ARTESYN DS1200DC

1200 Watt Distributed Power System

Advanced Energy's Artesyn DS1200DC series bulk front end power supplies is the DC-input version of its DS1200 AC-input counterpart. Mechanically identical to the AC-input version, this product allows system operation from a Telco style 48 VDC input. Rated at 1,200 watts, the power supply provides a main 12 V output and a 3.3 V or optional 5.5 V standby output. Active current sharing allows this power supply to be paralleled with the AC-input version, for use in battery back-up systems where both AC and DC input capabilities are required.

AT A GLANCE

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^3
- +12 V output
- +3.3 V 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 to 100% load)
- Built-in cooling fan (40 mm x 28 mm)
- I^{2}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 62368 (UL Recognized)
- NEMKO+ CB Report EN62368
- EN62368
- CE Mark
- China CCC
- UKCA Mark

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	1.1 ms
Output	
Main DC voltage	+12 V @ 100 A
Standby	+3.3 V @ 6 A (5 V @ 4 A available)
Adjustment range	±5% on +12 V only using I^2C
Regulation	+12 VDC; ±5% +3.3 or 5.0 VSB ±5%
Overcurrent	+12 VDC; latches off if overcurrent lasts over 1 second, otherwise it is auto recovery +3.3 VSB, 9 A max (hiccup mode)
Overvoltage	+12 VDC; 13.2 to 14.4 VDC +3.3 VSB; 3.76 to 4.30 VDC
Undervoltage	+12 VDC; 9 to 10.8 V (latch off)
Turn-on delay	2 seconds max, 5 to 50 mS, monotonic rise
Main output rise time	5 to 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

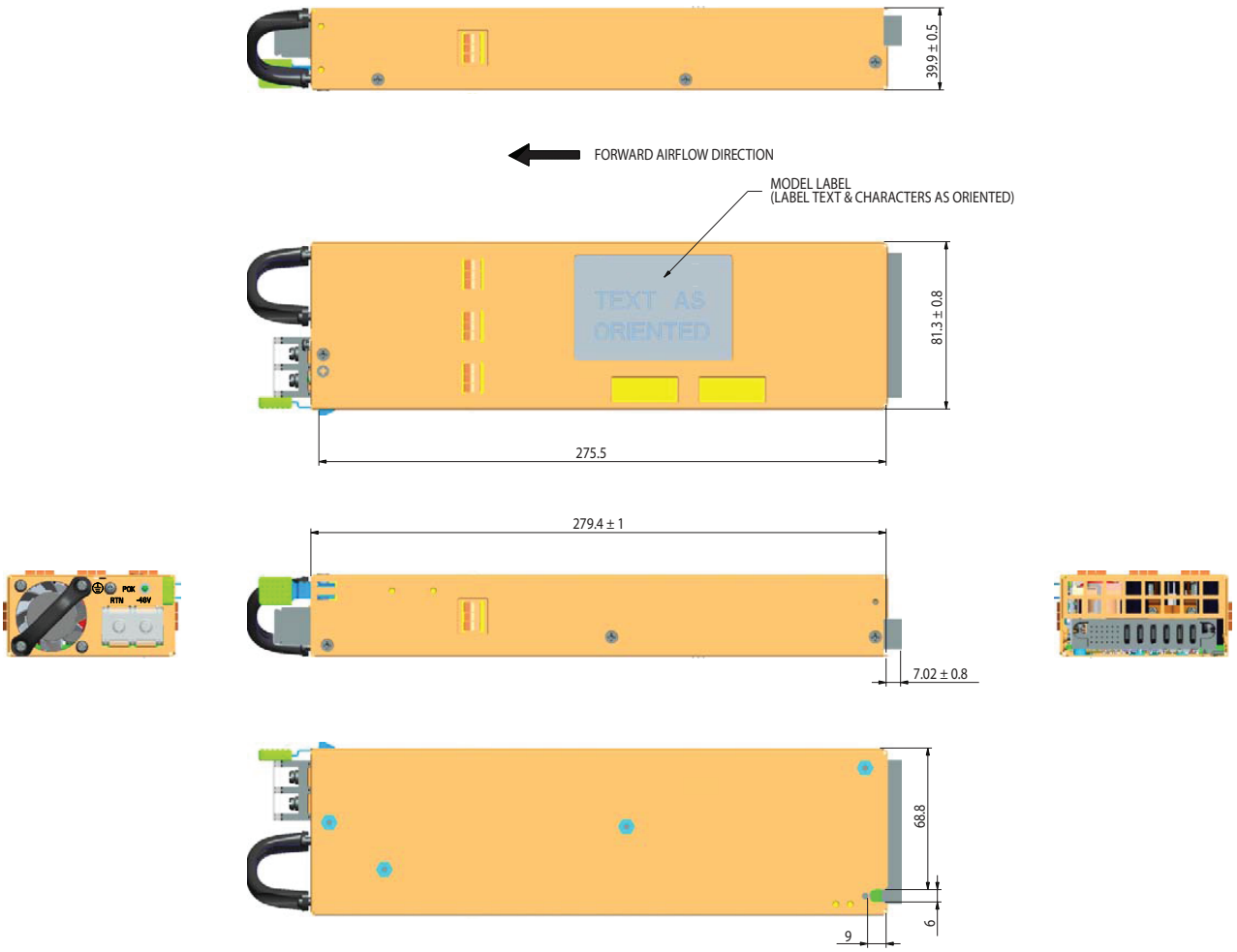
Operating temperature	-10 to 55°C
Storage temperature	-40 to +85°C
Altitude, operating	13,000 feet
Electromagnetic susceptibility / Input transients	GR-1089-CORE Issue 4
RoHS & lead free	Compliant
Humidity	20 to 90% RH, non condensing
Shock and vibration specifications	Complies with Artesyn standard specifications plus 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	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



Conditon	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

MECHANICAL SPECIFICATIONS (CONTINUED)

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 ouput current share
B4	PS_INHIBIT / PS_Kill
B5	STANDBY
B6	STANDBY Return
C1	ADC (I^2C data signal)
C2	SCL (I^2C clock signal)
C3	POWER GOOD
C4	Spare
C5	STANDBY
C6	STANDBY RETURN
D1	A0 (I^2C address BIT 0 signal)
D2	A1 (I^2C address BIT 1 signal)
D3	S_INT (Alarm)
D4	STANDYBY RMT SENSE
D5	STANDBY
D6	STANDBY RETURN

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

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For international contact information,
visit advancedenergy.com.

powersales@aei.com (Sales Support)
productsupport.ep@aei.com (Technical Support)
+1 888 412 7832

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