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**DMC42889**

**Specifications and Applications Information**

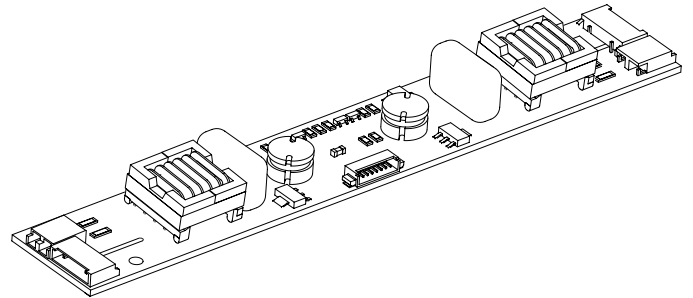
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Preliminary

**Four Tube  
DC to AC Inverter**

The ERG DMC42889 (DMC4 Series) DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal.

Powered by a regulated +12 volt DC source the DMC42889 is specially designed to power the Optrex T51513D104U-FW-A-AB-850-AA backlights.

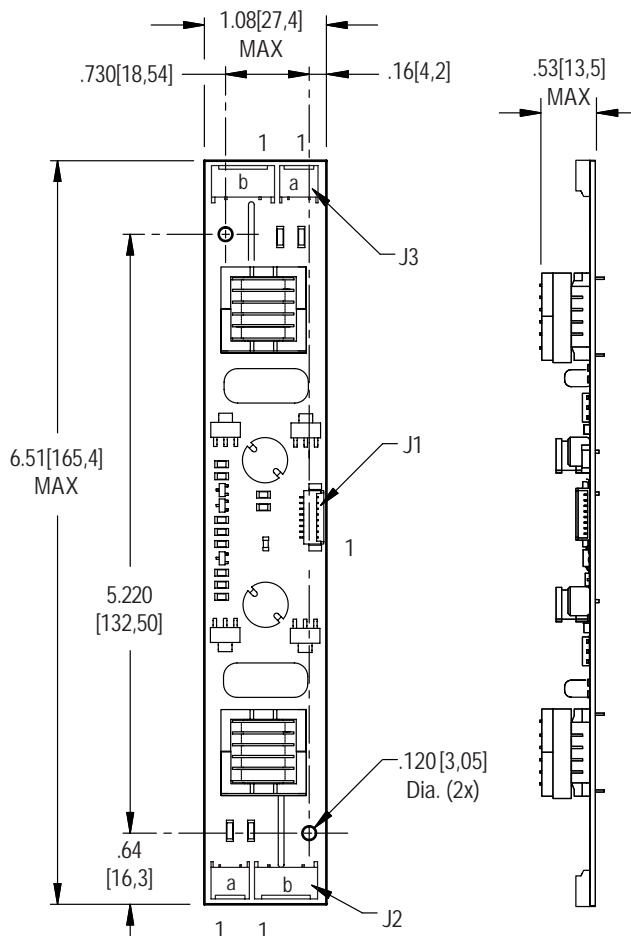


**DMC4 Package**

**Product Features**

- ✓ Small Package Size.
- ✓ High Efficiency
- ✓ Made in U.S.A.

**Package Configuration**



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

**Connectors**

J1 - (Input)		J2a, J3a - (Outputs)	
MOLEX 532-61-0890		N/A	
		J2a, J3a-1	N/A
		J2a, J3a-2	N/A
J1-1		J2b, J3b - (Outputs)	
$V_{in}$		JST	
J1-2		SM04(4.0)B-BHS-1-TB	
J1-3			
J1-4			
J1-5			
J1-6		J2b, J3b-1	$AC_{out}$
J1-7		J2b, J3b-2	$AC_{out}$
J1-8		J2b, J3b-3	N/C
		J2b, J3b-4	$AC_{com}$

Mass: 64 grams



### Absolute Maximum Ratings (Note 1)

Rating	Symbol	Value	Units
Input Voltage	$V_{in}$	-0.3 to +13.2	Vdc
Enable	$V_{Enable}$	-0.3 to +0.3	Vdc
Operating Temperature	$T_a$	-0 to +85	°C
Storage Temperature	$T_s$	-40 to +85	°C

### Recommended Operating Conditions

Rating	Symbol	Value	Units
Input Voltage	$V_{in}$	+10.8 to 12.6	Vdc
Operating Temperature <small>(Note 2)</small>	$T_a$	0 to +50	°C

### Electrical Characteristics

Unless otherwise noted  $V_{in} = 12.00$  Volts dc and  $T_a = 25^\circ\text{C}$

Characteristic	Symbol	Min	Typ	Max	Units
Input Current	$I_{in}$	-	1.54	1.80	$A_{DC}$
Input Ripple Current	$I_{rip}$	-	-	-	$mA_{pk-pk}$
Operating Frequency	$F_o$	35	40	45	KHz
Efficiency <small>(Note 4)</small>	$\eta$	-	86	-	%
Output Voltage (no load) <small>(Note 3)</small>	$V_{start}$	1750	-	-	V
Output Voltage (with lamp)	$V_{out}$	-	740	-	V
Output Current (per tube)	$I_{out}$	-	8.3	-	$mArms$
<b>Enable (pin J1-5)</b>					
Turn-off Threshold	$V_{thoff}$	-	-	.7	V
Turn-On Threshold	$V_{thon}$	2	-	-	V

**(Note 1)** Reliable and predictable operation of the device are not guaranteed with applied stresses at or beyond those listed in "Absolute Maximum Ratings". Operation at these limits may reduce device reliability and is therefore not recommended. Please refer to "Recommended Operating Conditions" for reliable operation of the device.

**(Note 2)** Operation above 50°C is possible if airflow is provided.

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

**(Note 4)** 480V used for efficiency calculation.

#### 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.

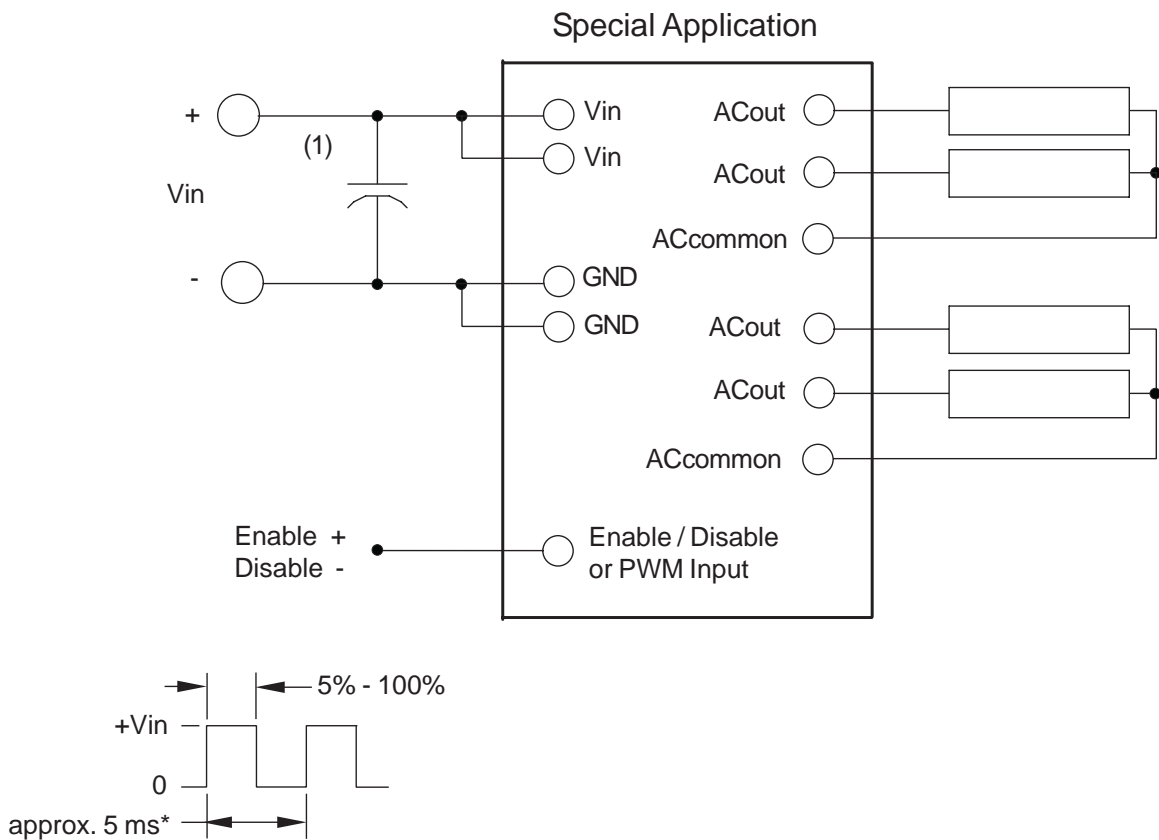


## Pin Descriptions

- 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 tubes.  
 The enable input allows on /off control of the inverter.  
 An external PWM source applied to this enable input will provide CCFT dimming.



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



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