



APPLIED CONCEPTS INC.

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www.acipower.com

AC5-V1-1631

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CCFL INVERTER (For Multiple Tube Applications)

11/06/06

GENERAL DESCRIPTION

The AC5-V1-1631 is designed to power 8 CCFL's to a nominal power level of 26.2 watts from a nominal +12V source

Intensity control is accomplished by providing a dc level @ pin 5 of CON1.

Enable control is accomplished @ pin 3 of CON1.

An output PWM signal is available @ pin 6 of CON1.

If desired, the PWM dimming frequency of the inverter can be synchronized to the LCD frame rate via pin 4 of CON1.

All outputs are open and short circuit protected.

MECHANICAL / ENVIRONMENTAL

Weight = 60 grams

Altitude = 10,000 Ft maximum

Humidity < 85% non-condensing

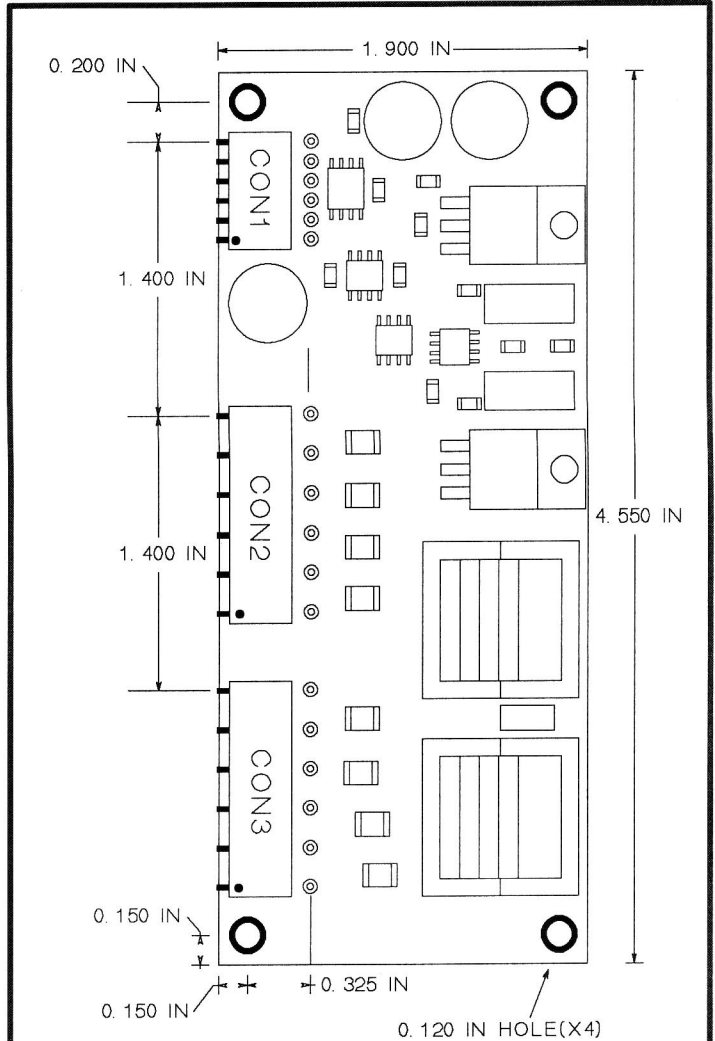
Size (L x W x H) = 4.55 IN x 1.90 IN x 0.575 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.120 IN diameter (X4)

Input Power & Control Connector = CON1

CCFL Output Connectors = CON2, CON3



PROFILE = 0.575 IN

CON1
MOLEX 22-28-1063

CON2(CON3)
MOLEX 22-28-1113

PIN #

1 +12V
2 GND
3 ENABLE
4 VSYNC
5 VCNTL
6 PWM OUT

PIN #

1 CCFL 1(2)
2 NC
3 CCFL 3(4)
4 NC
5 CCFL 5(6)
6 NC
7 CCFL 7(8)
8 NC
9 NC
10 NC
11 CCFL COMMON



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MAXIMUM RATINGS*

11/06/06

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)	35	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	445	745	Vrms
Vcntl	Intensity Control Voltage	0	5	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 595Vrms, Vcntl = +5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1800		Vrms
Lout	Lamp Output Current		5.0	6.0	mArms
Lfreq	Lamp-Current Frequency		31.5	38.5	Khz
Pfreq	PWM Dimming Frequency	Vcntl (pin 5) = +2.5V Vsync in (pin 4) = 0V Vsync in (pin 4) = 60 Hz	95 119.8	101 120.2	Hz Hz
Pdc	PWM Duty Cycle Range	Vcntl (pin 5) = +0 to +5V	0	100	%
ENoff	Enable Control	Unit OFF (Pin 3)		0.5	Vdc
ENon	Enable Control	Unit ON (Pin 3)	2.0		Vdc
+5Vout	+5V Reference Out (slave mode only)	10K load to ground (Pin 4)	4.6	5.3	Vdc
VSYhi	Vertical Sync In HI Level	(Pin 4)	4.0		Vdc
VSYlo	Vertical Sync In lo Level	(Pin 4)		1.0	Vdc
PWMlo	PWM output signal low	10k load to ground (Pin 6)		0.5	Vdc
PWMhi	PWM output signal high	10k load to ground (Pin 6)	4.5		Vdc
Iin	Input Current Draw			2.65	Adc
Eff	Electrical Efficiency		90		%