

Model LS720A

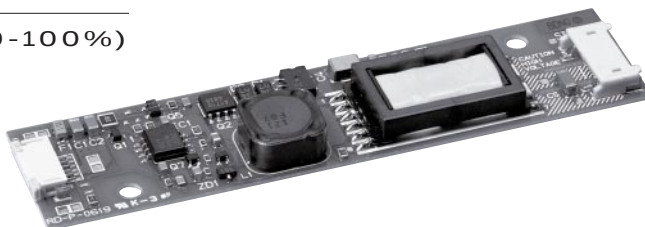
12 Volt Input

Dual Tube CCFT Inverter (8W)

Brightness Control (PWM Dimming 20-100%)

Physical Specifications

Dimensions:	25mm x 125mm x 10mm (0.98" x 4.92" x 0.39")
Operating Temp:	0 to 60°C, convection cooling
Relative Humidity:	20% to 90%, non-condensing
Storage:	-20 to 85°C/5-95% RH
Impact Resistance:	50G half wave per 2 msec
Vibration Resistance:	10-55-10 Hz/min @ 1.5mm



Input Specifications*

Item	Condition	Standard
Input Voltage Rated Tolerance	— Continuous Operation Starting Condition (Discharge Starting Voltage)	12 Vdc 10.8 Vdc - 13.2 Vdc 10.8 Vdc - 13.2 Vdc
Max. Input Current	V _{IN} = 12 Vdc Luminance @ Max.	1.0 A
Max. Input Power	V _{IN} = 12 Vdc Luminance @ Max.	12 W
On/Off Input Current	On V _{CONT} = 2.0-13.2 Vdc Off V _{CONT} = GND-0.8 Vdc	I _{MAX} = 4.0 mA I _{MAX} = 50 µA

*Above Specifications Occur @ 25 ± 5°C

Output Specifications*

Item	Condition	Standard MIN	TYP	MAX
Output Voltage (Vrms)	V _{IN} = 10.8 Vdc	1500	1650	—
Tube Current for 2 Lamps (mArms)	Luminance @ Max. (V _{CONT} = 3.8 V) Luminance @ Min. (V _{CONT} = 2.0 V)	10.5 —	12.0 7.0	13.5 —
Max. Power Output for 2 Lamps (W)	V _{IN} = 12 Vdc/Luminance @ Max.	—	—	8.0
Ignition Frequency (kHz)	Luminance @ Max.	50	60	70

*Above specifications occur @ 25 ± 5°C & V_{IN} = 10.8 - 13.2 Vdc.

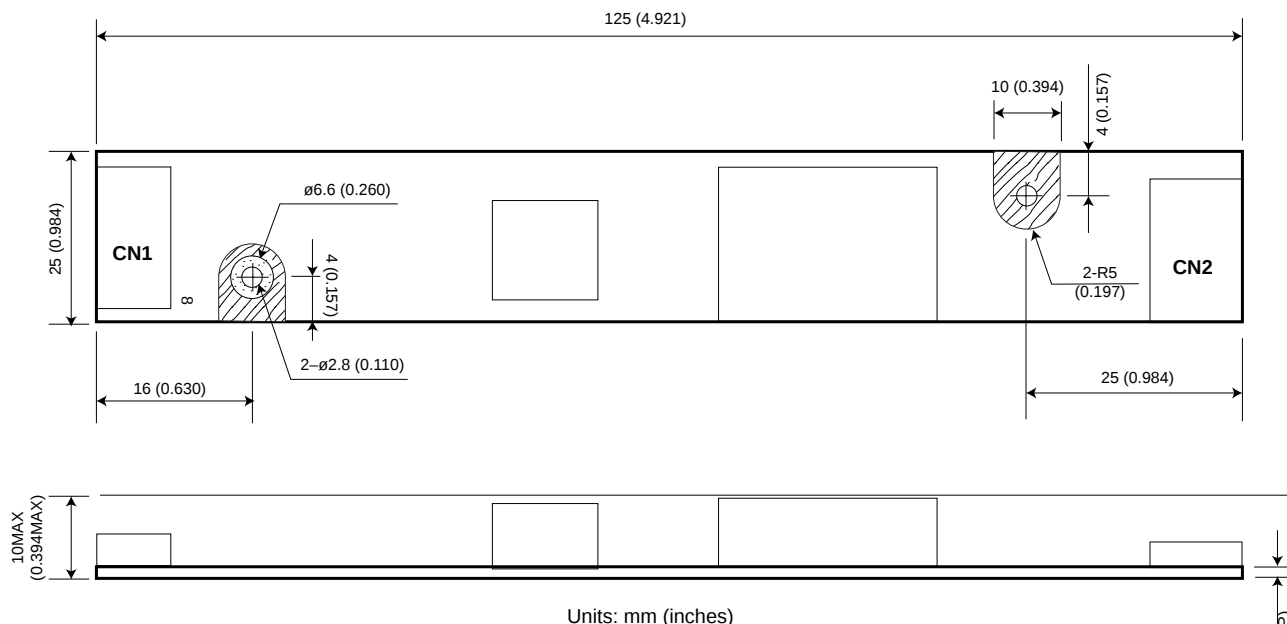
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Luminance Variance

Item	Condition	Applied Voltage	Output Current
Luminance @ Max.	Btwn. pin 4 & 6	Vcont = 3.8 V	12 mA (2 lamps)
Luminance @ Min.	Btwn. pin 4 & 6	Vcont = 2.0 V	7.0 mA (2 lamps)

* Luminance can also be controlled by applying PWM signal to pin 5 (pin 4 must be connected to GND).



No Pattern and No Component Area (except GND pattern)



GND Pattern Area

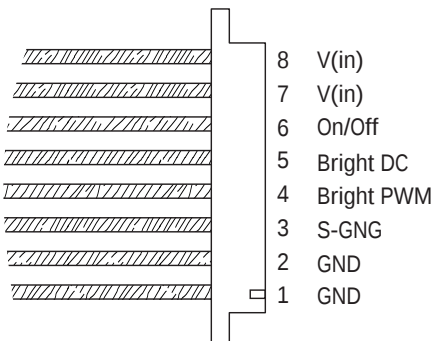
CN1 Input Connector

Hirose DF13-8P-1.25H
(pin number 8 is marked on PCB)

V(in)	1
V(in)	2
On/Off	3
Bright DC	4
Bright PWM	5
S-GNG	6
GND	7
GND	8

CN1 Corresponding Housing

Hirose DF13-8S-1.25C
(Hirose Connector Pin Numbers)



CN2 Output Connector

JST SM03 (7-D1) B-BHS-1-TB

CCFT HIGH	1
CCFT HIGH	2
NC	3
CCFT LOW	4

CN2 Corresponding Housing

JST BHR-04VS-1

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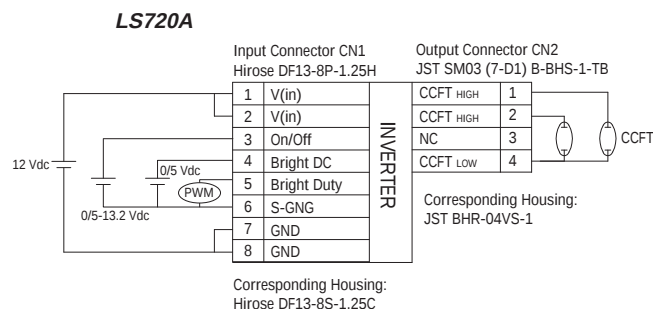


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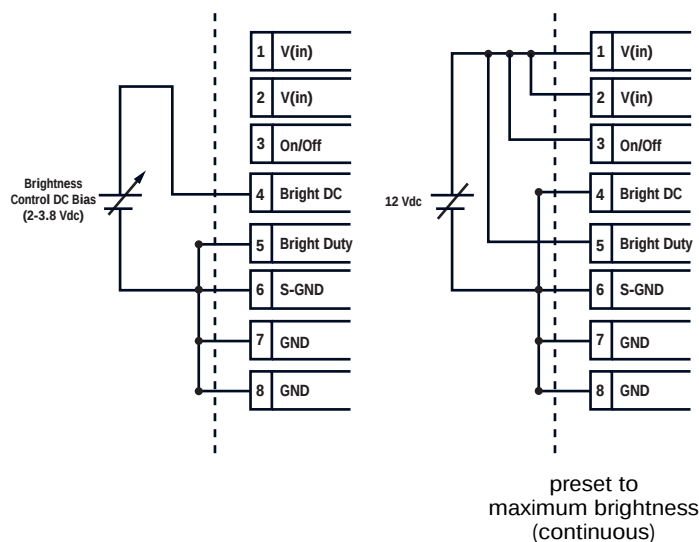
Tech Notes

Connection Diagram

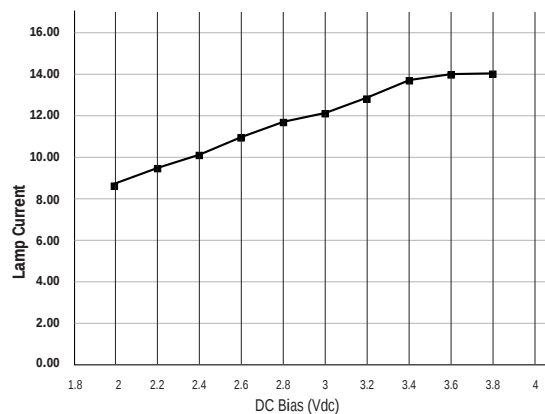


DC Bright Control Method

Maximum output current can be adjusted by applying bias voltage between brightness control pins as shown below.



DC Bias	Lamp Current (2 lamps)
2.0 V	6.88 mA
2.2 V	7.86 mA
2.4 V	8.60 mA
2.6 V	9.25 mA
2.8 V	9.88 mA
3.0 V	10.40 mA
3.2 V	11.00 mA
3.4 V	11.80 mA
3.6 V	12.10 mA
3.8 V	12.10 mA
4.0 V	12.10 mA



* Above specifications occur @ $25 \pm 5^\circ\text{C}$, with pin 5 connected to GND, and $V_{IN} = 12 \text{ Vdc}$ using NEC NL panel.

On/Off Control

The inverter is ON if one of the following conditions are met:

- Pin 3 (On/Off) is connected to pin 1/2 (V_{IN})
- Pin 3 (On/Off) = 2 Vdc — 13.2 Vdc

The inverter is OFF if one of the following conditions are met:

- Pin 3 (On/Off) is connected to pin 7/8 (GND)
- Pin 3 (On/Off) $\leq 0.8 \text{ Vdc}$

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