

The DMF65J2F is a generic dc to ac inverter designed to generate 6.5 mArms into a 700 - 900 volt load (CCFL) from a nominal 12 Vdc source. It can be easily dimmed using an external analog control signal.

FEATURES

- Low Profile
- Display compatible connector
- High efficiency

PHYSICAL SPECIFICATIONS

Size:	2.83" x 9.52" x .35"
(without input connector)	(72mm x 242mm x 9mm)
Weight:	93 grams
Component Surface Temperature:	-20° to +80°C
Storage Temperature:	-40° to +85°C
Humidity:	95% RH Max

Characteristics	Value	Units	Note(s)
Input Voltage	10.8 - 12.6	Vdc	
Input Current	2.75 typ	Adc	$R_L = 123 \text{ kOhms (6x)}$
Minimum No Load Output Voltage	2200	Vrms	$V_{in} = 12.00 \text{ Vdc}$
Frequency	35 typ	kHz	$V_{in} = 12.00 \text{ Vdc}$
Output Current	6.5	mArms	$R_L = 123 \text{ kOhms}$
Efficiency	94	%	Typical

The maximum input current (which indicates an overload condition) is 3.6 Adc.

Input Connector: Molex 53261-0871

Output Connectors: JST SM02B-BHSS-1-TB (Yeon Ho 35001WR-02A00(P))

Inverters specifically designed to match most popular LCD modules are also available. Contact your authorized distributor or ERG direct.

Endicott Research Group, Inc.

2601 Wayne St., Endicott, NY 13760

607-754-9187 Fax 607-754-9255

<http://www.ergpower.com>

Pin Descriptions

J2-1 ACout	J1-1 +Vin	J8-1 ACout
J2-2 ACreturn	J1-2 +Vin	J8-2 ACreturn
	J1-3 GND	
J5-1 ACout	J1-4 GND	J11-1 ACout
J5-2 ACreturn	J1-5 Enable/PWM	J11-2 ACreturn
	J1-6 Control	
J6-1 ACout	J1-7 N/C	J13-1 ACout
J6-2 ACreturn		J13-2 ACreturn

D Series



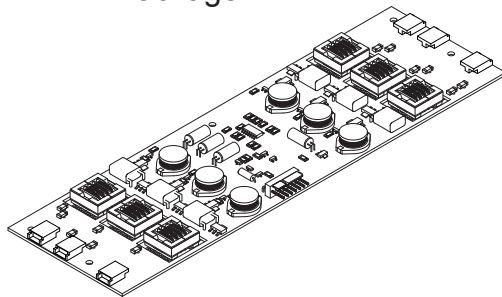
12 Volt Input Dc to Ac Inverter

DMF65J2F

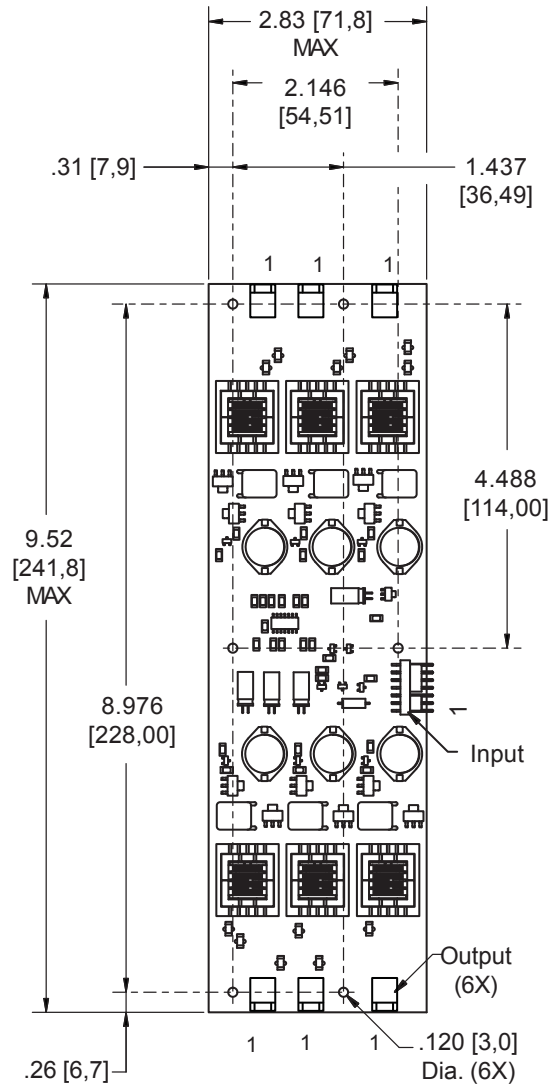


Package Configuration

DmF Package



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



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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 to be non-conductive.
- 3) Open framed inverters should not be used in applications at altitudes over 10,000 feet.
- 4) ACreturn should be left floating, not grounded.
- 5) Contact ERG for possible exceptions.

Onboard PWM

Unless otherwise noted $V_{in} = 12.00$ Volts DC, $T_a = 25$ °C and unit has been running for 20 minutes.

Characteristic	Symbol	Min	Typ	Max	Units
Frequency	f_{pwm}	-	160	-	Hz
Control Full On	V_{ctrl}	-	<.5	-	V
Control Full Off	V_{ctrlh}	-	>.4.5	-	V
Control Input Bias Current	I_{cbias}	-	-	10	μ A

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.
- Control** Analog voltage input to the onboard pulse width modulator. Increasing this voltage increases the off time of the onboard PWM resulting in decreased brightness.
- Enable/Disable** Inverter Enable/Disable. If this pin is driven high, the inverter is enabled. Pull this pin low to disable inverter operation.

Application information

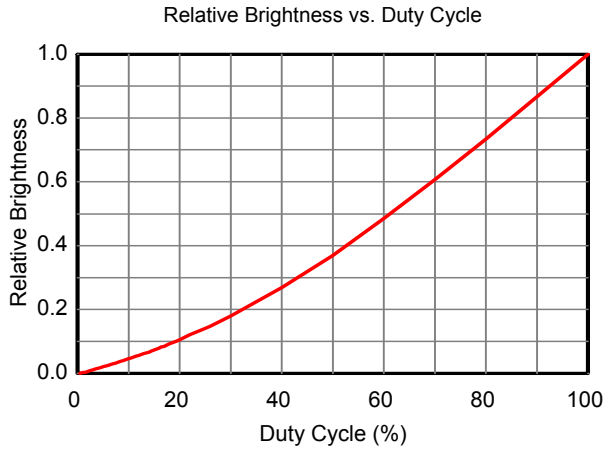
The DmF series of inverters is designed to power up to six cold cathode fluorescent lamps with combined power of up to sixty watts. An external enable/disable control and an onboard analog controlled pulse width modulator provide flexibility in allowing either PWM or analog methods for dimming. The DmF inverter can reliably dim to less than 0.5% duty cycle, which results in an electrical dimming ratio of greater than 200:1. Depending upon the attached backlight assembly, optical dimming ratios of greater than 1000:1 can be accomplished. Graph 1 shows the relationship of relative brightness to duty cycle for a typical backlight assembly.

External shutdown or external PWM operation of the inverter is accomplished using the Enable/Disable pin. Enabling the inverter is accomplished by pulling this pin high (above V_{thon}). Pulling this pin low (below V_{thoff}) disables the inverter.

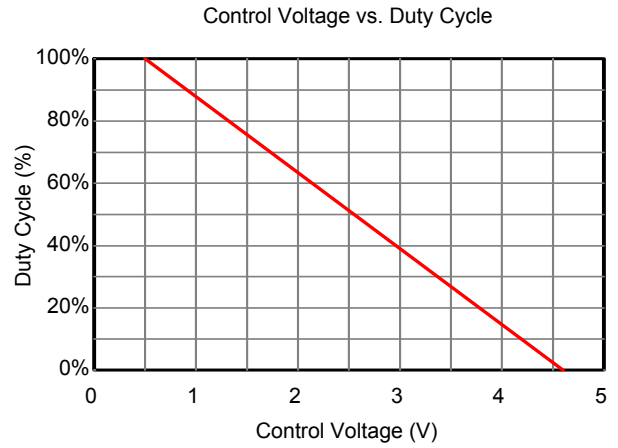
If analog voltage dimming is required, the onboard PWM can be enabled. The analog voltage is applied to the Control pin. Figure 1 shows how to connect the inverter for onboard PWM operation. Graph 2 shows the relationship of PWM duty cycle to input control voltage.

If more than one inverter is used in a backlight assembly, the PWM signal for each inverter should be synchronized to prevent flickering. Connect the Enable/Disable pin of each inverter to the external PWM source. Connect the control pin to GND.

Connection and Application Information



Graph 1



Graph 2

Typical Application

