

**Lamp Holder Set  
84LHS06**

**SPECIFICATIONS**

For

**NL6448BC26-08D**

**NL6448BC26-09**

**NL6448BC26-09C**

**NL8060BC21-02**

**NL8060BC21-03**

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## INTRODUCTION

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Some electronic parts/components would fail or malfunction at a certain rate. In spite of every effort to enhance reliability of products by NEC, the possibility of failures and malfunction might not be avoided entirely. To prevent the risks of damage to death, human bodily injury or other property arising out thereof or in connection therewith, each customer is required to take sufficient measures in its safety designs and plans including, but not limited to, redundant system, fire-containment and anti-failure.

The products are classified into three quality grades: "**Standard**", "**Special**", and "**Specific**" of the highest grade of a quality assurance program at the choice of a customer. Each quality grade is designed for applications described below. Any customer who intends to use a product for application other than that of Standard quality grade is required to contact an NEC sales representative in advance.

The **Standard** quality grade applies to the products developed, designed and manufactured in accordance with the NEC standard quality assurance program, which are designed for such application as any failure or malfunction of the products (sets) or parts/components incorporated therein a customer uses are, directly or indirectly, free of any damage to death, human bodily injury or other property, like general electronic devices.

Examples: Computers, office automation equipment, communications equipment, test and measurement equipment, audio and visual equipment, home electronic appliances, machine tools, personal electronic equipment, industrial robots, etc.

The **Special** quality grade applies to the products developed, designed and manufactured in accordance with an NEC quality assurance program stricter than the standard one, which are designed for such application as any failure or malfunction of the products (sets) or parts/components incorporated therein a customer uses might directly cause any damage to death, human bodily injury or other property, or such application under more severe condition than that defined in the Standard quality grade without such direct damage.

Examples: Control systems for transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, medical equipment not specifically designed for life support, safety equipment, etc.

The **Specific** quality grade applies to the products developed, designed and manufactured in accordance with the standards or quality assurance program designated by a customer who requires an extremely higher level of reliability and quality for such products.

Examples: Military systems, aircraft control equipment, aerospace equipment, nuclear reactor control systems, medical equipment/devices/systems for life support, etc.

The quality grade of this product is the "**Standard**" unless otherwise specified in this document.

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**1. DESCRIPTION**

84LHS06 is a lamp holder set for replacement. Adaptable LCD modules are as follows.

|                      |
|----------------------|
| Adaptable LCD module |
| NL6448BC26-08D       |
| NL6448BC26-09        |
| NL6448BC26-09C       |
| NL8060BC21-02        |
| NL8060BC21-03        |

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

**2. GENERAL SPECIFICATIONS**

| Item             | Specification                   | Unit    |
|------------------|---------------------------------|---------|
| Lamp holder size | See <b>9. OUTLINE DRAWINGS.</b> | mm      |
| Weight           | 6 (typ.)                        | g / set |
| Delivery unit    | 10 (min.)                       | set     |

**3. ABSOLUTE MAXIMUM RATINGS**

| Parameter                  | Symbol | Rating   | Unit             | Remarks          |
|----------------------------|--------|--|------------------|------------------|
| Storage temperature        | Tst    | -20 to +80   | °C               | -                |
| Operating temperature      | Top    | This rating is in accordance with absolute maximum ratings for the adaptable LCD module. |                  |                  |
| Lamp voltage               | VBLH   | 1,700  | Vrms             | -                |
| Relative humidity<br>Note1 | RH     | ≤ 95   | %                | Ta ≤ 40°C        |
|                            |        | ≤ 85   | %                | 40°C < Ta ≤ 50°C |
|                            |        | ≤ 55   | %                | 50°C < Ta ≤ 60°C |
|                            |        | ≤ 36   | %                | 60°C < Ta ≤ 70°C |
| Absolute humidity<br>Note1 | AH     | ≤ 70<br>Note2  | g/m <sup>3</sup> | Ta > 70°C        |

Note1: No condensation

Note2: Water amount at Ta= 70°C and RH= 36%

**4. ELECTRICAL CHARACTERISTICS (reference)**

(Ta= 25°C, Note1)

| Item                       | Symbol | min.  | typ. | max. | Unit  | Remarks          |
|----------------------------|--------|-------|------|------|-------|------------------|
| Lamp current               | IBL    | 3.0   | 5.0  | 5.5  | mArms | -                |
| Lamp voltage               | VBLH   | -     | 435  | -    | Vrms  | at IBL= 5.0mArms |
| Lamp starting voltage      | VS     | 1,050 | -    | -    | Vrms  | Ta= 25°C         |
|                            |        | 1,250 | -    | -    |       | Ta= -10°C        |
| Lamp oscillation frequency | FO     | 45    | -    | 60   | kHz   | -                |

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

**5. CONNECTIONS AND FUNCTIONS FOR INTERFACE PINS**

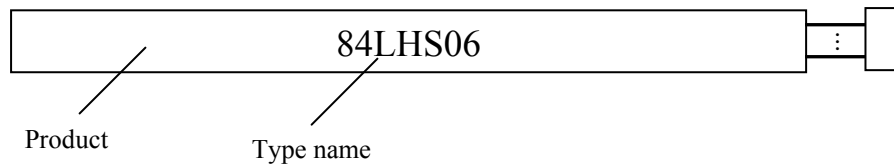
**Attention: VBLH and VBLC must be connected correctly. Wrong connections will cause electric shock and also break down of the product.**

CN2 plug: BHR-04VS-1 (J.S.T Mfg. Co., Ltd.)  
 Adaptable socket (Inverter side): SM03 (7-D1) B-BHS-1-TB (LF)(SN),  
 SM03 (7-D1) B-BHS-1-TB (J.S.T Mfg. Co., Ltd.)

| Pin No. | Symbol | Signal             | Remarks             |
|---------|--------|--------------------|---------------------|
| 1       | VBLH   | High voltage (Hot) | Cable color: Pink   |
| 2       | VBLH   | High voltage (Hot) | Cable color: Pink   |
| 3       | N.C.   | -                  | Keep this pin Open. |
| 4       | VBLC   | Low voltage (Cold) | Cable color: Black  |

**6. INDICATION OF TYPE NAME**

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



Example for indication of type name

**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**

2 lamp holder sets are 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.

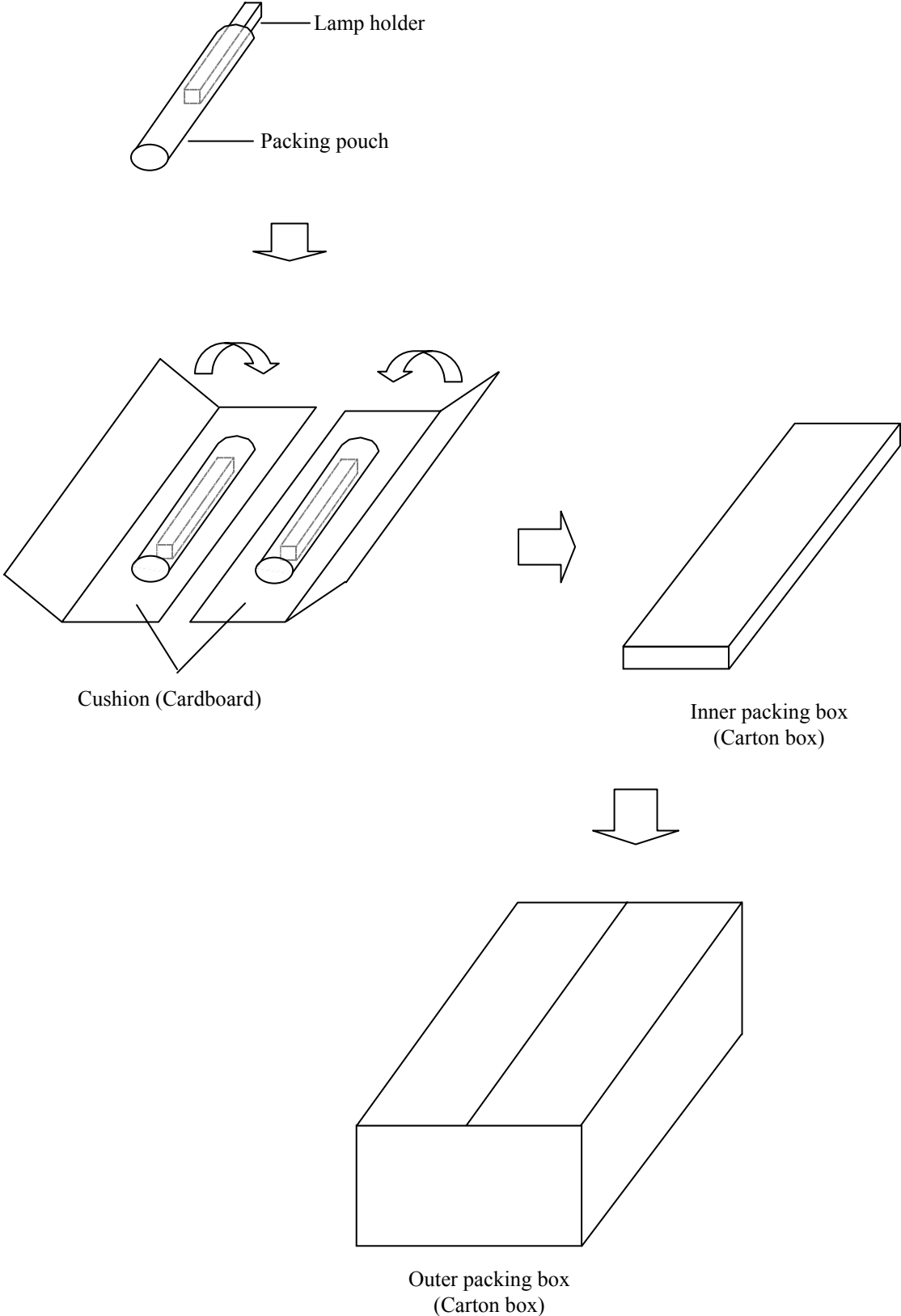
**7.4 TRANSPORTATION**

The product is transported by vehicle, aircraft or ship.

**7.5 SIZE AND WEIGHT FOR PACKING BOX**

| Parameter    | Outer packing box  | Unit |
|--------------|--|------|
| Size         | 140 (W) × 102 (H) × 355 (D) (typ.)                                 | mm   |
| Weight       | 0.6 (typ.)<br>(with 5 inner packing boxes)                         | kg   |
| Total weight | 0.6 (typ.)<br>(with 5 inner packing boxes and 10 lamp holder sets) | kg   |


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!**

|  |   |
|--|---|
|  <b>CAUTION</b> | 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.



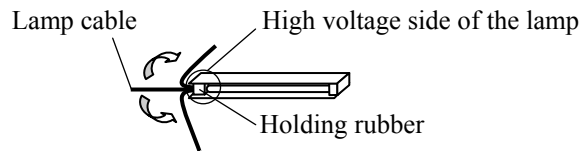
- ⑥ The fluorescent lamp in the LCD module may be damaged in some cases. Take care not to injure yourself while treating the lamp. If the lamp is damaged inside, quality problems may occur, such as un-even brightness by pieces of broken glass left inside. In this case return it to NEC for repair.



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.

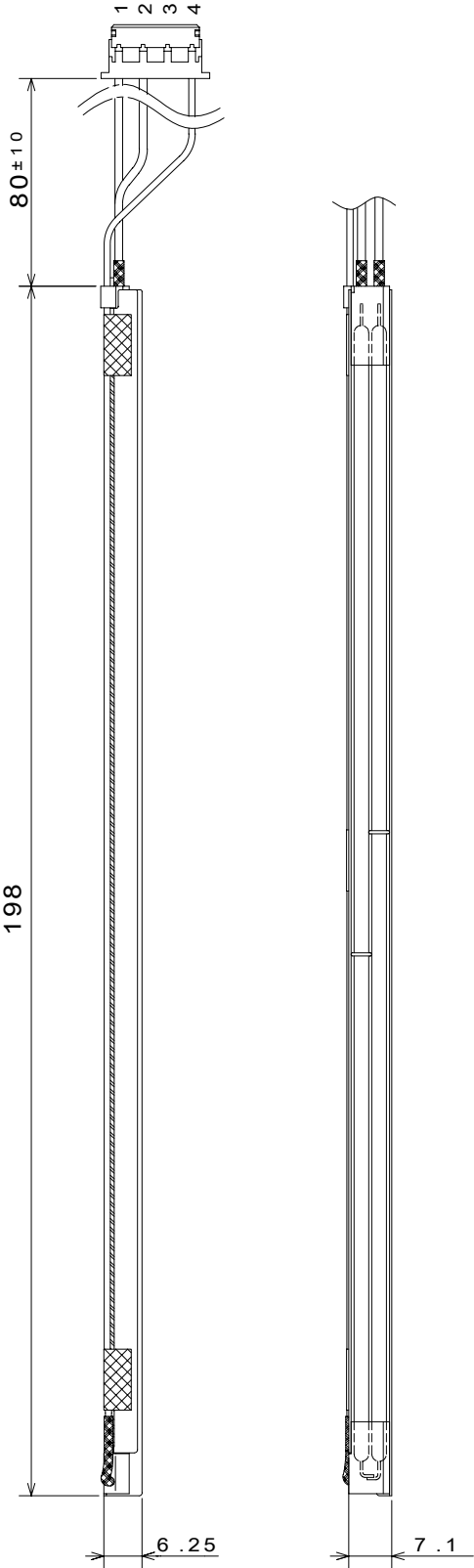
(2) Environment

- 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 include 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)