



Endicott Research Group, Inc.

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<http://www.ergpower.com>

Specifications and Applications Information

04/23/04

Preliminary

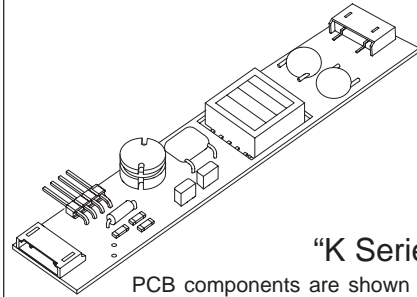
The ERG K3021 (8m Class) low profile dc to ac inverter is specifically designed to power the Optrex T-51750GD065J-FW-AA LCD display module to a moderate brightness level from a +5 volt dc source.

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

K3021

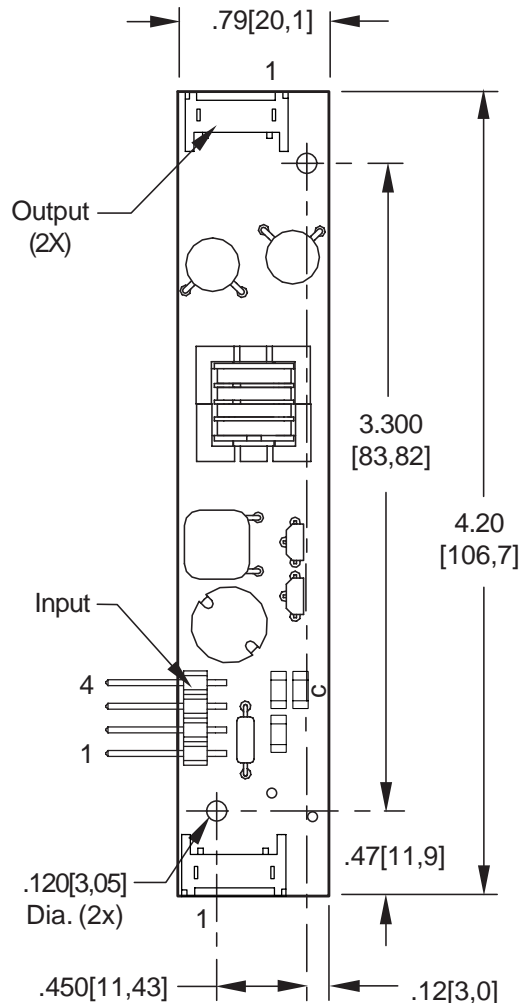
8m Class 2 Tube DC to AC Inverter



"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 |
|---|---|
| 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 |
| Con1-1 Vin(+) Con1-2 GND Con1-3 Control * Con1-4 N/C | J2-1 ACout J3-1 ACout J2-2 N/C J3-2 N/C J2-3 ACout J3-3 ACout |

* Valid with "C" Jumper Removed

Absolute Maximum Ratings

| Rating | Symbol | Value | Units |
|-----------------------|------------------|--------------|-------|
| Input Voltage Range | V _{in} | -0.3 to +5.5 | Vdc |
| Operating Temperature | T _o | 0 to +70 | °C |
| Storage Temperature | T _{stg} | -40 to +85 | °C |

Recommended Operating Conditions

| Rating | Symbol | Value | Units |
|---------------|-----------------|---------------|-------|
| Input Voltage | V _{in} | +4.50 to 5.25 | Vdc |

Electrical Characteristics

Unless otherwise noted V_{in} = 5.00 Volts dc and T_a = 25°C

| Characteristic | Symbol | Min | Typ | Max | Units |
|--|------------------------|------|------|------|-------|
| Input Current ^(note 1) | I _{in} | - | 1.61 | 1.85 | Adc |
| Operating Frequency | F _o | 43 | 48 | 53 | KHz |
| Minimum Output Voltage | V _{out} (min) | 1300 | - | - | Vrms |
| Efficiency | - | - | 76 | - | % |
| Output Current (per tube) | I _{out} | - | 6 | - | marms |
| Output Voltage (When powering a load simulating the referenced display) | V _{out} | - | 510 | - | Vrms |
| Pin3 Input Current Requirement | - | - | 16 | - | madc |

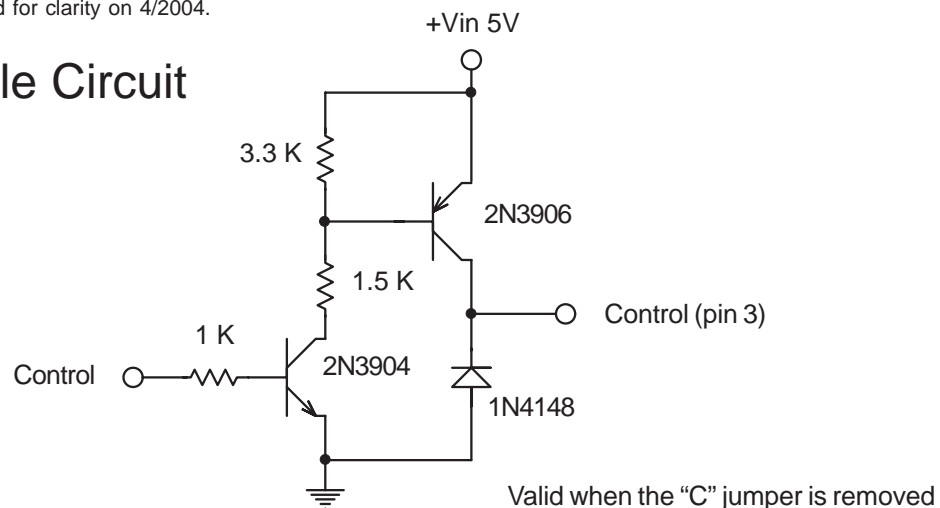
After tube has been allowed to warm-up for 5 minutes

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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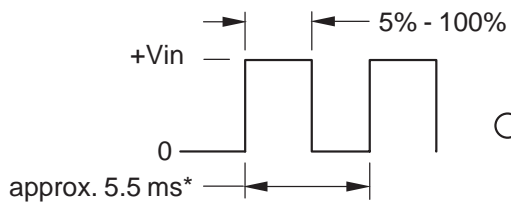
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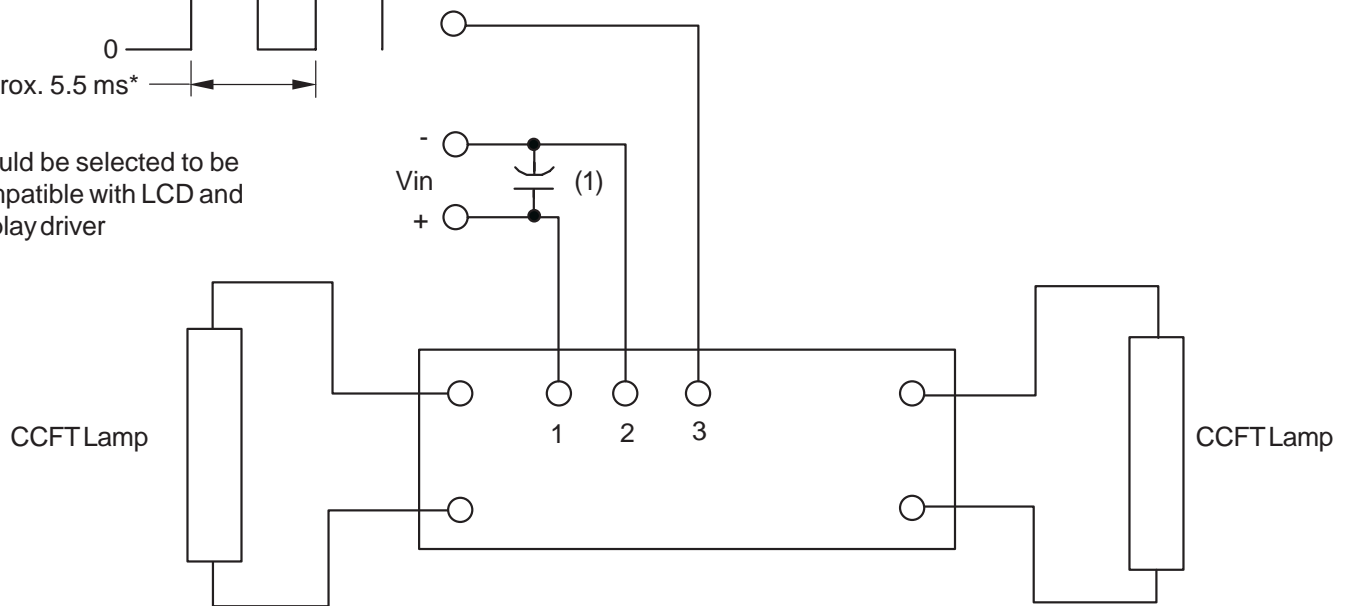
Made in USA



Dimming Option (valid when the "C" jumper is 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.