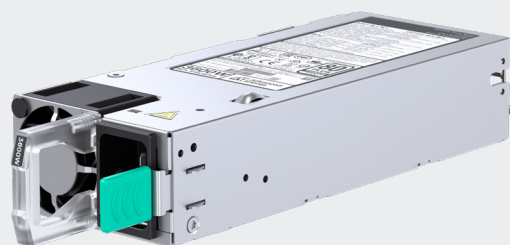


CSU3600AT-9-3M0

54 V Distributed Power System



Advanced Energy's CSU front end series is designed to provide a flexible power conversion solution for compute, storage, and networking equipment in the modular hardware common redundant power supply (M-CRPS) form factor. This series of AC-DC products is housed in the industry standard 1U x 73.5 mm x 185 mm M-CRPS form factor. Featuring a power rating of 3600 W, the series can cover power hungry applications where there are space constraints.

AT A GLANCE

Front-end Bulk Power

Total Output Power

3600 W at high line input

Input Voltage

90 to 132 VAC
180 to 264 VAC
240 VDC

SPECIAL FEATURES

- Ultra-high density 110 W/in³
- 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 62368

SAFETY

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



TARGET APPLICATIONS

- Server and Storage
- Networking

ELECTRICAL SPECIFICATIONS

Input						
Input Range and Output Power	90 to 132 VAC: 1400 W 180 to 219 VAC: 3900 W 220 to 239 VAC: 3200 W 240 to 264 VAC: 3600 W					
Frequency	47 to 63 Hz					
Efficiency	96.0% peak, titanium efficiency rating					
Max Input Current	17.5 A, average of 18 A (North Amecian) and 17 A (rest of world)					
Inrush Current	55 Apk, cold start					
Conducted EMI	Class A					
Radiated EMI	Class A					
Power Factor	>0.92 beginning at 10% load					
Hold-up Time	11 ms at full load					
Leakage Current	<0.585 mA					
Output						
	Main DC Output			Standby DC Output		
	MIN	NOM	MAX	MIN	NOM	MAX
Nominal Setting	-0.4%	54 V	0.4%	-3.5%	12.0 V	+3.5%
Total Output Regulation Range	-5%		+5%	-5%		+5%
Dynamic Load Regulation Range	-8%		+8%	-8%		+8%
Output Ripple			1%			1%
Output Current	1 A ¹		66.7 A	0.1 A		3 A
Current Sharing	Within ±2% of full load rating, starting at 25% of PSU rated load			N/A		
Capacitive Loading	100 µF		15,000 µF	270 µF		4,700 µF
Output Rise Time	10 ms		70 ms	10 ms		70 ms

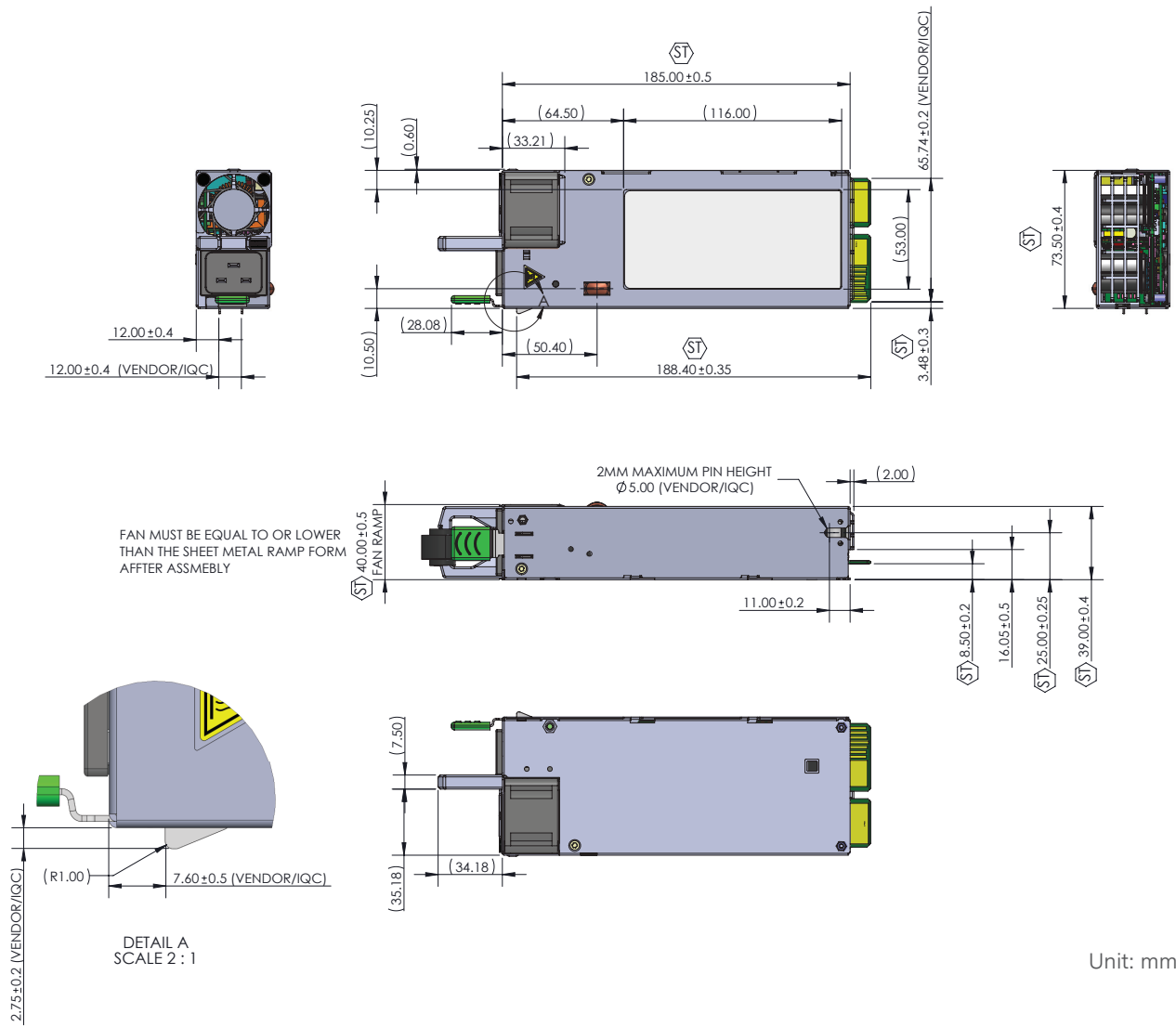
1 For step load condition 54 V minimum loading is 1 A and can be anywhere between 1 A to max load.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	Forward Airflow	-5 to 55°C full rated power. Allowable up to 65°C at TBD derating 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 55°C, 100% load, nominal input	
Operating Life	Minimum of 5 years at 55°C, 85% load, nominal input	

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

MECHANICAL OUTLINE



ORDERING INFORMATION

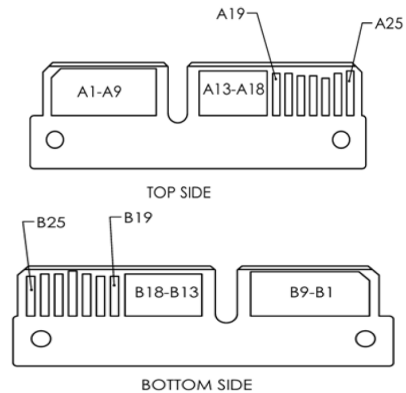
Model Number	Description	Outputs		Airflow Direction
CSU3600AT-9-3M0	1U x 73.5 x 185 mm 3600 W, Titanium efficiency, red, C20	54 V/ 66.7 A	12 V/3 A	Forward

CONNECTOR DEFINITION

Connector Type	On Power Supply	Recommended Mating Connector
Output Connector	Card-edge	FCI Amphenol HPG12P14SRT153T or any equivalent

Output Connector Pin Configuration			
A1-A9	POWER GND	B1-B9	POWER GND
A10-18	+54V	B10-B18	+54V
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	+54V_REMOTE_SENSE	B24	Imon
A25	PWOK	B25	VIN_GOOD

Output connector to align with
M-CRPS 54V requirement



ADDRESSING

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

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



For international contact information,
visit advancedenergy.com.

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

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.

PRECISION | POWER | PERFORMANCE | TRUST

Specifications are subject to change without notice. Not responsible for errors or omissions. ©2026 Advanced Energy Industries, Inc. All rights reserved.