ATF-1200-12-YE

12V Output, 1200 Watts AC Front End

Features

- Wide input voltage range (90-264VAC) with active power factor correction
- 1.64" max. height
- Active current share with ORing FET
- 5VDC @ 2A Auxiliary standby power
- Full protection; overvoltage, overcurrent and overtemperature
- I²C management bus to control power supply functions and report power supply status
- Front panel LEDs to visually report AC OK, DC OK and power supply's condition
- Ideal form factor for storage, datacom and distributed power architecture
- RoHS-6 / WEEE

Description

The ATF-1200-12-YE is a highly efficient power factor corrected AC-DC front end power supply. It provides 1200W at 12VDC 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 12V bus.

In addition, I²C management bus enables user to access power supply's FRU (Power supply's serial #, date code…) record, power supply's temperature, fan status, output voltage and current. It also provides warning before shutting down 12V output due to over temperature or fan fail.

The ATF-1200-12-YE meets UL/CSA and all international safety requirements. CE mark is 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			50	A pk; excluding Xcap. Vin =264 VAC 25°C
Hold-up Time		20		ms; at 115VAC after last AC line peak at full power
Power Factor	0.95			W/VA; per EN61000-3-2.
Efficiency	87			%; with Vin at 115VAC and 100% load on V1
	89			%; with Vin at 230VAC and 100% load on V1
Input Protection			12	A; internal fuse for input protection

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Output Characteristics (ATF-1200-12-YE) 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			-	%
Transient Response			3	ms; maximum recovery time to within 1% of initial set point due to a 50% load change, 1A/µs at 12V 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		120	A; latching style overcurrent protection w/ adpative delay
OverVoltage Protection			15	V; latching style overvoltage protection
Short Circuit Protection				Latching Mode.
OverTemperature				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	62			degree; phase margin @ 0 gain crossover frequency
	-12			dB, gain margin @ 0-phase crossover frequency
Regulation		±3		% (Due to droop)
Ripple & Noise @ 20 MHz BW		100	120	mV; measured with 0.1µf ceramic and 10µf tantalum capacitors.

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Logics, Interface Signals and Internal Protection

PS _ENABLE	Pulled low allows 12V to be activated. Shut off 12V when open or logic high. Vout is operating.
+12V Current Share	Droop sharing.
PSA0 (ADDR0)	I²C Address.
PSA1 (ADDR1)	I²C Address.
PSA2 (ADDR2)	I²C Address.
SDA (Data, I2C data line)	I²C Data line (5V).
SCL (Clock, I2C clock line)	I²C Clock line (5V).
AC_OK/H	High signal indicates AC is within PSU limits.
Present/L	10 Ohm resistor internally connected to Logic GND allowing the PSU to be detected on insertion.
Alert/L, Over Temp/Fan Fail	Low signal indicates PSU fan is running below speed or an overtemperature limit was exceeded. Will go low before OT condition shut down the unit.
PWROK/H (DC Fail/Output Voltage Fault)	Signal indicates output is within regulation limits. Open collector signal with 20 mA pull down capability referenced to Logic RTN.
Static	Includes power supply information; part number, revision level, serial number, data code and manufacturing location.
Logic Signal	AC Input OK DC Output OK Overtemperature Overcurrent Fan OK Overvoltage Alert Undervoltage Alert
Real-Time Monitoring	Output voltage (main output). LSB = 20 mV. Output current (main output). LSB = 100 mA.

Safety, Regulatory, EMI and General Characteristics

	Min	Typ	Max	Units / Comments
Agency Approval				UL60950, (UL) CSA60950 (cUL), EN 60950 (TÜV), CE mark pending.
Electromagnetic Interference				Pending: FCC CFR title 47 Part 15,
	A			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
	4242			VDC; input/output
Altitude: Operating			10K	ASL ft
Non-operating			40K	ASL ft
Operating Temp. Range	0		+55	°C; Ambient
Temp.Stability over time			30	minutes
Storage Temp. Range	-40		+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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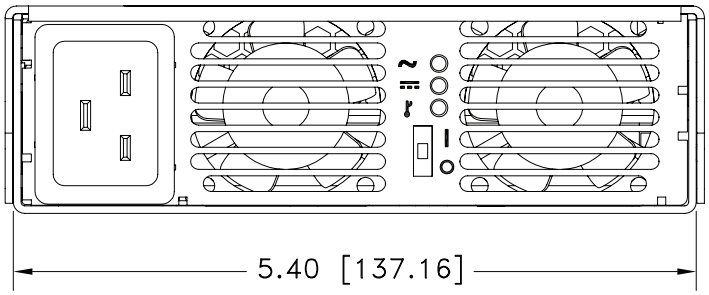
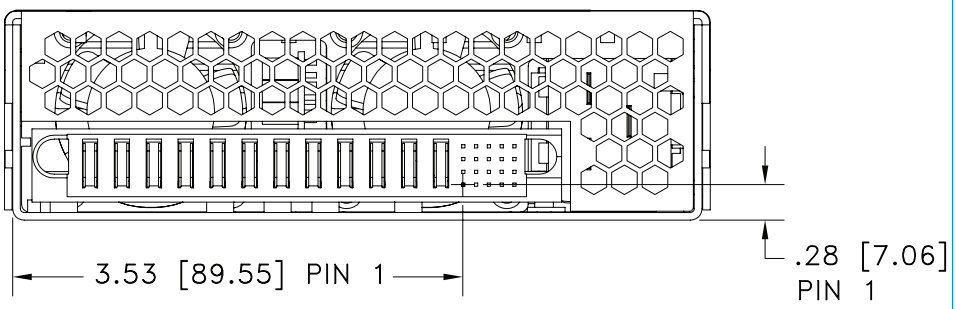
Outline Drawing (ATF-1200-12-YE)

FRONT VIEW



REAR VIEW



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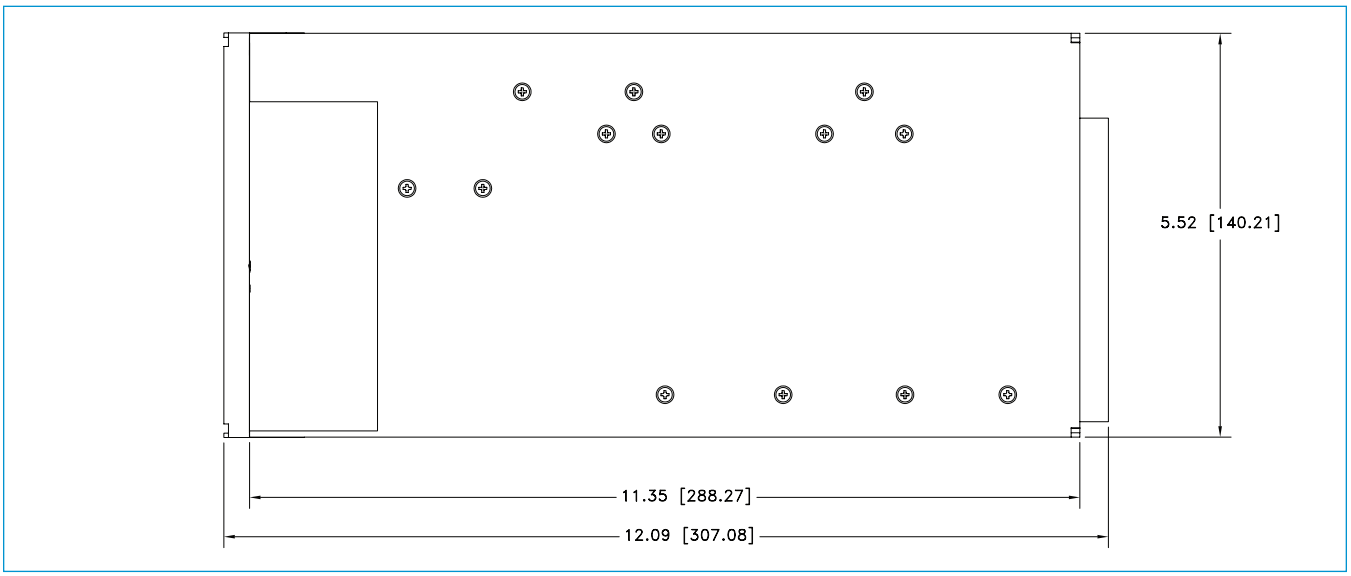
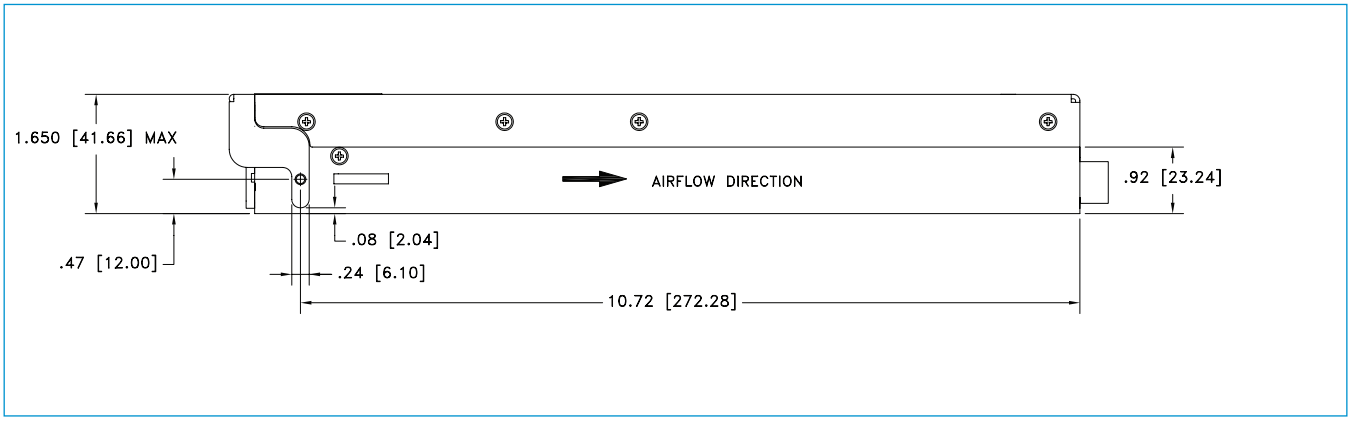
Outline Drawing

TOP VIEW



SIDE VIEW



Connector Information

Power Supply:
Input - IEC 320 input (Male) standard line cord connection, Power Dynamic Inc. 42R07-3121-200
Output - FCI, Header rt. angle power blade I2P+20S pos 51732-026LF or equivalent

Mating Connections:
Input - IEC 320 output(Socket) standard line cord
Output - FCI, Recept., rt. angle power blade I2P+20S, 51762-11202 000 AALE or equivalent

Input IEC Connector:

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

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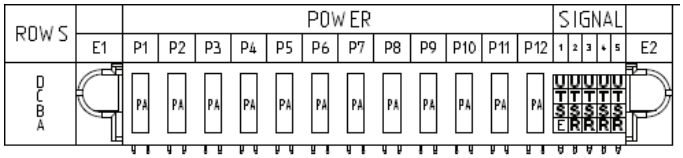
Pins Assignment

Pins	Functions
U1	Over Temp/Fan Fail
U2	DC Fail/ Power down Warning
U3	PS Present
U4	DC Fail/Output Voltage Fault (DC OK)
U5	Internal GND
T1	ADDR0, I2C Address Bus
T2	ADDR0, I2C Address Bus
T3	ADDR0, I2C Address Bus
T4	N.U.
T5	N.U.
S1	DATA, I2C Data line
S2	Clock, I2C clock line
S3	Aux. Power +5V
S4	Aux. Power GND
S5	Logic GND
E1	Output Inhibit
R2	N.U.
R3	V Sense -
R4	N.U.
R5	Current Share
P1,P3,P5,P7,P9,P11	Vo1 -
P2,P4,P6,P8,P10,P12	Vo1 +



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