



10m053376

Specifications and Applications Information

08/09/06

Preliminary

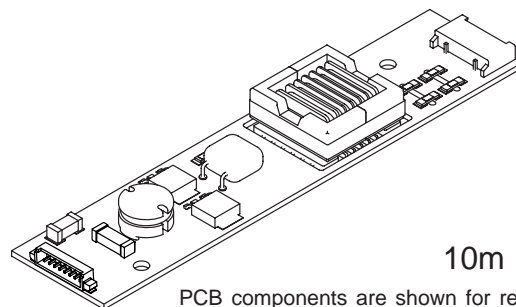
10m Class
DC to AC Inverter

The ERG (10m Class) low profile dc to ac inverter is specifically designed to power the the following display module(s) to a moderate brightness level.

- Hitachi TX18D16VM1CAA or TX20D16VM1CAA display from a +5 volt dc power supply.

This low profile inverter features:

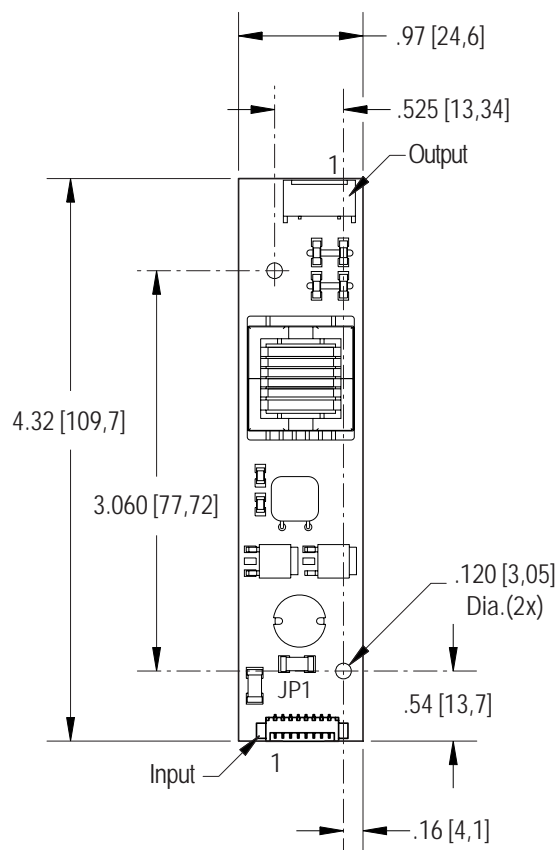
- ✓ Less Than 10 mm in Height
- ✓ LCD Module Specific
- ✓ Display Compatible Output Connector
- ✓ Firm Specifications
- ✓ Application Information
- ✓ Designed, Manufactured and Supported in the USA
- ✓ Custom Input and Output Voltages
- ✓ Flexible System Interface



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

10m Package

Package Configuration



Mass: 22 grams

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Connectors

| Input Connector | | Output Connector |
|--------------------------------|----------|----------------------------|
| Molex 53261-0871 | | JST SM02(8.0)B-BHS-1-TB |
| J1-1,2 | Vin(+) | J2-1 ACout |
| J1-3,4 | GND | J2-2 ACreturn |
| J1-5 | Enable * | |
| J1-6,7,8 | N/C | |
| * Valid only with JP1 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 | Ts | -20 | - | +80 | °C |
| Input Current ^(note 1) | lin | - | 0.76 | 0.87 | Adc |
| Operating Frequency | Fo | 33 | 38 | 43 | kHz |
| Minimum Output Voltage | Vout (min) | 1700 | - | - | Vrms |
| Efficiency | η | - | 82 | - | % |
| Output Current (per lamp) ^(note 2) | Iout | - | 3.1 | - | mArms |
| Output Voltage | Vout | - | 1000 | - | Vrms |
| Enable Pin Input Current Requirement ^(note 3) | lin | - | 6.1 | - | mAdc |
| Enable Pin Input Voltage Requirement ^(note 3) | Vin | Off 0 or Floating | On 5 | On 5.5 | Vdc |

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) With simulated load.

(Note 3) Valid only with JP1 removed.

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 should 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.



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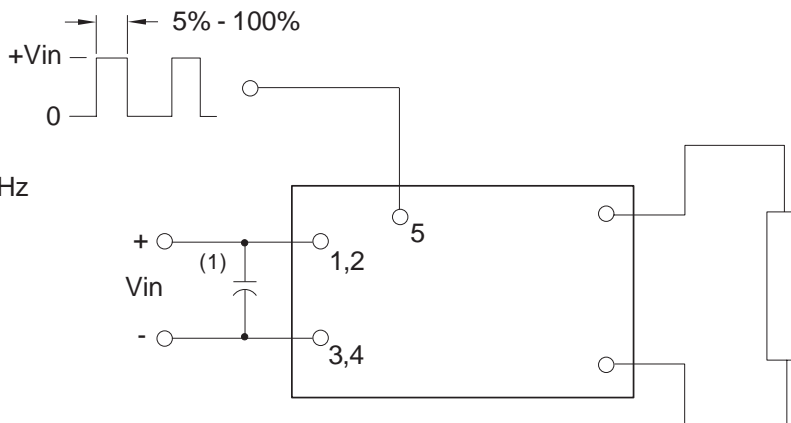
2601 Wayne St., Endicott, NY 13760
607-754-9187 Fax 607-754-9255
<http://www.ergpower.com>

Made in USA



PWM Dimming

(Valid only with JP1 removed)



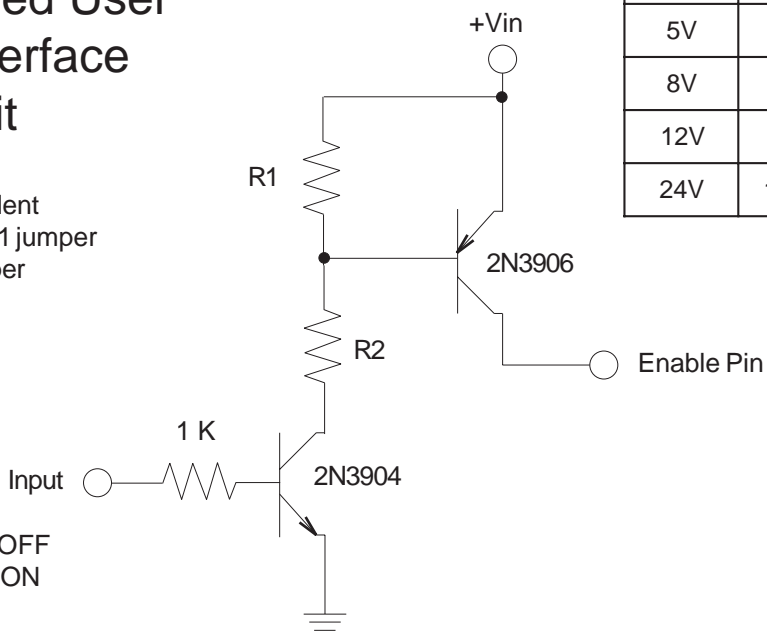
PWM frequency 100-300Hz should be selected to be compatible with LCD and display driver.

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

Recommended User Disable/Interface Circuit

Circuit or equivalent required with JP1 jumper removed for proper inverter turnoff.

0 - 0.5V Inverter OFF
2V - 5V 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 |



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