Endicott Research Group, Inc.
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8m122028

Specifications and Applications Information

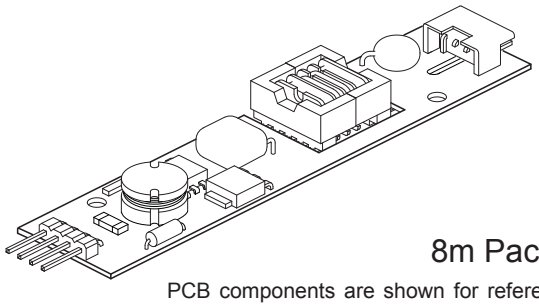
04/04/11

8m Class
Single Lamp
DC to AC Inverter

The ERG 8m122028 (*8m Class*) low profile dc to ac inverter is specifically designed to power the backlight of a Hitachi SP14Q001 LCD display to a moderate brightness level from a +12 volt dc source.

This low profile inverter features:

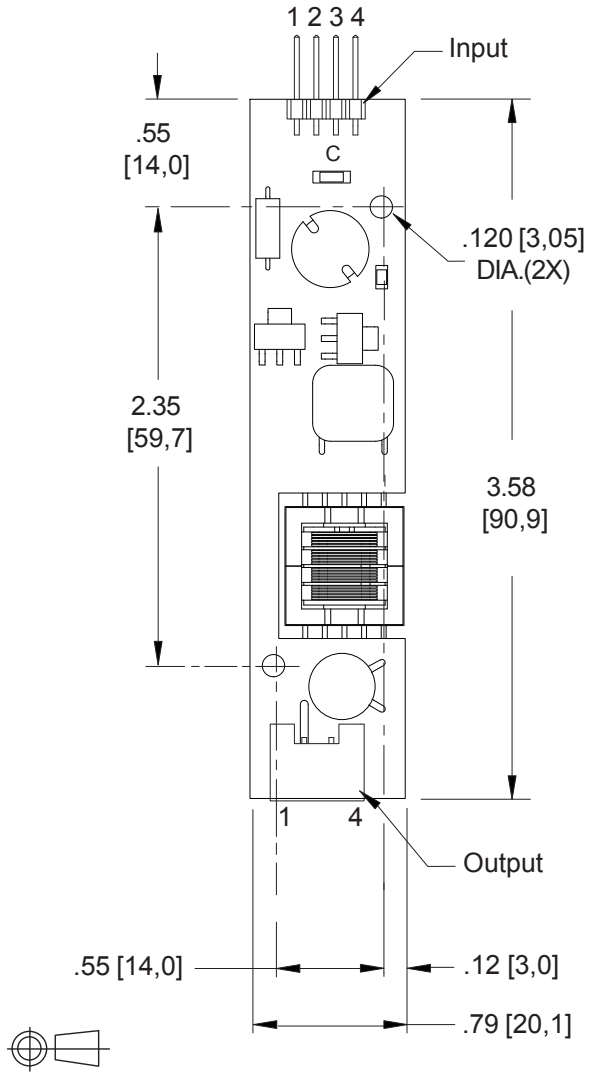
- ✓ Less Than 8 mm in Height
- ✓ LCD Module Specific
- ✓ Display Compatible Output Connector
- ✓ Firm Specifications
- ✓ Application Information
- ✓ Designed, Manufactured and Supported in the USA
- ✓ Custom Input and Output Voltages
- ✓ Flexible System Interface
- ✓ Notebook Display Head Compatible



8m Package

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

Package Configuration



Connectors	
Input Connector	**Output Connector**
4 pins are 0.315" [8,00] Long, 0.025" [0,63] Square and are on 0.100" [2,54] Centers.	JAE IL-G-4P-S3L2-E
J1-1 +Vin J1-2 GND J1-3 Enable * J1-4 N/C * Valid only with "C" jumper (JP1) removed	J2-1 ACreturn J2-2 N/C J2-3 N/C J2-2 ACout

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 the referenced display and lamp warm-up of 5 minutes.
Unless otherwise noted Vin = 12.00 Volts dc and Ta = 25°C

Characteristic	Symbol	Min	Typ	Max	Units
Input Voltage	V_{in}	+10.8	+12.0	+12.6	Vdc
Component Surface Temperature (note 1)	T_s	-20	-	+80	°C
Input Current (note 2)	I_{in}	-	0.16	0.18	Adc
Operating Frequency	F_o	26	31	36	kHz
Minimum Output Voltage (note 3)	V_{out} (min)	1020	-	-	Vrms
Efficiency	η	-	78	-	%
Output Current (per lamp)	I_{out}	-	5.0	-	mArms
Output Voltage	V_{out}	-	300	-	Vrms
Enable Pin Input Current Requirement (notes 4,5,6)	I_{enable}	-	4	-	mAdc

Specifications subject to change without notice.

(Note 1) Surface temperature must not exceed 80 degrees C; thermal management actions may be required.
(Note 2) 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 3) Provided data is not tested but guaranteed by design.
(Note 4) Required User Enable/Disable Interface Circuit is shown on page 3.
(Note 5) Valid only with "C" jumper (JP1) removed.
(Note 6) With the inverter powered and JP1 is in place, a ground applied to the enable pin J1-3 will open the inverter fuse.

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.

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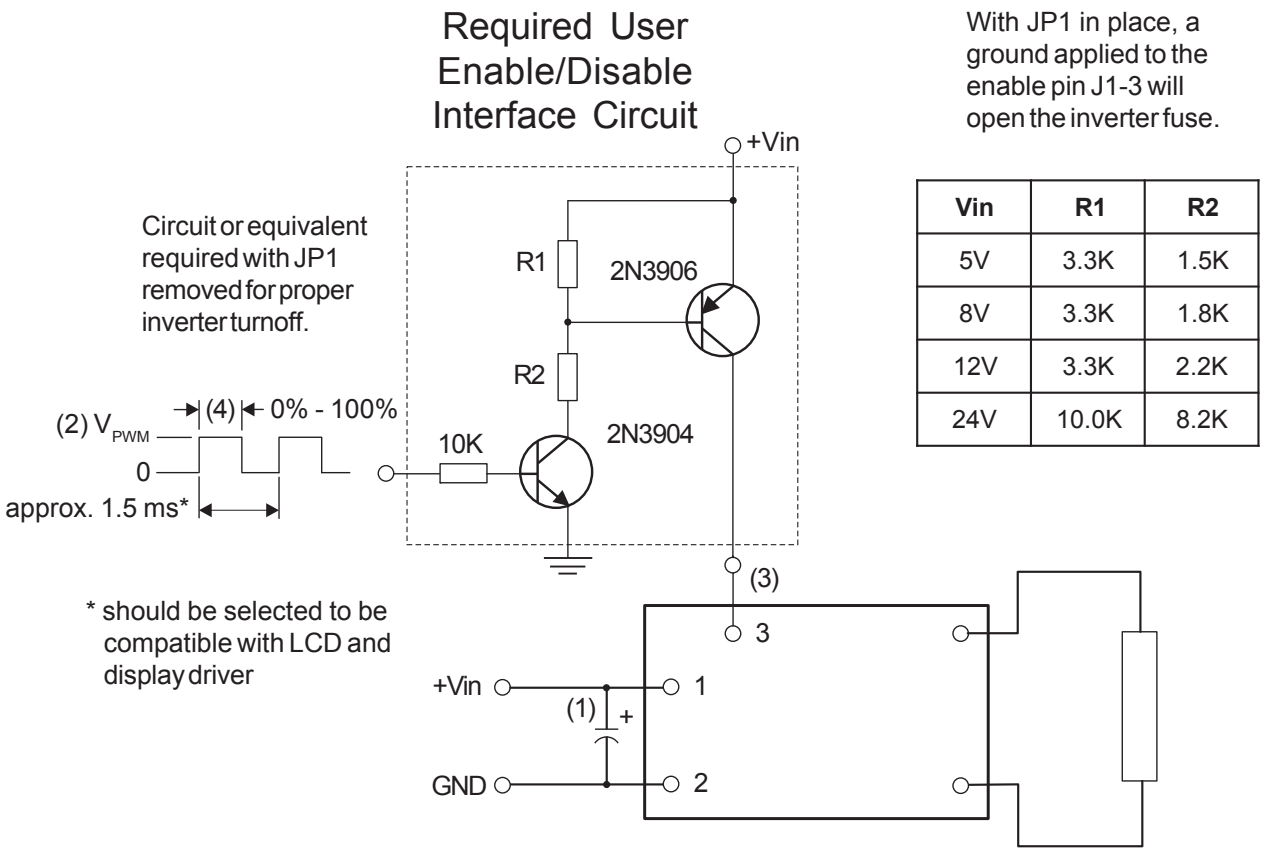
Made in USA

PWM Dimming

(Valid only with JP1 removed)



With JP1 in place, a ground applied to the enable pin J1-3 will open the inverter fuse.

Vin	R1	R2
5V	3.3K	1.5K
8V	3.3K	1.8K
12V	3.3K	2.2K
24V	10.0K	8.2K

(1) Low ESR type input by-pass capacitor (22 uF - 100 uF) may be required to reduce reflected ripple.
(2) V_{PWM} from 2.4V to less than or equal to +Vin.
(3) Full brightness without PWM control requires that pin 3 be tied to +Vin. Pin 3 must be at 0V to turn off.
(4) Duty Cycle 0% - 100%.