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Model: FS-60C

1. INTRODUCTION

The NDNCZDHC FS-60C Fusion Splicer is a precision instrument designed for joining optical fibers by melting them together. This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your FS-60C Fusion Splicer. Please read this manual thoroughly before using the device to ensure optimal performance and safety.

2. PRODUCT OVERVIEW AND COMPONENTS

Familiarize yourself with the main components of the FS-60C Fusion Splicer and its accessories.



Figure 2.1: Internal Components of the FS-60C Fusion Splicer

This image illustrates the internal working parts of the FS-60C Fusion Splicer. Key components include the V-shape groove for fiber alignment, electroplate rods for arc discharge, the keyboard for input, the optical fiber clamping table, the heater for heat shrinking protection sleeves, and the electroplate cover.



Figure 2.2: External Components of the FS-60C Fusion Splicer

This image displays the external features of the FS-60C Fusion Splicer. Visible elements include the power switch, the main display screen, the wind-proof hood protecting the splicing area, a USB interface for data transfer, the handle buckle for portability, the battery clasp, and the removable lithium battery module.



Figure 2.3: SKL-S3 High Precision Fiber Cleaver

The included SKL-S3 high precision fiber cleaver is used to prepare fiber ends for splicing. It features a sharp blade and a designated area for precise fiber placement before cutting.

3. SPECIFICATIONS

Feature	Specification
Model	FS-60C
Voltage	100-240V
Applicable Optical Fiber	SM(G.652&G.657), MM(G.651), DS(G.653), NZDS(G.655) and self-defined optical fiber types
Splicing Loss	0.02dB(SM), 0.01dB(MM), 0.04dB(DS/NZDS)

Feature	Specification
Return Loss	Over 60dB
Typical Splicing Duration	9 seconds
Product Dimensions	5.51 x 8.07 x 4.84 inches
Item Weight	15.2 pounds (6.91 Kilograms)
Special Feature	Lightweight, Portable

4. SETUP

- Unpack Components:** Carefully remove the fusion splicer and all accessories from the transit case. Verify that all items listed in the package contents are present.
- Power Connection:** Connect the power adapter to the splicer and a suitable power outlet (100-240V). If using the battery, ensure it is fully charged before operation. The battery module can be inserted into the designated slot on the side of the splicer.
- Work Area Preparation:** Set up the splicer on a stable, clean, and dust-free surface. Ensure adequate lighting and ventilation.
- Familiarize with Controls:** Power on the device using the power switch. Navigate through the display menu to understand the various settings and functions.

5. OPERATING INSTRUCTIONS (FIBER SPLICING PROCESS)

Follow these steps for a successful fiber fusion splice:

- Fiber Preparation:**
 - Strip approximately 30-40mm of the fiber's protective coating using the fiber stripper.
 - Clean the bare fiber thoroughly with an alcohol wipe (99% isopropyl alcohol recommended) to remove any residue. Allow it to air dry completely.
- Fiber Cleaving:**
 - Place the cleaned, stripped fiber into the fiber cleaver (e.g., SKL-S3) according to the length fixing stripping device. Ensure the fiber is positioned correctly for a precise 90-degree cut.
 - Operate the cleaver to make a clean, perpendicular cut. A high-quality cleave is crucial for low splice loss.
 - Repeat for the second fiber to be spliced.
- Fiber Placement in Splicer:**
 - Carefully open the wind-proof hood of the splicer.
 - Place the cleaved fibers into the V-shape grooves on the optical fiber clamping table. Ensure the fiber ends are positioned correctly between the electrodes.
 - Close the fiber clamps and the wind-proof hood.
- Initiate Splicing:**
 - The splicer will automatically align the fibers and initiate the fusion process. The display will show the progress and estimated splice loss.
 - The typical splicing duration is approximately 9 seconds.

5. **Heat Shrink Protection:**

- After the splice is complete, open the wind-proof hood and carefully remove the spliced fiber.
- Slide a heat shrink protection sleeve over the splice point.
- Place the fiber with the sleeve into the heating oven (heater) of the splicer.
- Close the heater cover and initiate the heating process. The heater will shrink the sleeve, protecting the splice.

6. **Splice Inspection:**

- Once the heating is complete, carefully remove the fiber from the heater.
- Visually inspect the splice and the heat shrink sleeve for proper application and integrity.

6. MAINTENANCE

Regular maintenance ensures the longevity and accuracy of your FS-60C Fusion Splicer.

- **Cleaning V-Grooves and Electrodes:** Regularly clean the V-grooves and the areas around the electrodes with a cotton swab and alcohol to remove fiber debris and dust. A dirty V-groove can lead to poor fiber alignment and high splice loss.
- **Electrode Replacement:** The electrodes have a limited lifespan (typically several thousand splices). When the splicer indicates electrode wear or if splice loss increases consistently, replace the electrodes according to the instructions in the full service manual.
- **Display Cleaning:** Use a soft, lint-free cloth to clean the display screen. Avoid abrasive cleaners.
- **Fiber Cleaver Maintenance:** Keep the fiber cleaver blade clean. If cleaving quality deteriorates, the blade may need to be rotated to a fresh position or replaced. Refer to the cleaver's specific instructions.
- **Battery Care:** For optimal battery life, avoid fully discharging the battery frequently. Store the splicer with a partially charged battery if not in use for extended periods.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with the FS-60C Fusion Splicer.

Problem	Possible Cause	Solution
High Splice Loss	<ul style="list-style-type: none">• Dirty V-grooves or electrodes• Poor fiber cleave quality• Worn electrodes• Improper fiber preparation	<ul style="list-style-type: none">• Clean V-grooves and electrodes• Re-cleave fibers, ensure proper cleaver operation• Replace electrodes• Ensure fiber is clean and stripped correctly
Fiber Not Recognized / Aligned	<ul style="list-style-type: none">• Fiber not seated correctly in V-groove• Dirty V-grooves• Damaged fiber end	<ul style="list-style-type: none">• Re-seat fiber carefully• Clean V-grooves• Re-cleave fiber
Battery Not Charging	<ul style="list-style-type: none">• Power adapter not connected properly• Faulty power adapter or cable• Battery module not inserted correctly	<ul style="list-style-type: none">• Check all power connections• Try a different power outlet or adapter (if available)• Re-insert battery module firmly

8. WARRANTY AND SUPPORT

For technical support, service, or warranty inquiries regarding your NDNCZDHC FS-60C Fusion Splicer, please contact your vendor or the manufacturer directly. Keep your purchase receipt and product serial number available when contacting support.

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Example: How do I reset this device or fix this error?

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