



APR-1200-48-YE

48V Output, 1200 Watts AC Front End



FEATURES

- Wide input voltage range (90-264VAC) with active power factor correction
- Fits 2U applications
- 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-1200-48-YE is a highly efficient power factor corrected AC-DC front end power supply. It provides 1200W at 48 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-1200-48-YE safety approval pending. CE- mark approval - pending.

INPUT CHARACTERISTICS

	Min	Typ	Max	Units / Comments
AC Input Voltage	90		264	VAC; 47-63 Hz Single-phase continuous input range.
Input Current			16.5	A rms at full-rated load at 90Vrms
Inrush Current		42	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	86		88	%; with Vin at 115VAC and 50-100% load on V1
	88		90	%; with Vin at 230VAC and 50-100% load on V1
Input Protection			20	A; internal fuse for input protection





OUTPUT CHARACTERISTICS (APR-1200-48-YE) AND PROTECTION DEFINITION

	Min	Typ	Max	Units / Comments
Maximum Output Power			1200	Watts
Maximum Output Voltage			48	VDC
Maximum Output Current			25	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			1	%; 48V output, 50% step load
Turn-On Delay with PS_ON signal			1.5	sec; time required for initial output voltage stabilization after application of AC input
OverCurrent Protection	29		34	A; constant power mode when output current $I_o > 27A$. Will latching when V_o falls down below 5V, at $I_o = (29A / 21A)$
OverVoltage Protection			55	V; latching style overvoltage protection
Short Circuit Protection				Latching Mode.
OverTemperature/Fan Failure Warning				48V 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	60			degree; phase margin @ 0 gain crossover frequency
	10			dB, gain margin @ 0-phase crossover frequency
Regulation		±1		%
Ripple & Noise @ 20 MHz BW		200		mV



LOGICS, INTERFACE SIGNALS AND INTERNAL PROTECTION

Enable	Output enable. Pulled low on conjunction with PS_ON being pulled low allows 12V to be activated.
+48V Current Share	Used for current sharing.
Present/L	100 Ohm resistor internally connected to RTN allowing the PSU to be detected on insertion.
Logic Signal	AC Input OK. Logic high when AC not OK; Logic Low if AC OK. Pull up with 4.75K resistor to 5V internal uS.
	DC Output OK. Logic high when DC not OK ($V_o < 45V$), Logic Low if DC OK (V_o equals or $> 4.5V$). Pull up with 10K resistor to 5V internal power supply.

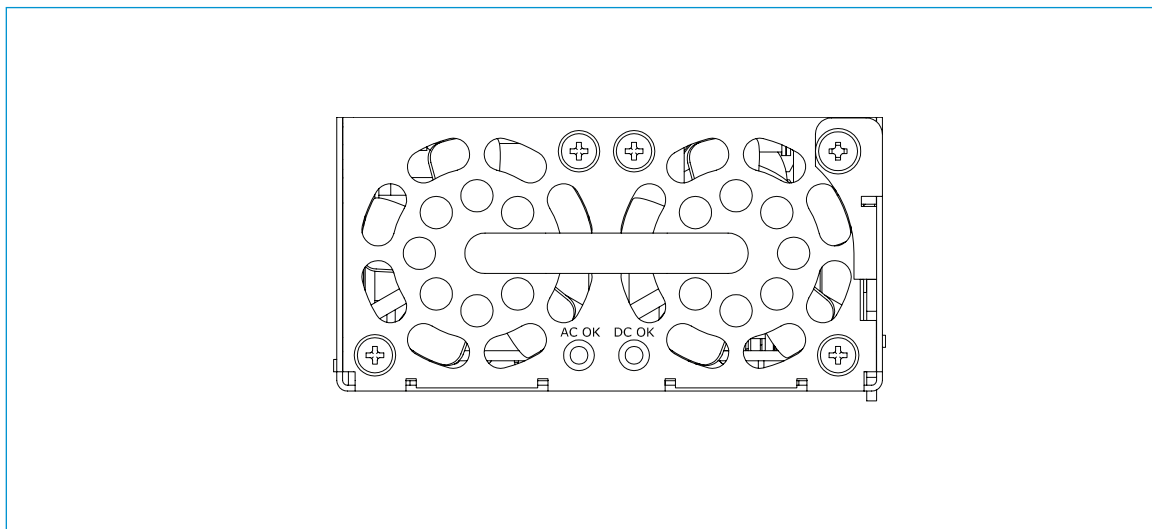
SAFETY, REGULATORY, EMI AND GENERAL CHARACTERISTICS

	Min	Typ	Max	Units / Comments
Agency Approval				Pending: UL60950, (UL) CSA60950 (cUL), EN 60950 (TÜV), CE mark for LVD, CB compliant
Electromagnetic Interference	A			Pending: FCC CFR title 47 Part 15, Class; Sub-Part A; Conducted (with 6dB margin)
	A			Class; EN55022/CISPR22; Radiated (with 6dB margin)
Leakage Current			3.5	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.

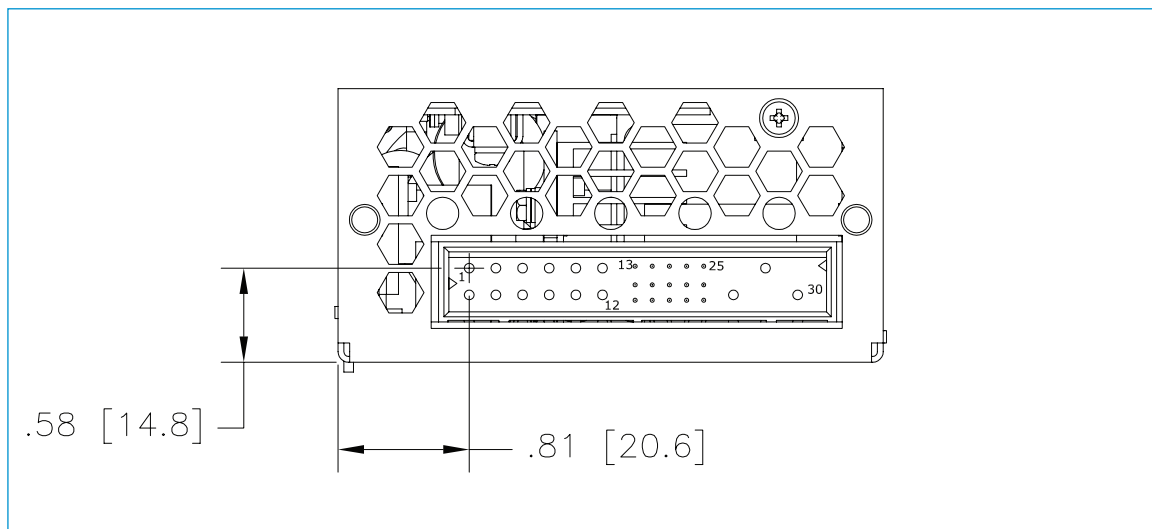


OUTLINE DRAWING (APR-1200-48-YE)

FRONT VIEW



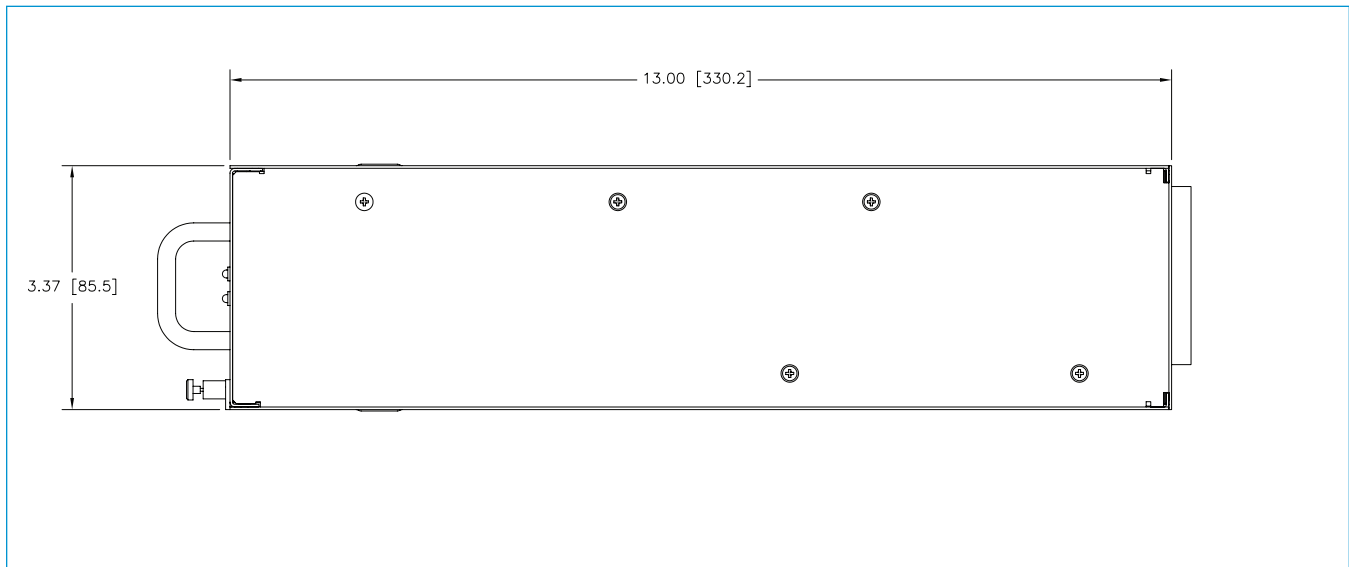
REAR VIEW



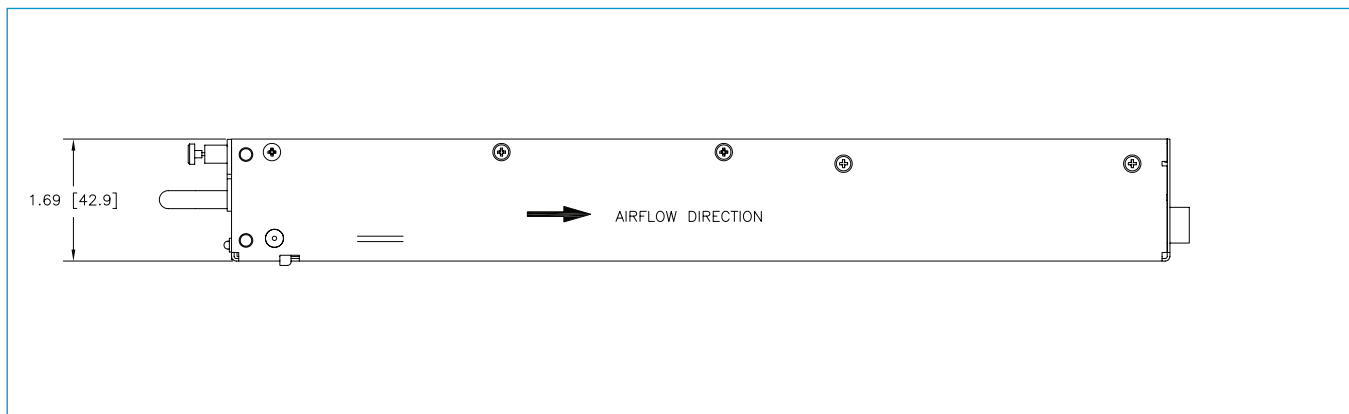


OUTLINE DRAWING

TOP VIEW



SIDE VIEW



CONNECTOR INFORMATION

Power Supply:

Input/Output - PCIM30W15M400A1/AA or equivalent

Mating Connections:

Input/Output - PCIM30W15M400A1/AA or equivalent

Input IEC Connector:

Input	Location
Chassis (Safety) Ground	Ground
Line 1	L
Line 2	N



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

