KOMSHINE T49-25

KOMSHINE ORIENTEK T49 FTTx Mini Fusion Splicer User Manual

Model: T49-25

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient operation, maintenance, and troubleshooting of the KOMSHINE ORIENTEK T49 FTTx Mini Fusion Splicer. This device is designed for precise fiber optic splicing in various applications, including FTTx, security monitoring, and general installation and maintenance.

The ORIENTEK T49 features active clad-alignment, a 3.5-inch display, fast splicing (8 seconds) and heating (18 seconds) capabilities, and tool-less electrode replacement. Its compact and lightweight design makes it suitable for both field and aerial work.

2. SAFETY INFORMATION

Please read and understand all safety warnings and instructions before operating the fusion splicer. Failure to do so may result in injury or damage to the equipment.

- **Eye Protection:** Always wear appropriate eye protection when working with fiber optics, as fiber shards can cause severe eye injury.
- **High Voltage:** The splicer uses high voltage for arc discharge. Do not touch the electrodes or internal components during operation.
- **Hot Surfaces:** The heating oven becomes hot during operation. Avoid direct contact to prevent burns.
- **Fiber Handling:** Handle optical fibers with care. They are fragile and can break, creating sharp fragments.
- **Work Environment:** Operate the splicer in a clean, dry, and well-ventilated area. Avoid dusty or humid environments.
- **Power Supply:** Use only the specified power adapter and battery.

3. PRODUCT OVERVIEW AND COMPONENTS

The KOMSHINE ORIENTEK T49 FTTx Mini Fusion Splicer is a robust and efficient tool for fiber optic installations. Below are its key features and included components.

3.1 Key Features

- Efficient, versatile, lightweight & portable design, suitable for aerial work.

- Automatic 8-second splicing and automatic 18-second heating.

- Tool-less electrode replacement with an electrode life of approximately 5000 times.

- Special 3-in-1 fiber holder compatible with Bare Fiber, 3.0mm Jump Fiber/Pigtail, and Fiber/Rubber-insulated fiber cable.

- Supports 120 splicing and heating cycles on a full charge.

- Anti-dust, anti-rain, and anti-shock design for durability in various environments.

Figure 1: The KOMSHINE ORIENTEK T49 FTTx Mini Fusion Splicer with its complete set of accessories, including a carrying bag, fiber cleaver, and various tools.

Figure 2: Visual representation of the splicer's key features, highlighting 8s fast splicing, 18s fast heating, 3.5-inch LCD, 0.01dB average splice loss, 5000 electrode service life, automatic fiber propulsion, and tool-less electrode replacement.

3.2 Included Components

① Fiber optic cleaver

② Carry bag (Including Suspenders & belts)

③ Cleaning wipes (box)

④ Splicing protector sleeves (piece)

⑤ Alcohol bottle

⑥ Fiber Stripper

⑦ Flat Cable Stripper FTS-01

⑧ Fusion splicer

⑨ Power charger

⑩ Cooling Tray

Figure 3: An exploded view showing all components included with the T49 Fusion Splicer, numbered for easy identification.

1. Fiber Optic Cleaver
2. Carry Bag (including suspenders & belts)

3. Cleaning Wipes (box)
4. Splicing Protector Sleeves (piece)
5. Alcohol Bottle
6. Fiber Stripper
7. Flat Cable Stripper FTS-01
8. Fusion Splicer (main unit)
9. Power Charger
10. Cooling Tray

4. SETUP

Before beginning splicing operations, ensure the splicer is properly set up and all necessary tools are at hand.

4.1 Initial Inspection

- Unpack all components and verify against the included components list.
- Inspect the splicer for any visible damage.
- Ensure the electrodes are clean and properly installed.

4.2 Powering On

- Connect the power charger to the splicer and a power outlet, or ensure the internal battery is charged.
- Press the power button to turn on the device. The 3.5-inch display will illuminate.

4.3 Fiber Cleaver Operating Platform

The T49 features a rich practical extensibility with a fiber cleaver operating platform.

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Video 1: This video demonstrates the features of the ORIENTEK T49 Fiber Fusion Splicer, including its tool-less electrode replacement, fast splicing and heating, and the integrated fiber cleaver operating platform. It also shows the splicer's anti-dust, anti-rain, and anti-shock capabilities, and its handheld design for high-altitude operations.

As shown in Video 1, the fiber cleaver can be securely attached to the splicer, creating a stable platform for precise fiber preparation.

5. OPERATION

Follow these steps for successful fiber optic splicing.

5.1 Fiber Preparation

1. **Strip the Fiber:** Use the fiber stripper to remove the outer jacket and coating, exposing the bare fiber.
2. **Clean the Fiber:** Clean the bare fiber with alcohol and a lint-free wipe.
3. **Cleave the Fiber:** Place the cleaned fiber into the fiber cleaver and perform a precise cleave. A good cleave is crucial for low splice loss.

5.2 Splicing Procedure

1. **Open the Lids:** Open the top lid and the heating oven lid of the splicer.
2. **Place Fibers:** Carefully place the prepared fibers into the V-grooves of the splicer, ensuring the cleaved ends are positioned correctly between the electrodes. The 3-in-1 fiber holder accommodates various fiber types.

Figure 4: The versatile 3-in-1 fiber holder, designed to securely hold bare fiber, pigtail fiber, jump fiber, and flat fiber for splicing.

3. **Close Lids:** Close the top lid. The splicer will automatically align the fibers and initiate the splicing process.
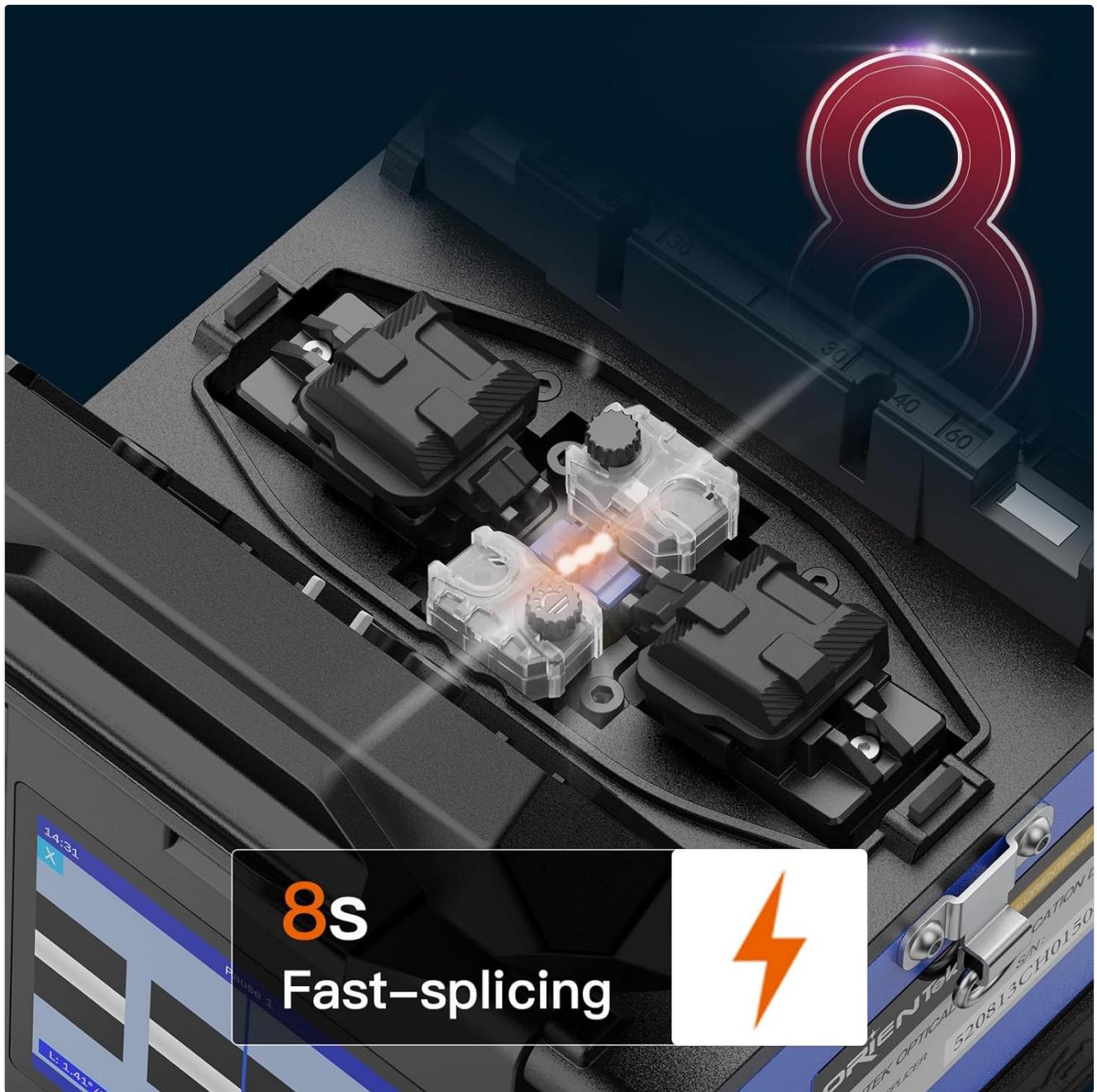
Figure 5: The splicer performing an 8-second fast splice, showing the arc discharge between the electrodes.

4. **Splicing Completion:** The display will show the splice loss after the 8-second splicing process.
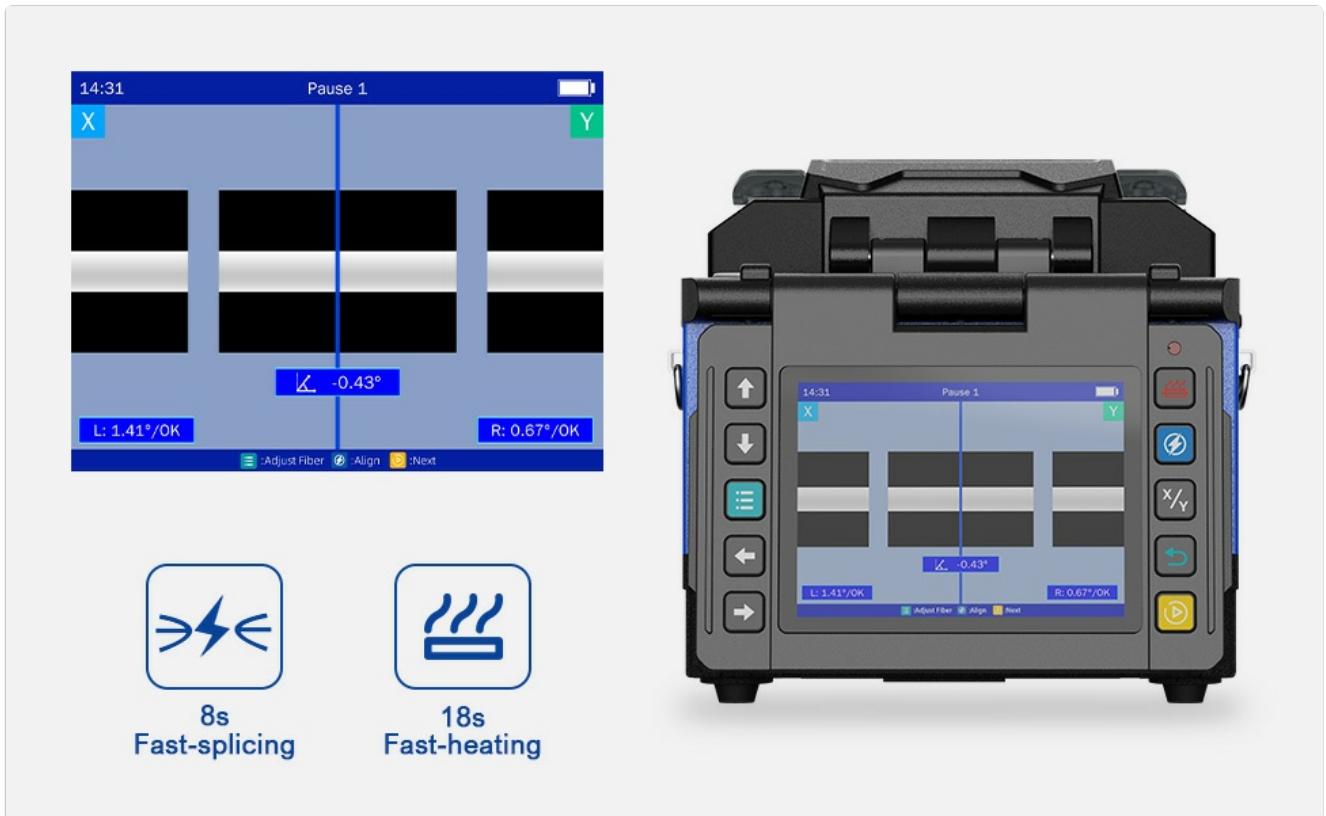
Figure 6: The T49's display showing fiber alignment and estimated splice loss, alongside indicators for fast splicing and heating functions.

5. **Heat Shrink Protection:** Place a splice protection sleeve over the spliced joint and move it into the heating oven.

6. **Heating:** Close the heating oven lid. The splicer will automatically heat the sleeve for 18 seconds to protect the splice.

Figure 7: The heating oven in action, rapidly shrinking the protection sleeve around the spliced fiber in 18 seconds.

7. **Cooling:** Once heating is complete, carefully remove the protected splice and place it on the cooling tray.

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your fusion splicer.

6.1 Cleaning

- **V-Grooves and Electrodes:** Regularly clean the V-grooves and electrode tips with a cotton swab dipped in alcohol. Dust and fiber debris can affect splicing quality.
- **Display Screen:** Use a soft, lint-free cloth to clean the display screen.
- **Heating Oven:** Keep the heating oven free of debris.

6.2 Electrode Replacement

The electrodes have a lifespan of approximately 5000 splices. Replace them when prompted by the device or if splicing quality degrades.

1. **Power Off:** Turn off the splicer and disconnect from power.
2. **Remove Old Electrodes:** The T49 features an innovative tool-less design for electrode replacement. Gently twist and pull the old electrodes upwards to remove them.

Figure 8: A close-up view demonstrating the simple, tool-less method for replacing electrodes by gently twisting and lifting them from their sockets.

3. **Install New Electrodes:** Insert the new electrodes into their respective slots and gently twist to secure them.
4. **Arc Calibration:** After replacing electrodes, perform an arc calibration as per the device's menu instructions to ensure optimal performance.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with the ORIENTEK T49 Fusion Splicer.

Problem	Possible Cause	Solution
High Splice Loss	Dirty V-grooves or electrodes, poor fiber cleave, worn electrodes, incorrect fiber type settings.	Clean V-grooves and electrodes. Re-cleave fibers. Replace electrodes if worn. Verify fiber type settings.

Problem	Possible Cause	Solution
Splicer Fails to Arc	Dirty or worn electrodes, low battery, environmental factors (humidity).	Clean or replace electrodes. Charge battery. Move to a drier environment.
Fiber Not Aligned	Dirty V-grooves, improper fiber placement, damaged fiber holder.	Clean V-grooves. Re-position fibers correctly. Inspect fiber holders for damage.
Heating Oven Not Working	Lid not fully closed, internal fault.	Ensure lid is securely closed. If problem persists, contact support.

8. SPECIFICATIONS
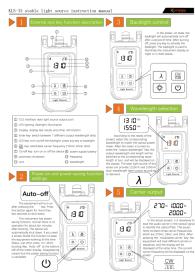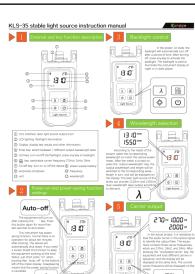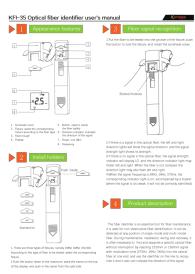
Technical specifications for the KOMSHINE ORIENTEK T49 FTTx Mini Fusion Splicer.

Feature	Specification
Brand	KOMSHINE
Model Number	T49-25
Splicing Time	8 seconds (automatic)
Heating Time	18 seconds (automatic)
Display	3.5 inch LCD
Electrode Life	Approx. 5000 times (replaceable)
Fiber Holder	3-in-1 (Bare Fiber, 3.0mm Jump Fiber/Pigtail, Fiber/Rubber-insulated cable)
Battery Capacity	Supports 120 splices + heating cycles
Dimensions (L x W x H)	14.96 x 10.63 x 11.02 inches
Item Weight	5 Kilograms (approx. 11 pounds)
Environmental Protection	Anti-dust, anti-rain, anti-shock
UPC	635412290260

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the documentation included with your product or contact KOMSHINE customer service. Protection plans are also available for extended coverage.
Visit the official KOMSHINE Store for more products and support resources.

Related Documents - T49-25

	[Komshine FX39 Fiber Optic Fusion Splicer: Features, Specs, and Performance](#) Explore the Komshine FX39, a high-performance fiber optic fusion splicer. Discover its rapid splicing (6s), low loss (0.01dB), durable design, 7800mAh battery, and advanced alignment technologies.
	[KomShine FX39 Trunk Optical Fiber Fusion Splicer - High-Speed Splicing and Heating](#) Discover the KomShine FX39, a powerful trunk optical fiber fusion splicer featuring 6-second fast splicing, 16-second rapid heating, and an average splice loss of 0.01dB. Learn about its durable design, high-definition LCD display, and 7800mAh battery.
	[Komshine QX43 FTTx-OTDR Quick Guide - Optical Time-Domain Reflectometer](#) Concise guide to the Komshine QX43 FTTx-OTDR, covering its features, test setup, curve manipulation, event list, file management, and event type meanings for optical fiber testing.
	[KLS-35 Stable Light Source Instruction Manual - Komshine](#) Comprehensive instruction manual for the Komshine KLS-35 stable fiber optic light source. Covers device functions, power-saving settings, backlight control, wavelength and carrier selection, LED flashlight, product introduction, features, detailed specifications, usage environment, important tips, standard kit contents, and contact information for Komshine Technologies Limited. Ideal for FTTX network and fiber optic testing.
	[Komshine KLS-35 Stable Light Source: User Manual and Specifications](#) Comprehensive instruction manual for the Komshine KLS-35 stable light source, detailing its features, specifications, operation, and safety guidelines for fiber optic testing.
	[Komshine KFI-35 Optical Fiber Identifier User Manual](#) User manual for the Komshine KFI-35 Optical Fiber Identifier, detailing its features, product parameters, usage instructions, and safety tips for fiber maintenance.