ARTESYN CSU2400AT SERIES

12V Distributed Power System



Advanced Energy's Artesyn CSU front end series is designed to provide a flexible power conversion solution for compute, storage, and networking equipment in the common redundant power supply (CRPS) form factor. This series of AC-DC products is housed in the industry standard 1U x 73.5 mm x 185 mm CRPS form factor. Featuring a power rating of 2400 W, the series can cover power hungry applications where there are space constraints.

AT A GLANCE

Front-end Bulk Power

Total Output Power

2400 W

Input Voltage

180 to 264 VAC
180 to 320 VDC

80 PLUS TITANIUM

PMBus® Power Management. Defined.

SPECIAL FEATURES

- Ultra-high density
- 1U power supply
- Active power factor correction
- EN61000-3-2 Harmonic compliance
- Inrush current control
- 80PLUS® Titanium efficiency
- N+N, N+1 redundant
- Hot-pluggable
- Active current sharing
- PMBus® compliant
- Closed loop throttle
- Cold redundancy
- Two-year warranty

COMPLIANCE

- Conducted/Radiated EMI Class A Limits
- RoHS
- IEC 60950/62368

SAFETY

- UL/cUL
- CB Test Certificate
- CE Mark
- KC
- EAC
- BIS
- CQC
- BSMI

TARGET APPLICATIONS

- Server and Storage
- Networking

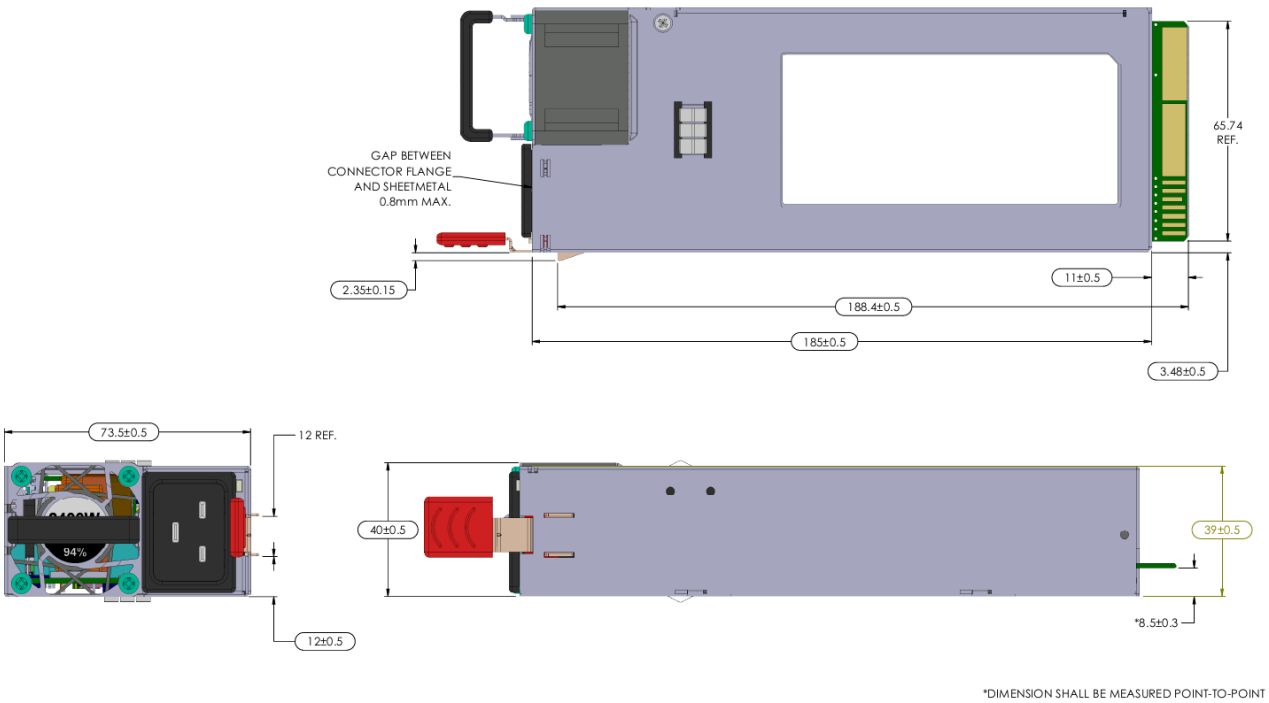
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ELECTRICAL SPECIFICATIONS

Input						
Input Range and Output Power	180-264 VAC		2400W			
Frequency	47 Hz to 63 Hz					
Efficiency	96.0% peak, titanium efficiency rating					
Max input current	13.5A					
Inrush current	35 Apk, cold start					
Conducted EMI	Class A					
Radiated EMI	Class A					
Power factor	>0.9 beginning at 10% load					
Hold-up time	11 ms at full load					
Leakage current	<0.75 mA					
Output						
	Main DC Output			Standby DC Output		
	MIN	NOM	MAX	MIN	NOM	MAX
Nominal setting	-0.20%	12.2 V	0.20%	-3.5%	12.0 V	+3.5%
Total output regulation range	-5%		+5%	-5%		+5%
Dynamic load regulation range	-5%		+5%	-5%		+5%
Output ripple			1%			1%
Output current	1.0 A[1]		196.7 A	0.1 A		3.5 A
Current sharing	Within ±6% of full load rating, starting at 25% of PSU rated load			N/A		
Capacitive loading	2,000 µF		70,000 µF	10 µF		3,100 µF
Output rise time	10 ms		70 ms	10 ms		70 ms

1 Minimum current for transient load response testing only. Unit is designed to operate and be within output regulation range at zero load

MECHANICAL OUTLINE



*DIMENSION SHALL BE MEASURED POINT-TO-POINT

ENVIRONMENTAL SPECIFICATIONS

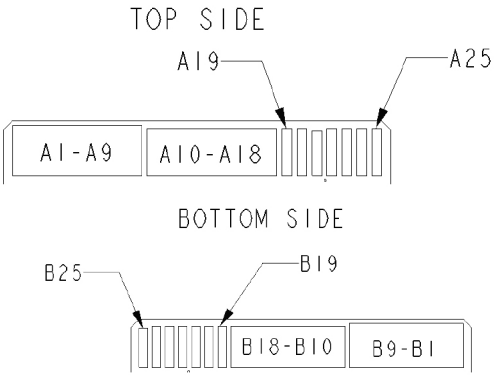
Operating temperature	Forward Airflow	-5 to 55°C full rated power. Allowable up to 65°C at 60% load for short term operation
	Reverse Airflow	TBD
Operating altitude		Up to 10,000 feet[1]
Operating relative humidity		+5% to 95%, non-condensing
Non-operating temperature		-40 to +70 °C
Shipping and storage relative humidity		+5% to 95%, non-condensing
Non-operating altitude		Up to 50,000 feet
Vibration and shock		Standard operating/non-operating random shock and vibration
RoHS compliance		Yes
MTBF		500 k hours at 50 °C, 85% load, nominal input
Operating life		Minimum of 5 years at 50°C, 85% load, nominal input

1 Safety creepage/clearance rated for 5,000m altitude for CQC

CONNECTOR DEFINITION

Connector Type	On Power Supply	Recommended Mating Connector
AC Input Connector	IEC320-C20	IEC320-C19
Output Connector	Card-edge	FCI HPG12P14SRT153T / TE 2343428-1

Output Connector Pin Configuration			
A1-A9	POWER GND	B1-B9	POWER GND
A10-18	+12V	B10-B18	+12V
A19	SDA	B19	A0 (addressing)
A20	SCL	B20	A1 (addressing)
A21	PSON#	B21	12VSB
A22	SMBAlert#	B22	CR_BUS
A23	RETURN_SENSE	B23	ISHARE
A24	+12V_REMOTE_SENSE	B24	GND (used by system for presence detect
A25	PWOK	B25	VIN_GOOD



ADDRESSING

PMBUS		
A1	A0	Adddress
0	0	B0h
0	1	B2h
1	0	B4h
1	1	B6h

IPMI FRU		
A1	A0	Adddress
0	0	A0h
0	1	A2h
1	0	A4h
1	1	A6h

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than four 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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