UP1301A-XX SERIES

130 Watt Open Frame Switchers

- **Small Size 3*5*1.2(inches)**
- **Universal Input 90 to 264 VAC**
- **Low Power Consumption**
- **Overvoltage Protection**
- **Continuous Short Circuit Protection**
- **Over Temperature Protection**
- **Active PFC for EN61000-3-2 Class A &D Compliance**
- **EMI Meets FCC/CISPR 22 Class B**
- **MTBF 500Khrs**

SPECIFICATIONS

All specifications are typical at nominal line, full load and 25°C unless otherwise noted.

INPUT SPECIFICATIONS

Input Voltage Range[1] 90-264VAC
Input Frequency ..... 47-63 Hz
Inrush Current ..... 40A max @110Vac
..... 80A max @230Vac
Line Regulation[2] ..... ±1%
Input Current[2] ..... 3.3Arms max
Low Power Consumption[3] ..... 1.5W max. @ 110Vac
1. 5W max. @ 230Vac

GENERAL SPECIFICATIONS

Hold-up Time ..... 20mS typ.
Efficiency ..... 80% typ.
Leakage Current, 12V/24V/48V ..... 1mA max.
15V ..... 0.5mA max.
Over Temperature Protection ..... Autorecovery
Short Circuit Protection ..... Continuous
Autorecovery
Overload Protection ..... 110-200% of rated value
Overvoltage Protection (Clamp type), 12V ..... 15V typ.
15V ..... 18V typ.
24V ..... 30V typ.
48V ..... 58V typ.
Continuous Output Power:
Forced Air Cooling with 15CFM/600LFM fan[4] .. 130W max
Hi-pot Isolation: Input/ Output ..... 4242 VDC
Weight 330g

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range ..... 0°C to 50°C
Temperature Coefficient ..... ±0.02%/°C
Storage Temperature Range ..... -40°C to +85°C
Humidity, Non-Condensing ..... 0 to 95% RH
EMI ..... Meets FCC/CISPR 22 Class B Specification
MTBF[5] ..... 500K hrs

NOTES:
1. Nominal line is 110VAC, 230VAC.
2. Measured from 90 to 264 VAC.
3. No load.
4. See figure 1.
5. Measured with forced air cooling of 15CFM/600LFM fan.

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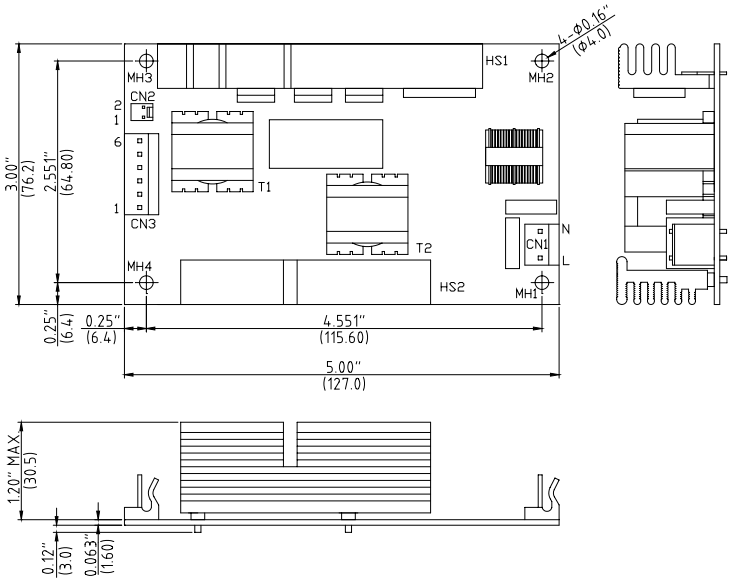
OUTPUT SPECIFICATION

Model Number	Output[1] Voltage (Volts)	Output Current (Amps)		Ripple[2] P-P	Load Regulation[3]
		Min.	Rated		
UP1301A-12	12	0.0	10.8	120 mV	±1%
UP1301A-15	15	0.0	8.7	150 mV	±1%
UP1301A-24	24	0.0	5.4	240 mV	±1%
UP1301A-48	48	0.0	2.7	480 mV	±1%

NOTES:

1. The output voltage is set to ±3%, with the output at rated load and output sense will compensate for up to 1V drop between converter and load. If sense is not being used, the +sense should be connected to its corresponding to +output and likewise the –sense should be connected to its corresponding –output.
2. Add a 0.1uf ceramic capacitor and a 10uf E.L. capacitor to the output cable. Peak to peak and RMS metering equipment shall have a 20MHz response with probes and cables maintaining frequency response from 200Hz to100MHz band width. Output ripple and spikes are measured directly at the output terminals of the power supply without the use of the probe ground clip.
3. Load regulation is measured at 110VAC or 230VAC input, Load regulation is defined by changing ±40% of measured Output load from 60% rated load.
4. Replace input line fuse with same type rating. Recommended 4A / 250VAC time lag fuse.
5. Mounting hole MH1, MH2, MH4 should be grounded for EMI purpose.

PHYSICAL SPECIFICATIONS



NOTES:

1. All dimensions are in inches (mm).
2. Tolerance .XX=±0.05, .XXX=±0.020

CN1 input connector Molex 5277-02A or equivalent	
Pin	Input voltage
L&N	90-264VAC

CN2 output connector Molex 5045-02A or equivalent	
Pin	UP1301A-XX
1	+Sense
2	-Sense

CN3 output connector Molex pin 5273-06A or equivalent	
Model	
Pin	UP1301A-XX
1	Vo
2	
3	
4	Common
5	
6	

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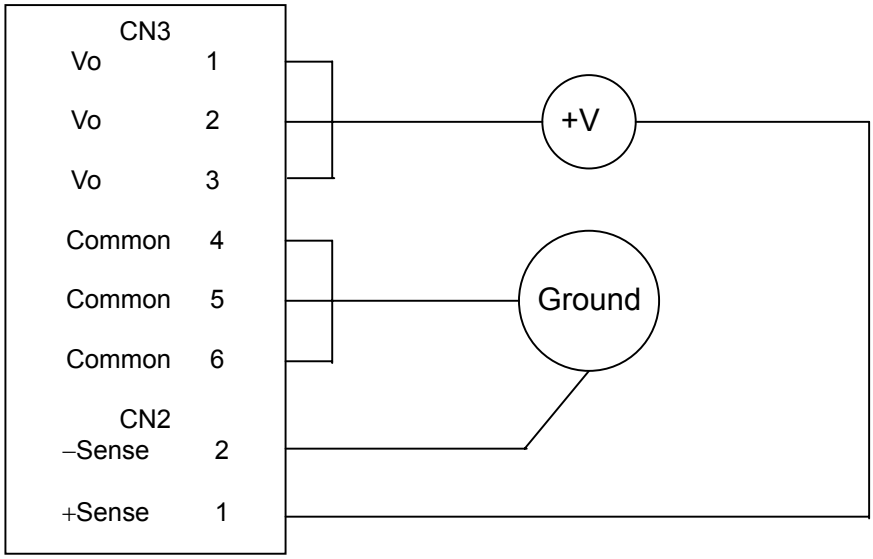
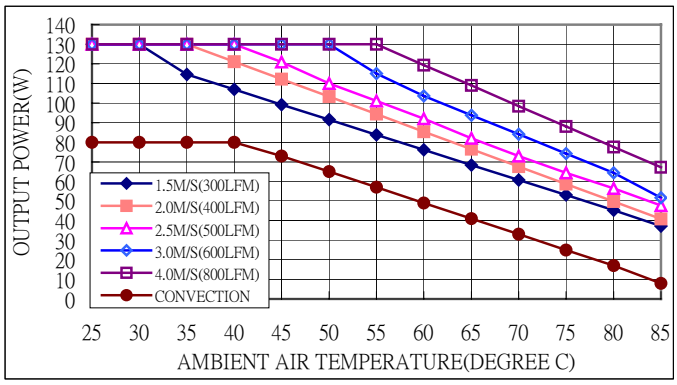
AD-UP1301A-XX Single Output Connection Diagram





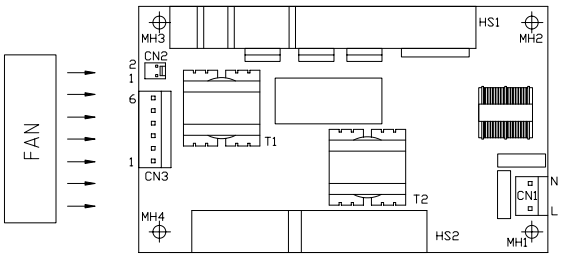
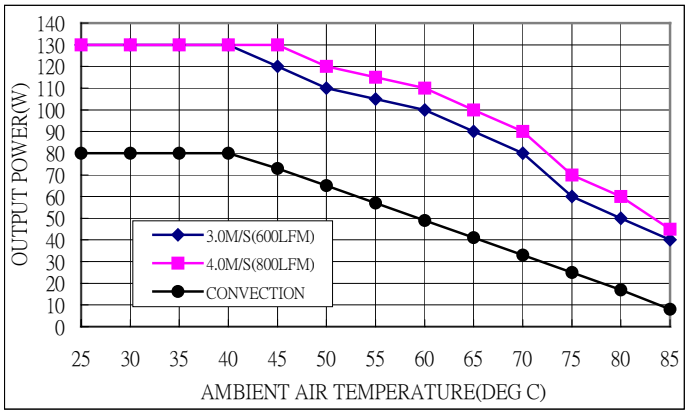


Figure 1: Output power vs Temperature with Forced Air Cooling with Airflow Direction from Output to Input Vin=90Vac



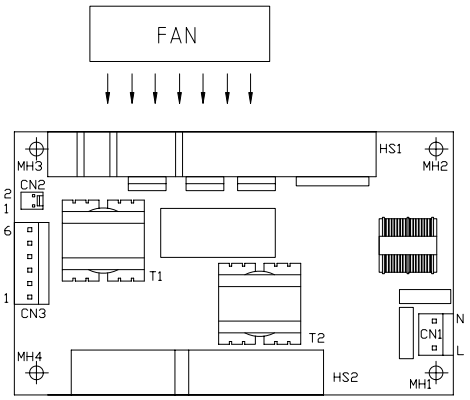


Figure 2: Out power vs Temperature with Forced Air Cooling with Airflow Direction from HS1 to HS2 Vin=90Vac

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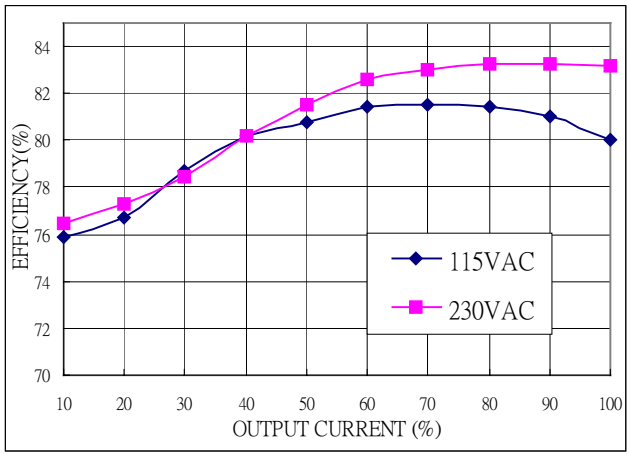

Figure 3:Efficiency vs Load (Vo=12V)

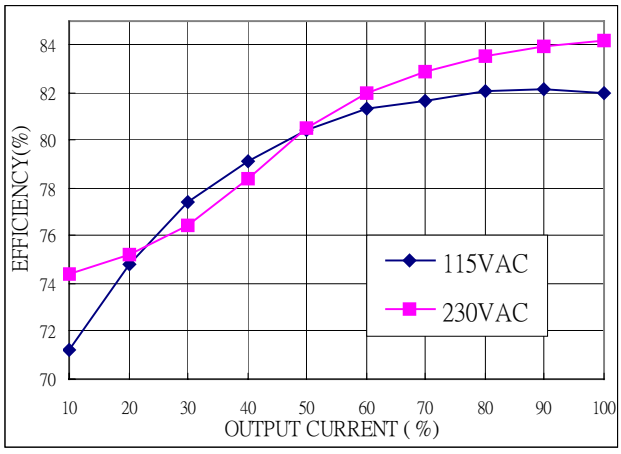

Figure 4:Efficiency vs Load (Vo=15V)

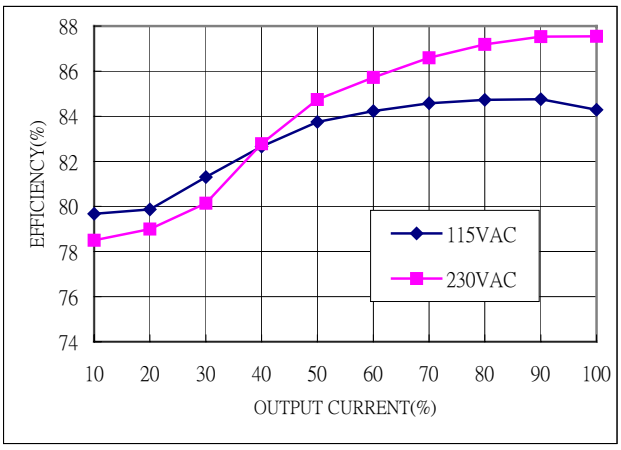

Figure 5: Efficiency vs Load (Vo=24V)

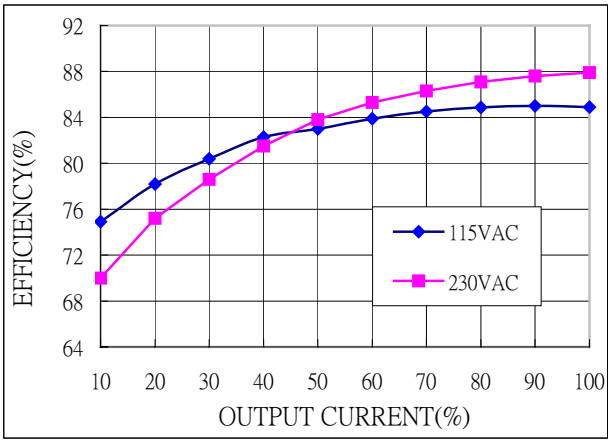

Figure 6: Efficiency vs Load (Vo=48V)

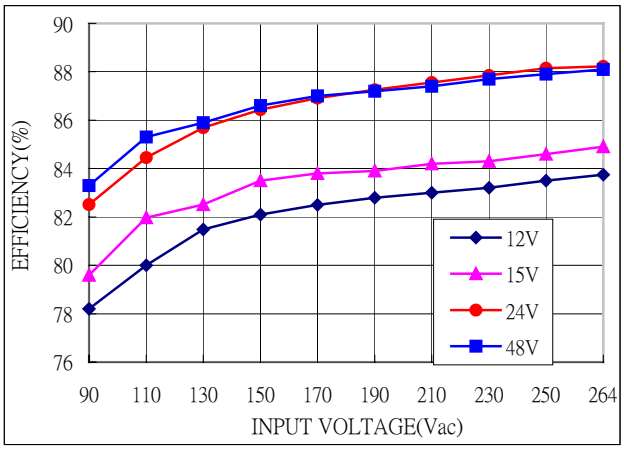

Figure 7:Efficiency vs Line at Full Load

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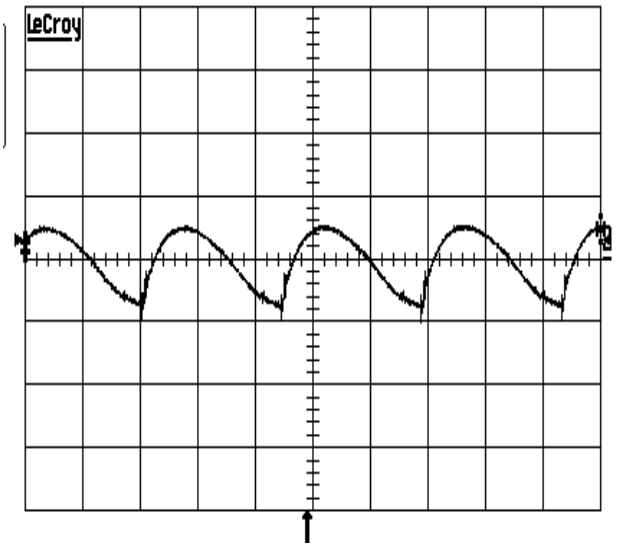
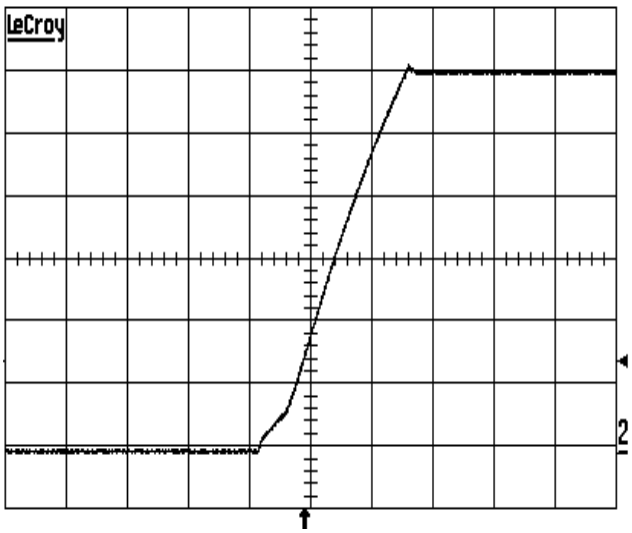
Performance for AD-UP1301A-12

1.Output Ripple



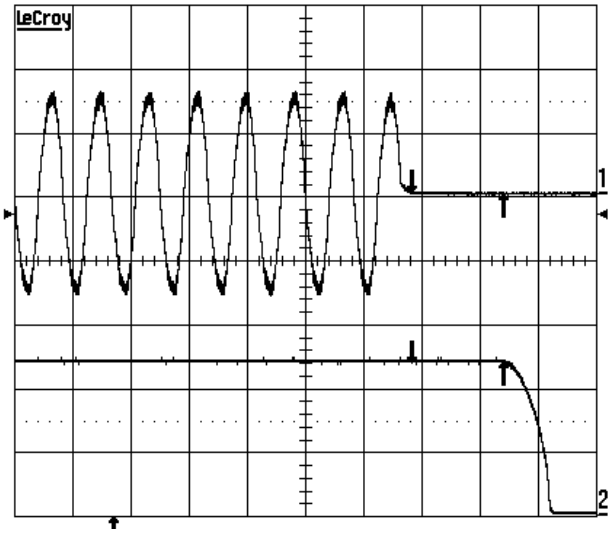
50mV/div,5us/div

2.Output turn on wave form



2V/div,5ms/div

3.Hold-up time



100V/DIV

5V/DIV

20ms/div

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