

**APPLIED  
CONCEPTS INC.**

397 Route 281 - P.O. BOX 1175  
Tully, New York 13159-1175  
Phone: (315) 696-6676 Fax: (315) 696-9923  
www.acipower.com

**AC2-12-1608**

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**CCFL INVERTER**  
*(For Multiple Tube Applications)*

5/2/06

**GENERAL DESCRIPTION**

The AC2-12-1608 is designed to power 4 CCFL's to a nominal power level of 21 watts.

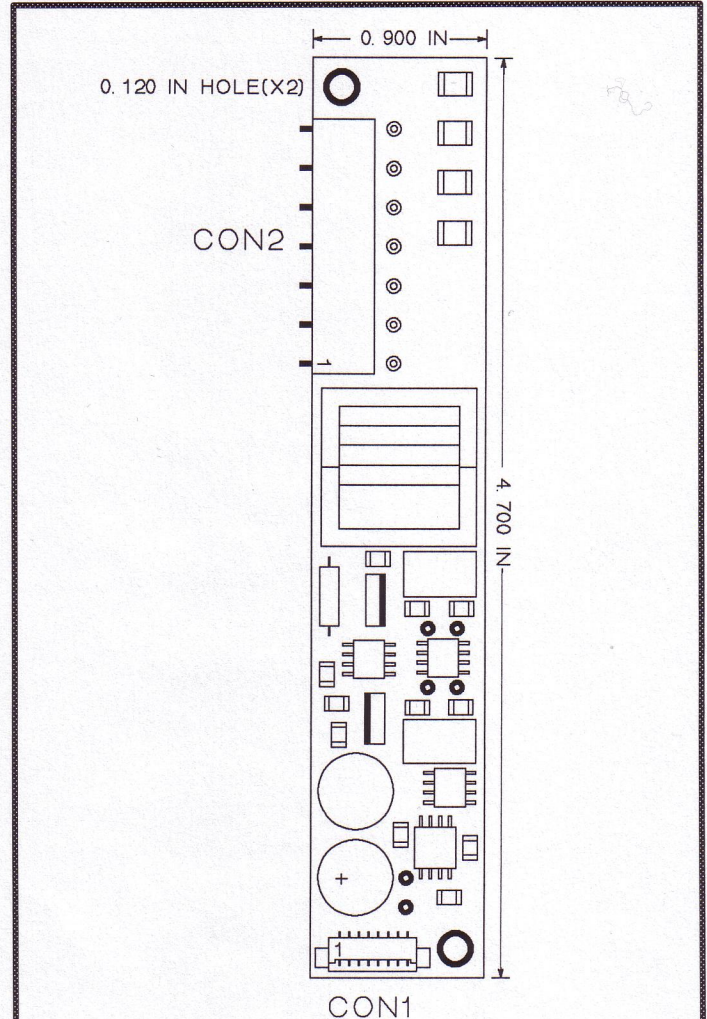
Intensity control (0-100%) is accomplished by the user providing a variable dc level at pin 6 of CON1. Polarity selectable at power on, via pin 8.

Enable control is accomplished @ pin 5 of CON1.

All outputs are open and short circuit protected.

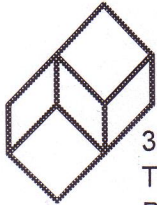
**MECHANICAL / ENVIRONMENTAL**

Weight = 30 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  
Two mounting holes = 0.120 IN diameter  
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	+5V OUT	7	CCFL4
8	VCNTL Polarity	8	NC
	1>> 5V-FULL ON	9	CCFL3
	0V-OFF	10	NC
	0>> 0V-FULL ON	11	CCFL2
	5V-OFF	12	NC
		13	CCFL1



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**MAXIMUM RATINGS\***

5/2/06

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 13	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	mA
Pin	Input Power (DC Input Voltage x DC Input Current)	26	W
Top	Operating Temperature (Still air ambient around Inverter)	0 to +70	DegC
Tstg	Storage Temperature	-20 to +105	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)	11.4	12.6	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	540	700	Vrms
Vcntl	Intensity Control Voltage	0	5	Vdc

**ELECTRICAL CHARACTERISTICS**

Vin = +12V, Lsv = 620Vrms, Vcntl = +5V, Enable = +5V, Vcntl polarity = +5V unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1650		Vrms
Lout	Lamp Output Current		7.75	9.25	mA
Lfreq	Lamp-Current Frequency		43.5	53.2	Hz
Pfreq	PWM Dimming Frequency		92	98	Hz
Pdc	PWM Duty Cycle Range	Vcntl (pin 6) = 0V to +5V, pin 8 = 5V	0	100	%
Pdc	PWM Duty Cycle Range	Vcntl (pin 6) = +5V to 0V, pin 8 = 0V	0	100	%
ENoff	Enable Control, unit OFF (Pin 5)			0.8	Vdc
ENon	Enable Control, unit ON (Pin 5)		2.0		Vdc
+5Vout	+5V Reference Out (Pin 7)	10k load to ground	4.6	5.25	Vdc
Iin	Input Current Draw			2.1	A
Eff	Electrical Efficiency		90		%