



Endicott Research Group, Inc.

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DMC43481F



Specifications and Applications Information

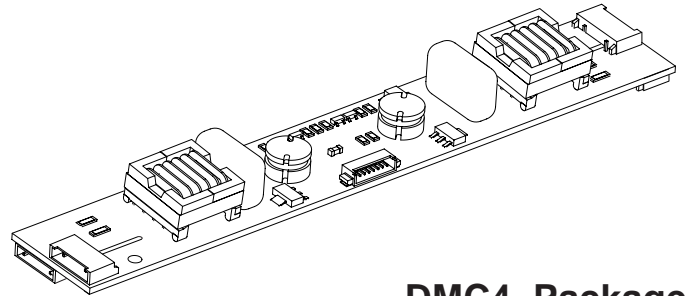
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Preliminary

Four Lamp DC to AC Inverter

The ERG DMC43481F (**DMC4 Series**) DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal. This unit is less than 14mm in height and the two mounting holes make installation very straight forward.

Powered by a regulated +12 volt DC source the DMC43481F is specially designed to power the NEC NL10276BC30-18 backlight.



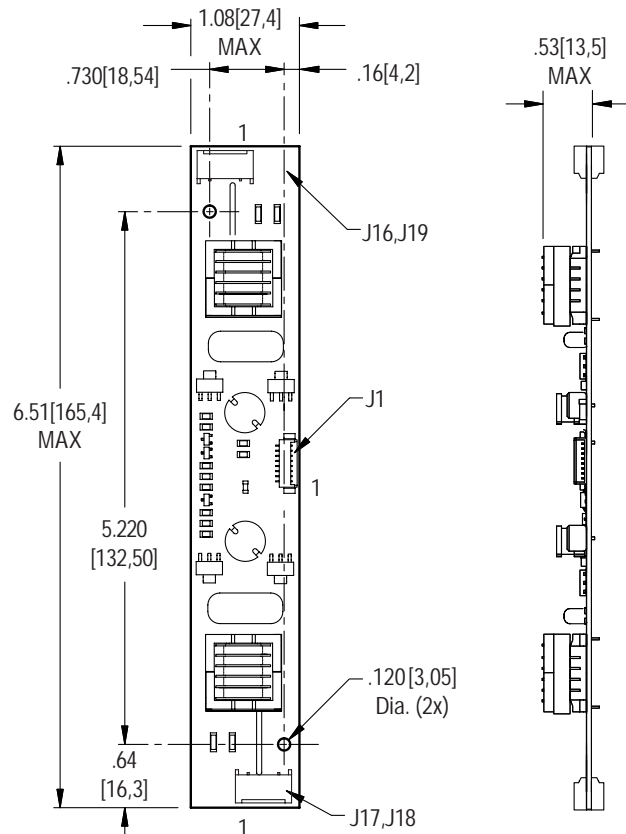
DMC4 Package

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

Product Features

- ✓ Small Package Size, less than 14mm in height.
- ✓ High Efficiency
- ✓ Made in U.S.A.

Package Configuration



Mass: 64 grams

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

Connectors

| Connectors | |
|---|--|
| J1 - (Input) MOLEX 53261-0871 | J17, J18 - (Outputs) TOP JST SM02(8.0)B-BHS-1-TB |
| | J17, J18-1 AC _{out} J17, J18-2 AC _{com} |
| J1-1 V _{in} J1-2 V _{in} J1-3 GND J1-4 GND J1-5 Enable J1-6 N/C J1-7 N/C J1-8 N/C | J16, J19 - (Outputs) BOTTOM JST SM02(8.0)B-BHS-1-TB |
| | J16, J19-1 AC _{out} J16, J19-2 AC _{com} |

**Absolute Maximum Ratings**

| Rating | Symbol | Value | Units |
|---------------------|-----------|---------------|-------|
| Input Voltage Range | V_{in} | -0.3 to +13.2 | Vdc |
| Storage Temperature | T_{stg} | -40 to +85 | °C |

Operating Characteristics

With a load simulating the referenced display and lamp warm-up of 5 minutes.
Unless otherwise noted $V_{in} = 12.00$ Volts dc and $T_a = 25^{\circ}\text{C}$.

| Characteristic | Symbol | Min | Typ | Max | Units |
|-------------------------------|-----------------------|-------|-------|----------|---------------------|
| Input Voltage | V_{in} | +10.8 | +12.0 | +12.6 | Vdc |
| Component Surface Temperature | T_s | -20 | - | +80 | °C |
| Input Current (Note 1) | I_{in} | - | 1.63 | 1.88 | Adc |
| Input Ripple Current | I_{rip} | - | - | - | mA _{pk-pk} |
| Operating Frequency | F_o | 28 | 33 | 38 | kHz |
| Minimum Output Voltage | $V_{out}(\text{min})$ | 1800 | - | - | Vrms |
| Efficiency | η | - | 86 | - | % |
| Output Current (per lamp) | I_{out} | - | 6.5 | - | mArms |
| Output Voltage | V_{out} | - | 650 | - | Vrms |
| Enable Pin | | | | | |
| Turn-off Threshold | V_{thoff} | GND | - | 0.8 | Vdc |
| Turn-on Threshold | V_{thon} | 2.0 | - | V_{in} | 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.

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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Made in USA



Pin Descriptions

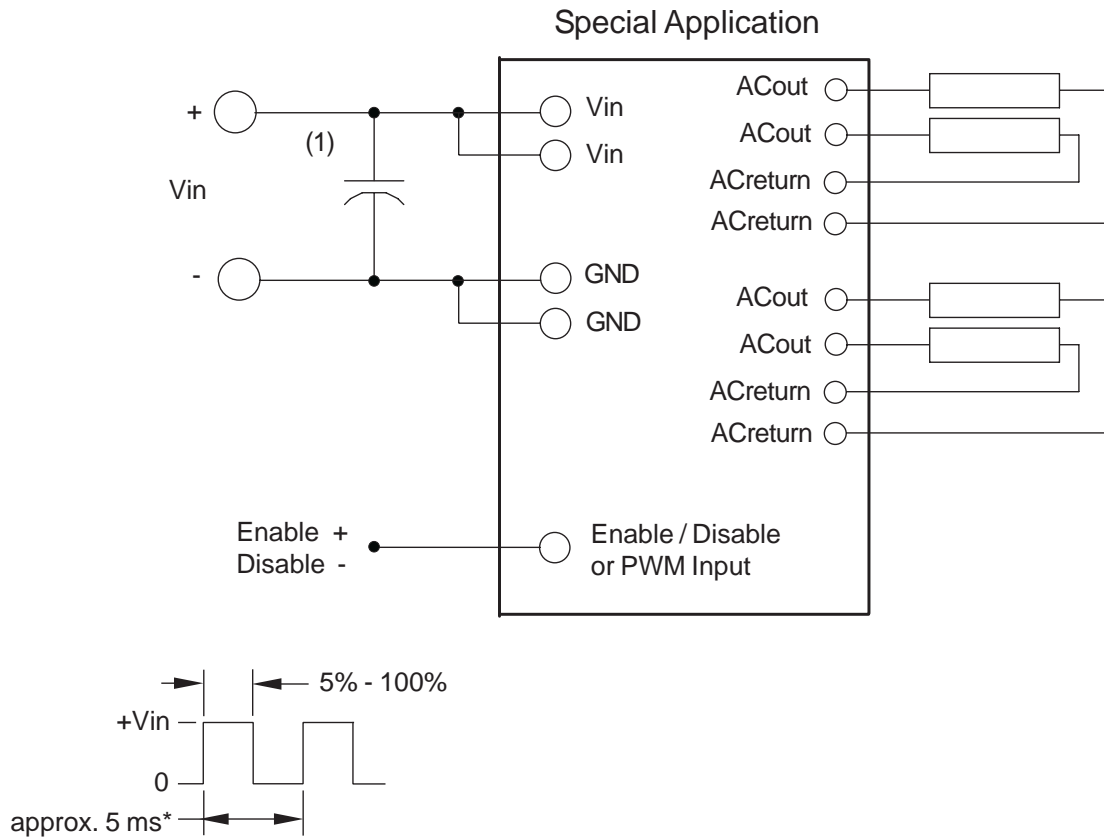
- Vin** Input voltage to the inverter. Both pins should be connected for optimum reliability and efficiency .
- GND** Inverter ground. Both pins should be connected for optimum reliability and efficiency.
- Enable** A positive voltage will turn the inverter on. Grounding this pin will turn the inverter off.

Application information

This inverter is designed to power up to four cold cathode fluorescent lamps.

The enable input allows on /off control of the inverter.

An external PWM source applied to this enable input will provide CCFL dimming.



Note 1 Low ESR type input by-pass capacitor (22 uf - 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.