

## DS1200DC

1200 Watts

Distributed Power System

**Distributed Power Bulk Front-End**

**Total Output Power:** 1200 Watts

3.3 or 5.0 Vdc Stand-by Output

**Telco Input Range:** -40 to -72 Vdc



## Special Features

- GR-1089-CORE Issue 4 compliant
- 1U X 2U form factor
- 21.71 W / in<sup>3</sup>
- +12 Vdc Output
- +3.3 Vdc stand-by (5 V standby - option)
- No minimum load required
- Hot plug operation
- N + 1 redundant
- Internal OR'ing fets
- Active current sharing shares with DS1200 AC unit (10 - 100% load)
- Built-in cooling fan (40 mm x 28 mm)
- I<sup>2</sup>C communication interface bus
- PMBus compliant
- EERPOM for FRU data
- Red/green bi-color LED status
- Internal fan speed control
- Fan Fail Tach Output Signal
- INTEL, SSI Std. logic timing
- INTEL, SSI Std. FRU data format
- Full digital control
- Two year warranty
- NEBS compliant

## Safety

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

## Electrical Specifications

| Input                  |                                                                                                                                                |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Input range:           | -40 Vdc to -72 Vdc                                                                                                                             |
| Inrush current:        | ETSI EN300 132-2 part 4.7 compliant                                                                                                            |
| Efficiency:            | > 85% typical at high line 50% load                                                                                                            |
| Conducted EMI:         | Per GR-1089-CORE Issue 4                                                                                                                       |
| Radiated EMI:          | Per GR-1089-CORE Issue 4                                                                                                                       |
| Leakage current:       | 1.40 mA @ 240 VAC                                                                                                                              |
| Hold up time:          | 12 ms minimum                                                                                                                                  |
| Output                 |                                                                                                                                                |
| Main DC voltage:       | +12 V @ 100 A                                                                                                                                  |
| Stand-By:              | +3.3 Vsb @ 6 A (5 V @ 4 A available)                                                                                                           |
| Adjustment range:      | ±5% on +12V only using I <sup>2</sup> C                                                                                                        |
| Regulation:            | +12 Vdc; ± 5%<br>3.3 or 5.0 Vsb ± 5%                                                                                                           |
| Over current:          | +12 Vdc; latches off if overcurrent lasts over 1 second, otherwise it is auto recovery (See Table 1 next page) +3.3 Vsb, 9 A max (hiccup mode) |
| Over voltage:          | +12 Vdc; 13.2 - 14.4 Vdc<br>+3.3 Vsb; 3.76 - 4.30 Vdc                                                                                          |
| Under voltage:         | +12 Vdc; 9 - 10.8 V (latch off)                                                                                                                |
| Turn-on delay:         | 2 second max, 5 - 50 mS, monotonic rise                                                                                                        |
| Main output rise time: | 5 - 50 mS, monotonic rise                                                                                                                      |

## Logic Control

|                          |                                                                                                                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PS_SEATED (A4):          | TTL logic LOW if power supply is seated into system connector. This is a short pin. A logic HIGH if the PSU is removed                                                                                                               |
| PWR GOOD (C3):           | Active TTL high when output is within regulation limits.                                                                                                                                                                             |
| AC OK (B1):              | A low logic level if the input voltage is within allowable limits. A TTL logic HIGH level, and a 5mS early warning signal before 12.0 V DC output loss of regulation.                                                                |
| PS_INHIBIT/PS_KILL (B4): | When left open power supply operation will be inhibited. When the power supply is inserted into the system, this pin will be pull low by the system and turn the power supply on only after all other power supply pins have seated. |
| PS ON (A1):              | The output will be enabled when this signal is pulled low, below 0.8 V outputs disabled when pin is driven high or left open.                                                                                                        |

## Environmental Specifications

|                                                    |                                                                              |
|----------------------------------------------------|------------------------------------------------------------------------------|
| Operating temperature:                             | -10° to 55 °C                                                                |
| Storage temperature:                               | -40 °C to +85 °C                                                             |
| Altitude, operating:                               | 13,000 ft                                                                    |
| Electromagnetic susceptibility / Input transients: | GR-1089-CORE Issue 4                                                         |
| RoHS & lead-free                                   | Compliant                                                                    |
| Humidity:                                          | 20 to 90% RH, non-condensing                                                 |
| Shock and vibration specifications:                | Complies with Astec Std. Specifications, Q3205 + additional NEBS requirement |
| MTBF (Demonstrated):                               | 500K Hrs at full load, 40 °C                                                 |

## Ordering Information

| Model Number     | Nominal Output Voltage Set Point | Set Point Tolerance | Total Regulation | Minimum Current | Maximum Current | Output Ripple P/P | Over Current     | Stand-by    | Air Flow |
|------------------|----------------------------------|---------------------|------------------|-----------------|-----------------|-------------------|------------------|-------------|----------|
| DS1200DC-3       | 12.0 Vdc                         | ±0.2%               | ±5%              | 0 A             | 100 A           | 120 mV            | 118 A - 147.6 A* | 3.3 V @ 6 A | STD      |
| DS1200DC-3-001   | 12.0 Vdc                         | ±0.2%               | ±5%              | 0 A             | 100 A           | 120 mV            | 118 A - 147.6 A* | 3.3 V @ 6 A | REV†     |
| DS1200DC-3-002   | 12.0 Vdc                         | ±0.2%               | ±5%              | 0 A             | 100 A           | 120 mV            | 118 A - 147.6 A* | 5.0 V @ 4 A | STD      |
| DS1200DC-3-004** | 12.0 Vdc                         | ±0.2%               | ±5%              | 0 A             | 100 A           | 120 mV            | 118 A - 147.6 A* | 5.0 V @ 4 A | REV†     |

\*Over current latches off if overcurrent lasts over 1 seconds, otherwise it is auto recovery.

\*\*Release in April 2010

† Derating may apply.

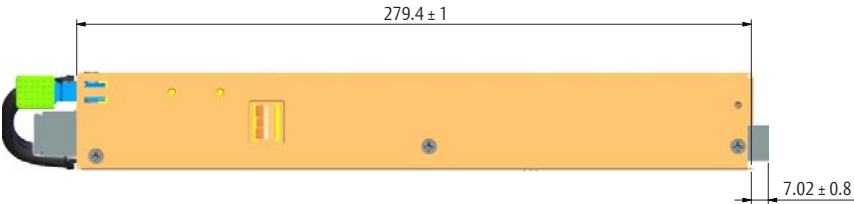
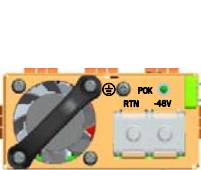
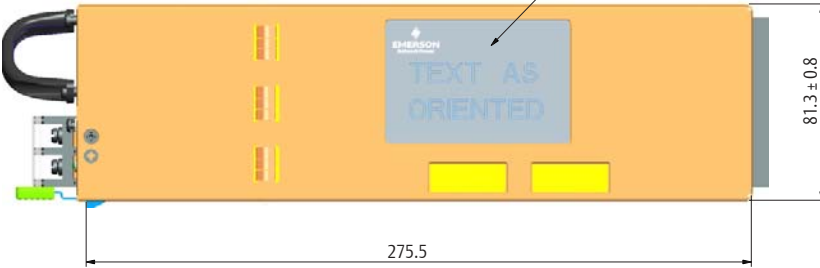
# Mechanical Drawing

| Condition                                    | LED Status     |
|----------------------------------------------|----------------|
| Stand-by - ON; Main output - OFF; AC PRESENT | Blinking green |
| Stand-by - ON; Main output - ON;             | Solid green    |
| Main output OCP, UVP, OVP                    | Blinking Amber |
| FAN_FAULT; OTP; Stand-by OCP/UVP             | Amber          |



← FORWARD AIRFLOW DIRECTION

MODEL LABEL  
(LABEL TEXT & CHARACTERS AS ORIENTED)



## 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  
Straight Pins
2. FCI Power Blade  
51761-10002406AALF  
Right Angle

### Pin Assignments

| Pin  | Signal Name                                |
|------|--------------------------------------------|
| PB 1 | Main output return                         |
| PB 2 | Main output return                         |
| PB 3 | Main output return                         |
| PB 4 | + Main output                              |
| PB 5 | + Main output                              |
| PB 6 | + Main output                              |
| A1   | PS_ON                                      |
| A2   | Main output remote sense return            |
| A3   | Spare                                      |
| A4   | PS_SEATED (Power Supply Seated)            |
| A5   | STAND-BY                                   |
| A6   | STAND-BY RETURN                            |
| B1   | AC_OK (AC Input Present)                   |
| B2   | Main output remote sense                   |
| B3   | Main output current share                  |
| B4   | PS_INHIBIT / PS_Kill                       |
| B5   | STAND-BY                                   |
| B6   | STAND-BY RETURN                            |
| C1   | SDA (I <sup>2</sup> C Data Signal)         |
| C2   | SCL (I <sup>2</sup> C Clock Signal)        |
| C3   | POWER GOOD                                 |
| C4   | Spare                                      |
| C5   | STAND-BY                                   |
| C6   | STAND-BY RETURN                            |
| D1   | A0 (I <sup>2</sup> C Address BIT 0 Signal) |
| D2   | A1 (I <sup>2</sup> C Address BIT 1 Signal) |
| D3   | S_INT (Alarm)                              |
| D4   | STAND-BY RMT SENSE                         |
| D5   | STAND-BY                                   |
| D6   | STAND-BY RETURN                            |

### 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:

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[techsupport.embeddedpower@emerson.com](mailto:techsupport.embeddedpower@emerson.com)

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