

DDS-SA10351

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1. DESCRIPTION

65LHS04 is a lamp holder set for replacement. Adaptable LCD modules are as follows.

Adaptable LCD module
NL6448BC20-08
NL6448BC20-08E
NL6448BC20-08F
NL6448BC20-08J
NL6448BC20-13
NL6448BC20-14

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See 'REPLACEMENT MANUAL FOR LAMP HOLDER SET' when replacing the lamp holder.

2. GENERAL SPECIFICATIONS

Item	Specification	Unit
Lamp holder size	See "9.OUTLINE DRAWINGS".	mm
Weight	15 (typ.)	g / set
Delivery unit	10 (min.)	Note1 set

Note1: One lamp holder set consists of two lamp holders (up side and down side).

3. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit	Remarks
Storage temp.	Tst	-25 to +70	°C	-
Operating temp.	Top	This rating is in accordance with absolute maximum ratings for the adaptable LCD module.		
Lamp voltage	VBLH	2,000	Vrms	Ta = 25°C
Relative humidity Note1	RH	≤ 95	%	Ta ≤ 40°C
		≤ 85	%	40°C < Ta ≤ 50°C
		≤ 70	%	50°C < Ta ≤ 55°C
		≤ 60	%	55°C < Ta ≤ 60°C
Absolute humidity Note1	AH	≤ 78 Note2	g/m ³	Ta > 60°C

Note1: No condensation

Note2: Water amount at Ta = 60°C and RH = 60%

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4. ELECTRICAL CHARACTERISTICS (reference)

(Ta=25°C, Note1)

Item	Symbol	min.	typ.	max.	Unit	Remarks
Lamp current	IBL	2.0	5.0	6.0	mArms	-
Lamp voltage	VBLH	-	400	-	Vrms	at IBL= 5.0 mArms
Lamp starting voltage	VS	590	-	-	Vrms	Ta=25°C
		720	-	-		Ta=0°C
Oscillation frequency	FO	50	54	58	kHz	-

Note1: This lamp holder set consists of 2 lamps, and these specifications are for each lamp.

5. CONNECTIONS AND FUNCTIONS FOR INTERFACE PINS

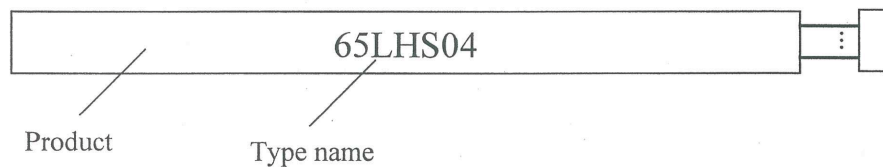
Attention: VBLH and VBLC must be connected correctly. Wrong connections will cause electric shock and also break down of the product.

CN2 and CN3 plug: BHR-03VS-1 (J.S.T Mfg. Co., Ltd.)
 Adaptable socket (Inverter side): SM02 (8.0) B-BHS-1-TB (LF) (SN), SM02 (8.0) B-BHS-1-TB
 SM03 (4.0) B-BHS-1-TB (LF) (SN), SM03 (4.0) B-BHS-1-TB
 (J.S.T Mfg. Co., Ltd.)

Pin No.	Symbol	Signal	Remarks
1	VBLH	High voltage (Hot)	Cable color: White
2	N.C.	-	Keep this pin open.
3	VBLC	Low voltage (Cold)	Cable color: Gray

6. INDICATION OF TYPE NAME

Type name is printed in the location shown in the following figure.



Example for indication of type name

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7. PACKING, TRANSPORTATION AND DELIVERY

NEC will pack products to deliver to customer in accordance with NEC's packing specifications, and will deliver products to customer in such a condition that products will not suffer from a damage during transportation. The delivery conditions are as follows.

7.1 INNER PACKING BOX

1 lamp holder set is packed in an inner packing box (See "7.6 **OUTLINE FIGURE FOR PACKING**").

The type name and quantity are shown on outside of inner packing box, either labeling or printing.

In case of shipping the product, the product must not be transported only with the inner box alone, because there is a high risk of damage. Be sure to use an outer packing box which is shown below!

7.2 OUTER PACKING BOX

10 lamp holder sets are packed as the minimum in an outer packing box (See "7.6 **OUTLINE FIGURE FOR PACKING**"). The type name and quantity are shown on outside of outer packing box, either labeling or printing. In case the outer packing box with products is dropped from a height of 60cm or more, there is a risk of damage to products.

7.3 INSPECTION RECORD SHEET

Inspection record sheets are included in an inner packing box with products. It is summarized to a number of products for pass/fail assessment.

7.4 TRANSPORTATION

The product is transported by vehicle, aircraft or ship.

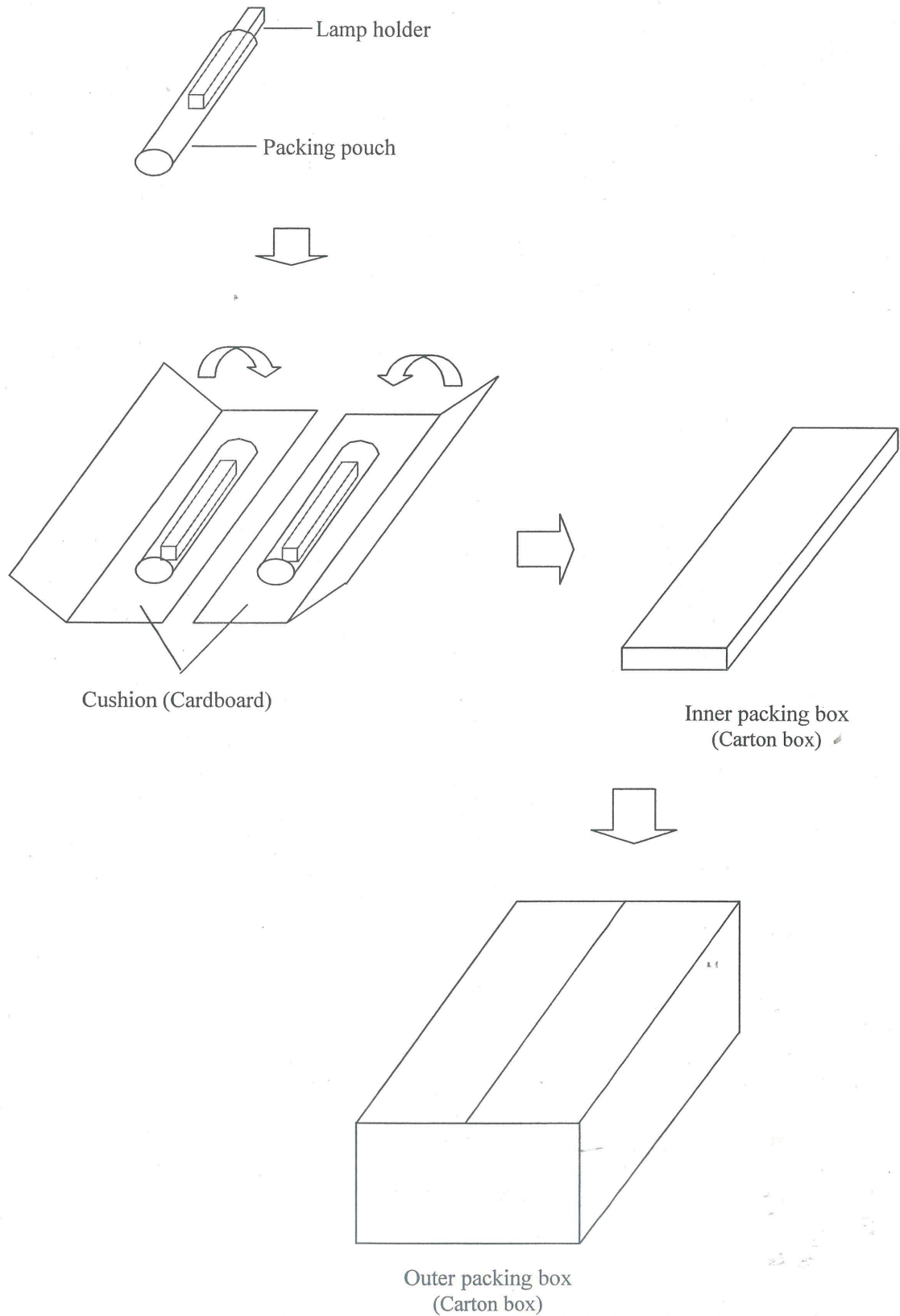
7.5 SIZE AND WEIGHT FOR PACKING BOX

Parameter	Outer packing box	Unit
Size	175 (W) × 150 (H) × 355 (D) (typ.)	mm
Weight	1.0 (typ.) (with 10 inner packing boxes)	kg
Total weight	1.2 (typ.) (with 10 inner packing boxes and 10 lamp holder sets)	kg

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7.6 OUTLINE FIGURE FOR PACKING



8. PRECAUTIONS

8.1 MEANING OF CAUTION SIGNS

The following caution signs have very important meaning. **Be sure to read '8.2 CAUTIONS' and '8.3 ATTENTIONS', after understanding these contents!**



CAUTION

This sign has the meaning that customer will be injured by himself, or the product will sustain a damage, if customer has wrong operations.



This sign has the meaning that customer will get an electrical shock, if customer has wrong operations.



This sign has the meaning that customer will be injured by himself, if customer has wrong operations.

8.2 CAUTIONS



- ① Do not touch HIGH VOLTAGE PART of the backlight inverter while turn on. There is a danger of an electric shock. So that, be sure to check again before starting replacement work that the power is turned OFF.
- ② Be sure to wait some time after turning power OFF before starting replacement work. There is a danger of an electric shock because the inverter is charged at a high voltage after working.



- ③ Be sure to wait some time after turning power OFF before starting replacement work. There is a danger of burn injury, because the lamp holder and high voltage section of the inverter are hot after working.
- ④ Take care not to injure yourself while treating the metal frame of the lamp holder.
- ⑤ Do not shock and press the LCD panel and the lamp holder. There is a danger of breaking, because they are made of glass.

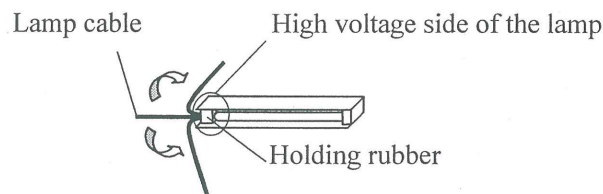


- ⑥ The fluorescent lamp in the LCD module may be damaged in some cases. Take care not to injure yourself while treating the lamp. If the lamp is damaged inside, quality problems may occur, such as un-even brightness by pieces of broken glass left inside. In this case return it to NEC for repair.

8.3 ATTENTIONS

(1) Handling the product

- ① Do not press or rub on the sensitive LCD panel surface. When cleaning the LCD panel surface, use of the cloth with ethanolic liquid such as screen cleaner for LCD is recommended.
- ② When handling the LCD module, take the measures of electrostatic discharge with such as earth band, ionic shower and so on, because the LCD module may be damaged by electrostatic.
- ③ Do not touch with bare hand or dirt the cold cathode fluorescent lamp in the lamp holder. If do so, display mura might occur.
- ④ Do not bend or unbend the lamp cable at the near part of the lamp holding rubber, to avoid the damage for high voltage side of the lamp.



- ⑤ Properly connect the adaptable plug (backlight side) to socket (inverter side) without incomplete connection. After connecting, be careful not to hook the lamp cables because incomplete connection may occur by hooking the lamp cables. This incomplete connection may cause abnormal operation of high voltage circuit.

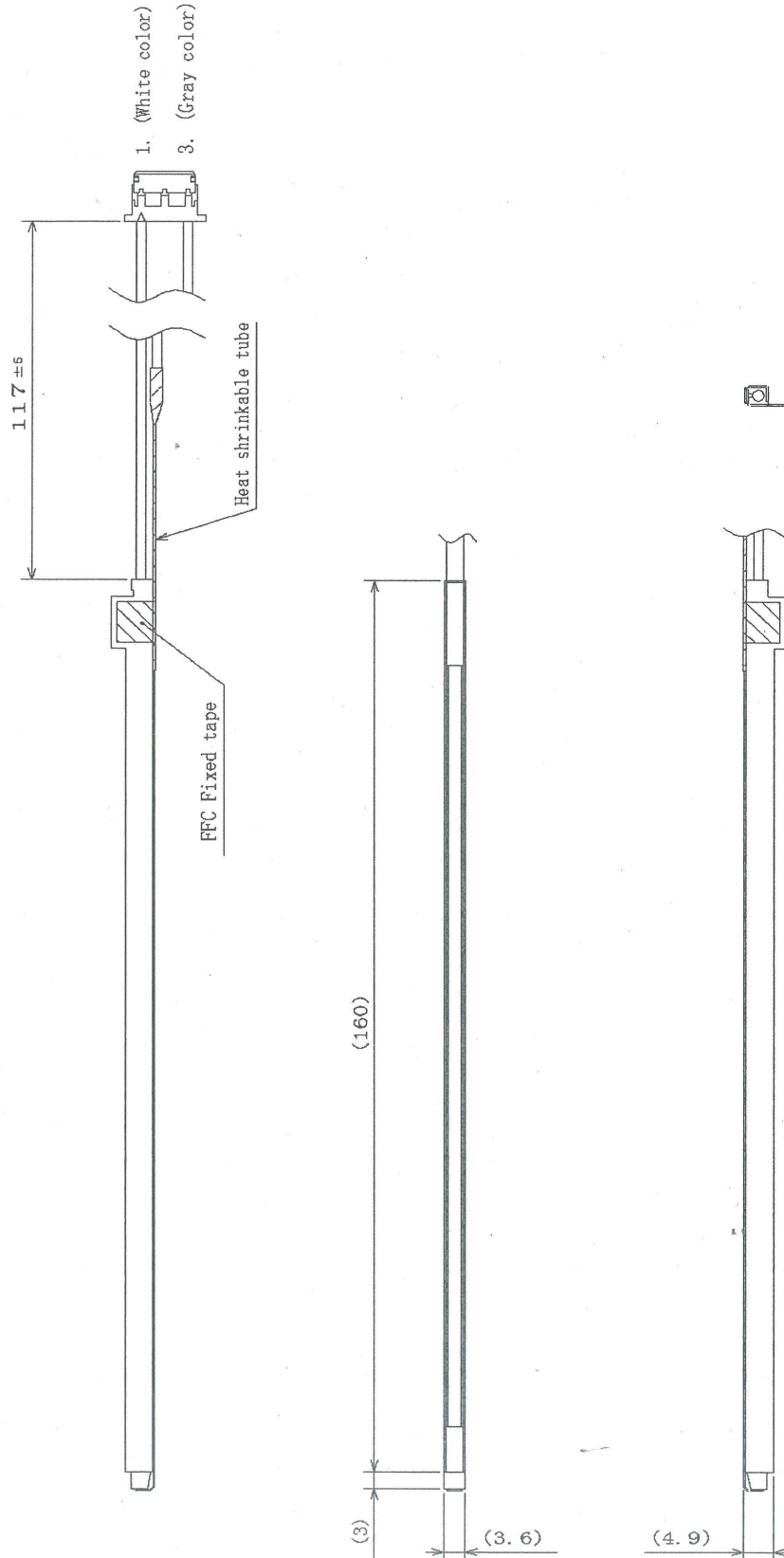
(2) Environment

- ① Do not operate or store in high temperature, high humidity, dewdrop atmosphere or corrosive gases. Keep the lamp holder set in packing box with packing pouch in room temperature to avoid dusts and sunlight, when storing the lamp holder set.
- ② In order to prevent dew condensation occurring by temperature difference, the packing box should be opened after enough time being left under the environment of an unpacking room. Evaluate the leaving time sufficiently because a situation of dew condensation occurring is changed by the environmental temperature and humidity. (Recommended leaving time: 6 hours or more with packing state)

(3) Disposal method

- ① The lamp holder set includes cold cathode fluorescent lamps. Follow local ordinances or regulations for its disposal. Do not reuse the replaced lamp holder set.

9. OUTLINE DRAWINGS (reference)
(Unit: mm)



Note1: The structure of up side and down side lamp holder is the same.