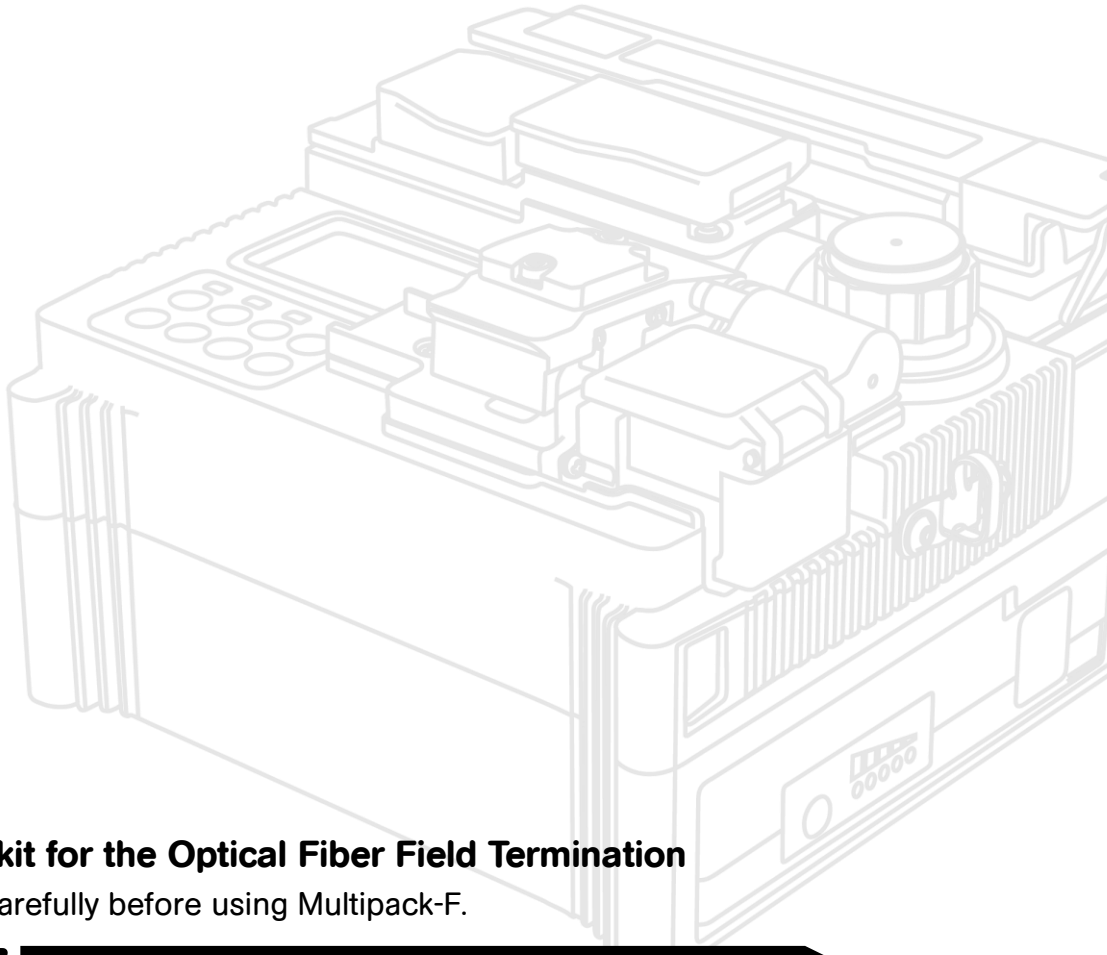
ILSINTECH
HIGH PRECISION TECHNOLOGY



All-in-one Preparation kit for the Optical Fiber Field Termination

Read this service manual carefully before using Multipack-F.

Multipack-F USER MANUAL

WWW.ILSINTECH.COM

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Device Type	Notification
A Class Device (Broadcasting and communication device, commercial use)	Users need to understand that this device (A Class) has obtained EMI (Electromagnetic compatibility) and been designed to be used in places other than home.

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I. Notes to Users

Multipack-F has been designed to assure an easy and convenient operation in both indoor and outdoor work conditions; however, users need to carefully read this user manual prior to operating this machine in order to prevent any accident or damage to the equipment.
This easy-and-simple-to-use machine contains potential risks of harm's way or injury. Therefore, use Multipack-F only after thoroughly understood this user manual.

Keep this user manual along with equipment at all times.

ILSINTECH Co., Ltd is not liable for any personal injury, physical loss and damage to equipment caused by inappropriate use or unauthorized modification of the Multipack-F.

Warnings

Please turn off the power immediately and contact ILSINTECH Co., Ltd if any of following incident occurs while operating the Multipack-F.

· Fumes, bad odour, strange noise or overheating

· Liquid or foreign substance contaminates the device

· Multipack-F is dropped or damaged

Use only the AC power cord provided by the manufacturer. Using an improper AC power cord many cause fire, electric shock or equipment damage resulting in personal injury.

Do not touch electrodes when Multipack-F is turned on; high voltage and heat generated from the electrodes could cause severe electric shock or burns.

Warnings

Apply correct voltage.
The input AC power of the charger is AC 100-240V and 50-60Hz.
Check the AC power before use. Providing AC power of an inappropriate range can cause flame, fire, damage on the equipment, or severe injuries, electric shock or even death. Inappropriate AC output voltage or frequency from AC power is a common issue. Before connecting AC power cord, measure AC output voltage using the circuit tester. Inappropriately high voltage or frequency of AC power can cause flame, fire, damage on the equipment or severe injuries or even death.
Do not excessively pull on, heat or modify the AC power cable. The use of damaged power cable may cause fire or injury.

Always connect to 3-core AC power cord. Do not use 2-core AC power cord, cable and plug.

Do not touch AC plug, AC power cord or Multipack-F with a wet hand. It could result in electric shock.

Do not disassemble AC adapter, battery or the Multipack-F. Transforming or modification of Multipack-F unit could cause fire, electric shock or injury.

When using an external battery, follow the instructions below;

- The use of 3rd party or makeshift external battery may cause fumes or damage to the equipment and, in serious cases, it could result in burn, injury or even death.
- Do not discard the battery into a trash incinerator or fire.
- Do not charge or discharge the battery near a flame or blaze.
- Do not excessively shake or physically contact the battery.
- If a battery is not fully charged or green LED is not turned on in six hours, immediately stop charging and contact l.

Do not place any object on the AC adaptor during charging.

Use charger (MPF-B) exclusively designed for the equipment. The use of other battery pack may cause fumes, burn, damaged to the unit, injury or even death.

Warnings

Use the battery charger (MPF-B) which is designed for the unit.
Do not apply different AC power.

Do not make a short circuit of the terminals of the charger(MPF-B). Excessive current may cause personal injury and equipment damage.

Do not use Multipack-F in an environment in which flammable liquids or hazardous gas exists. The electric arc of Multipack-F may cause fire or explosion.

Do not clean Multipack-F with compressed air or compressed gas.

Check the condition of belt to see if there is any damage or worn-outs before transporting the carrier case using the belt. If the carrier case is dropped due to worn out belt, it could damage the unit or people could get hurt.

If optical fiber fragments come into contact with the eye or skin, it could be extremely dangerous.

Do not operate Multipack-F near the temperature is over 50℃.
It could result in injury or damage equipment.

The heat oven reaches high temperatures. Be extremely cautious when operating the oven.
Please keep hands and other objects away from the heater when in use.

The blade of the cleaver is very sharp so to be used carefully to avoid wound on your hand.

Do not stare in to beam of visual fault locator.

 : DO NOT TOUCH

 : EXTREMELY HOT

 : LASER WARNING

Cautions

Do not touch protection sleeve or tube-heater during heating or immediately after completion of heating. Their surfaces are very hot and touching these may result in burn.

Do not place Multipack-F in an uneven surface. The unit may fall, causing personal injury or equipment damage.

Do not apply shock on Multipack-F, since it is a precision machine. When moving or storing Multipack-F, use the carrying case which is designed for the equipment. The carrying case protects the equipment against humidity, vibration and shocks and prevents damages during its storage and moving.

Use pure ethyl alcohol (96% or greater) to clean the LCD monitor, body, each of the other unit. Otherwise, blurring, discoloration, damage or performance deterioration may occur.

Multipack-F requires no lubrication. The use of oil or grease may degrade the performance and damage the equipment.

Do not store Multipack-F in a place where temperature or humidity is extremely high. Equipment failure may occur.

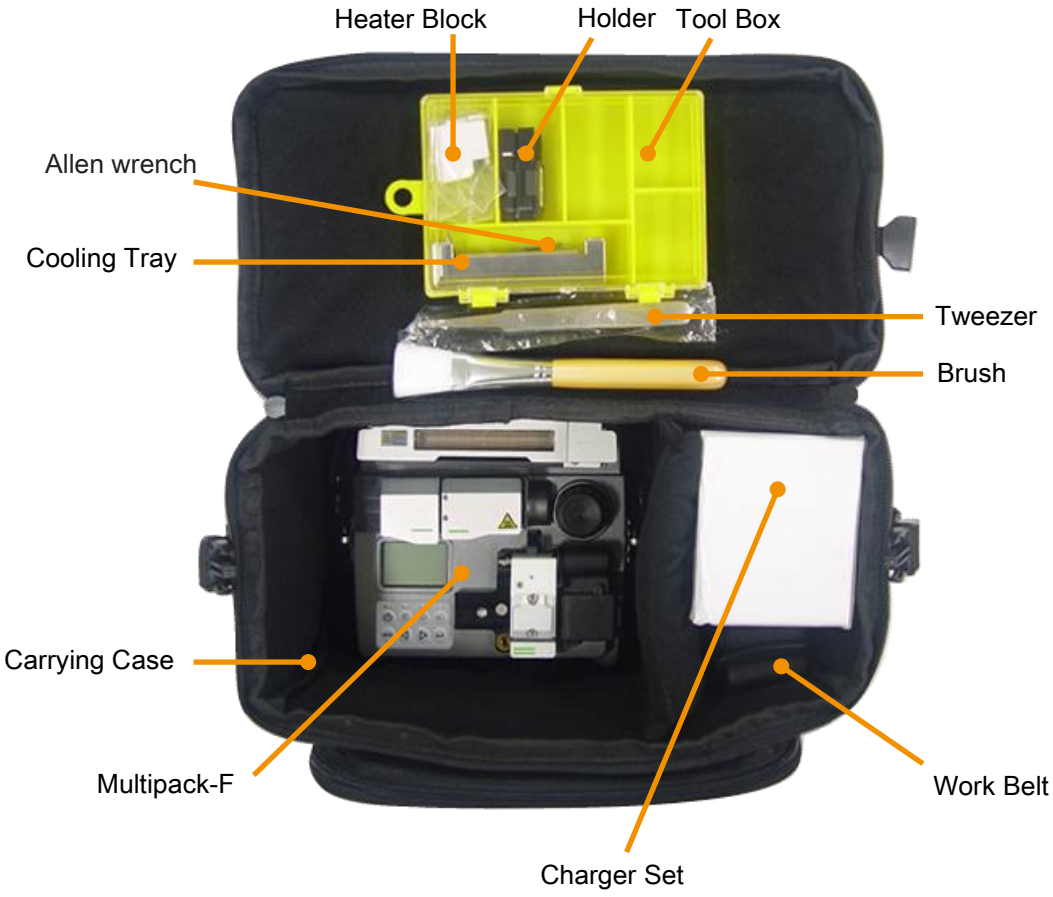
The equipment's technical parts must be examined by a qualified technician or engineer, otherwise, it cause fire or electric shock. If any problems occur, ask ILSINTECH for repair and maintenance.

II. Specifications and Components

1. Specifications

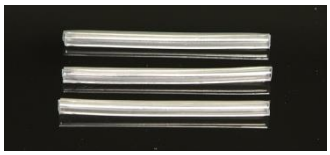
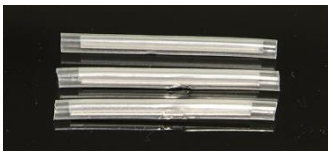
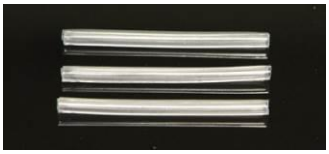
Subject	Description
Applicable type of fibers	0.25mm, 0.9mm, 2.0mm, 3.0mm, 4.0mm, Indoor cable
Applicable type of connector	SC, FC, ST, LC
Fiber count	Single fiber
Applicable fiber dimensions	Cladding diameter: 125㎛, Coating diameter: 250, 900㎛
Fiber setting and cleaved length	8.0mm
Sleeve heating time	30sec(0.9mm fiber), 70sec(Indoor, 3.0mm cable), 80sec(connector)
Applicable protection sleeve	60mm, micro, Connector Sleeve
Operating condition	Altitude: 0~ 5,000m above sea level, Temperature: -10℃~ 50℃, Humidity: 0~ 95%, Wind: 15m/s, non-condensing
Storage	Temperature: -40℃~ 80℃, Humidity: 0~ 95%
Dimensions	145(W)×137(L)×98(H) mm
Weight	1.2Kg(Include battery)
display	1.4” color LCD monitor
Power supply	DC Lithium polymer battery(DC 14.8V, 4700mAh), 100 ~ 240V AC Adapter
No. of splice cycles with battery	Typical 630 Times(0.9mm fiber)
Terminals	USB, External power(DC 12V Available for car cigar jack)

2. In the package



Standard Package			Option Package		
Category	Model	Q'ty	Category		Model
Multipack-F	MPF	1	Cleaver Blade		BI-05
Battery Charger	MPF-B	1	Battery Charger		MPF-B
AC Adapter	LYD1805000	1	Sleeving Clamp		SC-01
Cooling Tray	CT-01	1	Manual Stripper		MS-01
Allen wrench	1.5/2.0/2.5	1set	Holder	80S/S178 Compatible	250,900, IN, 3.0F, SC/FC/ST/LC
Heater Block R	-	1set		Z1C Compatible	250,900, IN, 3.0F, SC/FC/ST/LC
Holder	-	1set(2ea)	Sleeve	S09-C	0.9mm connector, 1.0×2.3×28mm
Tool Box	CA800-2	1		S09	0.9mm cable, 1.0×2.3×45(60)mm
Brush	-	1		S30-C	3.0mm, Indoor connector, 3.5×4.0×32mm
Pincette	-	1		S30	3.0mm, Indoor cable, 3.5×4.0×45(60)mm
User Manual	CD	1			
Carrying Case Work Belt	Soft Case	1			

1) Preparation for the Operation

<table>
<tr><td>Fiber types</td><td colspan="2">0.25 mm</td><td>0.9 mm</td></tr>
<tr><td rowspan="2">Fiber protection sleeve</td><td>Basic sleeve</td><td> 
Length: 40mm</td><td> 
Length: 28mm</td></tr>
<tr><td>Micro sleeve</td><td>Length: 20mm
Length: 25mm
Length: 34mm
Length: 45mm</td><td>  </td></tr>
<tr><td rowspan="2">Fiber holder</td><td colspan="2">Fiber holder
[Standard] (250/900)
Cleave length : 8mm (Fixed)</td><td>Fiber holder
[FTTH]
(SOC(Splice-On Connector))
Cleave length : 8mm (Fixed)</td></tr>
<tr><td colspan="3"> 
</td></tr>
</table>

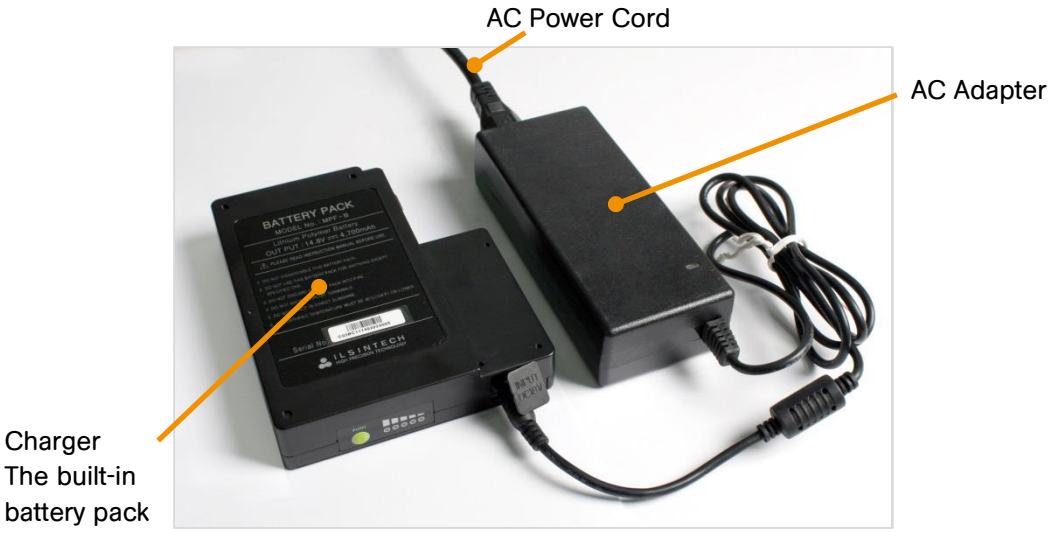
III. How to Use

1. Power Supply

Always use the battery provided with Multipack-F by the manufacturer.

Battery charging

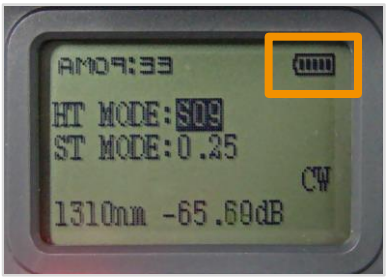
Connect AC power cord to the charging adapter and then to DC connecting jack for battery pack, and the red LED on battery (for displaying power) is turned on and it starts charging. The LED turns green as charging is completed. It takes approximately 3 hours to charge when fully discharged.

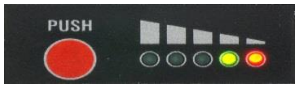
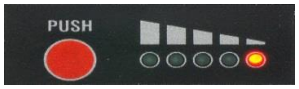
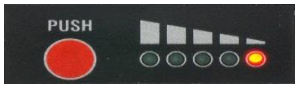


- Use only the charger and AC adaptor provided with the equipment.
- The battery of Multipack-F (MPF-B) has a protection circuit and function to prevent over discharge, overcharge and overload. The power is cut off when protective function is activated.

Checking remaining battery capacity

The remaining capacity of a battery is indicated at the top right on the screen when Multipack-F is in use.



Remaining battery level (Monitor)	Remaining battery level display (LED)	Remaining battery percentage
5 bars	 5 LED	80 ~ 100%
4 bars	 4 LED	60 ~ 80%
3 bars	 3 LED	40 ~ 60%
2 bars	 2 LED	20 ~ 40%
1bars	 1 LED	10 ~ 20%
0 bars	 1 LED 1 LED flash	Less than 5% (It should be charged immediately.)

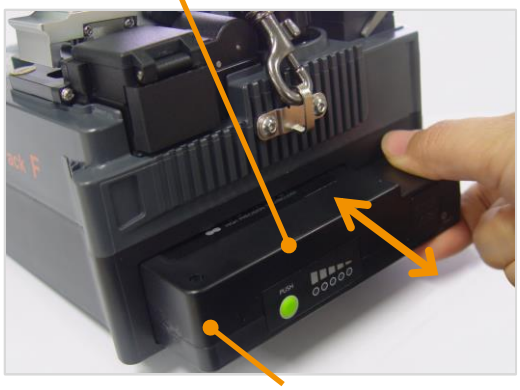
2. Battery

Battery installation

Use lock button to Install and remove the battery.

Lock button

Battery



Battery

IV. Features

Multipack-F is compact, light and convenient. It is recommended to carefully read the user manual before operation to understand the entire functions of Multipack-F.

1. Body


Stripper
Sleeve Heater
Cleaner
Cleaver
LCD Monitor
Control
Auto Chip
Collector
(Option)
Multi-Pack F


Optical Power
Module
VISUAL
FAULT LOCATOR
OPTICAL
POWER METER
USB
INTERFACE

2. Multipack-F Auto Stripper

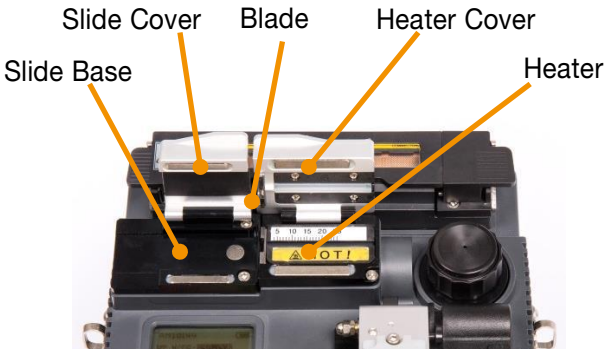
1) Features

Multipack-F automatic fiber stripper automatically carries out an accurate stripping of the coating of single fibers. Featuring excellent tensile force of fiber, the automatic stripper strips up to 27mm in length without damaging the surface of fiber. Read the user manual thoroughly to maintain the best performance of the unit.

2) Specifications

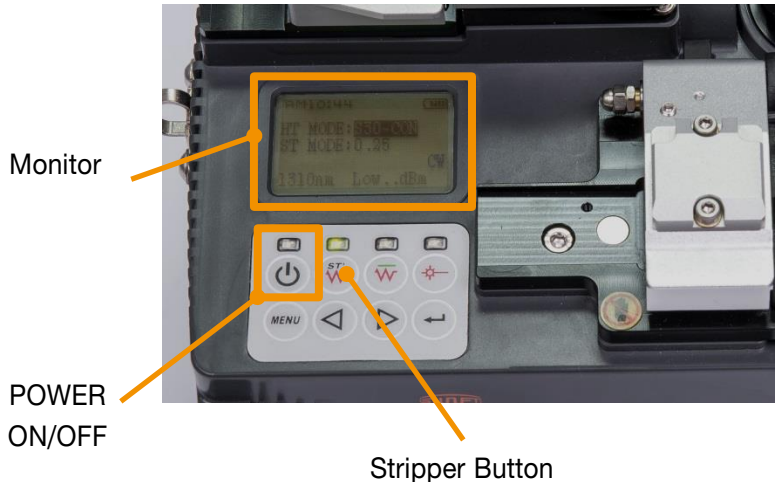
Strip Length	27mm
Applicable Optical Fiber Diameter	0.25, 0.9mm
Blade life	More than 100,000 times
Motor life	More than 1,000,000 times
Fiber count	Single type
Tension	More than 3kgf
Heating Time	2.2 sec
Heating Range	130℃

3) Configuration and the parts



< Front View >

< Control Panel >



3. Multipack-F Alcohol dispenser

1) Features

The alcohol dispenser in the Multipack-F has a limited capacity; the pump can be removed and refilled with cleaning fluid.
When refill the cleaner, use ethyl alcohol (96%).

2) Specifications

Dispensing method	Air-pump
Capacity of the alcohol dispenser / usage count	13ml/more than 100 times
Cleaner	Ethyl alcohol (96%)

3) Configuration and the parts

< Assembled >

< Disassembled >

4. Multipack-F Cleaver

1) Features

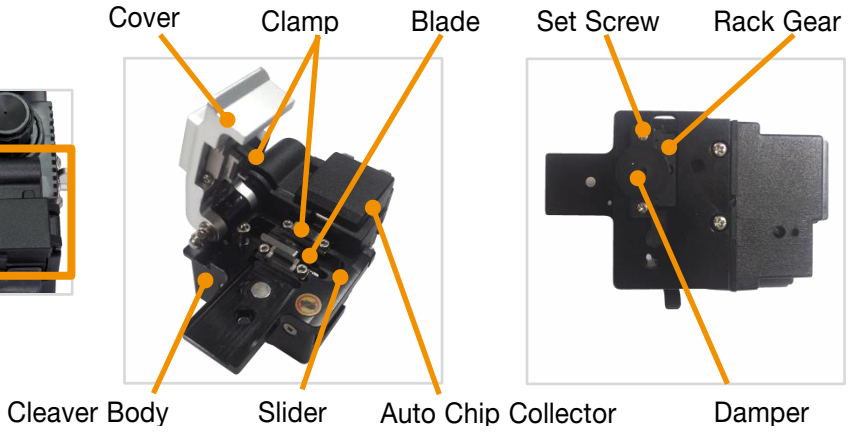
The cleaver is designed to cleave the fiber at a 90 degree angle.
For the best result, following requirements should be satisfied.

The coating of fiber shall be thoroughly stripped.
Optical fiber installed on holder groove should be straightened all the way
The state of cutting blade on the cutting part and the height of blades should be accurate.

2) Configuration and the parts

Applicable Fiber Diameter	Cladding diameter: 125㎛, Coating diameter: 250, 900㎛
Cleave Angle	90° ± 0.5°
Cleave Length	8mm
Blade life	50,000 times

3) Configuration and the part



< Front >

< Bottom >

5. Multipack-F Sleeve Heater

1) Features

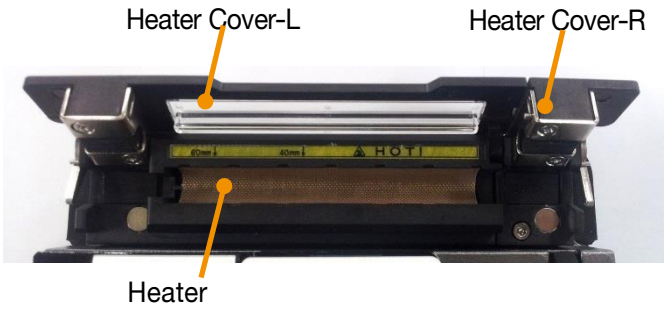
The sleeve heater is designed to strengthen the fiber spliced.
The following conditions must be satisfied to ensure maximum reinforcement.

The fiber splice point must be visually perfect after splicing
The optical fiber whose sleeve tube is inserted on sleeve heater should be correct in its alignment and installation.
The heater cover is closed when the sleeve heater is running.

2) Specifications

Applicable Cable Diameter	0.25mm, 0.9mm, 2.0mm, 3.0mm, 4.0mm, Indoor Cable, SC, FC, ST, LC Cable
Applicable Sleeve Length	60mm, micro, Connector Sleeve
Sleeve Heating Time	30sec(0.9mm Fiber), 70sec(Indoor, 3.0mm Cable), 80sec(SOC)
Heating Range	130℃ ~ 200℃

3) Configuration and the parts



< Front >

< Control Panel >

6. Multipack-F Optical Power Module

1) Features

The optical power module of Multipack-F is consisted of the optical power meter to measure optical power and the visual fault locator to check the disconnection of line. For exact measurement and utilization, the following conditions should be satisfied..

Optical light-reception unit of optical power meter should be clean.
The cross section of ferrule on optical connector inserted to optical power meter and the visual fault locator should be clean.

- Be careful not to dampen the equipment.
- Maintain the unit in a clean condition at all times because many of splicing problems are caused by dust or moisture.
- Keep and use the unit at room temperature as it could be deformed by heat.
- Keep the equipment from being shaken or physically impacted as it could be broken.
- Be careful and do not directly see the light output from the visual fault locator with naked eye as it could cause blindness.

2) Specifications

(1) Multipack-F optical power meter

Technical Specifications [a]

Power range [(1)]	5 to -50 dBm
Measurable wavelengths [(2)]	1310, 1490, 1550 nm
Calibrated wavelengths [b]	1310, 1550 nm
Power uncertainty [c]	±5%
Resolution [d]	0.01 dBm
Tone detection	270, 330, 1k, 2k Hz
Tone detecting range	5 to -30 dB
Display unit	dB/dBm/W
Optical adapter type	Standard: 2.5mm Universal adapter Optional: 1.25mm Universal adapter
Data storage	2000 results
Firmware upgrade	Enable
Warranty and recommended calibration interval	3 years

a. All specification valid at 1550nm without (1),(2) factors and 23℃±1℃ with an 2.5mm universal adapter for PC connector .
b. In CW mode
c. At -10dBm, CW mode
d. From +5dBm to -40dBm (From -40dBm to -50dBm: 0.1dB resolution)

Specifications

Operating temperature	-10℃ to 50℃
Storage temperature	-40℃ to 70℃
Relative humidity	0% to 85% non-condensing

(2) Multipack-F Visual fault locator

Technical Specifications [a]

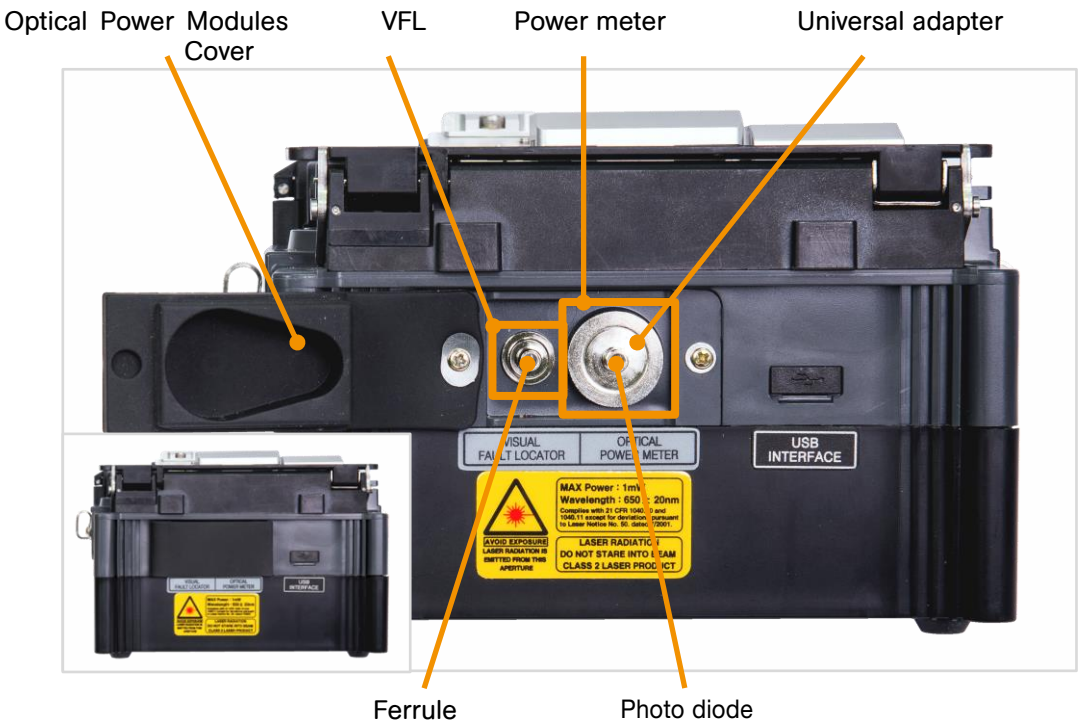
Laser source	Class 2 laser diode
Laser wavelength	650nm ± 20nm
Fiber compatibility	SM and MM
Output power	<1mW into single mode fiber
Output port	Universal adapter for connectors with 2.5mm ferrules
Distance range	<4km
Modulation	CW or 2~3Hz selected

a. All specification valid at 23℃ unless otherwise specified

Specifications

Operating temperature	-10℃ to 40℃
Storage temperature	-40℃ to 70℃
Relative humidity	0% to 85% non-condensing

3) Configuration and the parts



V. Operation

1. Function buttons

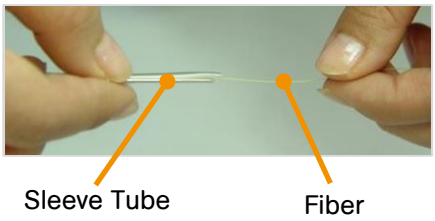
	Turns the power On/Off. The power is turned On/Off with beep sound upon pressing this button for about 1 second.
	Supplies power to the stripper heater. Toggles On/Off when pressed. LED is lit upon pressing this button and optical fiber can perform stripping after the stripper heater reaches the targeted temperature. The beep sounds when it reaches the targeted temperature.
	Provides power to the sleeve heater. Toggles On/Off when pressed. LED is lit upon pressing this button and heating is maintained for the preset period after the sleeve heater reaches the targeted temperature.
	Operates/Disengages the Visual fault locator. Repeats Laser Diode(Continuous)/ Laser Diode(Toggle)/Off whenever being pressed. LED is lit upon pressing this once and Laser Diode operates in Continuous mode. LED flickers upon pressing this once more and Laser Diode in the rear operates in Toggle mode. LED is turned off upon pressing this once again and VFL function is cancelled.
	Switches between menus.
	Moves the cursor leftwards or decreases preset values.
	Moves the cursor rightwards or increases preset values.
	Goes to submenu or changes/determines preset values.

2. Multipack-F Activation

Press and hold power button for 1 second.
Check the red light turns on.

3. Inserting optical fiber into the splice sleeve tube.

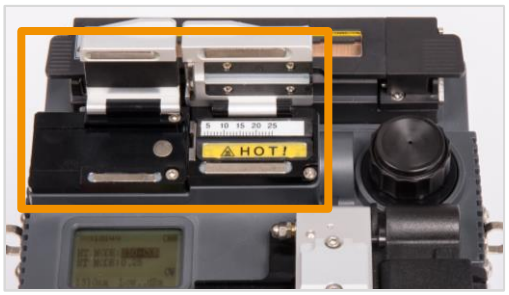
Insert optical fiber into the splice sleeve tube based on the assembling direction before stripping.



4. Stripping Procedure

① Preheat the heater by operating the stripping part control as shown in the picture. Open thermal heater cover and slide cover for preparation.

〈 Control Panel 〉



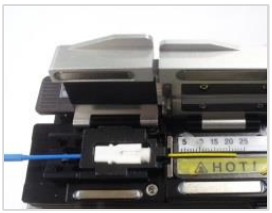
〈 Automatic Fiber Stripper 〉

② Place fiber into the holder as shown below pictures. The minimum stripping length should be longer than 18mm.

〈 Φ250 type 〉

〈 Φ900 type 〉

〈 Φ2.0~3.0 cable〉



〈 SOC type 〉

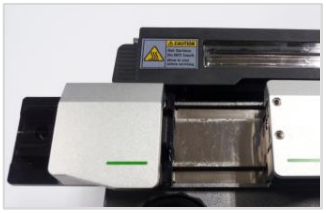
③ Mount the holder with the fiber onto the slider and close slide cover.

〈Φ250 type 〉

〈Φ900 type 〉

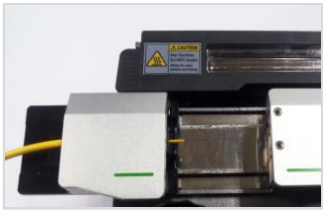
〈Φ2.0~3.0 type 〉

④ Upon closing the heater cover, the optical fiber is heated for the predetermined time period and then stripping is performed with the slider's automatic move.



〈 Ø250 type 〉

〈 Ø900 type 〉



〈 Ø2.0~3.0 type 〉

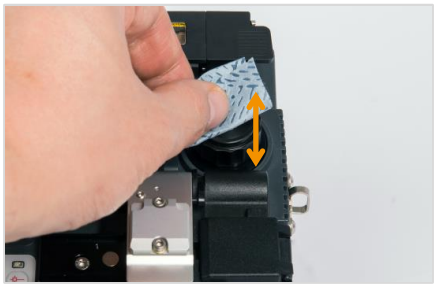
⑤ When stripping is completed, open the slide cover and pick up the holder with the stripped fiber. The slider moves back to the initial position as thermal heater cover is opened.

⑥ Clean the stripped optical fiber using cleaning wipe not to leave any foreign substances on.

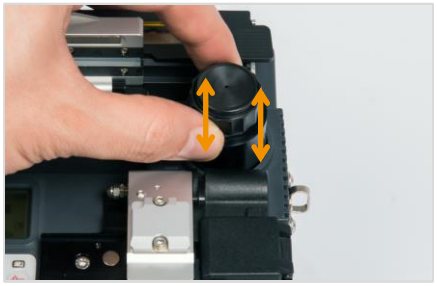
⑦ For the next operation, remove the stripped sheath remnants in heater, blade and holder seating part by using tools such as a soft brush. In cleaning, the blade is sharp, so careful not to make any damage both on human body and on the blade during its handling.

5. Cleaning Procedure

① When cleaning, pump the alcohol dispenser 2 or 3 times, using cleaning wipe as shown in the picture below.
In cleaning, cover the front of outlet with cleaning wipe and discharge it not to make the cleaner disperse.



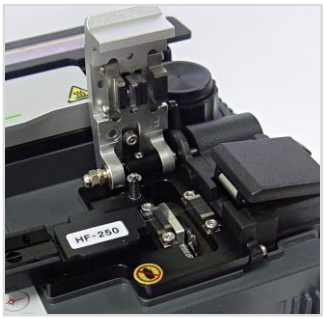
② When the cleaner is drained, open the cap and refill the cleaner.
Alcohol dispenser is attached to Multipack-F body with a magnet so pull it up all the way and completely separate it from Multipack-F body to refill the cleaner.



③ Use ethyl alcohol (96%) as the designated cleaner.

6. Cleaving Optical Fiber

① Open the cover and set the holder on which the stripped optical fiber is installed at the position for cutting the body. On doing this job, make the holder close to one side of holder base to make the optical fiber form a right angle to the blade.



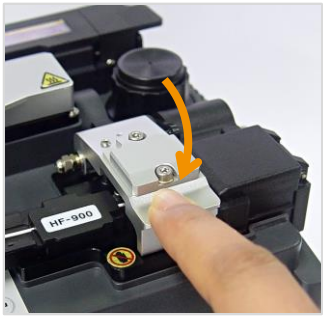
〈 Ø250 type 〉

〈 Ø900 type 〉

〈 SOC type 〉

② Cleave optical fiber by pressing the cover.

〈 Ø250 type 〉



〈 Ø900 type 〉

〈 SOC type 〉

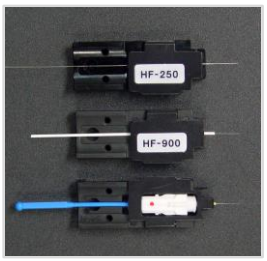
③ Open the cover and check the shape of optical fiber cutting.

〈Ø250 광섬유〉

〈Ø900 광섬유〉

〈SOC〉

④ Remove the cleaved optical fiber and the holder.
Be careful not to contaminate them with dust or foreign substance upon removal.
Chips of cleaved optical fiber are automatically collected in the chip box.



〈Ø250 광섬유〉

〈Ø900 광섬유〉

〈SOC〉

7. Placing a sleeve tube into the sleeve heater

Φ250, Φ900 type
: Place sleeve tube in the middle of sleeve heater and fix it by pushing it down.
Close heater cover.

SOC type
: Insert into the right side of the sleeve heater and close heater cover.

8. Heating Sleeve Tube

① Place the fiber which has been inserted into sleeve tube into heater.

② Place optical fiber – in which sleeve tube is put – on the sleeve heater. To make heater cover automatically closed when putting on sleeve heater, put the optical fiber while being hung upon the heater lever.

- It is crucial to set the splice point to be in the middle of sleeve tube.
- Place the guide inside the sleeve tube to be set underneath..

③ Press key to start tube heating.
HEAT LED (Green) is turned off when tube heating is completed.

Tube heating can be aborted by pressing key.

④ Take out the protected fiber from the heater after opening the heater cover.

Sleeve tube could be stuck to the bottom of the heater. Use a cotton swab to separate the sleeve tube from the heater.

⑤ Always examine the final sleeve tube to check whether there are bubbles, residue or dust in the sleeve tube.

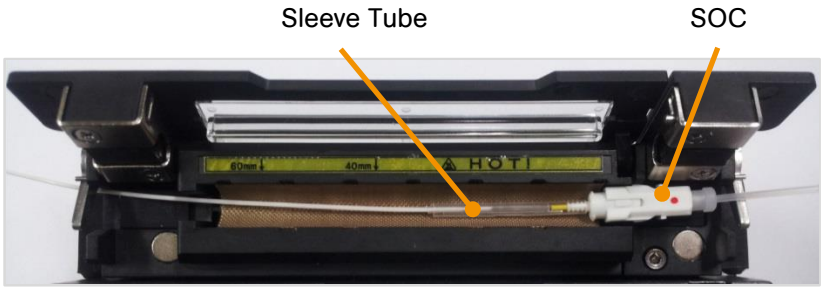
Operation Procedure (Heating Sleeve)

① As shown in the picture below, apply power to the control panel and open the cover of the heater to prepare.

< Control Panel >

< Heating Sleeve >

② Set the sleeve tube to the area of arc-fused fiber that needs to be reinforced and place the fiber inside the heater.
The SOC type should be set to the right-most position so that sleeve tube moves the heater as closely as possible.
For the connector type, change the heater cover for connector use and then place the sleeve tube on the right end so that sleeve tube can be as close to the heater as possible.



③ Activate the heater after placing the fiber. Approximately in 30 seconds after operation of sleeve heater, sleeve tube is cooled.

< Control Panel >

<Φ250 type >

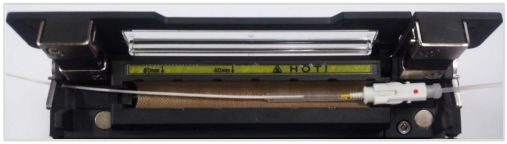
<Φ900 type >

<SOC type >

④ Open the cover when cooling is completed and take out the reinforced fiber.

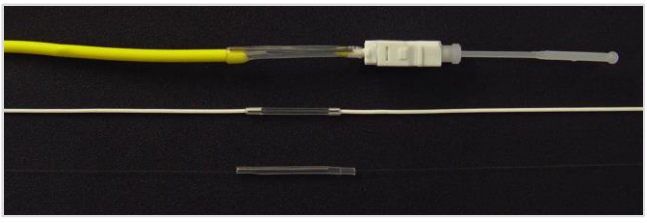
<Φ250 type >

<Φ900 type >



<SOC type >

<Cooling Tray>



<SOC type >

<Φ900 type >

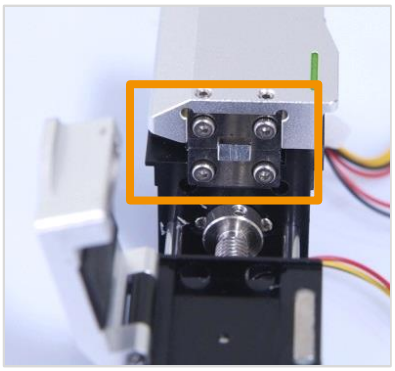
<Φ250 type >

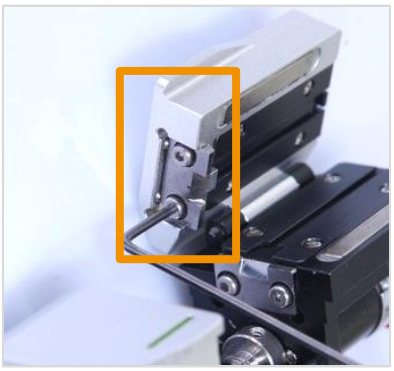
⑤ Assemble connectors upon which cooling is completed to make a finish.

VI. Maintenance

1. Auto Stripper maintenance

① Remove worn out blade by unscrewing fixed bolts as shown below picture, and move the slide part to the left hand side.





② Place new blade in the reverse manner of removing.
(Two blades as a pair at top and bottom)
For the perfect setting and fine stripping, there should be no cracks when the top and bottom blades make contact.

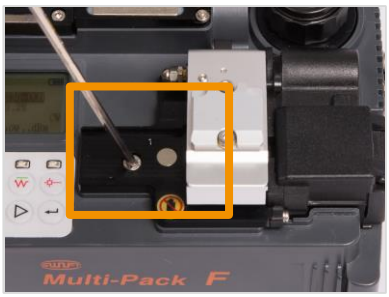
Handling and storage

- Be careful of using, handling or storing principal parts including blades, heater, etc as they are closely related to the equipment's operation life.
- Do not apply unnecessary weight or physical impact in handling the equipment.
- Keep the principal parts of the equipment in a clean condition always.
- Keep it clean and in a case when not using, which will increase the life of the equipment.

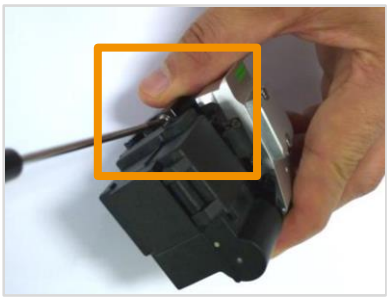
2. Cleaver maintenance

- 1 to 16 channel (cleave positions) is marked on a blade.
- If a blade does not cut fiber properly, clean the edge and top and bottom rubber pads of the blade with a cotton swab wet in alcohol
- (Do not use acetone or solvent to clean the rubber pads.)
- If the life of the blade is almost over, fiber may not be cleaved clean. In that case, change the blade channel or replace with new one.

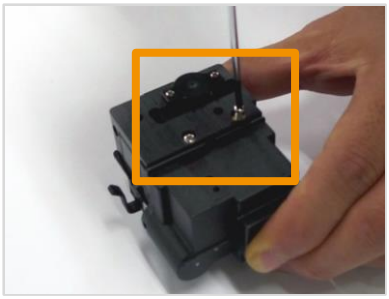
1) Changing the channel of blade (Position for cleaving)

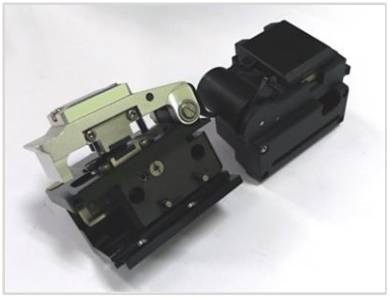


① Detach the automatic cleaver from the Multipack-F body using a hexagon wrench as shown below picture.

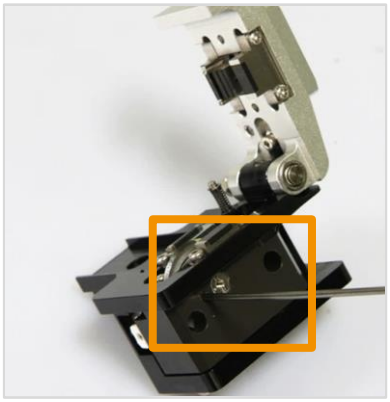


② Remove the Chip-Box using a hexagonal wrench as in the figure. (Optional)

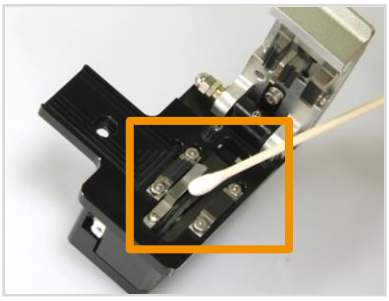




③ Open the cover and push the slider forward. When the slider is fixed, loosen the set screw a little bit (about 2 turns) with a hexagon wrench.

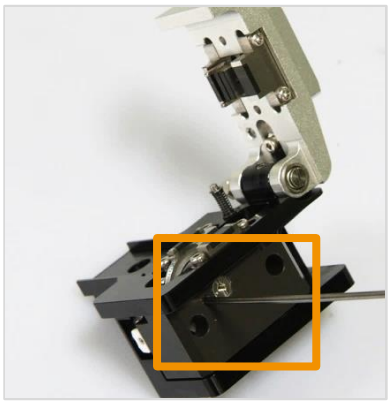


④ Turn the number on markings of blade by one click counterclockwise with a cotton swab.
Fixing: reverse order.

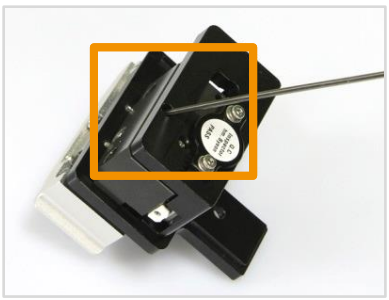


2) Blade replacement

① As shown below picture, loosen the set screw at the side of the cleaver detached from the body a little bit (around 2 turns) with a wrench.



② Insert a wrench into the hole at the bottom of the cleaver and loosen the Setscrew of the slider a little bit (about 2 turns).
At this point, the slider has to be moved backward.

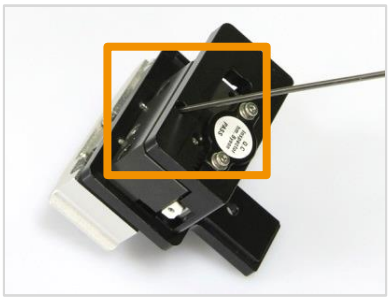


③ Insert the wrench bolt into the cam pin and pull it with tweezers and detach the slider.

④ Be careful not to damage the blade. Assemble the part in the reverse manner. Tighten the set-screw firmly.

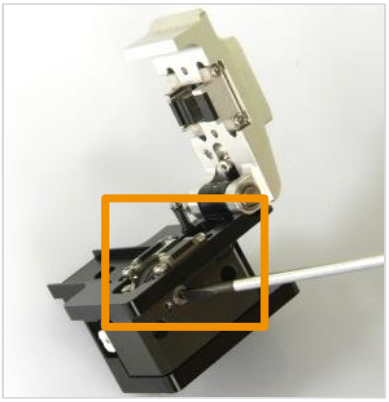
3) Adjustment of blade height

① Insert a wrench into the hole at the bottom of the cleaver and loosen the set screw of the slider a little bit (about 2 turns).
At this point, the slider has to be moved backward.



② Adjust the blade height by turning Cam Pin with a flat-head screwdriver.

- Clockwise turning: going upward
- Counter clock wise turning: going downward

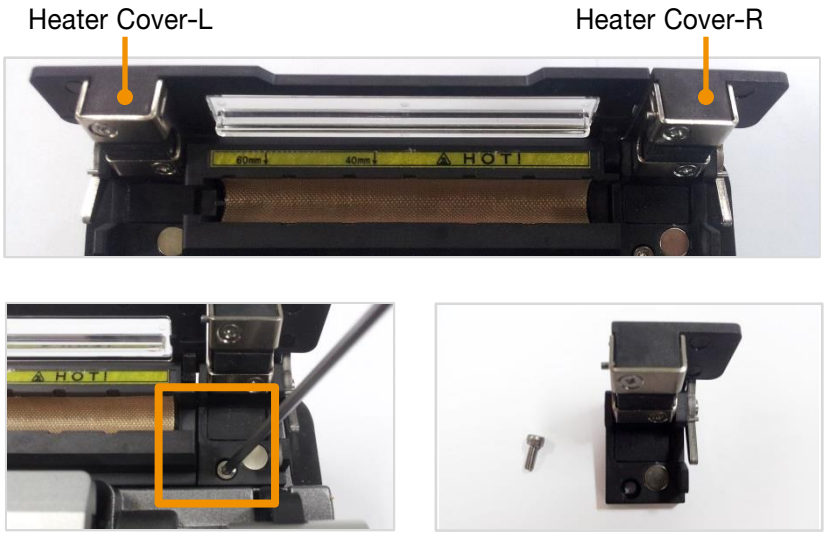


③ When the blade reaches required position, tighten the set-screw of the slider. Thoroughly and accurately set the height using a gauge because the height directly effects the cleave quality of fiber.

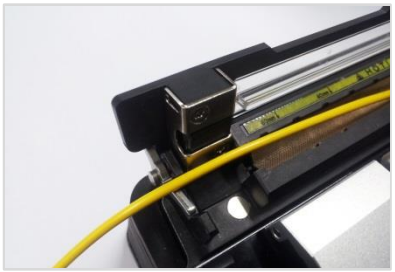
3. Sleeve Heater maintenance

1) Replacement & Adjustment of Sleeve Heater Block, Lever Block

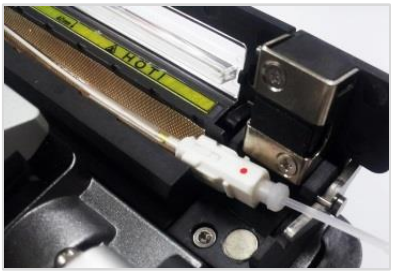
Sleeve Heater Assembly is as picture.



2) The Choice of Heater Block / Lever Block by fiber type



< Heater Block-R assembly
– 250, 900, 2.0~ 4.0mm Indoor Cable>



< Heater Block-R-C assembly
– SC/ FC/ ST/ LC Connector >

※ Multipack-F basic assembling: Heater Block-R-C assembly

Multipack-F components: Heater Block-R assembly

3) Handling and storage

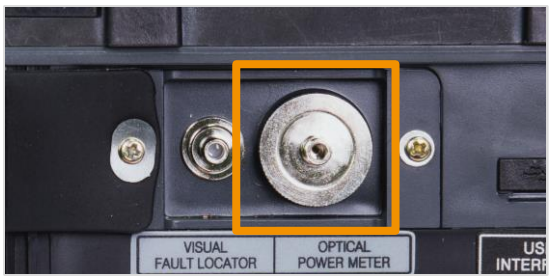
- Be careful in using, handling or storing principal parts including blades, heater, etc as they are closely related to the life of the equipment.
- Do not apply unnecessarily weight or physical impact in handling the equipment.
- Keep the principal parts of the equipment in a clean condition always.
- Keep it clean and in a carry case when not using, which will increase the life of the equipment.

4. Optical Power Modules maintenance

1) Multipack-F Optical Power Meter

① Block foreign substances with metal cap on when not being used.

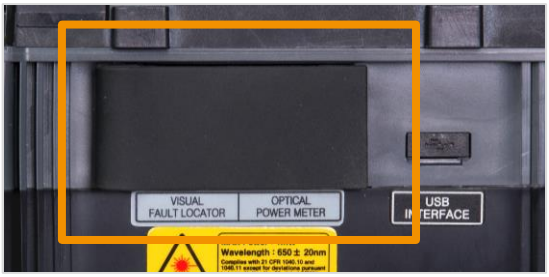
② Disengage the universal adapter first when the photo diode (receiver) on optical power meter is contaminated.



③ Subsequently, clean the photo diode with an alcohol cotton swab and then with alcohol-free one again.

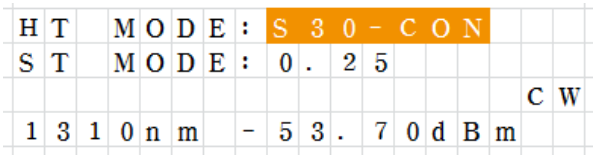
2) Multipack-F Visual fault locator

① Stay metal cap locked to block foreign substances when not in use.



VII. Menu

1. Main Menu



Press MENU button on [Mode Menu], and it returns to [Main Menu].

HT MODE indicates sleeve heater mode. You can change mode on main menu.

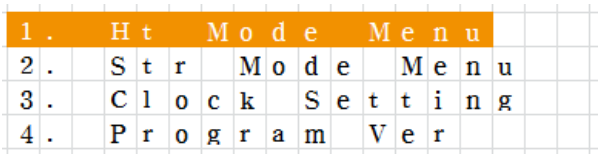
ST MODE indicates stripping mode. You can change mode on main menu.

CW measures and displays tone frequency of current optical power. It automatically detects and shows the frequency. The detectable tone frequency is Continuous (CW) / 270Hz / 330Hz/ 1KHz / 2KHz.

1310nm indicates the frequency of measured optical power. You can choose between 1310/1490/1550nm.

-53.70dBm indicates the current value on optical power meter. Optical power can be measured by units of dBm/uW/mW/dB. “Low..” is shown when it is below -60dBm..

2. Mode Menu



① Press MENU button on [Main Menu], and it goes to the [Mode Menu]. You can enter each mode by moving the cursor with LEFT and RIGHT button.

② Press MENU button on [Mode Menu], and it returns to [Main Menu].

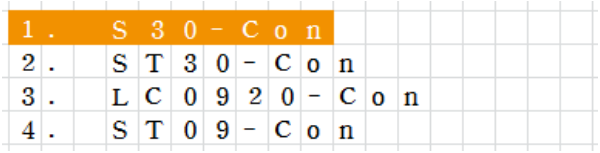
③ Ht Mode Menu is for setting mode of sleeve heater.

④ Str Mode Menu is for setting mode of stripping.

⑤ Clock Setting is for setting the time.

⑥ Program Ver shows the current version of program.

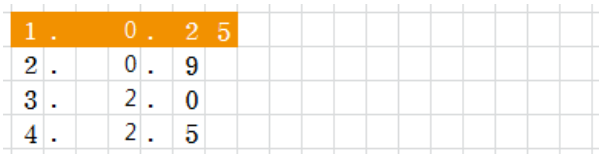
3. Sleeve Heater Mode (Ht Mode Menu)



① Move the cursor to Sleeve Heater Mode on [Mode Menu] and then press ENTER key, and you will enter [Heater Mode Menu].

② Move the cursor with LEFT and RIGHT button on [Heater Mode Menu], and you can change preset values on each mode.

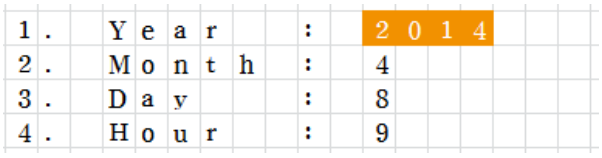
4. Stripping Mode (Str Mode Menu)



① Move the cursor to “Str Mode Menu” on [Mode Menu] and then press ENTER key, and you will enter [Stripping Mode Menu].

② Move the cursor with LEFT and RIGHT button on [Stripping Mode Menu], and you can change preset values on each mode.

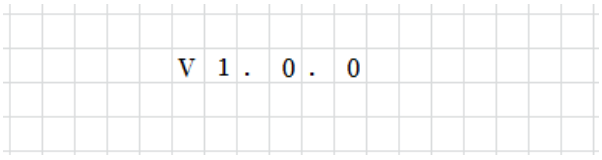
5. Clock Setting



① Move the cursor to “Clock Setting” on [Mode Menu] and then press ENTER key, and you will enter [Clock Setting].

② Move the cursor with LEFT and RIGHT button on [Clock Setting], and you can set year, month, day, hour, minute and second.

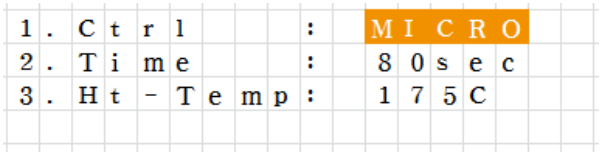
6. Checking Program Version (Program Ver)



① Move the cursor to “Program Ver” on [Mode Menu] and then press ENTER key, and you will enter [Program Version].

② You can see the current version of program.

7. Sleeve Heater Mode Setting



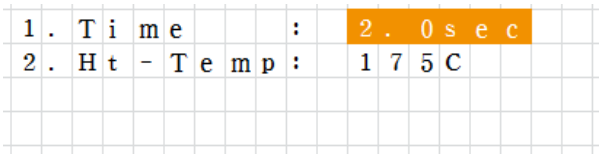
① Move the cursor to [Heater Mode Menu] with LEFT and RIGHT button and then press ENTER key, and you will enter [Heater Mode Setting].

② Ctrl setting determines whether sleeve is to be heated with connector type or general type.

③ Time setting determines the time for heating the sleeve in seconds.

④ Ht-Temp setting determines temperature for heating the sleeve in ℃.

8. Stripping Mode Setting



① Move the cursor to [Stripping Mode Menu] with LEFT and RIGHT button and then press ENTER key, and you will enter [Heater Mode Setting].

② Time determines the heating time for stripping (waiting time from closing the cover until stripping is completed).

③ Ht-Temp determines heating temperature for stripping in ℃.

9. Optical Power Meter

Connect the fused optical fiber to the laser source device and then to PhotoDiode adapter (PD) in the rear, and you can measure the optical power meter as in the figure above. You can see that the value of optical power changes from -53.70dBm when not being connected to the laser that generates optical power to -0.53dBm upon connection with the laser as in the figure on the left. You can alter wavelength and unit of measurement by moving the cursor with LEFT, RIGHT and ENTER button. Refer to “Example for mode alteration (wavelength alteration for optical power meter)” for making alteration.

The figure above shows when tone is output from the laser source. The left demonstrates output of laser source with Continuous mode and the right displays that the tone of 270Hz is automatically detected upon its generation. It can detect 270HZ/ 330HZ/ 1KHZ/ 2KHz.

VIII. Menu Operation

1. Going to Submenu

① Press MENU button on [Main Menu], and it goes to [Mode Menu], the submenu.

② Move the cursor to a targeted mode menu on [Mode Menu] and then press ENTER key, and it goes to the submenu of [Mode Menu].

③ Likewise, you can go to submenu further by moving the cursor to a targeted mode menu and then pressing ENTER key.

2. Going Up to Main Menu

① Press MENU button, and you can go up to main menu from submenu.

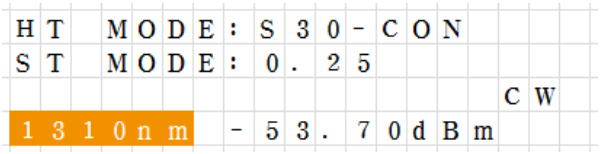
② For example, it goes as; [Menu for Setting Heater Mode Mode Setting] → pressing MENU button → [Mode Menu] → pressing MENU button → [Main Menu].

3. Changing Modes or Preset Values

Every menu operates with LEFT, RIGHT and ENTER button to change modes or preset values. One mode or preset value is selected by moving the cursor with LEFT and RIGHT button and it is then subject to alteration. Put the cursor on mode or preset value on which you want to apply change and then press ENTER key, and the cursor starts to flicker. The mode or preset value starts to change upon pressing LEFT and RIGHT button. When mode or preset value is properly settled, press ENTER key to determine the mode or value as it is. Then the cursor stops flickering.

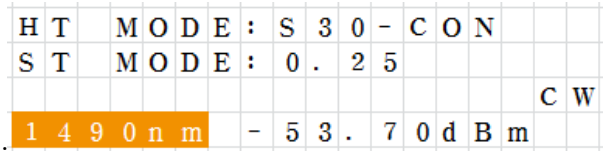
4. Example for Mode Alteration (Wavelength alteration for optical power meter)

① Move the cursor to “1310nm” [wavelength] with LEFT and RIGHT button and then press ENTER key, and you will enter [wavelength setting].

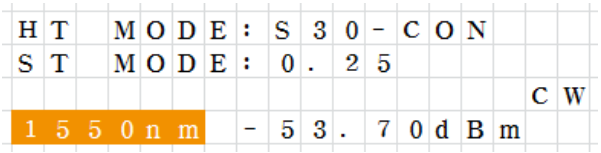


② Cursor starts flickering upon pressing ENTER key.

③ It switches to “1490nm” as in the figure below upon pressing RIGHT button.



④ It switches to “1550nm” as in the figure below upon pressing RIGHT button once more.

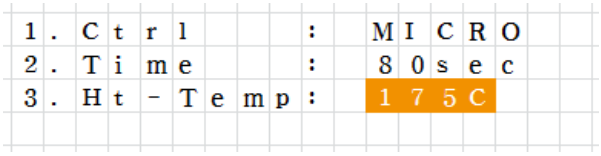


⑤ It is settled as “1550nm” upon pressing ENTER key.

⑥ You can also change mode in “HT MODE”(Sleeve Heater Mode) and “ST MODE”(Stripping Mode) with the same method.

5. Example for Preset Value Alteration (Preset value alteration on sleeve heater mode)

① Locate the cursor at "175C" as in the figure below on Menu for Setting Heater Mode.



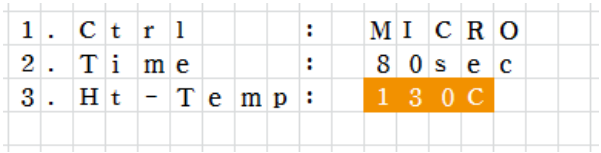
② Cursor starts flickering upon pressing ENTER key.

③ The preset value goes down to "174C" upon pressing LEFT button once.

④ The value quickly goes down upon continuously pressing LEFT button.

⑤ Disengage the LEFT button when you reach a proper value.

⑥ Complete the setting with LEFT and RIGHT button and then press ENTER key, and the cursor stops flickering and the value is settled as in the figure below.



IX. Warranty Period and Contact

1. Warranty Period and Limit of Responsibility

If Multipack-F is broken within one year from delivery, it will be repaired by the manufacturer for free. However, the buyer will be charged for the repair regardless of the warranty period if the breakage or damage incurred due to.

① Natural disaster,

② Application of abnormal high frequency voltage,

③ Misuse and mishandling,

④ Handling or maintenance not meeting the operational procedures or instructions presented in service manual and

⑤ Damaged Warranty Seal.

2. Before sending the equipment

Please contact ILSINTECH first.

3. For more effective maintenance and repair

① Buyer should include a note which describes
(Name, department, company, address, telephone no, Fax no, e-mail address)

② Serial number of Multipack-F

③ Error messages appeared when an incident or breakage occurred. Possibly with a brief explanation of the symptoms or reasons for repair including the condition and time of incident, current condition and monitor condition, etc.

4. Transport

Multipack-F is high-precision equipment. So it is required to protect it from moisture, vibratiom, shake or physical impact by transporting it after keeping in an exclusive carrier case. When requesting for repair service, please, make sure that the body with components is sent in an exclusive carrier case.

5. Repair

Save contents such as splicing results or splicing modes which might be removed during repair service.

Products Warranty

Name of product		Multipack-F	
Production Number			
Date of purchase			
Customer	Name		Telephone
	Address		

Limited Warranty

- This product is manufactured under strict quality management and inspection processes.
- ILSINTECH Co., Ltd warrants this product against defective materials and workmanship for a period of one year from the date of purchase. However, this warranty does not cover a damage or failure caused by or attributable to a reason for Exclusion and Limitations even if the equipment is still under warranty.
- This warranty card has to be presented when the product is repaired.
- Multipack-F is high precision equipment, so it is required to transport after keeping it in an exclusive carrier case to protect it from humidity, vibration and physical shock.

Exclusion and Limitations

This warranty will not cover a damage or failure and charges (repairing charge + part + travel expenses) will apply even if the equipment is still under warranty, if such damage or failure has occurred due to or when

- Natural disaster,
- Applying over-voltage,
- Misuse and mishandling,
- Customer's negligence not following instructions or operation procedures provided by this service manual, or
- The warranty seal is broken or damaged.

- Contact the service center or the dealer you purchased the machine when you require maintenance or repair service.