

**APPLIED  
CONCEPTS INC.**

397 Route 281 - P.O. BOX 1175  
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Phone: (315) 696-6676 Fax: (315) 696-9923  
[www.acipower.com](http://www.acipower.com)

**AC2-12-1504**

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**CCFL INVERTER**

*(For Multiple Tube Applications)*

11/16/04

**GENERAL DESCRIPTION**

The AC2-12-1504 is designed to power 4 CCFL's at a nominal current level of 8mA/tube.

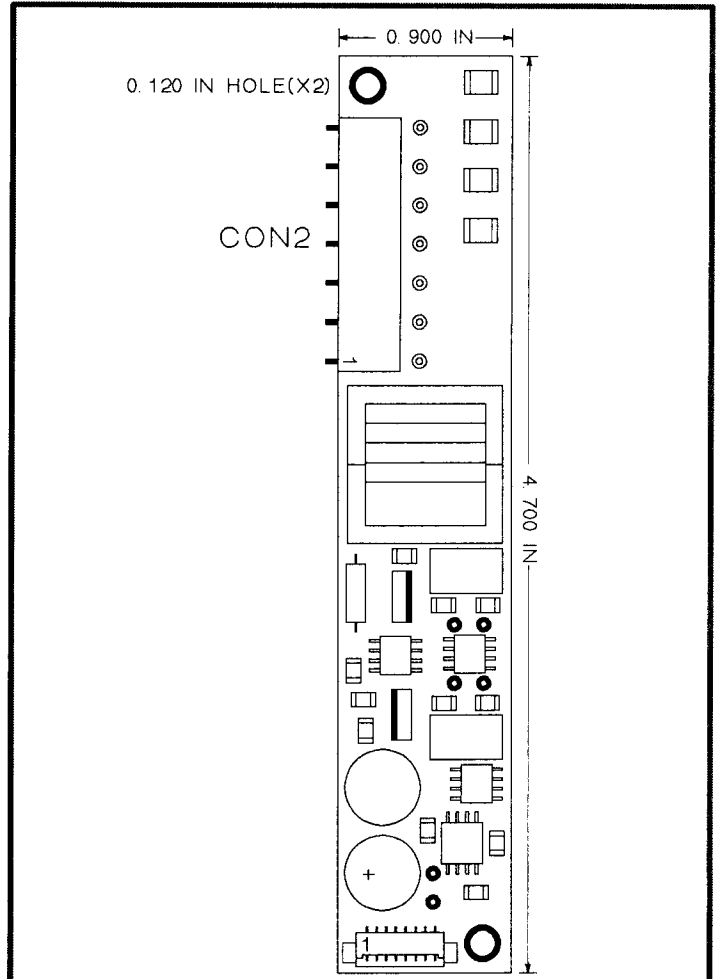
The AC2-12-1504 features analog dimming control via a dc control level of 0V(off) to +5V(full-on) @ pin 6 of CON1. A dc reference voltage(+5V) is available @ pin 7 of CON1 for external use.

Enable control (0V=off, +5V=on) is accomplished @ pin 5 of CON1.

All outputs are open and short circuit protected.

**MECHANICAL / ENVIRONMENTAL**

Weight = 28.4 grams  
Altitude = 10,000 Ft maximum  
Humidity < 85% non-condensing  
Size (L x W x H) = 4.7 IN x 0.9 IN x 0.575 IN  
PCB thickness = 0.062 IN  
Mounting Holes = 0.128 IN diameter (X2)  
Input Power & Control Connector = CON1  
CCFL Output Connector = CON2



PROFILE < 0.575 IN

INPUT CONNECTOR CON1 MOLEX 53261-0890		OUTPUT CONNECTOR CON2 MOLEX 22-28-1130	
PIN #	FUNCTION	PIN #	FUNCTION
1	+12V(PWR)	1	CCFL COMMON
2	+12V(PWR)	2	NC
3	GND(PWR)	3	NC
4	GND(PWR)	4	NC
5	ENABLE	5	NC
6	VCNTL	6	NC
7	TBD/+5V_OUT	7	CCFL4
8	PWM_OUT	8	NC
		9	CCFL3
		10	NC
		11	CCFL2
		12	NC
		13	CCFL1



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# AC2-12-1504

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## MAXIMUM RATINGS\*

11/16/04

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 14	Vdc
Vip	Voltage applied to any Input Pin (Referenced to Ground)	-0.7 to 5.7	Vdc
Iop	Current sourced or sinked from any Output Pin	+/- 10	mAdc
Pin	Input Power (DC Input Voltage x DC Input Current)	21	W
Top	Operating Temperature (Still air ambient around Inverter)	0 to +70	DegC
Tstg	Storage Temperature	-20 to +150	DegC

\* Maximum Ratings are those values beyond which damage to the inverter may occur

## RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	10.8	13.2	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	500	700	Vrms
Vcntl	Intensity Control Voltage	0	5	Vdc

## ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 600Vrms, Vcntl = +5V, ENon = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1650		Vrms
Lout	Lamp Output Current	PWM Duty Cycle @ 100%	7.5	8.5	mArms
Lfreq	Lamp-Current Frequency		37.8	46.2	
Pfreq	PWM Dimming Frequency	Vcntl (Pin 6) = +2.5V	95	101	Khz
ENoff	Enable Control, unit OFF (Pin 5)		0	0.7	V <sub>th</sub>
ENon	Enable Control, unit ON (Pin 5)		3.5	5.0	Vdc
+5Vout	+5V Reference Out (Pin 7)	10k load to ground	4.6	5.3	Vdc
Iin	Input Current Draw			1.7	Adc
Eff	Electrical Efficiency		90		%