Applied Concepts
INNOVATION IN POWER CONVERSION TECHNOLOGY

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ACB-12-1931

PRODUCT DATA SHEET

05/05/10

CCFL INVERTER

(For Multiple Tube Applications)

GENERAL DESCRIPTION

The ACB-12-1931 is designed to power 6 CCFLs to a nominal power level of 32.4 Watts from an input voltage of +12V.

Intensity control is accomplished by the user providing a variable DC voltage level at pin 7 of CON1. A DC reference voltage (+5V) is available at pin 6 of CON1 for external use.

Enable control is accomplished at pin 5 of CON1.

All outputs are open and short circuit protected.

MECHANICAL/ENVIRONMENTAL

Weight = 116 grams

Altitude = 10,000 ft max.

Humidity < 85% non-condensing

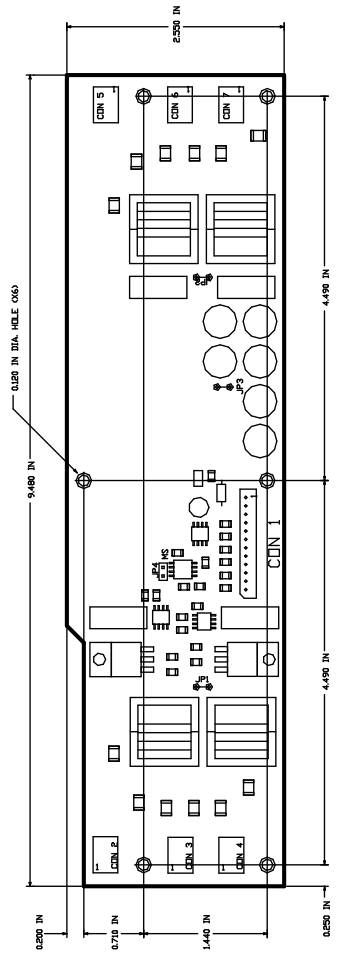
Size (L x W x H) = 9.48 IN x 2.55 IN x 0.675 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.120 IN diameter (X6)

Input Power & Control Connector = CON1

CCFL Output Connectors = CON2 – CON7



PROFILE < 0.675 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)
9	VSYNC IN(OPTIONAL)
10	GND(SIGNAL)
11	TBD
12	GND(SIGNAL)

OUTPUT CONNECTOR(S)
CON2-CON7
JST SM02B-BHSS-1

PIN #	FUNCTION
1	CCFL HOT
2	CCFL COLD

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MAXIMUM RATINGS*

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)	43.5	W
Top	Operating Temperature (Still air ambient around Inverter)	-20 to +70	°C
Tstg	Storage Temperature	-40 to +105	°C

*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	747	913	Vrms
Vcntl	Intensity Control Voltage	0	5.0	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12.0V, Lsv = 830Vrms, Vcntl = +5.0V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage	Open Circuit	1730		Vrms
Lout	Lamp Output Current		5.85	7.15	mArms
Lfreq	Lamp-Current Frequency		27.9	34.1	KHz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 7)= +2.5V	95	101	Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 7)= 0 to +5.0V	0	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 (Pin 6)	10k load to ground	4.75	5.25	Vdc
Iin	Input Current Draw			3.3	Adc
Eff	Electrical Efficiency		90		%