

## DS450-3/DS550-3

450 W - 550 W

Distributed Power System

**Distributed Power Bulk Front-End**  
Total Output Power: 450 - 550 Watts  
+12 Vdc Main Output  
+3.3 Vdc Stand-by Output  
Wide Range Input Voltage: 90 - 264 Vac



### Special Features

- Active Power Factor Correction
- EN61000-3-2 Harmonic Compliance
- Active AC Inrush Control
- 1U X 2U Form Factor
- 10.3 W / in<sup>3</sup> (DS550)  
8.4 W / in<sup>3</sup> (DS450)
- +12 Vdc Output
- +3.3 Vdc Stand-By
- No Minimum Load Required
- Hot Plug Operation
- N + 1 Redundant
- Internal OR'ing Fets
- Active Current Sharing
- Built-in Cooling Fans (40 mm x 28 mm)
- I<sup>2</sup>C Communication Interface Bus
- EERPOM for FRU Data
- Amber LED Status, Fan\_Fail
- Green LED Status, Power Good / AC\_OK Status
- Internal Fan Speed Control
- Fan Fail Tach Output Signal
- One Year Warranty

### Safety

- UL/cUL 60950 (UL Recognized)
- NEMKO+ CB Report EN60950
- EN60950
- CE Mark
- China CCC

## Electrical Specifications

| Input                   |   |
|-------------------------|---|
| Input range:            | 90 - 264 Vac (wide range)                             |
| Frequency:              | 47 - 63 Hz, single phase AC                           |
| Inrush current:         | 15 A maximum  |
| Efficiency:             | > 84% typical at full load, high line                 |
| Conducted EMI:          | FCC Subpart J EN55022 Class A                         |
| Radiated EMI:           | FCC Subpart J EN55022 Class A                         |
| Power factor:           | 0.99 typical  |
| Leakage current:        | 1.30 mA @ 240 Vac                                     |
| Hold up time:           | 20 ms minimum   |
| Output                  |   |
| Main DC voltage:        | +12 V   |
| Stand-By:               | +3.3 Vsb  |
| Adjustment range:       | Factory Set, no pot adjustments                       |
| Regulation:             | +12 Vdc; +5%/-3%<br>+3.3 Vsb; +5%/-4%                 |
| Overcurrent:            | See Table 1 next page                                 |
| Overvoltage:            | +12 Vdc; 13.5 - 15 Vdc<br>+3.3 Vsb; 3.76 - 4.30 Vdc   |
| Undervoltage:           | +12 Vdc; 11.0 - 11.5 Vdc<br>+3.3 Vsb; 2.77 - 3.00 Vdc |
| Turn-on delay:          | 1 Second max  |
| +12 V Output Rise Time: | 2 - 20 mS, Monotonic                                  |



| Logic Control |  |
|---------------|--|
| PS Inhibit:   | When supply is inserted into the system the pin is pulled LOW and power supply is ON after all other pins are seated   |
| PS_Status:    | I <sup>2</sup> C port P6. When the power supply is on and running normal P6 is low. When the power supply is off, either due to -PS_ON, PS_KILL, or a fault, then P6 is high.  |
| AC_Pfail:     | I <sup>2</sup> C port P7. P7 is high except when the power supply turns the main outputs, not +3.3 Vsb, off due to an AC failure (AC missing or too low for power supply operation). If the supply is turned off due to -PS_ON, PS_KILL, or a fault, then P7 remains high. |
| Fan_Fault:    | The PSU will provides an open collector Tach 1 output.   |
| Tach_1:       | This signal is generated from the fan. The signal should generate 2 pulses per revolution. The logic in the system will be operating at 3.3 V.   |

## Environmental Specifications

|  |   |
|--|---|
| Operating temperature:   | -10 °C to 50 °C   |
| Storage temperature:   | -40 °C to +70 °C  |
| Altitude, operating:   | 10,000 ft.  |
| Electromagnetic susceptibility / Input transients:   | -EN61000-3-2, -3-3<br>-EN61000-4-2, 4.3, 4-4, -4-5, 4-11 Level<br>-EN55024:1998 |
| RoHS & lead-free compliant (no tantalum caps)  |   |
| Humidity:  | 20 to 90% RH, non-condensing  |
| Shock and vibration specifications complies with Emerson Network Power Std. Specification, Q3205 |   |
| MTBF (Demonstrated):   | 400K Hrs at full load, 40 °C  |

## Ordering Information

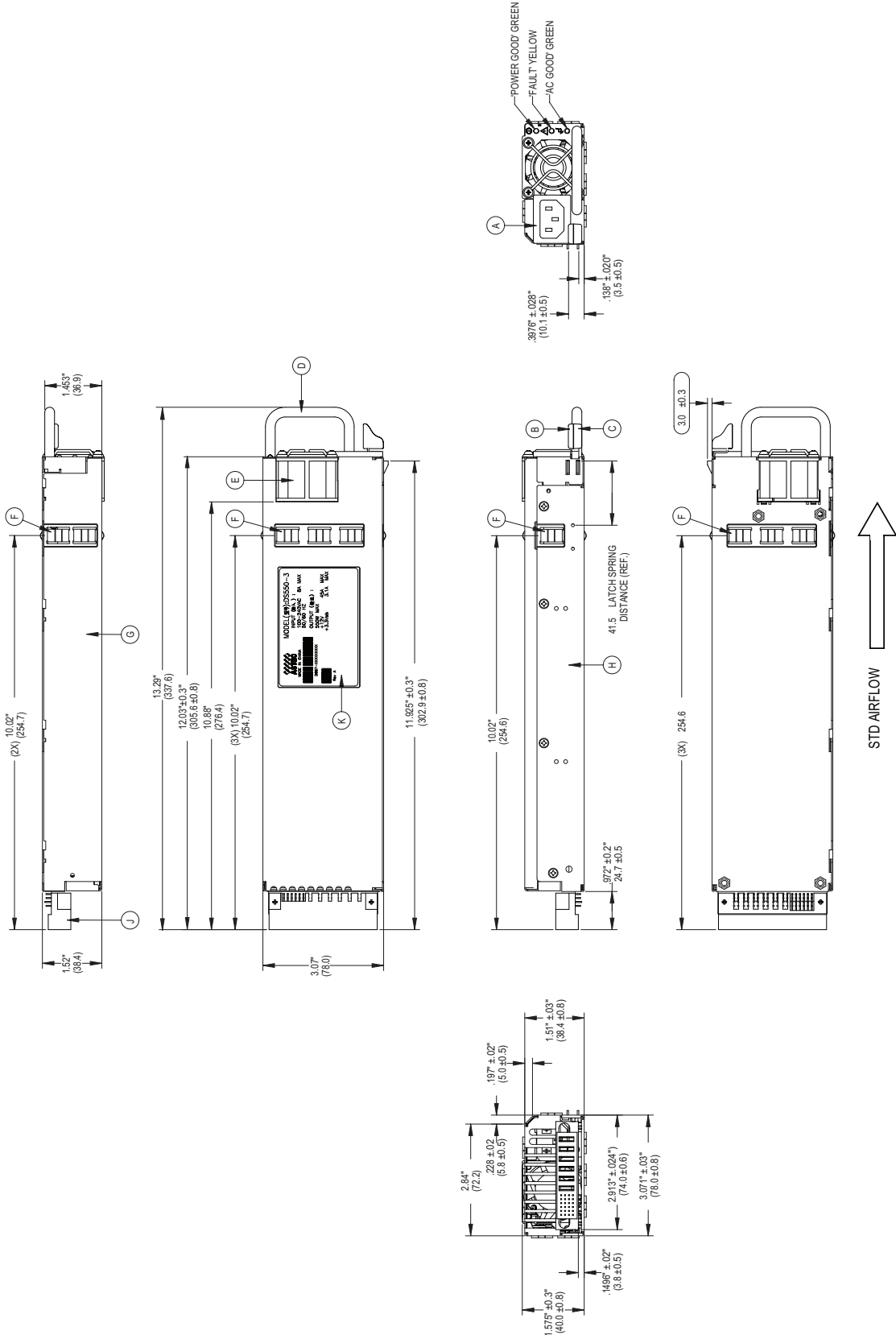
| Output  | Nominal Output Voltage Set Point | Set Point Tolerance | Total Regulation | Minimum Current | Maximum Current | Output Ripple P/P | Overcurrent        |
|---------|----------------------------------|---------------------|------------------|-----------------|-----------------|-------------------|--------------------|
| DS450-3 | 12.0 Vdc                         | ± 0.2%              | +5 / -3%         | 0 A             | 37.0 A          | 120 mV            | 39.5 A - 44.4 A    |
|         | 3.3 Vsb                          | ± 1%                | +5 / -4%         | 0 A             | 3.0 A           | 60 mV             | 4.9 A Avg, 7 A max |
| DS550-3 | 12.0 Vdc                         | ± 0.2%              | +5 / -3%         | 0 A             | 45.0 A          | 120 mV            | 48.0 A - 54.0 A    |
|         | 3.3 Vsb                          | ± 1%                | +5 / -4%         | 0A              | 3.0 A           | 60 mV             | 4.9 A Avg, 7 A max |

\*Overcurrent latches off if overcurrent lasts over 1 second, otherwise it is auto recovery.

\*For 5 Vsb, consult marketing.

# Mechanical Drawing

Rev. 03.15.11\_82  
DS450/DS550  
3 of 4



## DC Output Connector Pinout Assignment

Male connector as viewed from the rear of the supply:

|    |    |    |    |    |    |     |     |     |     |     |     |  |  |  |  |
|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| D1 | D2 | D3 | D4 | D5 | D6 |     |     |     |     |     |     |  |  |  |  |
| C1 | C2 | C3 | C4 | C5 | C6 | PB1 | PB2 | PB3 | PB4 | PB5 | PB6 |  |  |  |  |
| B1 | B2 | B3 | B4 | B5 | B6 |     |     |     |     |     |     |  |  |  |  |
| A1 | A2 | A3 | A4 | A5 | A6 |     |     |     |     |     |     |  |  |  |  |

### P1 - Power Supply Side

1. FCI Power Blade 51721 series  
51721-10002406AA
2. Molex Power Connector  
SD-87667 series  
87667-7002

### Mating Connector (System Side)

1. FCI Power Blade  
51741-10002406CC  
Strait Pins
2. FCI Power Blade  
51761-10002406AA  
Right Angle

| Pin  | Signal Name                                |
|------|--|
| PB 1 | +12 V Return                               |
| PB 2 | +12 V Return                               |
| PB 3 | +12 V Return                               |
| PB 4 | +12 V                                      |
| PB 5 | +12 V                                      |
| PB 6 | +12 V                                      |
| A1   | PS_KILL                                    |
| A2   | +12 V_Current Share                        |
| A3   | Logic Return                               |
| A4   | +3.3 V Stand-By                            |
| A5   | A0 (I <sup>2</sup> C Address BIT 0 Signal) |
| A6   | +3.3V Stand-By                             |
| B1   | Logic Return                               |
| B2   | Spare                                      |
| B3   | Logic Return                               |
| B4   | +3.3 V Stand-By                            |
| B5   | SDA (I <sup>2</sup> C Data Signal)         |
| B6   | PS_ON (Power Enable Signal)                |
| C1   | Logic Return                               |
| C2   | Tach_1 (Fan Fail Signal)                   |
| C3   | Logic Return                               |
| C4   | +3.3 V Stand-By                            |
| C5   | SCL (I <sup>2</sup> C Clock Signal)*       |
| C6   | VIN_GOOD (AC Input present)                |
| D1   | -PS_Present (Power Supply Seated)          |
| D2   | Spare                                      |
| D3   | Logic Return                               |
| D4   | +3.3 V Stand-By                            |
| D5   | S_INT (Alert)                              |
| D6   | POK (Output Power Ok)                      |

\*Supports I<sup>2</sup>C standard mode (100 kHz) only

### Americas

5810 Van Allen Way  
Carlsbad, CA 92008  
USA  
Telephone: +1 760 930 4600  
Facsimile: +1 760 930 0698

### Europe (UK)

Waterfront Business Park  
Merry Hill, Dudley  
West Midlands, DY5 1LX  
United Kingdom  
Telephone: +44 (0) 1384 842 211  
Facsimile: +44 (0) 1384 843 355

### Asia (HK)

14/F, Lu Plaza  
2 Wing Yip Street  
Kwun Tong, Kowloon  
Hong Kong  
Telephone: +852 2176 3333  
Facsimile: +852 2176 3888

For global contact, visit:

[www.Emerson.com/EmbeddedPower](http://www.Emerson.com/EmbeddedPower)  
[techsupport.embeddedpower@emerson.com](mailto:techsupport.embeddedpower@emerson.com)

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

### Emerson Network Power.

The global leader in enabling business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- **Embedded Power**
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

### EmersonNetworkPower.com

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.  
©2011 Emerson Electric Co.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)