

**APPLIED  
CONCEPTS INC.**

397 Route 281 - P.O. BOX 1175  
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www.acipower.com

**AC3-12-1695**

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

6/5/07

**DESCRIPTION**

The AC3-12-1695 is designed to power 2 CCFL's to a nominal power level of 6 watts from a +12V source.

Intensity control is accomplished by providing a variable dc level @ pin 6 of CON1.

Enable control is accomplished @ pin 5 of CON1.

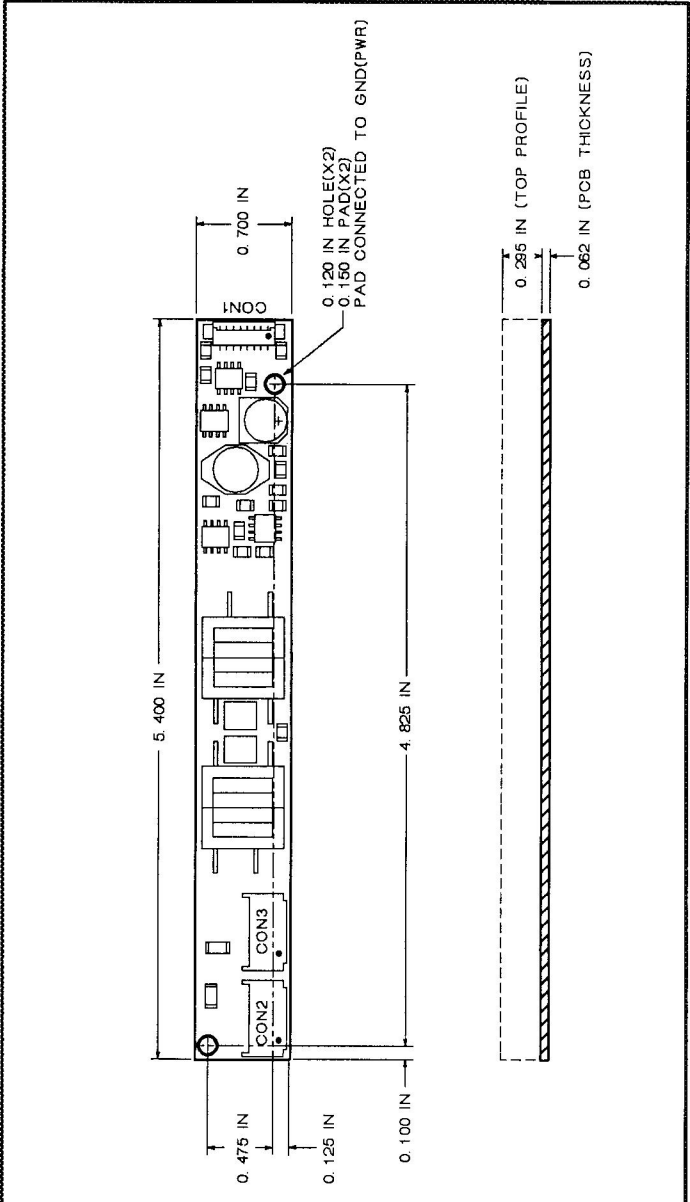
A +5V reference is available at pin 7 of CON1 for external use.

If desired, the pwm dimming frequency of the inverter can be synchronized to the LCD frame rate (Vsync) @ pin 8 of CON1.

The lamp outputs are open and short circuit protected.

**MECHANICAL / ENVIRONMENTAL**

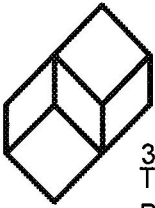
Weight = 20 grams  
Altitude = 10,000 Ft maximum  
Humidity < 85% non-condensing  
Size (L x W x H) = 5.4 IN x 0.7 IN x 0.357 IN  
PCB thickness = 0.062 IN  
Mounting Holes = 0.120 IN diameter (X2)  
Input Power & Control connector = CON1  
CCFL Output Connectors = CON2, CON3



INPUT CONNECTOR  
CON1  
MOLEX 53261-0890

OUTPUT CONNECTORS  
CON2, CON3  
JST SM03(4.0)B-BHS-1-TB

PIN #	FUNCTION	PIN #	FUNCTION
1	+VIN(PWR)	1	CCFL HOT
2	+VIN(PWR)	2	NC
3	GND(PWR)	3	CCFL COLD
4	GND(PWR)		
5	ENABLE		
6	INTENSITY CNTL		
7	+5V REF OUT		
8	VSYNC IN		



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# AC3-12-1695

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## MAXIMUM RATINGS\*

6/5/07

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 13.5	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)	8	W
Top	Operating Temperature (Still air ambient around Inverter)	0 to +70	DegC
Tstg	Storage Temperature	-40 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)	10.8	13.2	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	400	600	Vrms
VSYif	Vertical Synchronization Input Frequency	48	62	Hz
Vcntl	Intensity Control Voltage	0.5	4.5	Vdc

## ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 500Vrms, Vcntl = +4.5V, ENon = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1400		Vrms
Lout	Lamp Output Current		5.4	6.6	mArms
Lfreq	Lamp-Current Frequency		45	55	Khz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 6) = +2.5V Vsync-In (Pin 8) = 0V Vsync-In (Pin 8) = 60Hz	95 119.8	101 120.2	Hz Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 6) = +0.5V to +4.5V	0	100	%
ENoff	Enable Control	Unit OFF (Pin 5)		0.7	Vdc
ENon	Enable Control	Unit ON (Pin 5)	3.5		Vdc
VSYlo	Vertical Sync In	LO Level (Pin 8)		0.7	Vdc
VSYhi	Vertical Sync In	HI Level (Pin 8)	3.5		Vdc
+5Vout	+5V Reference Out (Pin 7)	10k load to ground	4.6	5.3	Vdc
Iin	Input Current Draw			0.61	Adc
Eff	Electrical Efficiency		90		%