

**APPLIED  
CONCEPTS INC.**

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**AC8-V2-1519**

PRODUCT DATA SHEET - PAGE 1 OF 2

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

11/14/05

**GENERAL DESCRIPTION**

This AC8-V1-1519 is designed to power typically 4 CCFL's up to power levels of 20 watts from a nominal +12V source.

Analog dimming control is accomplished by the user providing dc level of 0.5V(off) 4.5V(full on) @ pin 6 of CON1.

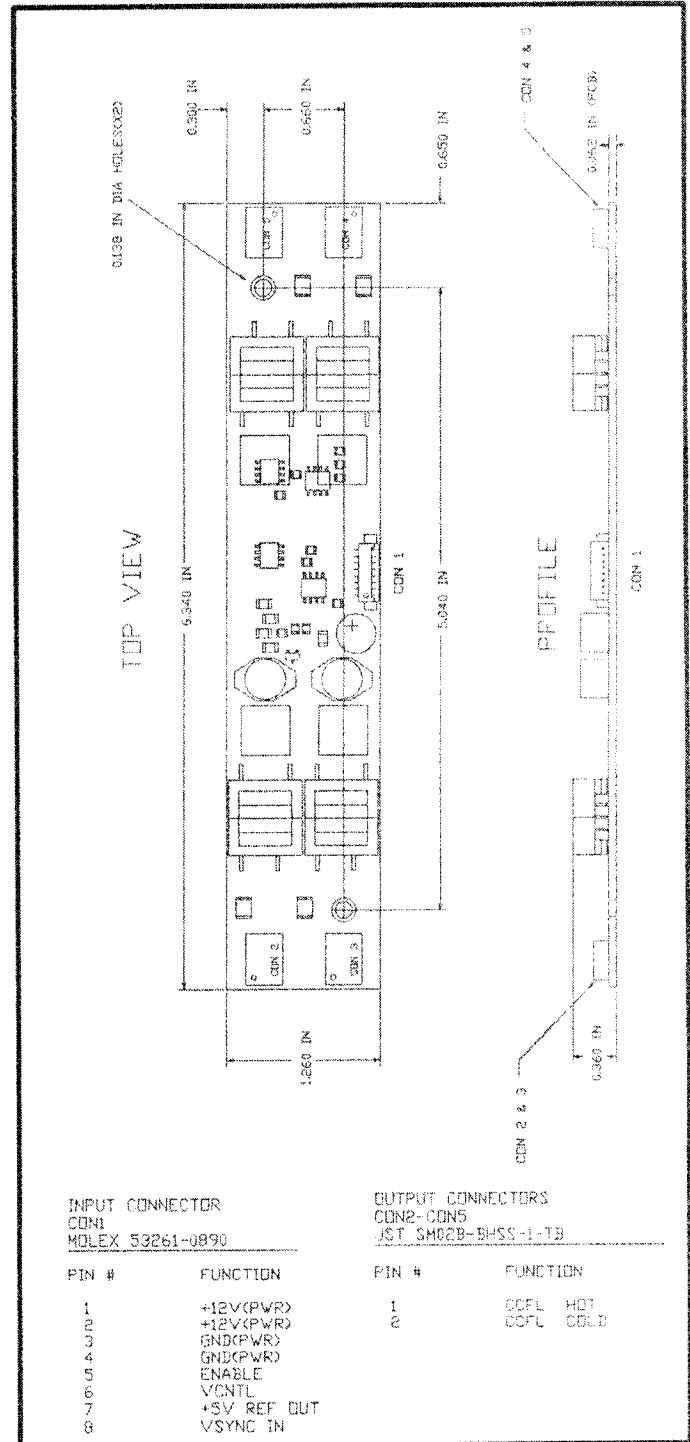
Enable control is accomplished @ pin 5 of CON1. In addition, a +5V reference voltage is available @ pin 7 of CON1 for external use.

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**

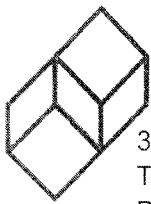
- Weight = 40 grams
- Altitude = 10,000 Ft maximum
- Humidity < 85% non-condensing
- Size (L x W x H) = 6.34 IN x 1.26 IN x 0.360 IN
- PCB thickness = 0.062 IN
- Mounting Holes = 0.138 IN diameter (X2)
- Input Power & Control Connector = CON1
- CCFL Output Connector(s) = CON2 - CON5



INPUT CONNECTOR  
CON1  
MOLEX 53261-0890

OUTPUT CONNECTORS  
CON2-CON5  
JST SM02B-BHSS-1-1TB

PIN #	FUNCTION	PIN #	FUNCTION
1	+12V(PWR)	1	CCFL HOT
2	+12V(PWR)	2	CCFL COLD
3	GND(PWR)		
4	GND(PWR)		
5	ENABLE		
6	VCNTL		
7	+5V REF OUT		
8	VSYNC IN		



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# AC8-V2-1519

PRODUCT DATA SHEET - PAGE 2 OF 2

## MAXIMUM RATINGS\*

11/14/05

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)	24	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	495	825	Vrms
VSyif	Vertical Synchronization Input Frequency	48	62	Hz
Vcntl	Intensity Control Voltage	0.5	4.5	Vdc

## ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 660Vrms, Vcntl = +4.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1600		Vrms
Lout	Lamp Output Current		6.75	8.25	mArms
Lfreq	Lamp-Current Frequency		45	55	Khz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 6) = +2.5V Vsync-In (Pin 8) = 0V	95	101	Hz
		Vsync-In (Pin 8) = 60Hz	119.8	120.2	Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 6) = 0.5 to +4.5V	0	100	%
ENoff	Enable Control, unit OFF (Pin 5)			0.8	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)			0.8	Vdc
+5Vout	+5V Reference Out (Pin 7)	10k load to ground	4.6	5.25	Vdc
Iin	Input Current Draw			1.8	Adc
Eff	Electrical Efficiency		90		%