



Endicott Research Group, Inc.

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## Specifications and Applications Information

04/28/04

Preliminary

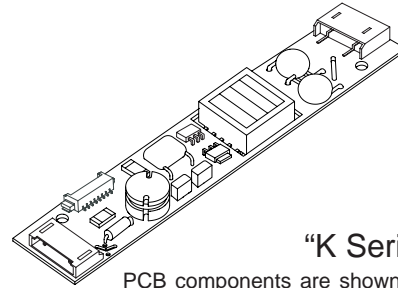
The ERG K2990 (8m Class) low profile dc to ac inverter is specifically designed to power the NEC NL3224BC35-20 LCD display module to a moderate brightness level from a +5 volt dc source.

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

# K2990

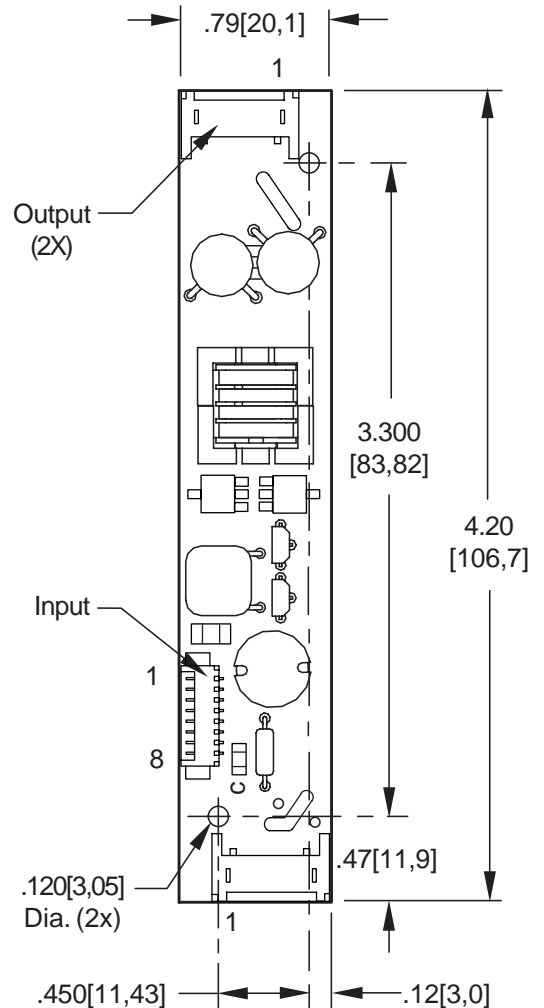
## 8m Class 2 Tube DC to AC Inverter



**"K Series" Package**

PCB components are shown for reference only. Actual product may differ from that shown.

### Package Configuration



PCB components are shown for reference only. Actual product may differ from that shown.

### Connectors

Input Connector		Output Connectors	
Molex 532-61-0890		JST SM02(8.0)B-BHS-1-TB	
J1-1	Vin(+)	J2-1	ACout
J1-2	Vin(+)	J2-2	N/C
J1-3	GND	J2-3	ACout
J1-4	GND	J3-1	ACout
J1-5	Control*	J3-2	N/C
J1-6-8	N/C	J3-3	ACout

\* Valid with "C" jumper removed

## Absolute Maximum Ratings

Rating	Symbol	Value	Units
Input Voltage Range	V <sub>in</sub>	-0.3 to +5.5	Vdc
Operating Temperature	T <sub>o</sub>	0 to +70	°C
Storage Temperature	T <sub>stg</sub>	-40 to +85	°C

## Recommended Operating Conditions

Rating	Symbol	Value	Units
Input Voltage	V <sub>in</sub>	+4.50 to 5.25	Vdc

## Electrical Characteristics

Unless otherwise noted V<sub>in</sub> = 5.00 Volts dc and T<sub>a</sub> = 25°C

Characteristic	Symbol	Min	Typ	Max	Units
Input Current <sup>(note 1)</sup>	I <sub>in</sub>	-	.96	1.1	Adc
Operating Frequency	F <sub>o</sub>	39	44	49	KHz
Minimum Output Voltage	V <sub>out</sub> (min)	1300	-	-	Vrms
Efficiency	-	-	73	-	%
Output Current (per tube)	I <sub>out</sub>	-	5	-	marms
Output Voltage (When powering a load simulating the referenced display)	V <sub>out</sub>	-	350	-	Vrms
Pin5 Input Current Requirement	-	-	10	-	madc

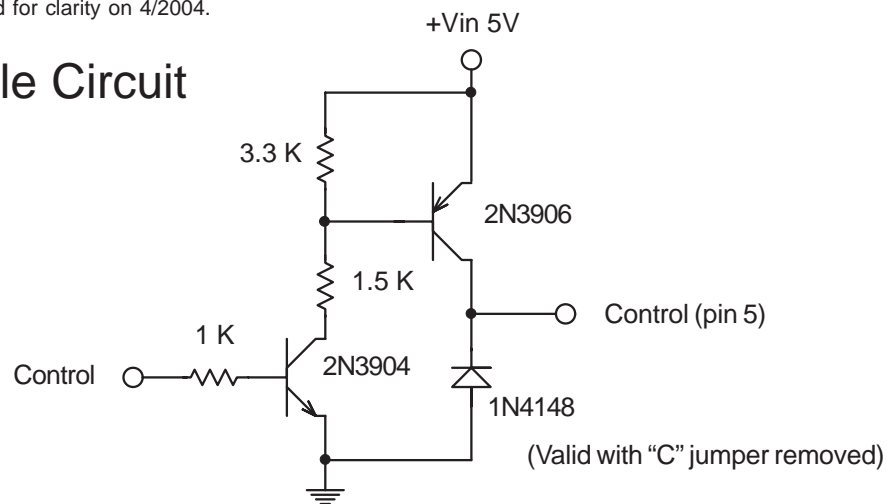
After tube has been allowed to warm-up for 5 minutes

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.

Input voltage specification modified for clarity on 4/2004.

## Disable Circuit



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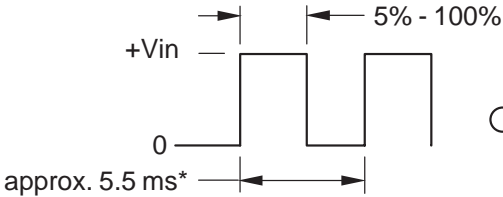
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Made in USA

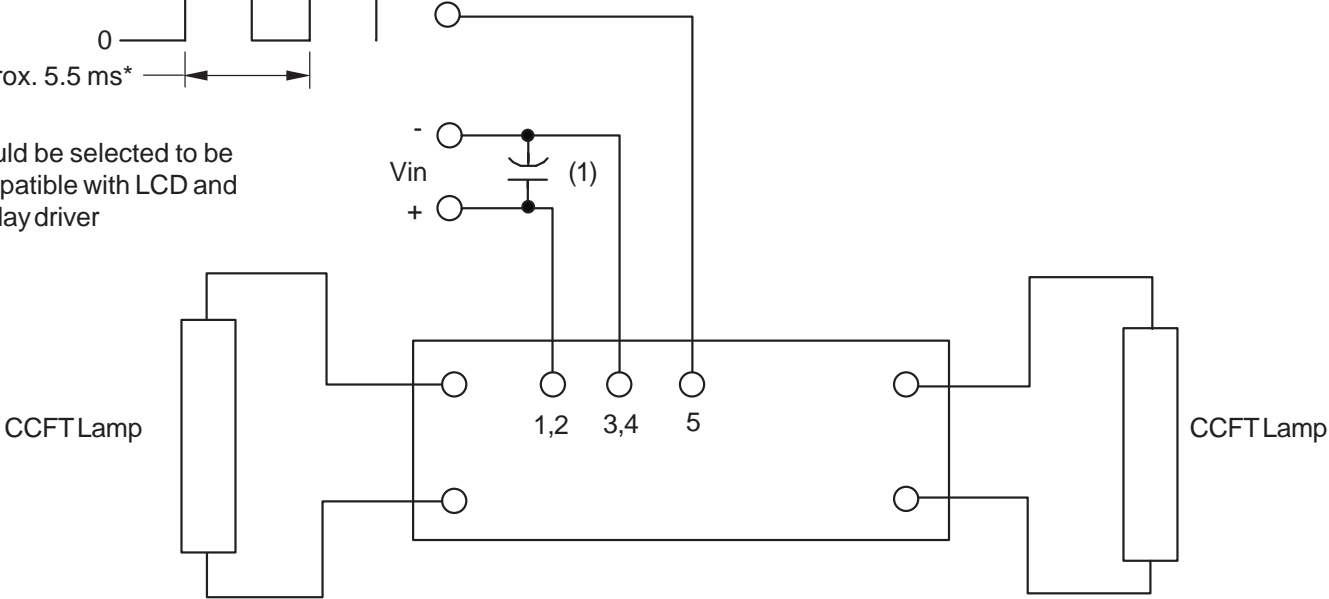


### Dimming Option

(Valid with "C" jumper removed)



\* should be selected to be compatible with LCD and display driver



Pulse-Width Modulation Controlled

\* Note 1 - Input by-pass capacitor (25uf - 100uf) may be required to reduce reflected ripple.



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.