

# APPLIED CONCEPTS INC.

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

# AC8-V4-1525

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## CCFL INVERTER (For Quad Tube Applications)

06/06/05

### GENERAL DESCRIPTION

The AC8 series is a low cost, high performance inverter solution featuring various output connector formats that are compatible with many of the popular quad-tube flatpanel displays.

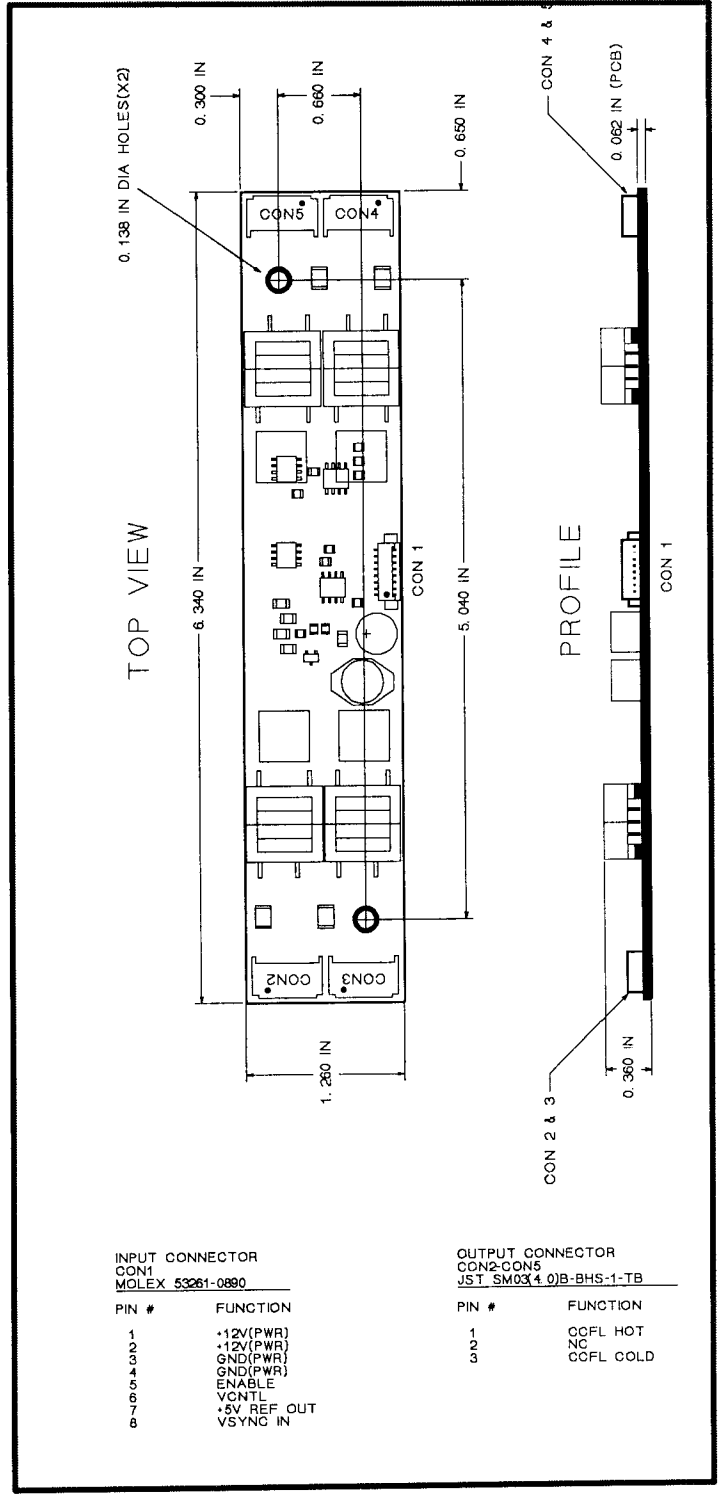
This AC8 is designed to power typically 4 CCFL's up to power levels of 21watts from a nominal +12V

Enable control is accomplished @ pin 5 of CON1. In addition, a +5V reference voltage is available @ pin 7 of CON1 for external use.

If desired, the pwm dimming frequency of the inverter can be synchronized to the LCD frame rate via pin 8 of CON1.  
 All outputs are open and short circuit protected.

### MECHANICAL / ENVIRONMENTAL

Weight = 40 grams  
 Altitude = 10,000 Ft maximum  
 Humidity < 85% non-condensing  
 Size (L x W x H) = 6.34 IN x 1.26 IN x 0.360 IN  
 PCB thickness = 0.062 IN  
 Mounting Holes = 0.138 IN diameter (X2)  
 Input Power & Control Connector = CON1  
 CCFL Output Connector(s) = CON2 - CON5



INPUT CONNECTOR		OUTPUT CONNECTOR	
CON1		CON2-CON5	
MOLEX 53261-0890		JST SM03(4.0)B-BHS-1-TB	
PIN #	FUNCTION	PIN #	FUNCTION
1	+12V(PWR)	1	CCFL HOT
2	+12V(PWR)	2	NC
3	GND(PWR)	3	CCFL GOLD
4	GND(PWR)		
5	ENABLE		
6	VCNTL		
7	+5V REF OUT		
8	VSYNG IN		



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**MAXIMUM RATINGS\***

06/06/05

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)	30	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)	10.8	13.2	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	550	950	Vrms
VSYif	Vertical Synchronization Input Frequency	48	62	Hz
Vcntl	Intensity Control Voltage	0.5	4.5	Vdc

**ELECTRICAL CHARACTERISTICS**

Vin = +12V, Lsv = 750Vrms, Vcntl = 0.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1800		Vrms
Lout	Lamp Output Current		6.75	8.25	mArms
Lfreq	Lamp-Current Frequency		48	58	Khz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 6) = +2.5V Vsync-In (Pin 8) = 0V Vsync-In (Pin 8) = 60Hz	95	101	Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 6) = +4.5V to +0.5V	0	100	%
ENoff	Enable Control, unit OFF (Pin 5)			0.7	Vdc
ENon	Enable Control, unit ON (Pin 5)		2.0		Vdc
VSYhi	Vertical Sync In HI Level (Pin 8)			3.5	Vdc
VSYlo	Vertical Sync In LO Level (Pin 8)		0.7		Vdc
+5Vout	+5V Reference Out (Pin 7)	10k load to ground	4.6	5.25	Vdc
Iin	Input Current Draw			2.0	Adc
Eff	Electrical Efficiency		90		%