

# 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

# AC-1510B

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## CCFL INVERTER

(For Multiple Tube Applications)

02/06/09

### GENERAL DESCRIPTION

The AC-1510B is designed to power 6 CCFL's to a nominal power level of 31 watts from an input voltage of +12V.

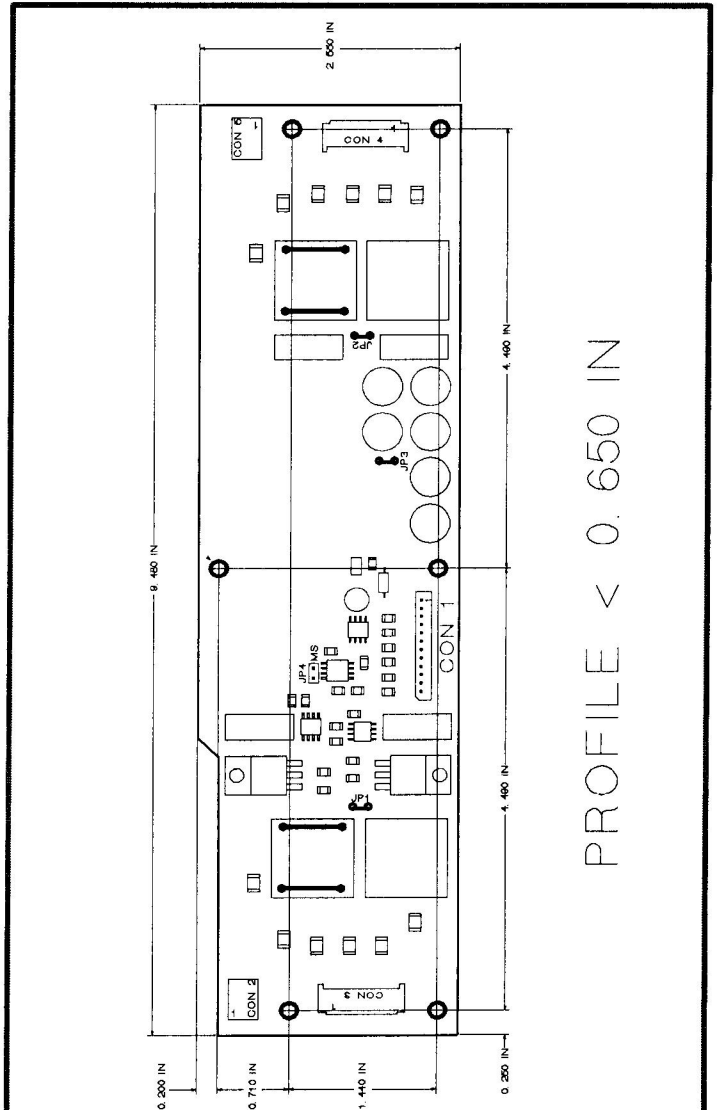
Intensity control is accomplished by the user providing a variable dc level of 0V(100% on) to 3.5V(.4% on) at pin 7 of CON1. A DC reference voltage (+5V) is available @pin 6 of CON1 for external use.

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

All outputs are open and short circuit protected.

### MECHANICAL / ENVIRONMENTAL

- Weight = 120 grams
- Altitude = 10,000 Ft maximum
- Humidity < 85% non-condensing
- Size (L x W x H) = 9.48 IN x 2.55 IN x 0.650 IN
- PCB thickness = 0.062 IN
- Mounting Holes = 0.120 IN diameter (X6)
- Input Power & Control Connector = CON1
- CCFL Output Connectors = CON2, CON3, CON4, CON5



PROFILE < 0.650 IN

INPUT CONNECTOR  
CON1  
MOLEX 22-03-5125

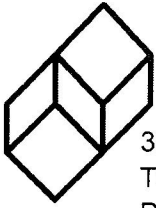
PIN #	FUNCTION
1,2	+VIN
3,4	GND(POWER)
5	ENABLE
6	+5V OUT
7	VCNTL
8	GND(SIGNAL)

OUTPUT CONNECTOR(S)  
CON2,CON5  
JST SM02B-BHSS-1-TB

PIN #	FUNCTION
1	CCFL HOT
2	CCFL COLD

OUTPUT CONNECTOR(S)  
CON3,CON4  
JST SM04(9-E2)B-BHS-1-TB

PIN #	FUNCTION
1	CCFL HOT
2	CCFL HOT
3	NC
4	CCFL COLD
5	CCFL COLD



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**MAXIMUM RATINGS\***

02/06/09

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	mA <sub>dc</sub>
Pin	Input Power (DC Input Voltage x DC Input Current)	38	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	550	950	Vrms
Vcntl	Intensity Control Voltage	0	3.5	Vdc

**ELECTRICAL CHARACTERISTICS**

Vin = +12V, Lsv = 760Vrms, Vcntl = +3.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1800		Vrms
Lout	Lamp Output Current		5.8	7.2	mA <sub>rms</sub>
Lfreq	Lamp-Current Frequency		40.5	49.5	Khz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 7) = +1.75V	95	101	Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 7) = +3.5V to 0V	.4	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	10k load to ground @ (Pin 6)	4.75	5.25	Vdc
Iin	Input Current Draw			3.0	Adc
Eff	Electrical Efficiency		90		%