



## Single Output Industrial Power Supplies

- ◆ 5 Year Warranty
- ◆ -40°C to +71°C Operation
- ◆ MIL-STD-810E Vibration / Shock
- ◆ Input transient protected
- ◆ UL508, SEMIF47, Factory Mutual (Class 1, Division 2)

**RoHS**

### Key Market Segments & Applications

Factory Automation  
Process & Controls  
Harsh Environments

## Features and Benefits

### Feature

- ◆ Rugged mechanical design
- ◆ Superior thermal design
- ◆ Wide range adjustment of output
- ◆ Input voltage transient protected

### Benefit

- ◆ High reliability in harsh conditions
- ◆ Longer life even at 71°C operation
- ◆ Reduces need for custom outputs
- ◆ Reduced system filtering

## Specifications

| MODELS                        |     | LZSA500                                                                                           | LZSA1000           | LZSA1500              |
|-------------------------------|-----|---------------------------------------------------------------------------------------------------|--------------------|-----------------------|
| ITEMS                         |     |                                                                                                   |                    |                       |
| Input Voltage (47-440Hz)*     | -   | 85 - 265VAC (1500W: see output rating below 100VAC),100-400VDC                                    |                    |                       |
| Inrush Current (110 / 220VAC) | A   | 20 / 40A                                                                                          | 40 / 80A           |                       |
| Power Factor                  | -   | EN61000-3-2 Class A                                                                               |                    |                       |
| Efficiency (typical)          | %   | 84%                                                                                               |                    |                       |
| Ripple & Noise (Pk-Pk)        | -   | 75mV                                                                                              | 75mV               | 24V: 75mV; 48V: 150mV |
| Line Regulation               | %   | 0.1%                                                                                              |                    |                       |
| Load Regulation               | %   | 0.1%                                                                                              |                    |                       |
| Transient Response            | -   | ±1% deviation, recovering to ±0.2% in <1.25ms (25% load change)                                   |                    |                       |
| Overcurrent Protection        | -   | 110 - 130%                                                                                        |                    |                       |
| Overvoltage Protection        | V   | User adjustable from front panel                                                                  |                    |                       |
| Thermal Protection            | -   | Internal thermostat. Recycle AC to reset                                                          |                    |                       |
| Hold Up Time at 110VAC        | ms  | 20ms Hold Up, 20ms Ride Through                                                                   |                    |                       |
| Remote Sense                  | -   | Compensates for a total of 1V cable drop                                                          |                    |                       |
| Remote Adjust                 | -   | Using front panel potentiometer, Resistance (1k/V), or Voltage (1V/V)                             |                    |                       |
| Remote On / Off               | -   | TTL compatible, active high                                                                       |                    |                       |
| Signals                       | -   | Optocoupled transistor for AC Fail, DC Good, Inverter OK. 200kHz sync signal (Ref-sense)          |                    |                       |
| Indicators                    | -   | Green LED indicates output good, red LED indicates overvoltage or over temperature                |                    |                       |
| Parallel Connection           | -   | Single wire current share                                                                         |                    |                       |
| Operating Temperature         | °C  | -40°to+71°C, derate linearly to 60% load from 60°C~71°C (20 min warm up period needed for <-30°C) |                    |                       |
| Storage Temperature           | °C  | -40° to +85°C                                                                                     |                    |                       |
| Temperature Coefficient       | -   | 0.01%/°C                                                                                          |                    |                       |
| Humidity (non condensing)     | %RH | 10 - 90%RH                                                                                        |                    |                       |
| Cooling                       | -   | Internal fan                                                                                      |                    |                       |
| Withstand Voltage             | -   | Input - Ground 2,121VDC, Input - Output 4,242VDC, Output - Ground 500VDC                          |                    |                       |
| Vibration                     | -   | MIL-STD-810E, Method 516.4 Proc. I, II, IV, VI                                                    |                    |                       |
| Shock                         | -   | MIL-STD-810E, Method 514.4, Category 1, 9                                                         |                    |                       |
| Safety Agency Approvals       | -   | UL60950-1, UL508, EN60950-1, FM 3600, 3611, 3810, & CE Mark. SEMIF47(>100VAC)                     |                    |                       |
| Leakage current               | uA  | <500uA at 265VAC, 60Hz                                                                            |                    |                       |
| Emissions                     | -   | EN55022/EN55011 Class B, EN61000-3-3, MIL STD 461/462D CE102                                      |                    |                       |
| Immunity                      | -   | EN61000-4-2, -3, -4, -5, -6, -8, -11. IEEE C62.41 (6kV/30 Ohm, Criteria A)                        |                    |                       |
| Altitude                      | m   | 3,000m operating, 12,000m non operating                                                           |                    |                       |
| Weight                        | lbs | 6.5                                                                                               | 8.1                |                       |
| Size (WxHxD)(w/o bus bars)    | ins | 4.25 x 4.75 x 10.25                                                                               | 5.62 x 4.75 x 10.5 |                       |
| Warranty                      | yrs | Five Years                                                                                        |                    |                       |

Notes: (Consult Installation Manual for detailed specifications, test methods and application notes) \* Reduced power factor above 63Hz  
Preliminary items written in green.

## Output Ratings

| Model      | Nominal Voltage (V) | Adjustment Range (V) | Maximum Current (A) | Maximum Power (W)   |
|------------|---------------------|----------------------|---------------------|---------------------|
| LZSA500-3  | 24                  | 18 - 29.4            | 21                  | 504                 |
| LZSA1000-2 | 12                  | 10 - 15.75           | 84                  | 1008                |
| LZSA1000-3 | 24                  | 18 - 29.4            | 42                  | 1008                |
| LZSA1500-3 | 24                  | 18 - 29.4            | 63                  | 1512 <sup>(1)</sup> |
| LZSA1500-4 | 48                  | 36 - 56              | 31.5                | 1512 <sup>(1)</sup> |

Note (1) For input voltages <100VAC derate linearly to 1200W at 85VAC  
Preliminary model highlighted in green.

## Other Lambda Industrial Products

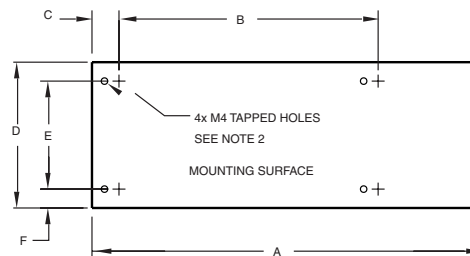
|          |                            |
|----------|----------------------------|
| HWS      | 15W to 1800W Single Output |
| DLP, DPP | 15W to 480W Single Output  |
| PFE      | 300 to 700W Power Module   |

For Additional Information, please visit  
[us.tdk-lambda.com/lp/products/lzsa-series.htm](http://us.tdk-lambda.com/lp/products/lzsa-series.htm)

## Outline Drawings



SIDE VIEW



BOTTOM VIEW

### DIMENSIONS:

| MODEL         | A                | B                | C             | D               | E               | F              |
|---------------|------------------|------------------|---------------|-----------------|-----------------|----------------|
| LZSA500       | 10.25<br>(260.3) | 6.500<br>(165.1) | .62<br>(15.8) | 4.25<br>(107.9) | 3.000<br>(76.2) | .62<br>(15.8)  |
| LZSA1000/1500 | 10.50<br>(266.7) | 8.500<br>(215.9) | .75<br>(19.0) | 5.62<br>(142.8) | 3.500<br>(88.9) | 1.06<br>(26.9) |

### NOTE:

1. DIMENSIONS ARE IN INCHES EXCEPT DIMENSIONS ( ) ARE IN MM.
2. 4 x M4 TAPPED HOLES FOR CUSTOMER MTG. SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN .25 (6.3).
3. CUSTOMER MUST PROVIDE CLEARANCE AROUND VENT HOLES TO ALLOW FOR AIR FLOW.