2 | 120 | 60 | 150 | 81 |
| ZWS5-24 | 24V | 21.6-26.4 | 0.22 | 0.27 | 150 | 96 | 200 | 70 |
| ZWS10-24 | 24V | 21.6-26.4 | 0.45 | 0.54 | 150 | 96 | 200 | 71 |
| ZWS15-24 | 24V | 21.6-26.4 | 0.65 | 0.78 | 150 | 96 | 200 | 71 |
| ZWS30-24 | 24V | 21.6-26.4 | 1.3 | 1.56 | 150 | 96 | 200 | 78 |
| ZWS50-24 | 24V | 21.6-26.4 | 2.1 | 2.52 | 150 | 96 | 200 | 82 |
| ZWS30-36 | 36V | 32.4-39.6 | 0.9 | 1.08 | 240 | 144 | 300 | 78 |
| ZWS50-36 | 36V | 32.4-39.6 | 1.4 | 1.68 | 240 | 144 | 300 | 82 |
| ZWS30-48 | 48V | 43.2-52.8 | 0.7 | 0.84 | 300 | 192 | 400 | 78 |
| ZWS50-48 | 48V | 43.2-52.8 | 1.1 | 1.32 | 300 | 192 | 400 | 82 |

Note for Peak Current: For 10s maximum, 35% duty cycle, average power not to exceed maximum ratings.

Options

| Suffix | Description |
|--------|-------------------------------|
| - | Molex Terminals |
| /A | Cover option |
| /J | JST Connectors* |
| /JA | JST Connectors & Cover |
| Note: | * Recommended for new designs |

ZWS Outline Drawing



DIMENSIONS:

| MODEL | A | B | C | D | E | F | G | H | J | K | L |
|-------|-----------------|----------------|------------------|-----------------|---|---|--------------|----------------|----------------|----------------|---|
| ZWS5 | 3.86 (98.0) | 1.77 (44.9) | 3.880 (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) | 3.880 (98.0) | 1.690 (42.9) | - | - | .14 (3.5) | .83 (21.0) | .99 (25.1) | .67 (18.4) | - |
| 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 (25.0) | .57 (14.4) | - |
| ZWS30 | 5.24 (133.0) | 2.17 (55.1) | 4.850 (123.1) | 1.770 (45.0) | - | - | .20 (5.0) | 1.02 (25.9) | .20 (31.0) | 1.16 (40.2) | - |
| ZWS50 | 7.68 (195.0) | 2.17 (55.1) | 7.290 (185.1) | 1.770 (45.0) | - | - | .20 (5.0) | 1.02 (25.9) | 1.32 (33.5) | .72 (18.2) | - |

Other Lambda Industrial Products

| | |
|---------|---|
| ZWS-AF | 50W to 150W Active PFC |
| ZWD/ZWQ | 100W to 440W Single & multiple output |
| VSB/VSC | 5W to 150W Single output 115VAC input |
| SC | 30W to 120W Single, dual, & triple output |
| HWS | 15W to 1500W Single output enclosed |