APR-1200-12-YE

12V Output, 1200 Watts AC Front End

Features

- Wide input voltage range (90-264VAC) with active power factor correction
- Active current share
- Full protection; overvoltage, overcurrent and overtemperature
- Front panel LEDs to visually report AC OK, Output OK
- Ideal form factor for storage, datacom and distributed power architecture
- RoHS-6 / WEEE

Description

The APR-1200-12-YE is a highly efficient power factor corrected AC-DC front end power supply. It provides 1200W at 12 VDC output ideal for storage, datacom and distributed power architecture. Hot plug and active current sharing scheme enable continuous operation without interruption and redundancy to the 48V bus.

The APR-1200-12-YE meets UL/CSA and all international safety requirements. It is SELV.

Input Characteristics

	Min	Typ	Max	Units / Comments
AC Input Voltage	90		264	VAC; 47-63 Hz Single-phase continuous input range.
Input Current			47	A rms at full-rated load at 90Vrms
Inrush Current			50	A pk; excluding Xcap. Vin =264 VAC 25°C
Hold-up Time		16	20	ms; at 115VAC after last AC line peak at full power
Power Factor	0.97			W/VA; per EN61000-3-2.
Efficiency	84		87	%; with Vin at 115VAC and 50-100% load on V1
	87		89	%; with Vin at 230VAC and 50-100% load on V1
Input Protection			20	A; internal fuse for input protection

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Output Characteristics (APR-1200-12-Y) and Protection Definition

	Min	Typ	Max	Units / Comments
Maximum Output Power			1200	Watts
Maximum Output Voltage			12	VDC
Maximum Output Current			100	A
Minimum Load	0			A; minimum loading required to maintain regulation.
Overshoot			0	%
Transient Response			4	ms; maximum recovery time to within 1% of initial set point due to a 50% load change, 1A/μs at 48V output
Transient Response max. deviation			3	%; 12V output
Turn-On Delay with PS_ON signal			1.5	sec; time required for initial output voltage stabilization after application of AC intput
OverCurrent Protection	105		125	A; constant power mode if output current Io >105A. Will latching when Vo falls down below 10.8V, at Io = (105A /120A)
OverVoltage Protection			16	V; latching style overvoltage protection
Short Circuit Protection				Latching Mode.
OverTemperature/Fan Failure Warning				12V output will shut down in the event of an over temperature condition or blocked fan rotor. Power supply will recover when over temperature condition is removed.
Loop Stability	68			degree; phase margin @ 0 gain crossover frequency
	-12			dB, gain margin @ 0-phase crossover frequency
Regulation		±3		%
Ripple & Noise @ 20 MHz BW		100		mV

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Logics, Interface Signals and Internal Protection

Enable	Output enable. Pulled low on conjunction with PS_ON being pulled low allows 12V to be activated.
+12V Current Share	Used for current sharing.
Present/L	100 Ohm resistor internally connected to RTN alloiwng the PSU to be detected on insertion.
Logic Signal	AC Input OK. Logic high when AC Fail; Logic Low if AC OK. Pull up with 4.75K resistor to 5V internally.
	DC Output OK. Logic high when DC not OK (Vo <45V), Logic Low if DC OK (Vo equals or > 4.5V). Pull up with 10K resistor to 5V internal power supply.

Safety, Regulatory, EMI and General Characteristics

	Min	Typ	Max	Units / Comments
Agency Approval				UL60950, (UL) CSA60950 (cUL), EN 60950 (TÜV), CB compliant
Electromagnetic Interference				FCC CFR title 47 Part 15,
	A			Class; Sub-Part A; Conducted (with 6dB margin min.)
	A			Class; EN55022/CISPR22; Radiated (with 6dB margin)
Leakage Current			2.5	mA; Per EN60950 at 240 VAC.
Isolation Voltage	2121			VDC; input/case
	2121			VDC; input/output
Altitude: Operating			10K	ASL ft
Non-operating			40K	ASL ft
Operating Temp. Range	0		+50	°C; Ambient
Temp.Stability over time			30	minutes
Storage Temp. Range	-20		+85	° C
Temp. Coefficient	0		.02	%/ °C; 0 to 45°C
Relative Humidity Shock :			95	%; Non-condensing
Operating				Meets IPC 9592
Non-operating				Meets IPC 9592
Vibration: Operating				Meets IPC 9592
Non-operating				Meets IPC 9592
MTBF	100K			Hrs; MIL-HBK-217F Ground Benign
	200K			Hrs; demonstrated
	10			Yrs; Useful Life.

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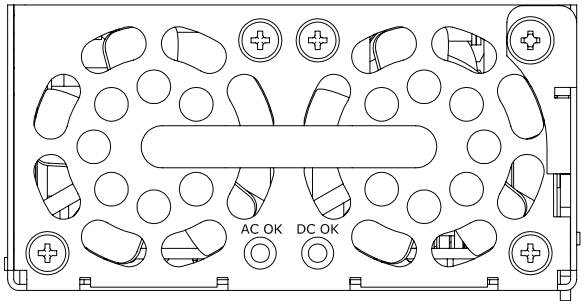
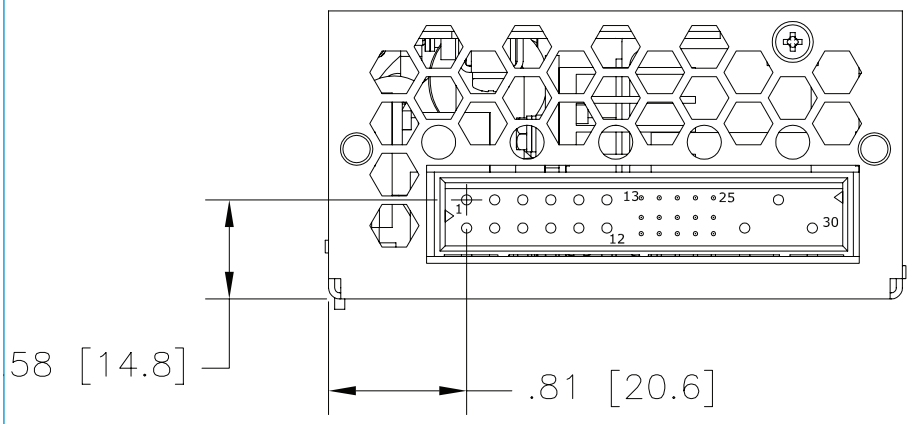
Outline Drawing (APR-1200-12-YE)

FRONT VIEW



REAR VIEW



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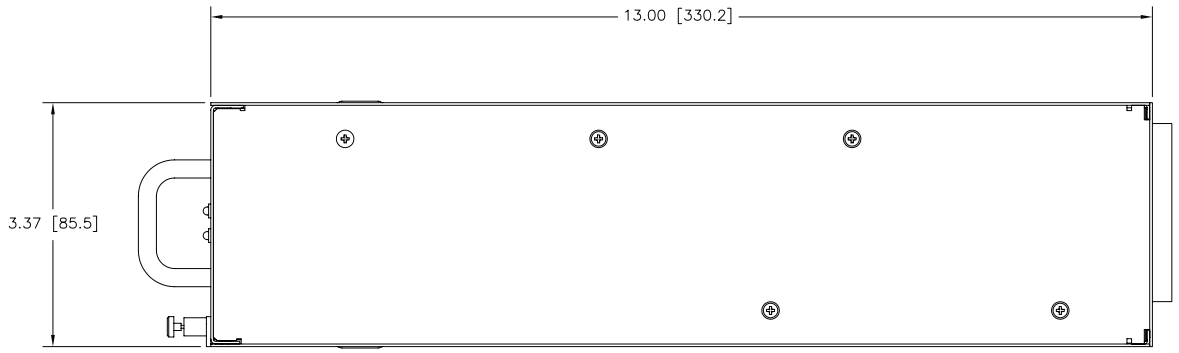
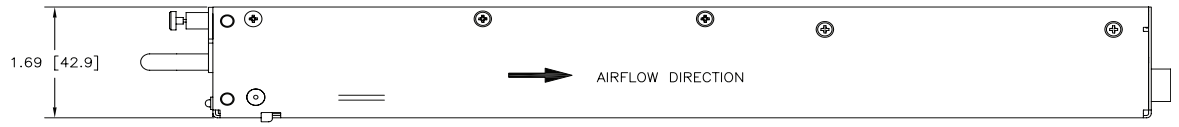
Outline Drawing

TOP VIEW



SIDE VIEW



Connector Information

Power Supply:
Input / Output - PCIM30W15M400AI/AA, Positronics

Mating Connections:
Input / Output - PCIM30W15F8000, Positronics

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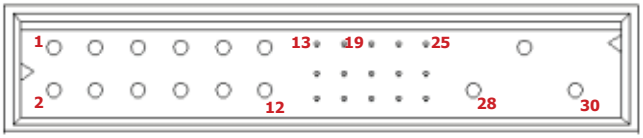
Pins Assignment

Pins	Functions
1, 2, 3, 4, 6, 8	+48v
5, 7, 9, 10 11, 12	Common RTN
13	Enable
14	DC_OK
15	Current Share
16, 17, 18, 21, 22, 23, 25, 26, 27	N.U.
10	AC_OK
20	RTN Sense
24	5V Aux.
28	Chassis
29	AC Neutral
30	AC Line

Rear View



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