



# Endicott Research Group, Inc.

2601 Wayne St., Endicott, NY 13760  
 607-754-9187 Fax 607-754-9255  
<http://www.ergpower.com>

# K1985

## Specifications and Applications Information

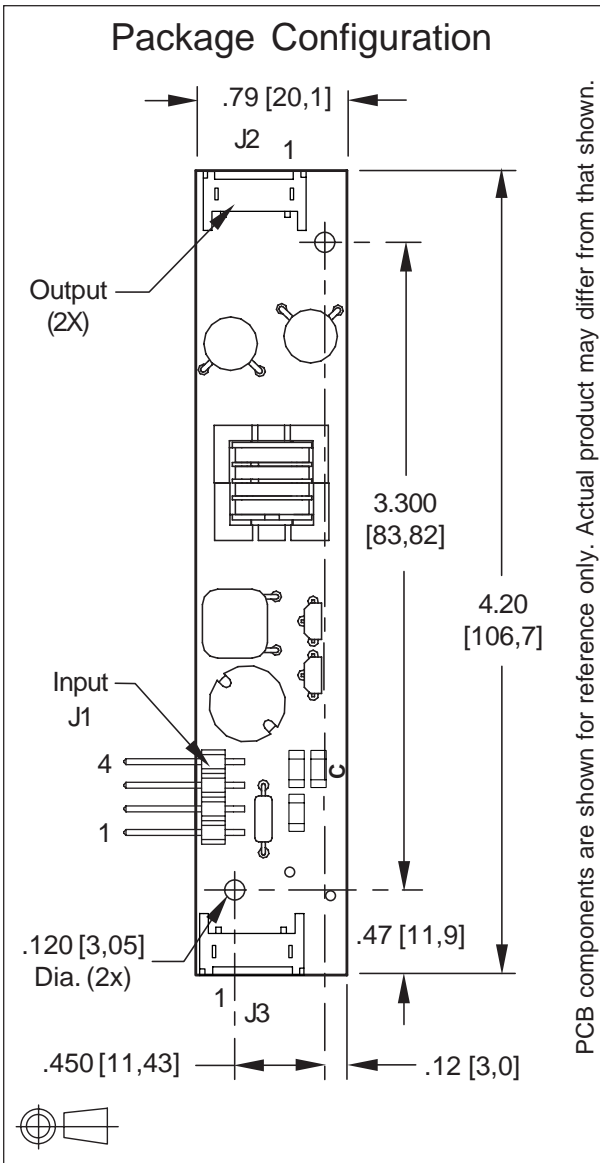
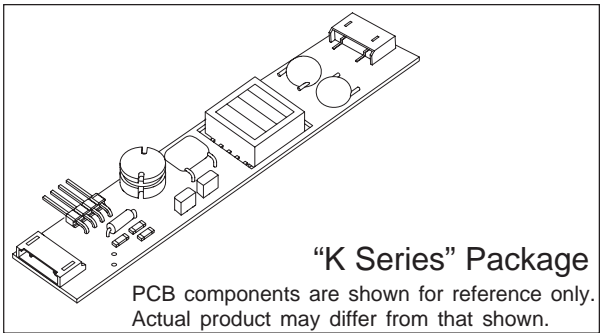
03/14/07 Preliminary

### 8m Class 2 Lamp DC to AC Inverter

The ERG K1985 (*8m Class*) low profile dc to ac inverter is specifically designed to power the Sharp LQ12S31 LCD display module to a moderate brightness level from a +5 volt dc source.

This low profile inverter features:

- ✓ Less Than 8 mm in Height
- ✓ LCD Module Specific
- ✓ Display Compatible Output Connector
- ✓ Firm Specifications
- ✓ Application Information
- ✓ Designed, Manufactured and Supported in the USA
- ✓ Custom Input and Output Voltages
- ✓ Flexible System Interface
- ✓ Notebook Display Head Compatible



Connectors	
Input Connector	Output Connectors
4 pins are 0.315" [8,00] Long, 0.025" [0,63] Square and are on 0.100" [2,54] Centers.	JST SM02(8.0)B-BHS-1-TB
J1-1 Vin(+) J1-2 GND J1-3 Enable * J1-4 N/C	J2-1 ACout J2-2 ACreturn  J3-1 ACout J3-2 ACreturn
* Valid with the "C" Jumper removed	

## Absolute Maximum Ratings

Rating	Symbol	Value	Units
Input Voltage Range	Vin	-0.3 to +5.5	Vdc
Storage Temperature	Tstg	-40 to +85	°C

## Operating Characteristics

With a load simulating the referenced display and lamp warm-up of 5 minutes.  
Unless otherwise noted Vin = 5.00 Volts dc and Ta = 25°C.

Characteristic	Symbol	Min	Typ	Max	Units
Input Voltage	Vin	+4.50	+5.00	+5.25	Vdc
Component Surface Temperature <sup>(note 2)</sup>	Ts	-20	-	+80	°C
Input Current <sup>(note 1)</sup>	Iin	-	1.70	1.87	Adc
Operating Frequency	Fo	54	59	64	kHz
Minimum Output Voltage <sup>(note 3)</sup>	Vout (min)	1200	-	-	Vrms
Efficiency	$\eta$	-	71	-	%
Output Current (per lamp)	Iout	-	5.5	-	mArms
Output Voltage	Vout	-	550	-	Vrms
Enable Pin Input Current Requirement <sup>(notes 4,5,6)</sup>	Ien	-	18.5	-	mAdc

Specifications subject to change without notice.

(Note 1) Input current in excess of maximum may indicate a load/inverter mismatch condition, which can result in reduced reliability. Please contact ERG technical support.

(Note 2) Surface temperature must not exceed 80 degrees C; thermal management actions may be required.

(Note 3) Provided data is not tested but guaranteed by design.

(Note 4) Required User Enable/Disable Interface Circuit is shown on page 3.

(Note 5) Valid only with the "C" jumper removed.

(Note 6) With the "C" jumper (JP1) in place, a ground applied to the enable pin J1-3 will open the inverter fuse.

### Application Notes:

- 1) The minimum distance from high voltage areas of the inverter to any conductive material should be .12 inches per kilovolt of starting voltage.
- 2) Mounting hardware to be non-conductive.
- 3) Open framed inverters should not be used in applications at altitudes over 10,000 feet.
- 4) Contact ERG for possible exceptions.



Endicott Research Group, Inc.

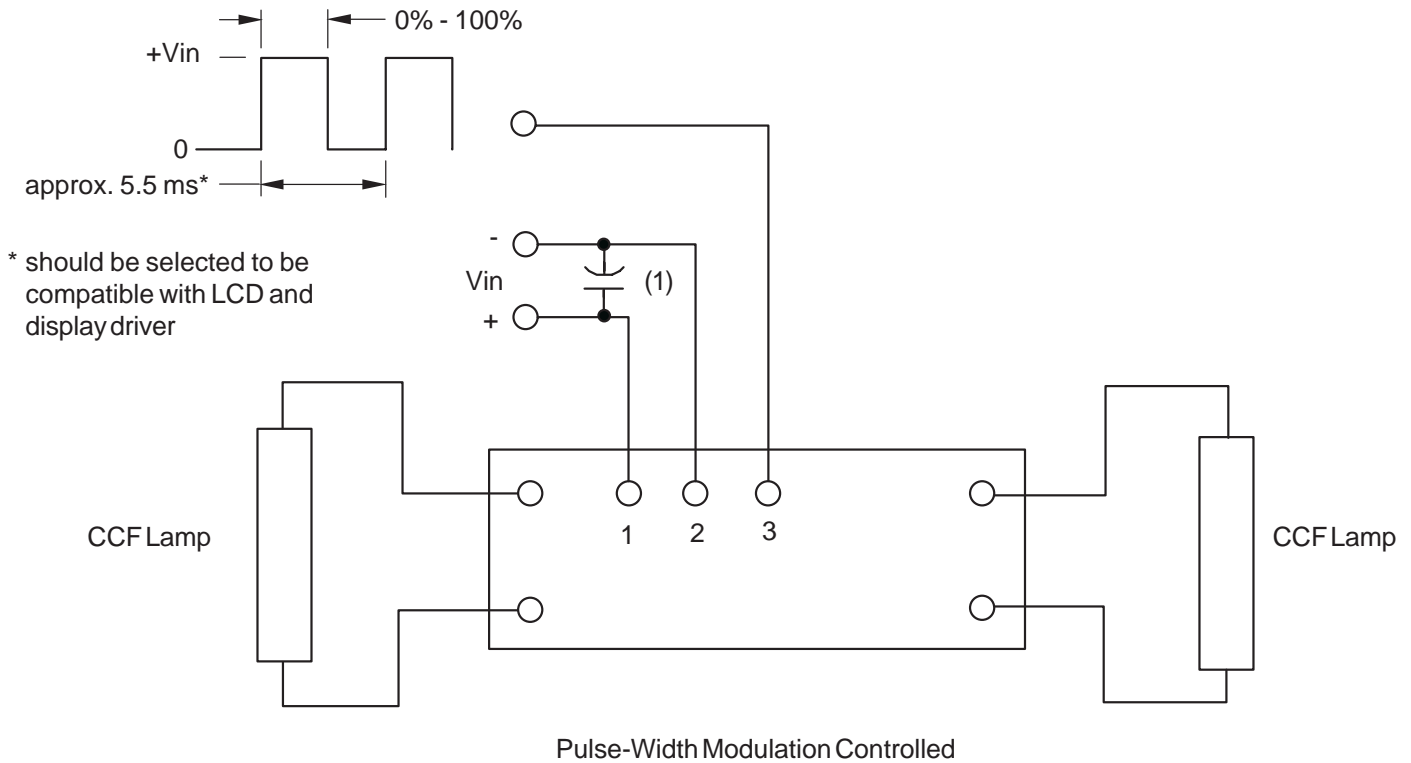
2601 Wayne St., Endicott, NY 13760  
607-754-9187 Fax 607-754-9255  
<http://www.ergpower.com>

Made in USA



# PWM Dimming

(Valid only with the "C" Jumper removed)

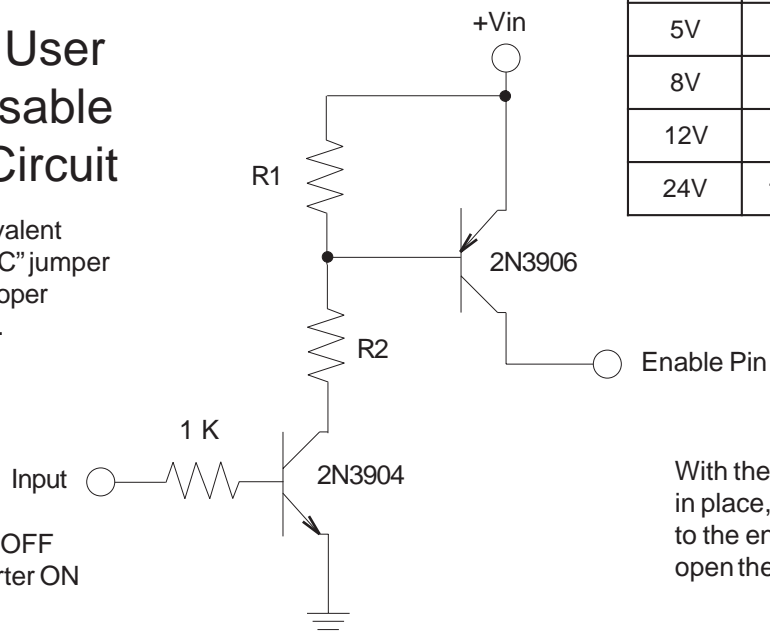


Note 1 - Low ESR type input by-pass capacitor (22 uf - 100 uf) may be required to reduce reflected ripple.

## Required User Enable/Disable Interface Circuit

Circuit or equivalent required with "C" jumper removed for proper inverter turnoff.

0-0.5V Inverter OFF  
2.0V - 12V Inverter ON



Vin	R1	R2
5V	3.3K	1.5K
8V	3.3K	1.8K
12V	3.3K	2.2K
24V	10.0K	8.2K

With the "C" jumper (JP1) in place, a ground applied to the enable pin J1-3 will open the inverter fuse.



Endicott Research Group, Inc. (ERG) reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by ERG is believed to be accurate and reliable. However, no responsibility is assumed by ERG for its use.