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## DS1200DC

1200 Watt Distributed Power System

### Data Sheet

#### Front-end Bulk Power

#### Total Output Power:

180 to 264 Vac: 1200 W

3.3 Vdc or 5.0 Vdc Standby 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 standby (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  |
| Standby               | +3.3 Vsb @ 6 A (5 V @ 4 A available)   |
| Adjustment range      | ±5% on +12 V only using I <sup>2</sup> C   |
| Regulation            | +12 Vdc; ±5%<br>+3.3 or 5.0 Vsb ±5%  |
| Overcurrent           | +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) |
| Overvoltage           | +12 Vdc; 13.2 - 14.4 Vdc<br>+3.3 Vsb; 3.76 - 4.30 Vdc  |
| Undervoltage          | +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 5 mS 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

|  |  |
|--|--|
| <b>Operating temperature</b>                             | -10 to 55 °C   |
| <b>Storage temperature</b>                               | -40 to +85 °C  |
| <b>Altitude, operating</b>                               | 13,000 feet  |
| <b>Electromagnetic susceptibility / Input transients</b> | GR-1089-CORE Issue 4   |
| <b>RoHS &amp; lead free</b>                              | Compliant  |
| <b>Humidity</b>  | 20 - 90% RH, non condensing  |
| <b>Shock and vibration specifications</b>                | Complies with Artesyn standard specifications plus additional NEBS requirement |
| <b>MTBF (demonstrated)</b>                               | 500 K Hrs at full load, 40 °C  |

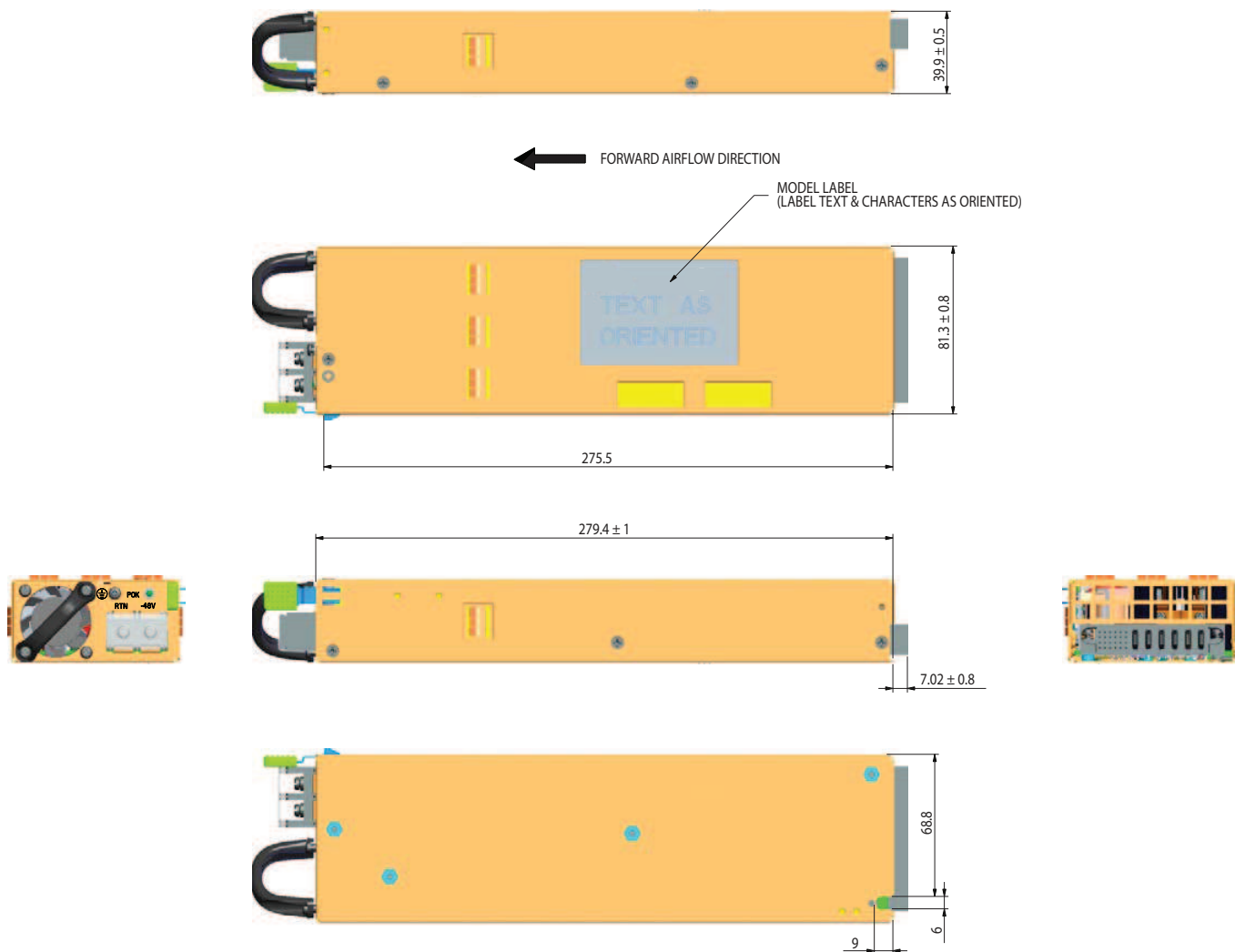
## Ordering Information

| Model Number*  | Nominal Output Voltage Set Point | Set Point Tolerance | Total Regulation | Current |       | Output Ripple P/P | Overcurrent      | Standby     | Air Flow |
|----------------|----------------------------------|---------------------|------------------|---------|-------|-------------------|------------------|-------------|----------|
|                |                                  |                     |                  | Min     | Max   |                   |                  |             |          |
| DS1200DC-3     | 12.0 V                           | ±0.2%               | ±0.5%            | 0 A     | 100 A | 120 mV            | 118 A - 147.6 A* | 3.3 V @ 6 A | STD      |
| DS1200DC-3-001 | 12.0 V                           | ±0.2%               | ±0.5%            | 0 A     | 100 A | 120 mV            | 118 A - 147.6 A* | 3.3 V @ 6 A | REV**    |
| DS1200DC-3-002 | 12.0 V                           | ±0.2%               | ±0.5%            | 0 A     | 100 A | 120 mV            | 118 A - 147.6 A* | 5.0 V @ 4 A | STD      |
| DS1200DC-3-004 | 12.0 V                           | ±0.2%               | ±0.5%            | 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.

\*\* 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          |

## Mechanical Specifications

### DC Output Connector Pinout Assignment

Male connector as viewed from the rear of the supply:

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

### 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                                |
|-----|--|
| PB1 | Main output return                         |
| PB2 | Main output return                         |
| PB3 | Main output return                         |
| PB4 | + Main output                              |
| PB5 | + Main output                              |
| PB6 | + Main output                              |
| A1  | PS_ON_                                     |
| A2  | Main output remote sense return            |
| A3  | Spare                                      |
| A4  | PS_SEATED (Power supply seated)            |
| A5  | STANDBY                                    |
| A6  | STANDBY RETURN                             |
| B1  | AC_OK (AC Input Present)                   |
| B2  | Main output remote sense                   |
| B3  | Main output current share                  |
| B4  | PS_INHIBIT / PS_Kill                       |
| B5  | STANDBY                                    |
| B6  | STANDBY Return                             |
| C1  | ADC (I <sup>2</sup> C Data Signal)         |
| C2  | SCL (I <sup>2</sup> C Clock Signal)        |
| C3  | POWER GOOD                                 |
| C4  | Spare                                      |
| C5  | STANDBY                                    |
| C6  | STANDBY 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  | STANDYBY RMT SENSE                         |
| D5  | STANDBY                                    |
| D6  | STANDBY RETURN                             |

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