ARTESYN DS1200

1200 Watts

Distributed Power System

Advanced Energy's Artesyn DS1200 series is Artesyn Embedded Power' highest power, highest density bulk front end AC-DC power supply in the industry standard 1U x 2U form factor. It accepts a wide range 90 to 264 VAC input and provides a main 12 V output plus a 3.3 V or optional 5.5 V standby output. Rated at 1,100 watts, it has a high half-load efficiency of 91%. Housed in an industry standard 1U x 2U rack-mounting package, the power supply is designed for servers and similar space-constrained applications. This series comes in two airflow versions – dc-connector to ac-connector and vice versa.

AT A GLANCE

Distributed Power Bulk Front-End

Total Output Power

1200 Watts
+3.3 VDC Standby Output

Wide Range Input Voltage

90 to 264 VAC

RoHS

PMBus Power Management. Defined.

SPECIAL FEATURES

- Active power factor correction
- EN61000-3-2 harmonic compliance
- Active AC inrush control
- 1U X 2U form factor
- 21.71 W/in^3
- +12 VDC Output
- +3.3 VDC or +5.0 VDC stand-by
- No minimum load required
- Hot plug operation
- N + 1 redundant
- Internal OR'ing fets
- Active current sharing (10 to 100% load)
- Built-in cooling fan (40 mm x 28 mm)
- I^{2}C communication interface bus
- PMBus compliant
- EEPROM for FRU data
- Red/green bi-color LED status
- Internal fan speed control
- Fan fail tach output signal
- Full digital control
- Two years warranty

SAFETY

- UL/cUL 62368 (UL Recognized)
- NEMKO+ CB Report EN62368
- EN62368
- CE Mark
- China CCC
- UKCA Mark

ELECTRICAL SPECIFICATIONS

Input	
Input range	180 to 264 VAC (1200 W) 90 to 264 VAC (1000 W)
Frequency	47 to 63 Hz, single phase AC
Inrush current	40 Apk maximum inrush current
Efficiency	> 91% typical at high line 50% load
Conducted EMI	FCC Subpart J EN55032 Class B
Radiated EMI	FCC Subpart J EN55032 Class B
Power factor	0.99 typical
Leakage current	1.40 mA @ 240 VAC
Hold up time	12 ms minimum
Output	
Main DC voltage	+12 V @ 100 A (high line) +12 V @ 81.6 A (low line)
Standby	+3.3V V_{SB} @ 6 A (5 V V_{SB} @ 4 A available)
Adjustment range	±5% on +12 V only using I²C
Regulation	+12 V; +5%/-5% +3.3 V V_{SB}; +5%/-5%
Over current	+12 V; latches off if overcurrent lasts over 1 second, otherwise it is auto recovery (See Table 1 next page) +3.3 V V_{SB}, 9 A max (hiccup mode)
Over voltage	+12 V; 13.2 - 14.4 V +3.3 V V_{SB}; 3.76 to 4.30 V
Under voltage	+12 V; 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 5mS early warning signal before 12.0 VDC 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.

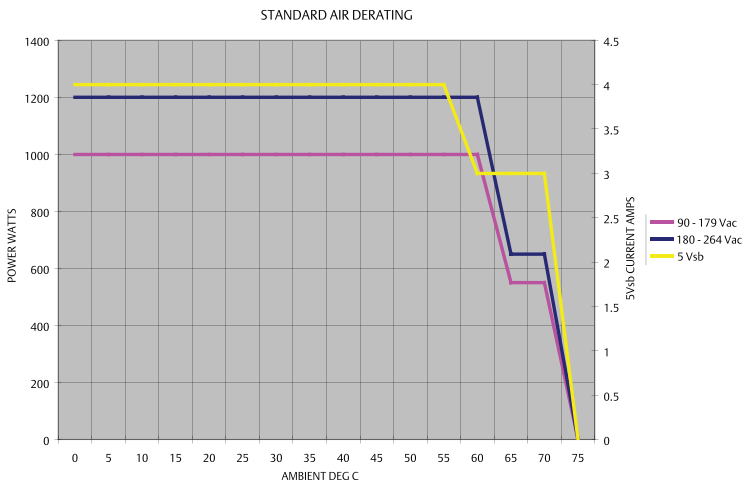
ENVIRONMENTAL SPECIFICATIONS

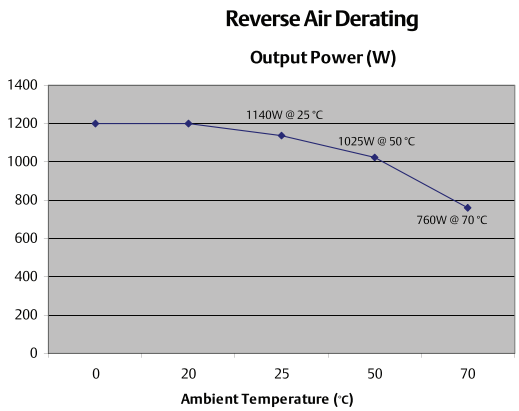
Operating temperature	-10°C to 50°C
Storage temperature	-40°C to +85°C
Altitude (operating)	10,000 ft
Electromagnetic susceptibility/Input transients	EN61000-3-2, -3-3 EN61000-4-2, -4-3, -4-4, -4-5, -4-11 EN55024:1998
RoHS & lead-free compliant	No tantalum caps.
Humidity	20 to 90% RH, non-condensing
Shock and vibration specificatons	Complies with standard operating/non-operating random shock and vibration
MTBF (Demonstrated)	500K Hrs at full load, 25°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
DS1200-3	12.0 VDC	±0.2%	±5%	0 A	100 A	120 mV	118 A - 147.6 A*	3.3 V @ 6 A	STD
DS1200-3-002	12.0 VDC	±0.2%	±5%	0 A	100 A	120 mV	118 A - 147.6 A*	5.0 V @ 4 A	STD
DS1200-3-003	12.0 VDC	±0.2%	±5%	0 A	100 A	120 mV	118 A - 147.6 A*	3.3 V @ 6 A	REV†
DS1200-3-004	12.0 VDC	±0.2%	±5%	0 A	100 A	120 mV	118 A - 147.6 A*	5.0 V @ 4 A	REV†

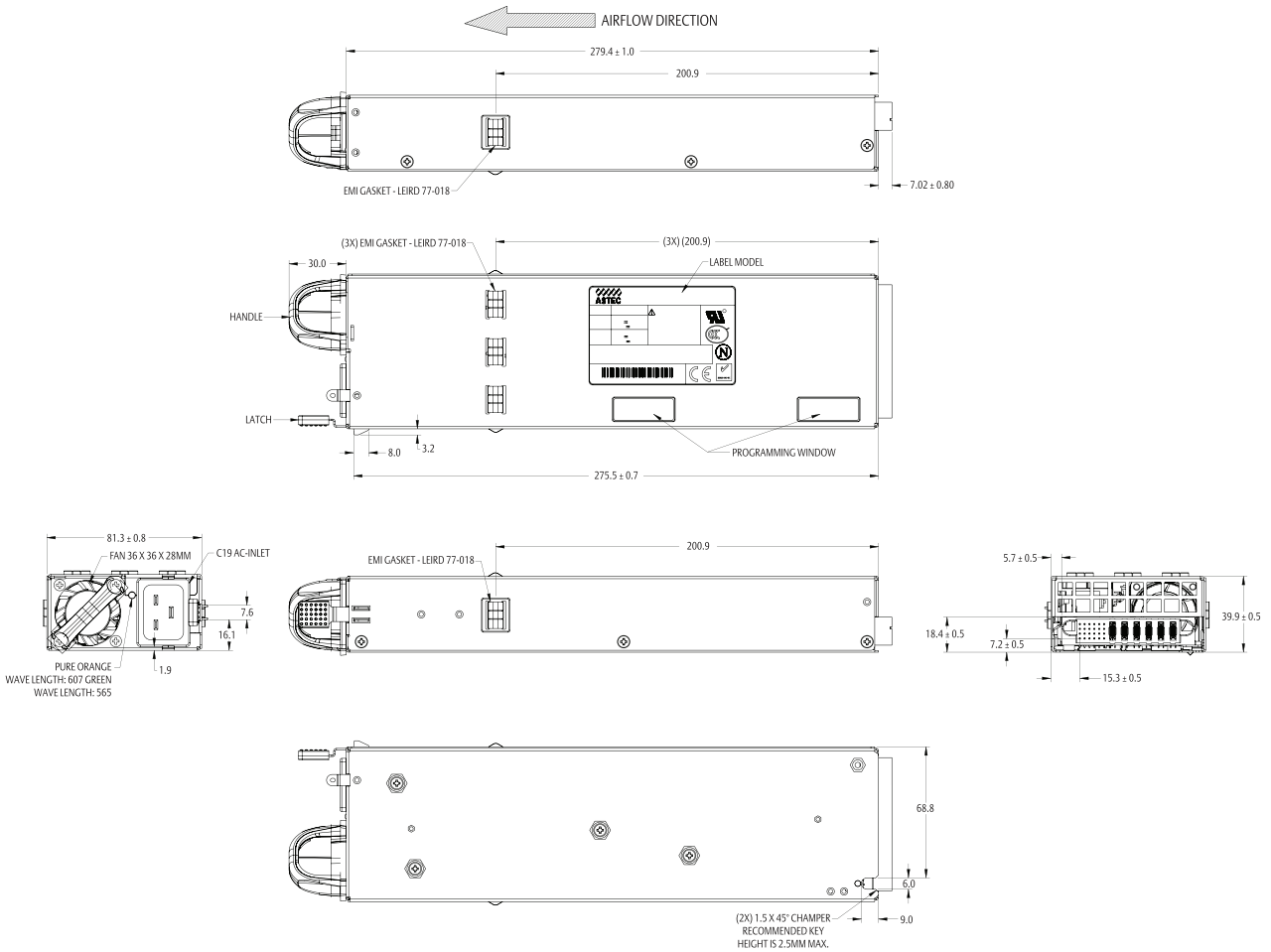
*Over current latches off if overcurrent lasts over 1 seconds, otherwise it is auto recovery.
† Derating may apply.





MECHANICAL DRAWING

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



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						

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 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	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	SDA (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	STANDBY RMT SENSE
D5	Standby
D6	Standby Return

*Supports I^2C standard mode (100 kHz) only

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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