

# POWER

## CSU Series 1800W - 2400W 12V Distributed Power System

### Preliminary Data Sheet

#### Front-end Bulk Power

**Total Output Power:** 1800W,  
2000W, 2400 W

**Input Voltage:** 90 to 127, 180-264  
Vac, 240Vdc

### SPECIAL FEATURES

- Ultra-high density
- 1U power supply
- Active power factor correction
- EN61000-3-2 Harmonic compliance
- Inrush current control
- 80PLUS® Platinum 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



### Electrical Specifications

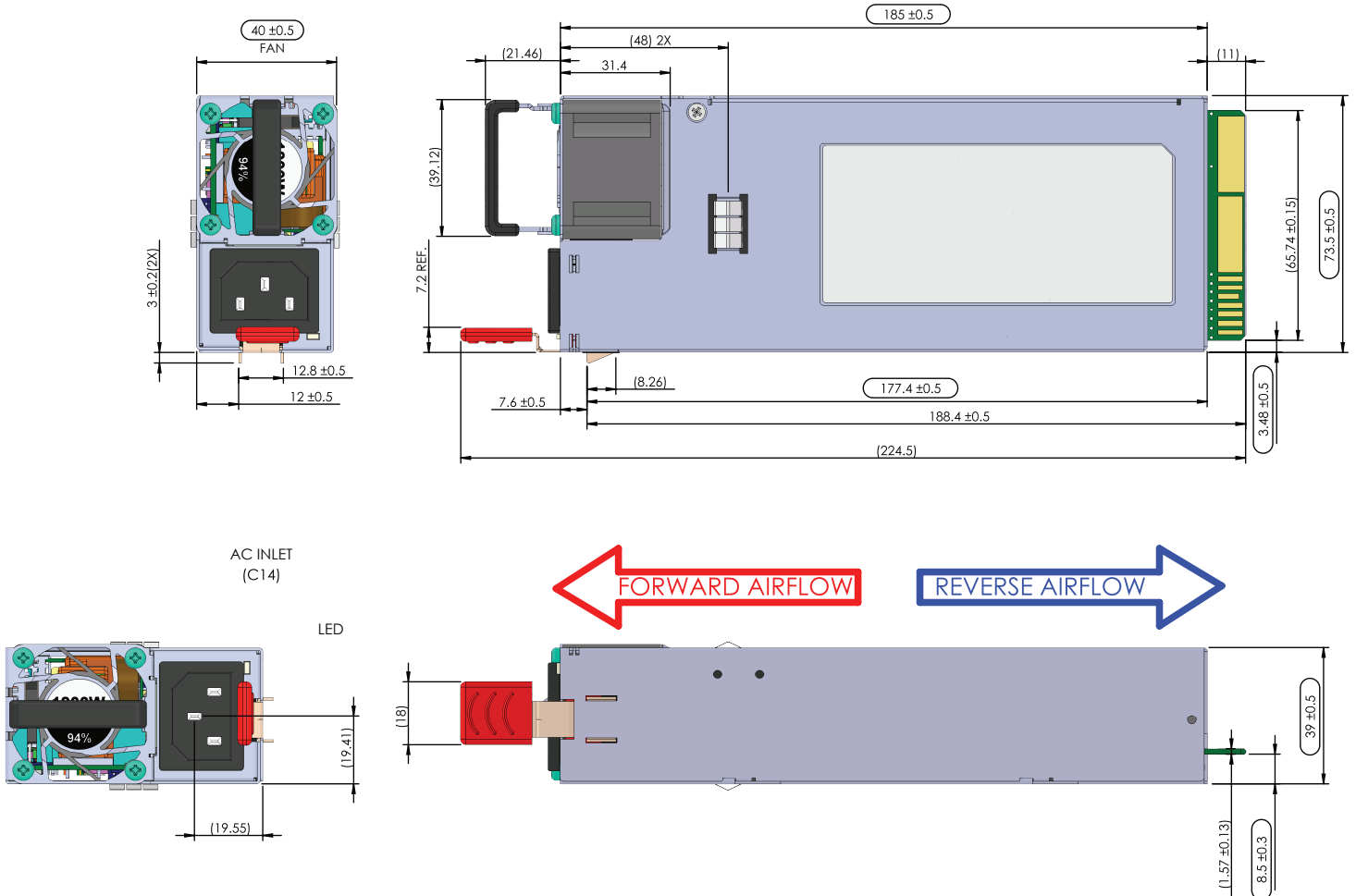
Input							
Input Range and Output Power		CSU1800AP	CSU2000AP	CSU2400AP			
90-127 Vac		1000W	1400W <sup>1</sup>	N/A			
180-264 Vac		1800W	2000W <sup>2</sup>	2400W			
Frequency	47 Hz to 63 Hz						
Efficiency	94.0% peak, platinum efficiency rating						
Max input current	100/200Vac	11.3A/10A	C14 14.4A/10A	13.8A			
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	<0.585 mA						
Output							
		Main DC Output			Standby DC Output		
		MIN	NOM	MAX	MIN	NOM	MAX
Nominal setting		-0.20%	12.2V	0.20%	-3.5%	12.0	+3.5%
Total output regulation range		-5%		+5%	-5%		+5%
Dynamic load regulation range		-5%		+5%	-5%		+5%
Output ripple				1%			1%
Output current	CSU1800AP	1.0 A <sup>3</sup>		147.5	0.1 A		3.5 A
	CSU2000AP			163.9			
	CSU2400AP			196.7			
Current sharing		Within ±6% of full load rating, starting at 25% of PSU rated load			N/A		
Capacitive loading		2,000		50,000	10		3,100
Output rise time		10 ms		70 ms	10 ms		70 ms

<sup>1</sup> Output power limited at 1400W at 120Vac; linearly derated to 1250W at 100Vac.

<sup>2</sup> CSU2000AP-3-200/201 only. CSU2000AP-3-100/101 output power rating limited by 10A input current.

<sup>3</sup> Minimum current for transient load response testing only. Unit is designed to operate and be within output regulation range at zero load.

Mechanical Outline CSU1800AP-3-100/111 and CSU2000AP-3-100/-111

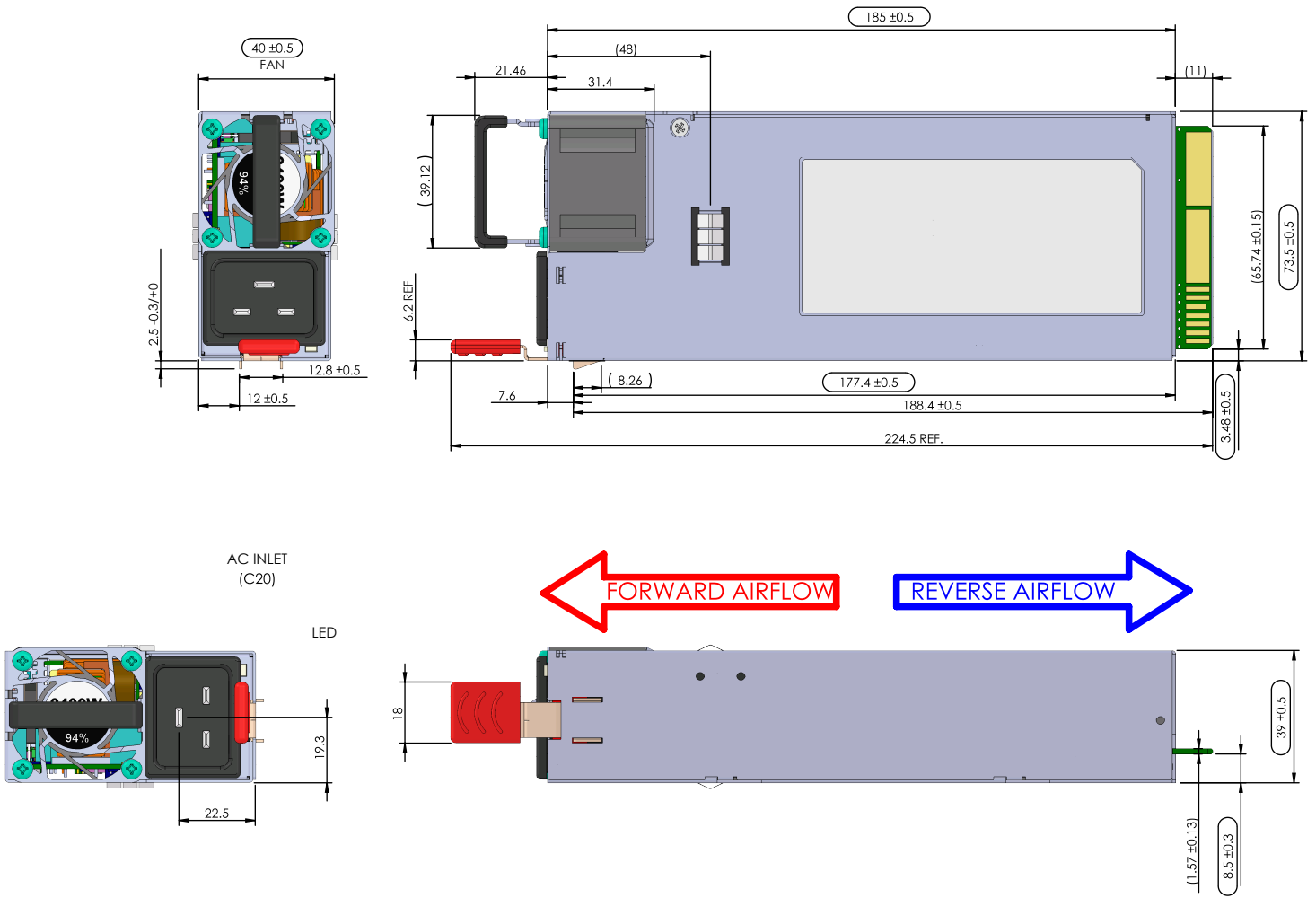


Environmental Specifications

Operating temperature	Forward Airflow	CSU1800AP-3-100/CSU2000AP-3-100/CSU2000AP-3-200: -5 to 55°C full rated power Allowable up to 65 °C at 60% load for short term operation
	Reverse Airflow	Continuous maximum 40°C, allowable up to 50°C at 60% load for short term duration
Operating altitude	Up to 10,000 feet <sup>1</sup>	
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	

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

Mechanical Outline CSU2000AP-3-200/211 and CSU2400AP-3-100/111



Ordering Information

Model Number	Description	Outputs		Airflow Direction
CSU1800AP-3-100	1U x 73.5 x 185mm 1800W, Platinum efficiency, red, C14	12.2V/147.5A	12.0V/3.5A	Forward
CSU2000AP-3-100	1U x 73.5 x 185mm 2000W, Platinum efficiency, red, C14	12.2V/163.9A	12.0V/3.5A	Forward
CSU2000AP-3-200	1U x 73.5 x 185mm 2000W, Platinum efficiency, red, C20	12.2V/163.9A	12.0V/3.5A	Forward
CSU2400AP-3-100	1U x 73.5 x 185mm 2400W, Platinum efficiency, red, C20	12.2V/196.7A	12.0V/3.5A	Forward
CSU1800AP-3-111	1U x 73.5 x 185mm 1800W, Platinum efficiency, red, C14	12.2V/147.5A	12.0V/3.5A	Reverse
CSU2000AP-3-111	1U x 73.5 x 185mm 2000W, Platinum efficiency, red, C14	12.2V/163.9A	12.0V/3.5A	Reverse
CSU2000AP-3-211	1U x 73.5 x 185mm 2000W, Platinum efficiency, red, C20	12.2V/163.9A	12.0V/3.5A	Reverse
CSU2400AP-3-111	1U x 73.5 x 185mm 2400W, Platinum efficiency, red, C20	12.2V/196.7A	12.0V/3.5A	Reverse

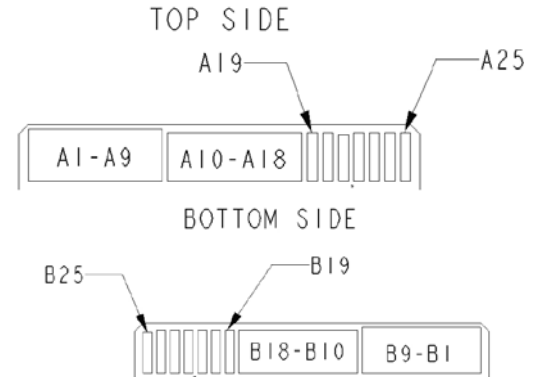
## Connector Definition

Output connector part number	Card-edge
Recommended mating connector part number	FCI Amphenol 10035388*
	FCI Amphenol GPCEFX361411HHR (CSU1800AP-3-xxx and CSU2000AP-3-xxx)
	FCI Amphenol 10147875-001LF (CSU2400AP-3-xxx)

\* Use with caution to maintain connector temperature rise and connector temperature

## 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	PSOEN#	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				IPMI FRU			
A1	A0	Write Address	Read Address	A1	A0	Write Address	Read Address
0	0	B0h	B1h	0	0	A0h	A1h
0	1	B2h	B3h	0	1	A2h	A3h
1	0	B4h	B5h	1	0	A4h	A5h
1	1	B6h	B7h	1	1	A6h	A7h

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