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Hitachi Consumer Electronics Co., Ltd.
New Light Source Business
Promotion Center
Ome Manufacturing Operation
Hitachi Lighting,Ltd
16-2,shinmachi 6-chome,Ome-Shi
Tokyo 198-8611,JAPAN
TEL.0428-31-1204
FAX.0428-31-1224

**CUSTOMER'S ACCEPTANCE
SPECIFICATIONS**
(Backlight Inverters for cold cathode
fluorescent lamp)

TYPE:INVC 8 2 8

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Accepted by

Proposed by

T. Ando

Record of Revision

DATE	PAGE	SUMMARY	Date Code & Rev.
10.Oct.2008		NEW	
7.Jul.2009	3	<p>1. Scope</p> <p>Add LCD type</p> <p>2. General Specifications</p> <p>Change Operating Ambient temperature</p> <p>Before 0~50deg</p> <p>After -10~60deg</p> <p>3.2.Operationg Characteristics</p> <p>Change linput current</p> <p>Before 100 140 180</p> <p>After 130 165 200</p> <p>Change Lamp current</p> <p>Before 3.5 4.2 4.9</p> <p>After 4.5 5.0 5.5</p> <p>Change Lamp power</p> <p>Before 1.35W(typ)</p> <p>After 1.50W(typ)</p> <p>Change Main frequency</p> <p>Before 50 65 80</p> <p>After 50 60 70</p> <p>Change Open output voltage</p> <p>Before 1000Vrms(typ)</p> <p>After 1400Vrms(typ)</p>	
	6	<p>5.2 Interface specification</p> <p>Add Note</p>	

1. Scope

- 1.1 This specification shall apply to inverter INVC828 to operate a cold cathode fluorescent lamp in the liquid-crystal display (LCD).
- 1.2 This inverter INVC828 is designed and adjusted for LMG74 * 0PLFC , LMG74 * 1PLBC, LMG532 * XUFC , SP12N002 and SP14N00 * LCD-module. (Hitachi Displays type name)

2. General Specifications

General specifications and condition for use are shown below.

Item	Specification
Cooling condition	Free air flow
Weight	7.3g typ.
Ambient temperature (direct ambient air of Inverter board)	Operating -10~60deg Stock -20~85deg
Humidity	85 % RH.max.
Corrosive gasses	Not acceptable

3. Electrical Characteristics

3.1.Maximum rating

Items	Min.	Typ.	Max.	unit	Remarks
Input voltage	---	---	18.0	V	

3.2.Operationg Characteristics

LMD7420PLFC-X				AT=25deg.C	
Item	Min	Typ	Max	Unit	Remarks
Input voltage	7.0	12.0	17.0	V	
Input current	130	165	200	mA	at 12.0V
Rush current	---	---	20	A	at 12.0V
Lamp current	4.5	5.0	5.5	mA	at 12.0V
Lamp power	---	1.50	---	W	at 12.0V
Main frequency	50	60	70	kHz	at 12.0V
Dimming range	---	100~50	---	%	
Open output voltage	---	1400	---	Vrms	at 12.0V

- (1) All characteristics are measured by our certain test equipment. The measurement of condition should be stable lighting (more than 30 minutes after startup :at 25+/-1deg.C and no breath of wind) (The measurement of input rush current is exception) .
- (2) The electrical characteristics are measured as we show on measurement diagram Fig.1. Vin=12.0V.
- (3) As we show on measurement diagram Fig.1, the test equipment shall be V1:DC Volt meter (Class0.5) A1:DC Current meter(Class0.5) A2:AC Current meter type2016(Y.E.W) or FLUKE45(FLUKE) Vin:PW18-2TP(Kenwood) .
- (4) The line length of between the lamp and CN2(high voltage)is less than 150mm.

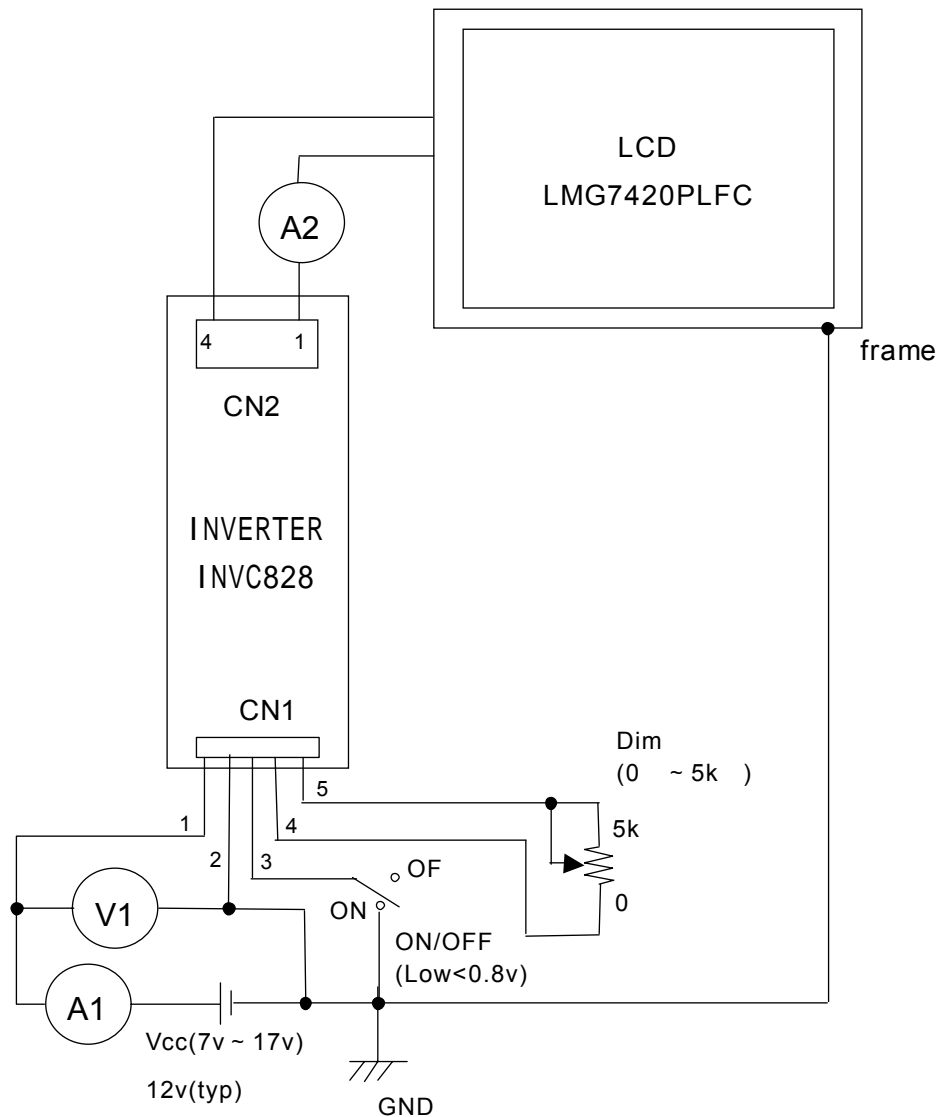
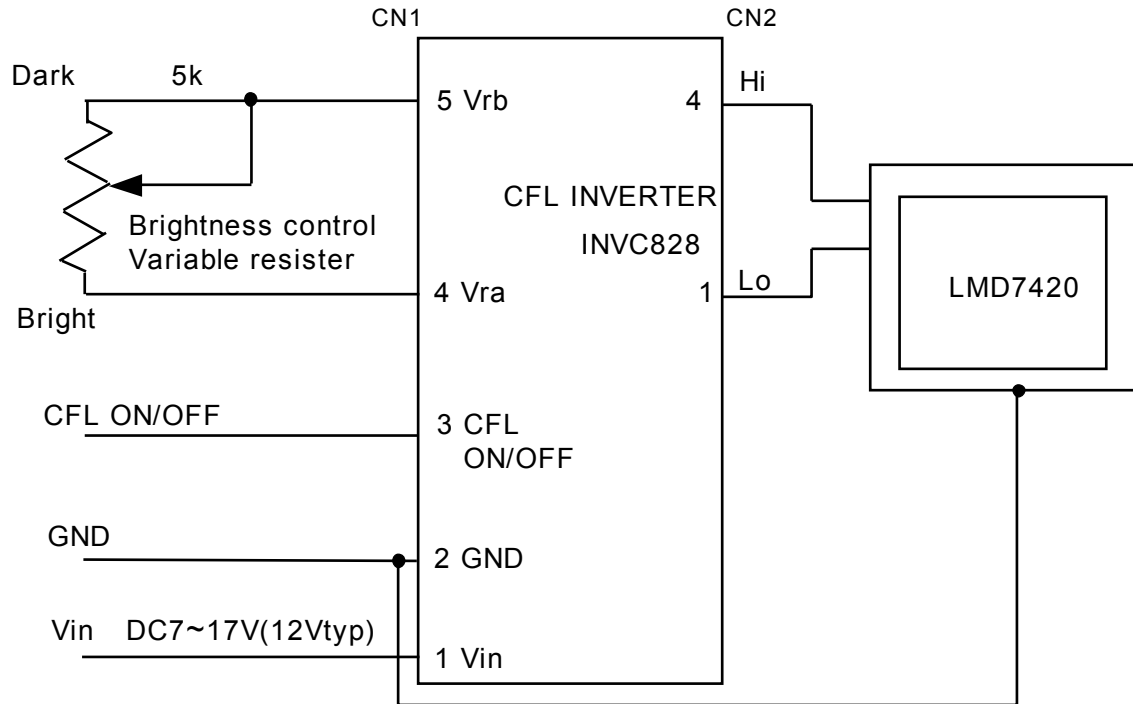


Fig.1 Wiring

3.3. Wiring Diagram



Note : Controlled by external open-collector circuit.

Fig.2 Wiring Diagram

4. Reliability

Item	Test condition
Low temp. operate	0deg.C, 12.0V, 100%output, 500Hrs
High temp. operate	60deg.C, 12.0V, 100%output, 500Hrs
Low temp. stock	-20deg.C, 500Hrs
High temp. stock	85deg.C, 500Hrs
High temp. and high humidity	50deg.C, 85% 12.0V, 100%output, 500Hrs
Cyclic temp. operate	0deg.C - 25deg.C - 50deg.C 1Hr each 12.0V, 100%output, 50cycles
Thermal shock	-20deg.C - 70deg.C, 0.5Hrs each 100cycles
Vibration	3G, 30~200Hz, 0.5Hrs,xyz-axis
Impact test	50G,xyz-axis

5.Structures

5.1 Dimensions

Reference to drawing P.7

5.2 Interface specification

Input connector CN1:53261-0571(molex) or equivalent

Pin No.	Symbol	Comment
1	Vin	DC7~17V
2	GND	
3	CFL ON/OFF	ON: "L"Vol<0.8V,Iol=2mA OFF:"open"
4	Vra	LOWER potential
5	Vrb	UPPER potential

Note : Pin No.3 is connected with Vin by pull-up resistor 145kΩ.

Output connector CN2:IL-G-4P-S3L2-SA(JAE)

Pin No.	Symbol
1	Lo
2	--
3	--
4	Hi

6.Structures and Dimensions

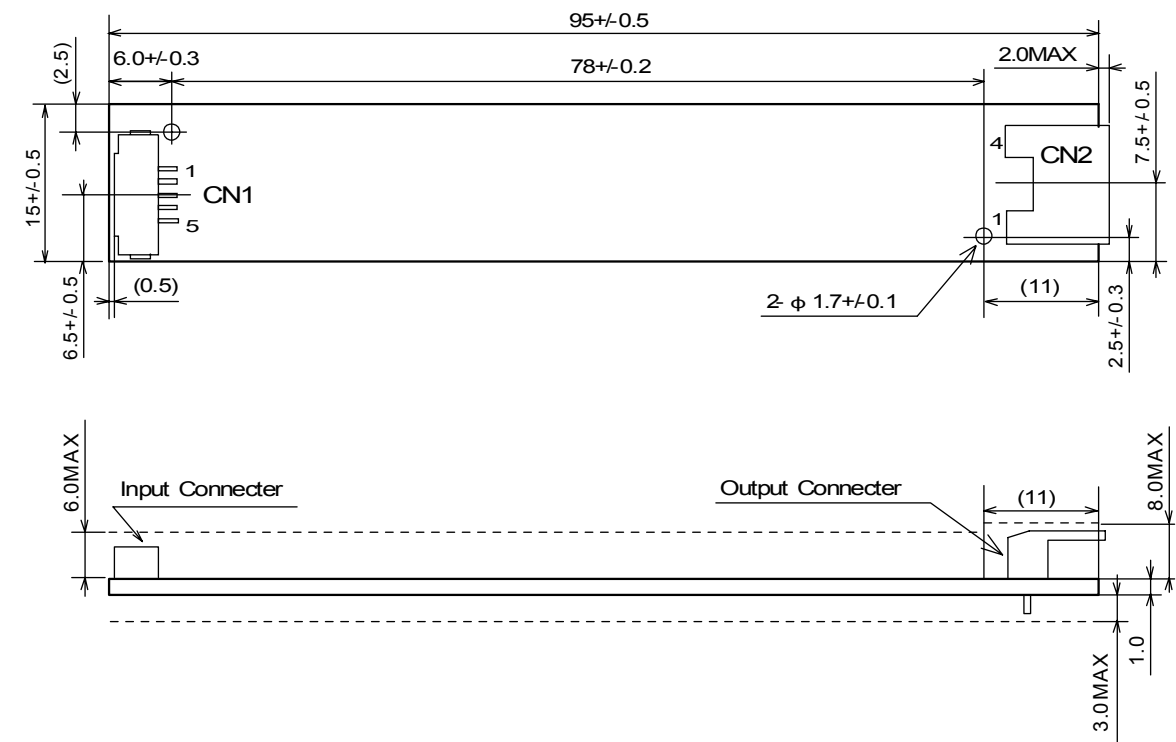


Fig.3 Dimensional Outline

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7. Precautions in Design

7.1 Please turn off the power supply of the inverter before the output connector (CN2) is put in or put off. Because voltage of the output connector is very high.

7.2 The high-voltage wiring of lamps may affect the characteristics of this product even in the presence of a slight stray capacity of 1 to few pF. So, please check whatever the below points have fully considered.

(1) Please use UL1330 equivalents as inverter output leads and keep length within 150mm.

(2) Please keep the length of wiring as short as possible and at the same time avoid binding high-voltage leads together and fitting high-voltage leads near the shield.

(3) Consider the electric potential of the parts adjacent to a wire because it greatly affects the electric characteristics and startup characteristics.

7.3 In the case of put in and put off the connector (CN1), please switch off power supply of the inverter. If power supply is operating, it will be possible that the inverter break down.

7.4 Please pay attention in using the inverter. Because the transformer in the inverter is weak to impact.

7.5 If it was exposed to thermal shock (out of order), come to have a crack itself.

7.6 Please do not give it any changes, such as reworking it, applying and hardening with adhesives, molding with resin, fixing with tape.

7.7 Please make a tight connection output and input connector. (If inverter's connector contact was imperfection, the components of inverter have high temperature and break down.)

7.8 Pay attention as printed circuit board is bent, and not adding excessive pressure when printed circuit board is built in. (Deterioration and the damage of component are caused, and movements of inverter are out of order.)