Pro'sKit®

TE-680x series
Fiber Optic Fusion Splicing Machine Kit

User's Manual

1st Edition, 2024

Please read this Operation Manual carefully before operating the equipment.
Comply with all safety procedures and warnings in this manual.
Keep this manual properly in a safe place.

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The Optical Fiber Fusion Splicer is designed for the optical quartz glass Fiber used in the communications, except which it cannot be used to splice any other substances and for other applications.

Considering the user's personal safety, here we provide the user with a lot of safety cautions，because it is possible to result in electric shock, fire and personal injury if the user improperly uses the Optical Fiber Fusion Splicer.

Please read seriously, by all means, this Operation Manual before operating the equipment.

Comply with all safety requirements and warnings in this manual.

Keep this manual properly in a safe place.

In case of meeting a failure, please stop using the equipment, and contact us as soon as possible

Keep this manual properly in a safe place, so as to refer to it in the future.

⚠ VARNINGS AND CAUTIONS FOR SAFE OPERATION

It is necessary to immediately turn off the power switch of the Optical Fiber Fusion Splicer ; pull the AC power cord out of the AC power outlet; and take out the storage battery from the Optical Fiber Fusion Splicer, in case of meeting the following failures:

- Smoke, peculiar smell, abnormal sound or heating abnormalities;
- Liquid or foreign objects into the equipment;
- The Optical Fiber Fusion Splicer has been damaged or broken.

If the user has not timely adopted measures to solve failures of the Optical Fiber Fusion Splicer in case of meeting these failures, it may cause the equipment scrap, electric shock, fire or personal injury or even death.

The AC-DC adapter and battery charger of the Optical Fiber Fusion Splicer can only use an AC power source (100V-240V AC, 50hz-60hz). If the user uses the improper AC power source, it may possibly lead to smoke, electric shock, equipment damage, and even cause the fire or personal injury or death. (Note: Usually, AC generators output abnormal high pressure and irregular frequency, so that it is necessary to measure generator's output voltage value with the ammeter before connecting the AC power cord. Abnormal high pressure or frequency can lead to smoke, electric shock, equipment damage, and can even cause fire or personal injury or death. Make sure the generator's regular check and maintenance.

Please use the specific AC-DC adapter. If you use the inadequate AC-DC adapter, it may possibly lead to smoke, electric shock, equipment damage, and cause the fire or personal injury or even death.

Please use the specific batteries. Only the batteries supplied by the manufacturer are allowed to be used for the equipment. Please use the specific battery charger to charge the batteries. If you use other batteries or battery chargers, it may possibly lead to smoke, electric shock, equipment damage, and cause the fire or personal injury or even death.
Don't make bold to disassembly or modify the Optical Fiber Fusion Splicer, the specific AC adapter, or the batteries, esp., any electronic and mechanical devices (fuses or safety switches) inside the equipment can not be removed or bridged. Any improper maintenance may possibly lead to the damage of the Optical Fiber Fusion Splicer, and even cause electric shock, the fire or personal injury or death
It is prohibited to use the Optical Fiber Fusion Splicer in the flammable liquid or gas environments, where the discharge of the Optical Fiber Fusion Splicer may cause the fire or explosion.
Do not use the compressed or canned air cleaner to clean the Optical Fiber Fusion Splicer. Otherwise the arcing generated by splicing will ignite the residual flammable matter.
Don't use the Optical Fiber Fusion Splicer in the environment of high temperature or nearby the high temperature object, and also in the place where there are too much dusts or higher humidity, otherwise it may possibly lead to equipment damage, cause the fire, get an electric shock, degrade the equipment performance, and cause the worse splicing loss.
Please don't use the wet hand to contact the Optical Fiber Fusion Splicer, the AC power cord and AC power plug; otherwise it may possibly cause the risk of getting an electric shock.
When the surface of the Optical Fiber Fusion Splicer is vapor-condensed, please don't operate the Optical Fiber Fusion Splicer, otherwise it may lead to electric shock or equipment damage.
When the Optical Fiber Fusion Splicer is operating, please don't touch the electrode, otherwise the high pressure and high temperature generated by electrode discharge may cause severe electric shocks and burns (Before changing the electrode, you must firstly turn off the power supply of the Optical Fiber Fusion Splicer, remove the batteries, and pull out the AC power cord.)
Do not let the DC input ports of the Optical Fiber Fusion Splicer be short-circuited. The excessive current may lead to personal injury, smoke, electric shock or equipment damage.

Do not use any chemical substances other than alcohol to clean such devices as the objective lens, the V-shaped groove, reflecting mirror, LCD screen, etc., of the Optical Fiber Fusion Splicer. Otherwise it will cause the imaging to be unclear, with stains, corrosion and damage.

The Optical Fiber Fusion Splicer does not need any lubricant, lubricating oil or grease, which will reduce the performance of the Optical Fiber Fusion Splicer and possibly damage the Optical Fiber Fusion Splicer.

For the Optical Fiber Fusion Splicer having passed through the accurate adjustment and calibration, don't subject it to strong shock or collision, otherwise this may possibly cause damage to the equipment. Please use the provided case to transport and store the Optical Fiber Fusion Splicer, so as to effectively protect it from strong vibration or collision.

Don't let the Optical Fiber Fusion Splicer be positioned at an unstable or uneven place, otherwise it may possibly move and lose its balance and fall over, causing the equipment damage and the personal injury.

For the heat-shrinkable sleeve during heating or just at the end of being heated, please don't touch it, because at this time, the temperature of its surface is very high, if you touch it, this may possibly cause burns to you. When you need to bring the portable Optical Fiber Fusion Splicer with shoulder-strap carrying case, please check whether the shoulder strap and hook are intact to you or not. If you use a damaged shoulder strap, it may possibly cause the shoulder strap to be ruptured or escape from the hook, resulting in the personal injury or the equipment damage.

The Optical Fiber Fusion Splicer must be maintained and debugged by a professional technician or an engineer. The incorrect maintenance for it may possibly cause the fire and the electric shock. If the Optical Fiber Fusion Splicer fails, please contact a service center.

Please use the storage batteries strictly according to the Operation Manual. The wrong use may cause the battery explosion and the personal injury.

- Do not use certain methods other than those mentioned in the Operation Manual for battery charging;
- Do not dispose of batteries in fire or incinerator;
- Do not charge and discharge the storage batteries at the place being close to the fire or under the direct sunlight;
- Do not let the batteries be subjected to the severe shock;
- If the battery leaks, you must handle it with caution, and pay attention to preventing the battery leaking liquid from touching your skin or eyes. In case that you have accidentally touched the battery leaking liquid, you must immediately and thoroughly clean the touched parts, and seek medical care immediately. At the same time, please properly handle the

leaking battery and notify the maintenance service center for solving the related issues.

- In case of charging the batteries, it is not allowed that the batteries will be stacked up on top of the AC-DC adapter or charger.

Please correctly use the electrodes according to the Operation Manual.

- Use only the specific electrodes
- Correctly replace the electrodes
- The electrodes must be replaced in pairs

If the above instructions are ignored, it may cause the abnormal discharge of the Optical Fiber Fusion Splicer, the splicing performance degradation or even damage to the equipment.

The manufacturer or Seller will not assume the responsibility for the Buyer's or user's personal injury and losses of the articles or equipment caused by that the user ignores the warning and uses or repairs the Optical Fiber Fusion Splicer incorrectly.

Recycling and Disposal

EU countries:
According to the EU's European Parliament's implementation standard:2012/19/EU, in order to use the new resources and make the number of buried waste to be minimized, the reusable and / or recycling electronic components and materials have been identified and recognized. If you are in the EU countries, please do not use this product as unsorted municipal living solid waste to be discarded. Please contact your local relevant agencies.

Other countries:
For recycling this product, please firstly disassemble it, and then classify each part according to different materials, and keep to the relevant local regulations related to the recycling.

PRODUCT INTRODUCTION

1.Specifications：

Model no.	TE-6801A	TE-6801F	TE-6801A-W	TE-6801F-W
Applicable fiber	SM，MM，NZDS，EDF			
Average splice loss	0.015dB(SM)，0.01dB(MM)，0.04dB(NZDS)，0.04dB(ED)			
Splice time (Sec.)	9s (for SM fiber)			
Suitable for cutting optical fiber length	10～16mm			

Suitable for optical fiber core	Cladding diameter:80-150μm, Coating diameter:100-1000μm	
Return loss	≧60dB	
Fiber image magnification	Separately X or Y views with 520 times or 260 times for X and Y view together	
Working motor	6 motors	
Fiber alignment	core to core	
Fiber recognition	G651/G652(654)/G655	
Tension test	2.0N(200gf)(standard)	
Splice program	50 groups	
Electrode life	5000 times	
Protection sleeve length	20mm~60mm	
Storage of splice result	6000 groups of splice results	
Storage of splice image	100 groups of splice images	
Monitor	4.3 “high resolution colorful LCD	
Communication port	Micro USB	
Working light	1 LED light	
Power indication	5 led indication	
Operation condition	Temperature: -10~+50℃	
	Humidity：0~95%RH	
	altitude： 0~5000m	
Standard plug	A type  F type 	A type  F type 
Package	1.Machine x 1pc 2.Fiber Cleaver x 1pc 3.Fiber Stripper x 1pc 4.AC Adaptor x1pc 5.Battery x1pc 6.Spare Electrodesx1set 7.Protection sleeve (60mm)x 25pcs 8.Liquid dispenser bottle x 1pc 9.Cooling Tray x 1pc 10.Operation Manual x 1pc 11.Carrying Belt x 1pc 12.Carrying Case with Carrying Strap x 1pc	1.Machine x 1pc 2.AC-DC Adaptor x1pc 3.Battery x1pc 4.Spare Electrodes x 1set 5.Protection sleeve(60mm) x 25pcs 6.Cooling Tray x 1pc 7.Operation Manual x 1pc 8.Carrying Belt x 1pc 9.Carrying Case with Carrying Strap x 1pc 10.Disk (with communication program, driver and Instructions)

	13.Disk (with communication program, driver and Instructions)	
Power supply	Lithium battery: 10.95V/5.2A	
	Adapter: Input AC 100~240 50/60Hz; Output: DC15V/5A	
Dimension (W x D x H)	149x135x135mm	
Weight（approx）	1.75Kgs (include battery) , 1.4Kgs(not include battery)	

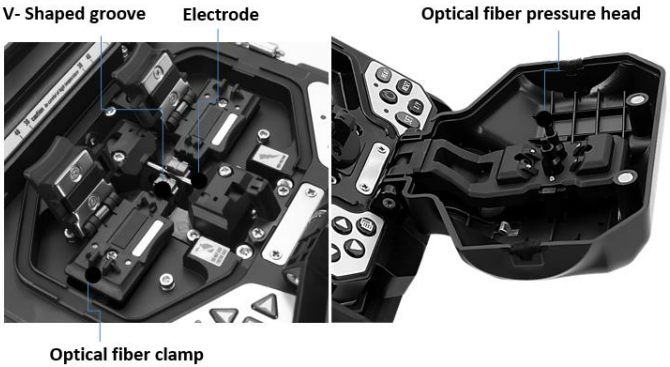
TE-6801A / TE-6801F

TE-6801A-W / TE-6801F-W

2. OTHER NECESSARY ACCESSORIES FOR SPLICING OPERATION

1. Optical Fiber heat-shrinkable sleeve (20~60mm, not include)
2. Alcohol Without Water(Purity: >99%)(not include)
3. Tissue, Gauze or Skim Cotton Cloth (not include)

3.DESIGNATION OF COMPONENTS OF OPTICAL FIBER FUSION SPLICER



MAIN POINTS OF FUSION SPLICING PROCEDURES

1. How to Get Small Splicing Loss

1-1. Necessary Regular Cleaning Jobs

- To Clean V-Shaped Groove
- To Clean Reflecting Mirror
- To Clean Optical Fiber Pressure Head

- To Clean Objective Lenses

In case of cleaning Objective Lens，it is unnecessary to remove needle electrodes

1-2. Selection/Usage of Appropriate Splicing Modes

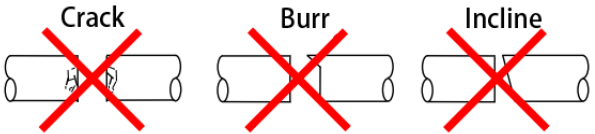
Please select the appropriate splicing modes according to different sorts of the Optical Fibers.

1-3. Equipment Clean-up before Each Fusion Splicing Operation

- To clean the blades of Optical Fiber Stripper.
- To clean the rubber pad and blades of the Optical Fiber Cleaver.

1-4. FUSION SPLICING PROCEDURES

- Make sure that the coating residue and other contaminants on the optical fiber will have been removed after stripping the optical fiber.
- Please use the pure alcohol with a concentration of more than 99%.
- Do not let the well-cut end of the optical Fiber touch any object or be contaminated.
- Please put the end of the optical Fiber at the place between the edge of the V-shaped groove and the center of electrode.
- Please put the optical Fiber rightly on the bottom of the V-shaped groove.
- Make sure the correct cut length. If the cut length is too short, the optical Fiber's coating edge may possibly encounter the V-shaped groove, so that two optical fibers can not be, in the discharge process, fully close to each other, resulting in undesirable loss of fusion splicing.
- Do not tight the optical fibers, otherwise, two optical fibers can not be, in the discharge process, fully close to each other, resulting in undesirable loss of fusion splicing.
- Please check the cutting angle and shape of the optical fiber's end face. The optical Fiber's cutting angle will affect the fusion-splicing quality, and a large cutting angle will increase the loss of fusion splicing.



- It is possible to observe the discharge from the display screen. If

the discharge "vibration" or "flickering light" are being observed, the discharge may be unstable at this time and will result in adverse loss.

- In case of heating, the Optical Fiber heat-shrinkable sleeve shall be placed in the center of the heater, so as to avoid uneven heating and lead to additional losses.

2. Power Supply

Please only use the AC-DC Adaptor provided by the manufacturer. Please only use the Storage Battery and Battery Charger provided by the manufacturer.

2-1. Avoidance of Damage to AC Adapter

- The AC generators may possibly produce abnormal output of AC high voltage or irregular frequency.
- The abnormal high voltage and frequency output from the generator may possibly lead to smoke, electric shocks and damage to the equipment, and even cause the fire, the personal injury or death. So, before connecting the AC power supply, you must use a multimeter to measure the generator output voltage.

2-2. Storage Battery

- Even if the storage battery is not used, its capacity will also gradually go down along with the time goes, and if it is fully discharged, it would never be able to charge into the electricity. So, if it will be stored for a long time or it has been used, please charge it in time.
- If it is necessary to store a pack of storage battery for a long time, and no matter how much electricity quantity it has been charged before, you should charge it every six months.
- For operating/charging/longtime storing the storage battery, please refer to the conditions as below:

Operating: -10 ℃ ~ +50 ℃

Charging: 0 ℃ ~ +40 ℃

Longtime Storing: +20 ℃ ~ +30 ℃

BASIC OPERATIONS

1. POWER CONNECTION

OPTICAL FIBER FUSION SPLICER provide two power-supply modes: ① Storage Battery; ② AC-DC Adapter. Please make sure that OPTICAL FIBER FUSION SPLICER shall be turned off .in case of operating it.

1-1. Insertion of the Storage Battery

Insert the storage battery into the battery slot until it is properly in place.

1-2. Removal of the Storage Battery

Using one hand to press and hold the release button and also support the edge of OPTICAL FIBER FUSION SPLICER, and the other hand to push the storage battery out.

1-3. Connection of the AC-DC Adapter

Put the plug into socket on the back of device.

1-4. Disconnection of the AC-DC Adapter

Pull out the plug.

2. TURNING ON POWER OF OPTICAL FIBER FUSION SPLICER

Press power button to switch ON/OFF device.

3. LAYING OPTICAL FIBER

1) To open the wind-protector cover and the optical fiber clamp cover;
2) To get the ready optical fiber to be placed in the V-shaped groove, and make the end of optical fiber be placed at the position between the edge of the V-shaped groove and the electrode tip;
3) To use fingers to nip the optical fiber, then to close the optical fiber clamp cover so as to ensure that the optical fiber will not move, and make sure that the optical fiber will be placed at the bottom of the V-shaped groove. If the optical fiber is placed incorrectly, please place the optical fiber over again;
4) To place another optical fiber according to the above step;
5) To close the windproof cover.

4. SPLICING OPERATION

4-1.Optional Operation Modes：AUTO/MANUAL

AUTO：By pressing the SET key, it is able to start the fusion splicing operation.

MANUAL：For the Manual operation, please refer to the details on P15.

4-2.Optional Types of Optical Fibers: Single Mode (SM) / Multi Mode (MM) /Non-Zero Dispersion-Shifted (NZDS) / Erbium-Doped (ED) Optical Fiber

4-3.Pause Functions: Open/Close

Open: After the completion of the core-to-core, press the SET

key to perform the fusion splicing.
Close: After the completion of the core-to-core, automatically perform the fusion splicing.

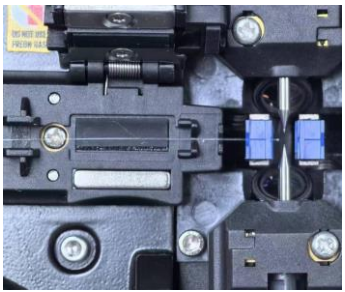
5. TAKING OUT OPTICAL FIBER AND HEAT IT UP

1) Open the heater lid;
2) Open the windproof cover;
3) Open the optical fiber clamp covers at the left and right;
4) Take out the optical fiber and move Optical Fiber heat-shrinkable sleeve to the splicing point;
5) Place the Optical Fiber heat-shrinkable sleeve in the centre of the heater and cover the heater lid;
6) Press the HEAT key to heat, the heat indicator will also light up;
7) When the heat indicator goes out and a hint sound appears, the heating is completed;
8) Turn on the heater lid, and take out the optical fiber to check and see if the optical fiber contains air bubbles or not;
9) After completing the checks, place the optical fiber in the Cooling Salver to cool it.

6. **How to use fixture**

Optical fiber splicing fixture (3-in-1)，support Bare fiber splice，2mm/3mm Pigtail/simplex optic，0.9mmPigtail/Simplex cable splice and rubber-insulated wire/Drop cable splice use。

details as follows:(the pictures for reference only)

Bare fiber splice	[2mm/3mm]Pigtail/simplex optic cable splice
	

0.9mmPigtail/Simplex cable splice	rubber-insulated wire/Drop cable splice
	

MAINTENANCE OF FUSION SPLICING QUALITY

1. CLEANING AND CHECKING BEFORE FUSION SPLICING

The following describes the maintenance checks for the key cleaning points and the important parts.

1-1.Cleaning the V-Shaped Groove

If there are dusts or contaminations in the V-shaped groove, the optical Fiber Pressure Head can not suppress the Optical Fiber correctly, resulting in that the loss of fusion splicing is larger. So, in regular operation, it is necessary to check more often and clean regularly the V-shaped groove.

- To open the windproof cover.
- To clean the bottom of the V-shaped groove with a cotton swab just having had a dip in alcohol (above 99% alcohol), and remove the excess alcohol in the V-shaped groove with a dry cotton swab.
- If contaminations in the V-shaped groove can not be removed with a cotton swab just having had a dip in alcohol, you can use the well-cut end face of the optical Fiber to clean the bottom of the V-shaped groove, and then repeat the previous step.
- In case of cleaning the V-shaped groove, be careful and don't exert an excessive force, so as to avoid damage to the V-shaped groove.
- Be careful and don't touch the tip of the needle electrode.

1-2. Cleaning Up the Optical Fiber Pressure Head

If there are contaminations on the Optical Fiber Pressure Head, the optical Fiber Pressure Head can not suppress the Optical

Fiber normally, resulting in degrading the quality of fusion splicing.

- To open the windproof cover.
- To clean the surface of the Optical Fiber Pressure Head with a cotton swab just having had a dip in alcohol (above 99% alcohol), and remove the excess alcohol on the surface of the Optical Fiber Pressure Head with a dry cotton swab.

1-3. Cleaning the Optical Fiber Cleaver

If there are contaminations on the blades of the Optical Fiber Cleaver or the rubber pad, the cleaving quality will be degraded, and lead to dusts on the surface of the optical Fiber, resulting in the increase of the loss of the fusion splicing. It is necessary to clean the blades of the Optical Fiber Cleaver. or the rubber pad with a cotton swab just having had a dip in alcohol (above 99% alcohol)

1-4. Discharge Tests

Atmospheric environment, such as: temperature, humidity, air pressure, is constantly changing, so that the discharge temperature is also changing. Due to the electrode wear, it is unable to automatically correct the discharge strength caused by the bonding of the optical Fiber debris. The center of the discharge sometimes will move to the left or to the right. At this time, it is necessary to make the discharge tests to solve these problems. It is also necessary to do discharge tests in case of using the Optical Fiber Fusion Splicer under the following conditions: such as ultra-high temperature, ultra-low temperature, very dry, very wet, electrode degradation, fusion splicing of the heterogeneous optical Fibers, cleanness, after replacing the electrode, or in the case that above conditions exist simultaneously.

2. REGULAR CHECKING AND CLEANING

In order to ensure the better splicing quality, it is suggested to check and clean the Optical Fiber Fusion Splicer regularly.

2-1. Cleaning the Objective Lens

If there are contaminations on the surface of the Objective Lens, the normal location of the observed optical Fiber core may be affected, resulting in the increase of the fusion splicing loss or poor fusing splicing, so, it is necessary to regularly clean two objective lenses, otherwise, the cumulative contaminations are difficult to remove.

- Before cleaning, please firstly turn off the power supply.
- Using a cotton swab just having had a dip in alcohol (above 99%

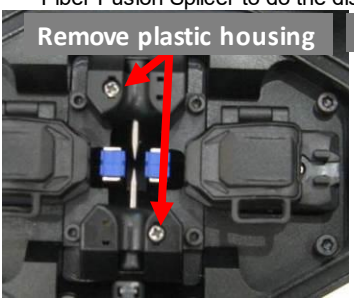
alcohol), to gently wipe the surface of the objective lens, starting the wipe from the middle of the lens to do a circular movement until the edge of the lens, and repeating several times until there are no contaminations or stains or stripes. Finally, use a clean and dry cotton swab to wipe out the residual alcohol on the surface of the objective lens.

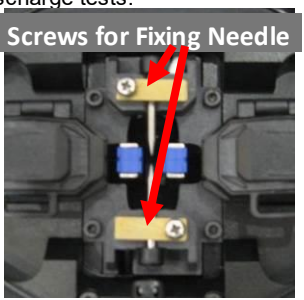
- Be careful and don't touch the electrode tip in case of cleaning.
- It is recommended to clean the lens in case of replacing the needle electrode.

2-2.Replacing the Electrode

The electrode will wear in use, and the electrode tip will be aggregated with silicon oxide, so, to regularly clean the oxide can effectively extend the life of the needle electrode. It is recommended to replace the electrode after Optical Fiber Fusion Splicer has discharged 3000 times. If you continue to use the electrode, it may most probably lead to have a very large fusion-splicing loss and reduce the strength of the fusion-splicing points. Steps of replacement of the needle electrode:

- To turn off the power supply of the Optical Fiber Fusion Splicer.
- To screw out fixing screws, and remove the old needle electrode suffered from electric shock.
- To use a tissue just having had a dip in alcohol to clean the new needle electrode, and then install correctly the needle electrode on the Optical Fiber Fusion Splicer and tighten the fixing screws.
- To turn on the power, and put the prepared fiber into the Optical Fiber Fusion Splicer to do the discharge tests.

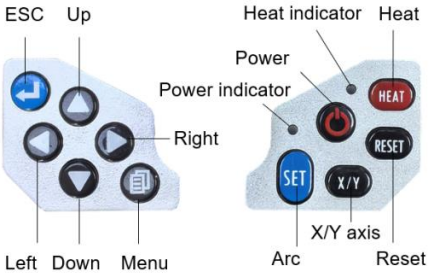


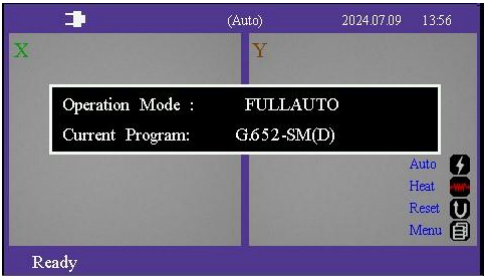


MENU

How to Enter and Select Menu

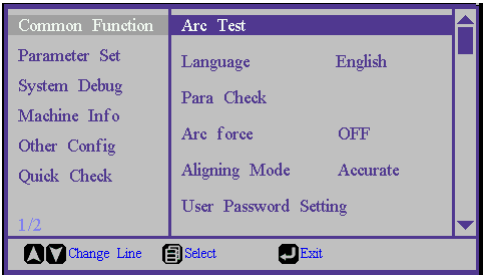
Once the system is “ready”, press “ENTER” to enter the menu, and press the keys“▲”, “▼”, “◄” , “►” to select Menu





Menu for Common Function Menu for Parameter Set Menu for System Debug
Menu for Machine Info Menu for Other Config. Menu for Quick Check

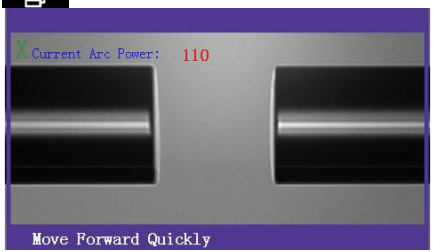
1. **Menu: Common Function**



1-1. “Arc Test”

In order to ensure the stable fusion-splicing quality, the user should operate regularly. It is necessary to do arc test in case of using the Optical Fiber Fusion Splicer under the following conditions: ultra-high temperature, ultra-low temperature, very dry, very wet, electrodes degradation, fusion splicing of the heterogeneous optical fibers, cleanness, or after replacing the electrode.

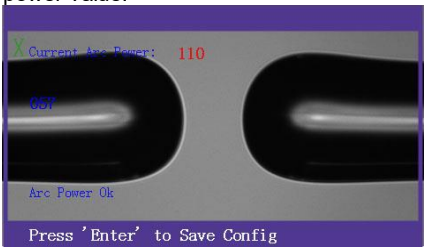
The arc test needs to use two optical fibers being ready to be fusion-spliced, according to the general method of fusion splicing, these optical fiber should be stripped, cleaved off, and placed on the fixture. Press [set] to enter arc test program. When seeing “Place fiber and press Enter” , place the fiber well and press the [set]



After arc, a numeric value will be displayed on the screen. If the value is within the range of 45-65, it means that the arc power is OK. If the value is less than 45, it means that the arc power is

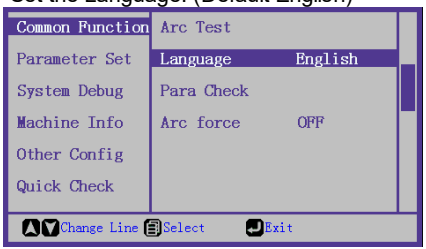
weak, if more than 65, arc power is too strong

After arc, if shown weak or strong, please press , store the record , and then do arc test again until shown the proper arc power value.



1-2. “Language”

Set the Language. (Default English)



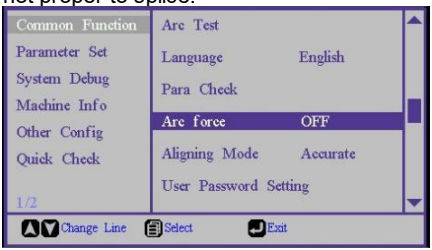
1-3. “Para Check”

This is an Automatic calibrated program, no need to modify manually

1-4. “Arc Force”

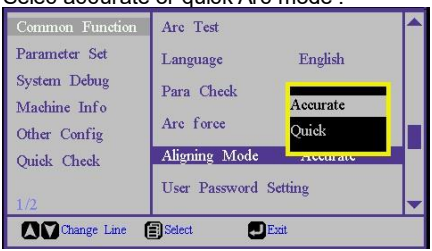
It is OFF when use normally

When turned on, it is still work when splicing even if the fiber is not proper to splice.



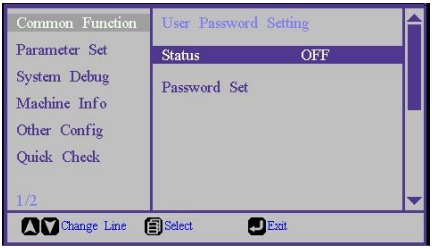
1-5. “Aligning Mode”

Selec accurate or quick Arc mode .



1-6. “User Password Setting”

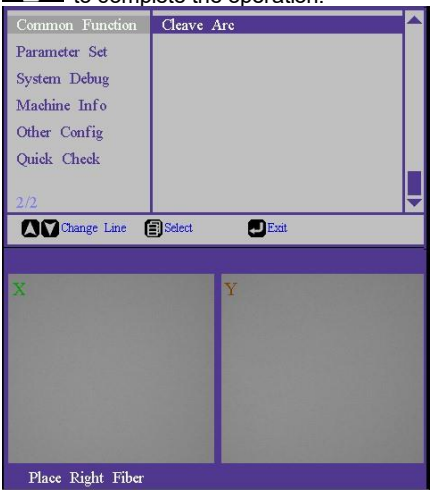
When set user password.



1-7. “Cleave Arc”

Operate when the user needs to process the end face of the cut fiber. for example, fiber cold bonding process.

Follow the prompts and place the fiber properly, Press the Button to complete the operation.



2. Menu: “Parameter Set”

2-1 “ Splice Program”

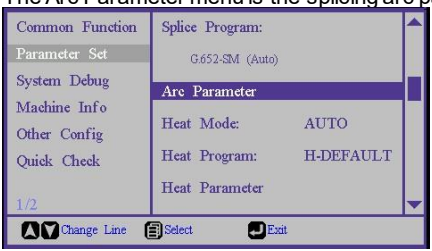
Press the Button to enter the “Splic Program” .

press the [■] to choose the Procedure you want (the red is the current Procedure operating).

Press the "▲""▼" to select, When confirm the procedure then press the [■] to save the select. press [↵] Exit.

2-2 "Arc Parameter"

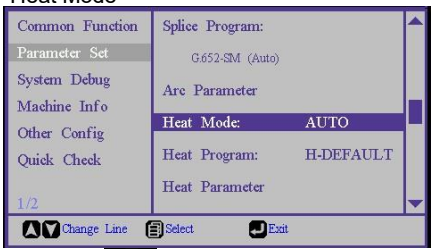
The Arc Parameter menu is the splicing arc parameters using now



Press "▲""▼" or "◄""►"to select, press th[■] to enter the menu needed to change, press the "▲""▼"to change the Parameters, then press[■] to save the results . When the

changing finished, press ↵ to exit.

2-3 “Heat Mode”



Press the 🗐 to enter the “heat program” menu, press ▲”“▼” to choose the working mode “Auto” or “Manual”. When the choosing finished, press 🗐 to save the results. When changing finished, press ↵ to exit.

“AUTO” mode

Put the fiber protective sleeve in the heating box, close the heating box cover, it will heat automatically

“Manual” mode

Put the fiber protective sleeve in the heating box, close the heating box cover, press HEAT , it will heat

2-4 “Heat Program”

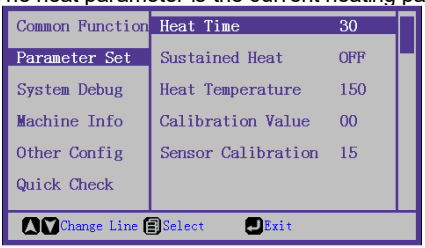
Press “▲”“▼”to select, press to enter the “heat Program” you want.

Press the “▲”“▼” choose the Procedure Number you need to operate or change, press the to choose the Procedure you want(the red is the Procedure operating now).If need to change the Procedure Parameters, please repress SET to enter the Procedure to change the detailed Parameters (DEFAULT is Factory settings, cannot be changed)

2-5 “Heat parameter”

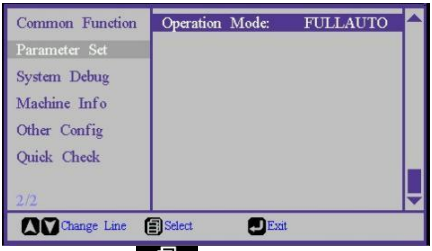
Press the “▲”“▼”to select, press the to enter the menu need to be changed, press “▲”“▼”change the detailed Parameters, then press the to save the result. When changing finished, press Exit.

The heat parameter is the current heating parameter.



Function	Function Instructions	Range
Heat time	Heating box working time	10-90
Sustained heat (4 mins)	Sustained heat (4 mins)	Turn off/tum off
Heat Temperature	Heat Temperature	100-250
Calibration value	Sensor Calibration value	0
Sensor Calibration	Using to correct the temperature sensor deviation	15

2-6**“Operation Mode”**



Press the key "[Select]" to enter the "Operation Mode" Menu; press the keys " ▲ ", " ▼ " to select one of the three operation modes, "FULL AUTO" mode, "AUTO" mode or "MANUAL" mode. After selection, press "[Select]" to confirm and save. Press "[Exit]" to exit.

"FULL AUTO" Operation Mode

After place the fibers, cover the windproof cover then do splicing automatically

"AUTO" Operation Mode

After place the fibers, press "SET", then the program for fusion splicing will automatically execute.

In case of normal fusion-splicing operation, generally select the "AUTO" or "FULL AUTO" operation mode

"MANUAL" Operation Mode

In "MANUAL" Operation Mode, each step of the optical fiber alignment, the arc and the fusion splicing is controlled by the operator via the keypad.

Keypad Functions in the "MANUAL" Operation Mode are as below:

"[Select]" as a "Select" key: It is able to select the operation modes of such four motors as the Left, Right, X, and Y motors.

"SET" as a "Shift" key: It is able to move the cursor up or down, so as to select the operation commands.

"[Exit]" as an "Optical Fiber Forward" key: It is able to get the Optical Fiber to advance.

"◀"and "▶"separately as the "Forward" key and "Backward" key of the left and right motors: Being able to separately control the left and right motors to go forward or to back off".

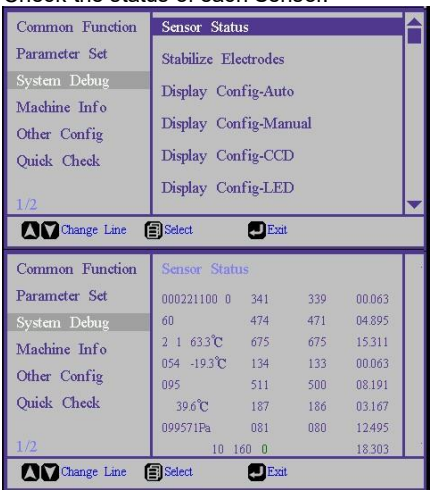
"▲"and "▼"separately as the "Upward" key and "Downward" key

for tuning the cores of the X and Y motors: Being able to separately control the X and Y motors to go upward or downward.

3. Menu "System debug"

3-1. "Sensor Status"

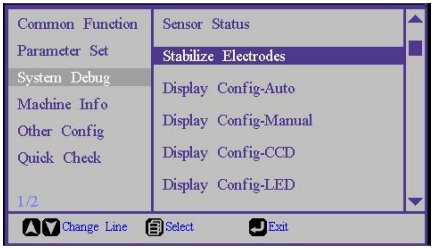
Check the status of each Sensor.



3-2. "Stabilize Electrodes"

Sometimes when the outside environment changes, the Arc power will be unstable. That leads to a big splicing loss. Especially that when the fusion splicer from low altitude area to high altitude area, so it needs some time to stabilize Arc power.

When this occasion, it needs to do several Arc tests to stabilize electrodes, which will speed up Arc power stabilization.



3-3. “Display Config-Auto”

Display Config-Auto is to adjust the display range of optical fiber, and make the optical fiber showed in the center of screen. According to general splicing steps to strip, cut and place optical fiber. Press [set] to enter the “Display Config-Auto”.

The screen will show the follows: Place fiber and press “Enter”. Press [set] after place the optical fiber.

3-4.“Display Config-Manual”

According to general splicing steps to strip, cut and place optical fiber. Press [set] to enter the “Display Config-Manual”.

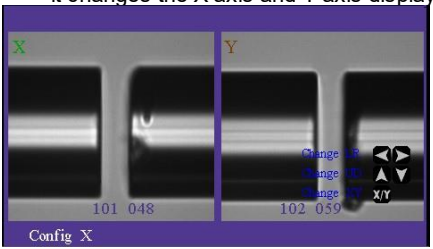
The screen will show the follows: Place fiber and press Enter.

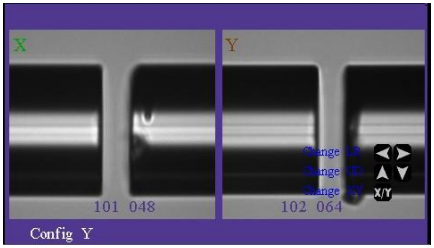
Press [set] after place the optical fiber.

“◂”and“▸”are movement about left and right position of optical fiber.

“▲”and“▼”are movement about up and down position of optical fiber.

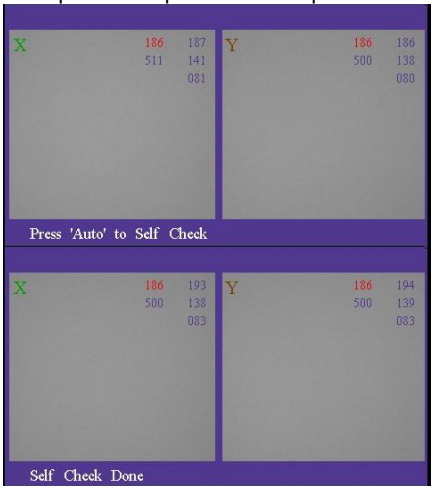
[X/Y]”it changes the X axis and Y axis display.





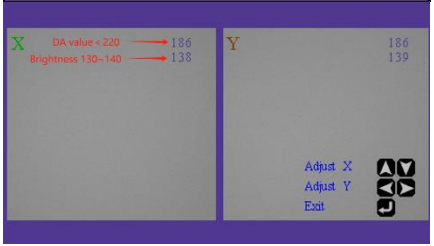
3-5. “Display Config-CCD”

Press , and enter in the menu of “Display Config-CCD”
The display will show: Press “Auto” to Self Check.
After place the optical fiber and press the button SET .



3-6. Display Config – LED

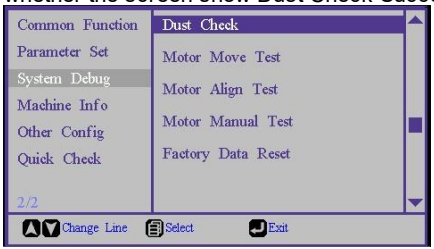
Press , select “Display Config -LED”, press and to adjust lightness of X-axis; and to adjust lightness of Y-axis.

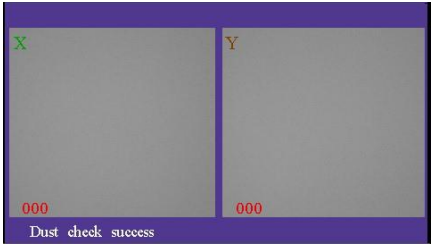


3-7. Display Setting – Dust Check

Check whether there is dust in the display system

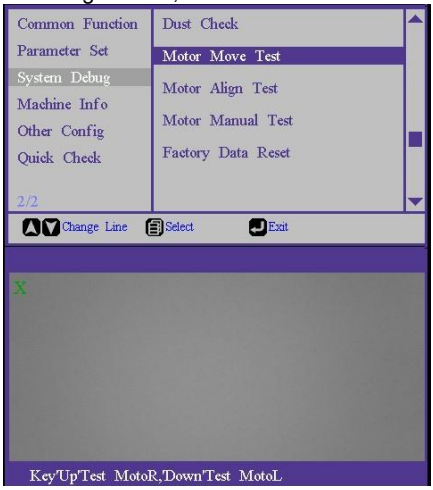
Press , enter Display Config – Dust Check Menu, check whether the screen show Dust Check Success.

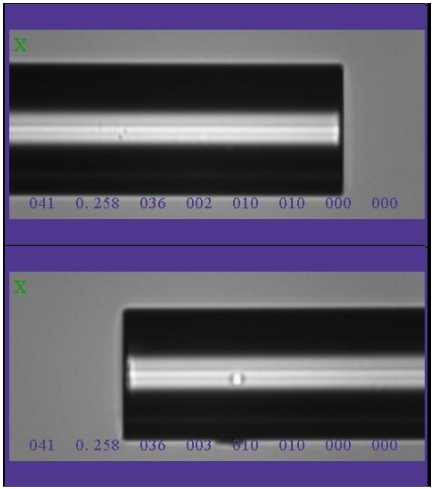




3-8. Motor Forward Test

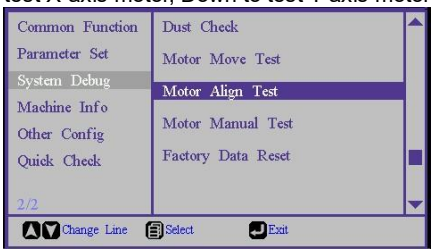
Press [menu], enter “Motor Forward Test”， screen will show“ UP to test right motor, Down to test left motor”

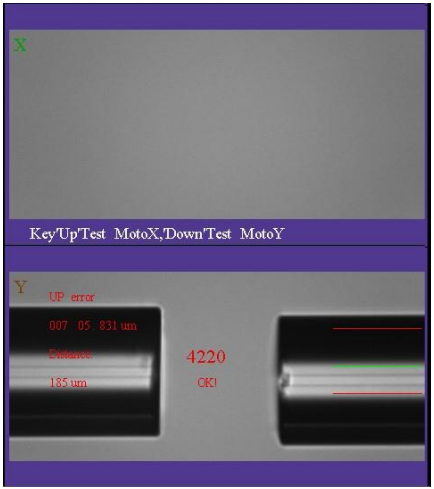




3-9. Motor Alignment Test

Press [menu], enter Motor Alignment Test, screen will show “UP to test X-axis motor, Down to test Y-axis motor”





3-10. Moto Manually Test

Prees , enter Motor Manually Test，press SET to select the motor

Left Moto Manual Trigger

Press SET, select L Moto Manual Trigger, fix a cleaved fiber on the left fixture, make the fiber view in the screen, press and hold ◀ or ▶ to move the fiber.

Right Moto Manual Trigger

Press SET, select R Moto Manual Trigger, fix a cleaved fiber on the right fixture, make the fiber view in the screen, press and hold ◀ or ▶ to move the fiber.

X-axis Moto Manual Trigger

Press SET, select X Moto Manual Trigger, fix a cleaved fiber on the left fixture, make the fiber view in the screen, press and hold ▲ or ▼ to move the fiber.

Y-axis Moto Manual Trigger

Press SET, select Y Moto Manual Trigger, fix a cleaved fiber on the right fixture, make the fiber view in the screen, press and hold

▲ or ▼ to move the fiber.

Z_X-axis Moto Manual Trigger

Press SET, select Z-X Moto Manual Trigger, fix a cleaved fiber on the left fixture, make the fiber view in the screen, press and hold ▲ or ▼ to move the fiber.

Z_Y-axis Moto Manual Trigger

Press SET, select Z_Y Moto Manual Trigger, fix a cleaved fiber on the right fixture, make the fiber view in the screen, press and hold ▲ or ▼ to move the fiber.

Left Moto Auto Trigger

Press SET, select L Moto Auto Trigger, fix a cleaved fiber on the left fixture, make the fiber view in the screen, press ◀ or ▶ to move the fiber automatically, press again to stop moving, .

Right Moto Auto Trigger

Press SET, select R Moto Auto Trigger, fix a cleaved fiber on the right fixture, make the fiber view in the screen, press ◀ or ▶ to move the fiber automatically, press again to stop moving.

X-axis Moto Auto Trigger

Press SET, select X Moto Auto Trigger, fix a cleaved fiber on the left fixture, make the fiber view in the screen, press ▲ or ▼ to move the fiber automatically, press again to stop moving.

Y-axis Moto Auto Trigger

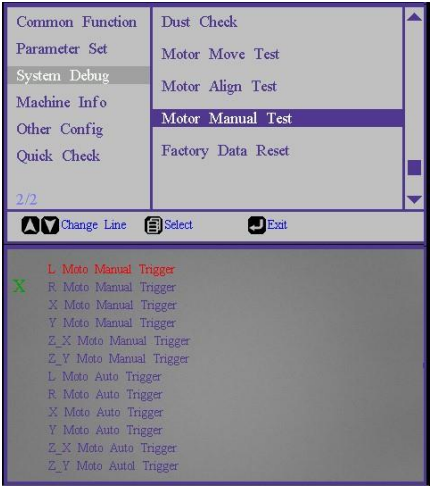
Press SET, select Y Moto Auto Trigger, fix a cleaved fiber on the right fixture, make the fiber view in the screen, press ▲ or ▼ to move the fiber automatically, press again to stop moving.

Z_X-axis Moto Auto Trigger

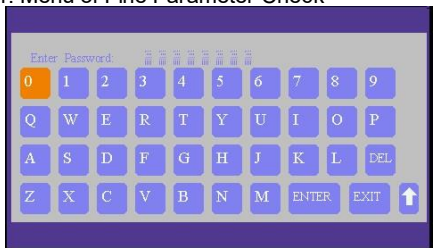
Press SET, select Z_X Moto Auto Trigger, fix a cleaved fiber on the left fixture, make the fiber view in the screen, press ▲ or ▼ to move the fiber automatically, press again to stop. moving.

Z_Y-axis Moto Auto Trigger

Press SET, select Z_Y Moto Auto Trigger, fix a cleaved fiber on the right fixture, make the fiber view in the screen, press ▲ or ▼ to move the fiber automatically, press again to stop moving.



3-11. Menu of Fine Parameter Check



4. Menu: Machine Info

You can check machine serial number, software version number, firmware version number and arc times from this menu.

4-1. Machine SN
Machine serial number
4-2. Software Ver
Machine software version number
4-3. Firmware Ver
Machine firmware version number
4-4. Arc Times
Machine splicing arc times
4-5. Arc Records

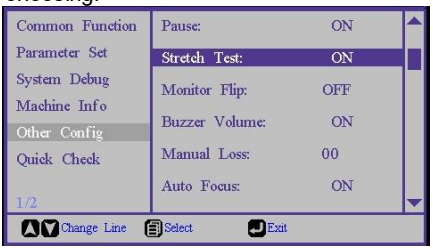
Enter “Arc times” menu by pressing and check arc records by pressing “◂”, “▸”
The machine can store 6000 times splicing arc records.
4-6. Update Program
Update the machine software

5. Other Config
5-1. Pause
Press to enter “Pause” menu, press “▲”“▼”to choose the pause function “turn on or off”。Press to ensure save the

function after choosing.
When do splicing, usually turn off the pause function.

5-2. Stretch Test

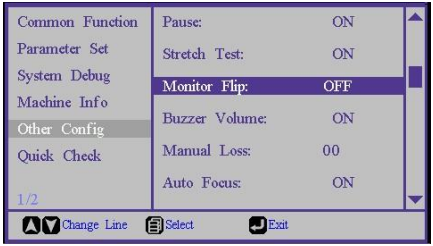
Press [menu] to enter "Stretch Test" menu, press "▲""▼"to choose "on" or "off"。 Press [menu] to ensure save the function after choosing.



5-3. Monitor Flip

Press [menu] to enter "Monitor Flip" menu, press "▲""▼"to choose turn off or turn on of image rotation. Press [menu] to ensure save the function after amending.

Envisage image or rotate 180 to show the image on the screen.

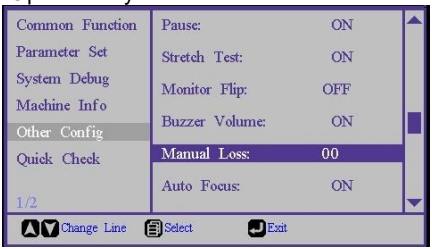


5-4. Buzzer Volume

Press [icon] to enter Buzzer Volume menu, press "▲""▼" to choose turn off or turn on the button voice. Press [icon] to ensure save the function after choosing.

5-5. Manual Loss

Press [icon] to enter "Manual Loss" menu, press "▲" "▼" to amend the data. Press [icon] to save，press [icon] to exist. Operate only when needs to increase the fusion loss。



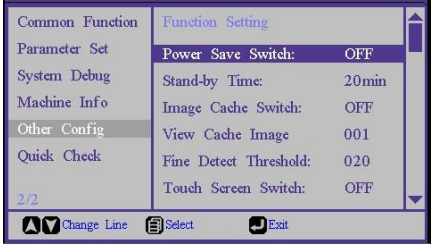
5-6. Auto Focus

5-7. Time Set

Press [menu] to enter “Time Set” menu, press “▲”“▼” to choose “year, month, date, hour, minute,”, press “◄”，“►” to amend the data. Press [menu] to ensure save the function after amending, then press [back] to exist.

5-8. Function Setting

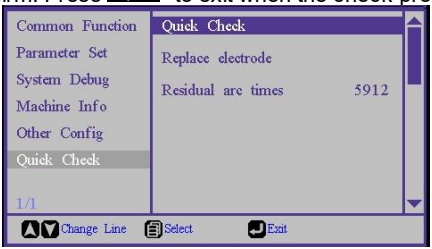
Press [menu] to enter “Function Setting” menu, press “▲”“▼” to choose“saving power switch, Motor reset time”, press “▲”“▼”to amend the data. Press [menu] to ensure save the function after amending, then press [back] to exist.



6. Menu: Quick Check

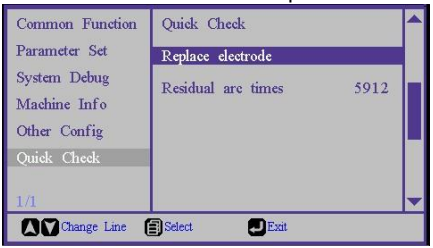
6-1. Quick Check

Press [■] to enter the “quick check” menu, according to the general fusion process to strip, cut and fix the fiber, and press [■] to confirm. Press [↵] to exit when the check program finished.



6-2. Replace electrode

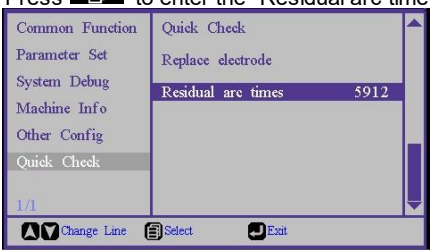
Press [menu] to enter the “Replace electrode” menu.



Indicated the electrode used times and replace it as needed. (When the remaining arc times is reduced to 0, the machine will prompt the replacement of the electrode and the “Replace electrode” will turn red. the remaining arc times will return to the initial value after the electrode replacement)

6-3. Residual arc time

Press [menu] to enter the “Residual arc time” menu,



Set the times of fusion in advance and replace electrode according to need. (Every time of arc, the value is reduced by 1. When reduced to 0, the option of “replace electrode” becomes red. After replacing the electrode and confirm, reset the remaining arc times automatically.)

QUESTIONS AND TROUBLE SHOOTING

1. TURNING ON POWER OF OPTICAL FIBER FUSION SPLICER AND POWER SUPPLY

- Turn on the power switch, but the power supply does not respond.

Reason: a. Power outlet is not plugged in.
b. The contact of the power switch is bad.
c. The storage battery is not properly inserted in.

Solution: Check to see if the power plug or the storage battery is plugged/inserted in well or not, and is connected to the optical fiber fusion splicer well or not. Then, check to see if the power switch is good or not.

- In case of turning on the optical fiber fusion splicer, it has no reaction. (The screen does not brighten.)

Reason: a. The power supply fuse disconnects.
b. There is the short-circuit or the failure occurs inside the optical fiber fusion splicer
c. The electricity capacity of the storage battery is not large enough or the polarity is connected in reverse direction.
d. The AC adapter is bad, the voltage output is not correct.
e. The display screen is bad.

Solution: Check to see if the power supply fuse disconnects or not, and to see if there is the short-circuit or other failure occurs inside the optical fiber fusion splicer. Replace the power supply fuse on the main board. If there is the short-circuit or other failure inside the optical fiber fusion splicer, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

Check to see if the electricity capacity of the storage battery is large enough or not. If it is not large enough, it is necessary to discharge the storage battery. Check to see if the battery polarity is connected in correct direction or not. If it is connected in reverse direction, it is necessary to correct it.

Check to see if the voltage output of the AC adaptor is normal or not.（The output voltage should be 12V.).If it is not normal, it is necessary to replace the former AC adaptor by a new one. Please contact your dealer to replace the former AC adaptor by the special AC adapter.

The brightness of the display screen has been well

adjusted at the factory, if the display screen can not properly show, it indicates that the display screen is faulty, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- After turning on the optical fiber fusion splicer, it always shows "system reset" and the equipment is at all times in the "Reset" status.

Reason: a. The photoelectric switch of the optical fiber fusion splicer is faulty.
b. The motor or the motor drive is faulty.

Solution: Please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

2. FUSION SPLICING OPERATIONS

- After having placed the optical fiber, there appears a very dark image or a dim image on the half of the display screen.

Reason: a. The windproof cover is not correctly put in its position
b. The reflecting mirror in the windproof cover is positioned with a deviation angle.
c. The corresponding light does not shine.
d. The corresponding CCD signal control lines fall off or the CCD is faulty.

Solution: Check to see if the windproof cover is covered or not, with or without foreign body sticking the windproof cover. Adjust the angle of the reflecting mirror to the right position. Check to see if the corresponding light does shine or does not. If it does not shine, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- Press the SET " key, but the optical fiber stops moving; press the " ↵ " key, and it is able to normally reset the system, but the optical fiber still does not move.

Reason: a. The optical fiber is broken off.
b. The press board of the optical fiber did not pin the optical fiber.

Solution: Produce the optical fiber again. Lay the optical fiber again. Shut the press board, and gently pull the optical fiber back by hand. If the optical fiber can be easily pulled to move, it indicates the press board did not pin the optical fiber. Check to see if the compaction bar of the optical fiber is able to bounce or not. If the compaction bar is not able to bounce, it needs to be repaired.

- Press the "SET" key, and the optical fiber moves forward to a certain position, and then moves forward again, and finally there will be shown " Lay Optical Fiber Again" .

Reason: a. The length of the cleaved optical fiber is unable to meet the requirements.
b. There is an obstacle for the press board of the optical fiber to move forward.

Solution: The length of the cleaved optical fiber should be about 16mm. If it does not meet the requirements, it is necessary to produce the optical fiber again. In the advancing direction of the press board of the optical fiber, gently push by hand the press board of the optical fiber, and to check to see if it has an obstacle or not. If it has an obstacle, it is necessary to find its location, and handle it.

- Press the "SET" key, and in the course of the core-to-core of the optical fibers, the image of the optical fiber at one side is moving up and down in the vertical direction, and the end-faces of the optical fiber at two sides are not core-to-core, so that it is unable to do the fusion splicing.

Reason: a. There is the dust on the precision V-shaped groove, so that the position of the optical fiber at one side is somewhat higher, the data of which is greater than the max. position value of the optical fiber at the other side moving up and down.
b. There are the dust and dark spots on the objective lens' surface, the lights, the reflecting mirrors, and the CCD has dust or dark spots.

Solution: Clean the bottom of the V-shaped groove with a cotton swab just having had a dip in alcohol (above 99% alcohol), and remove the excess alcohol in the V-shaped groove with a dry cotton swab. If contaminations in the V-shaped groove can not be removed with a cotton swab just having had a dip in alcohol, you can use the well-cut end-face of the optical fiber to clean the bottom of the V-shaped groove, and then repeat the previous step.
Also, clean the objective lens' surface, the lights, and the reflecting mirrors with a cotton swab just having had a dip in alcohol (above 99% alcohol), and remove the excess alcohol on the objective lens' surface, the lights, the reflecting mirrors with a dry cotton swab. If it is still

impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- There often occurs that the fusion splicing is done despite of optical fibers being not core-to-core, so that after completing the fusion splicing, there will be shown a large loss or a failure in the fusion splicing.

Reason: a. An optical fiber is dirty, and its end-face is bad.
b There are the dust and the dark spots on the objective lens' surface, the lights, the reflecting mirrors.

Solution: Produce the qualified optical fiber again. Clean in the same way, the objective lens' surface, the lights, and the reflecting mirrors with a cotton swab just having had a dip in alcohol (above 99% alcohol), and remove the excess alcohol on the objective lens' surface, the lights, the reflecting mirrors with a dry cotton swab. If it is still impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- There always occurs that the end-face of the optical fiber at one side is not good.

Reason: a. In the Menu，the value of "End-Face Setup " is somewhat small.
b. There are the dust and dark spots on the objective lens' surface, the lights, and the reflecting mirrors' lens.
c. The corresponding light does not shine.
d. There is the dust in the V-shaped groove, or the optical fiber had not properly been laid into the V-shaped groove.

Solution: Enter the Menu and increase the value of "End-Face Setup ". Clean in the same way, the V-shaped groove, the objective lens' surface, the lights, and the reflecting mirrors with a cotton swab just having had a dip in alcohol (above 99% alcohol), and remove the excess alcohol on the V-shaped groove, the objective lens' surface, the lights, and the reflecting mirrors with a dry cotton swab. Check to see if the corresponding lights are normal or not, and to see if the optical fiber had properly been laid into the V-shaped Groove or not. If it is still impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- The electrode does not discharge in the course of the fusion splicing.

Reason: a. The program without the set parameters had been selected or in the program the discharge strength is set to 0.

b. The high-voltage power supply is damaged or the electrode connecting cable falls off.

Solution: Check to see if the selected program is correct or not, or to see if the set discharge strength in the program are proper or not. If it is still impossible to discharge normally, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- The fusion splicing phenomenon is normal, but the loss of the fusion splicing has been somewhat large at all times or there occurs the failure in the fusion splicing.

Reason: a. There occurs the failure in the detection system or there is the dust on the objective lens and the reflecting mirrors' lens.

b. In the parameters, the value of "End-Face Setup" of the optical fiber is larger.

c. After the operations of the electrode discharge and the fusion splicing, the windproof cover is opened before the equipment has completed its detection.

Solution: Clean in the same way, the objective lens' surface, the lights, and the reflecting mirrors with a cotton swab just having had a dip in alcohol (above 99% alcohol), and remove the excess alcohol on the objective lens' surface, the lights, the reflecting mirrors with a dry cotton swab. Check to see if the value of "End-Face Setup" of the optical fiber is larger in the parameters or not. Then operate the electrode discharge tests again, until the discharge current is moderate. If it is still impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- Press the **SET** " key, and the gap setting and the core-to-core adjustment are normal, but it fails in completing the fusion splicing, resulting in always two balls.

Reason: a. The fusion-splicing current is too large, and the environmental humidity is too high.

b. The advancing amount is somewhat small or is 0; the

advancing speed value is somewhat large.

c. The optical fiber's press board did not pin the optical fiber.

d. The quality of the optical fiber itself is poor, being disengaged from its cladding.

Solution: Change the fusion-splicing environment to a dry one, to see if there is that issue. Confirm that for the fusion-spliced optical fiber, there is no phenomenon that it is disengaged from its cladding. Enter the "Applications Program" menu; check the parameter setting and set the correct parameters; and then do the electrode discharge tests again, until the discharge current is moderate. If it is still impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- The multi-mode optical fiber is blistered, becoming thicker or thinner after its fusion splicing.

Reason: a. The end-face of the optical fiber is unqualified or the surface of the optical fiber is dirty.

b. There is an issue about the parameter setting in the program.

Solution: Ensure that the end-face of the optical fiber is good, do the electrode discharge tests until the discharge current is moderate. If the optical fiber is still becoming thicker or is blistered, it is necessary to increase the values of the "Pre-Fusion Current" and "Pre-Fusion Time" in the program. In reverse, if the optical fiber is still becoming thinner or is blistered, it is necessary to decrease the values of the "Pre-Fusion Current" and "Pre-Fusion Time" in the program, and increase the quantity of the "Fusion-Splicing Boost". If it is still impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- The fusion splicing loss index has been somewhat large at all times.

Reason: a. There is the dust on the optical fiber, and in the V-shaped groove of the Fusion Splicer.

b. The discharge current is not moderate.

c. Do the optical fiber fusion splicing without having made the optical fibers being core-to-core.

d. The electrode aging.

e. The parameters set in the program are not proper.
f. The end-face of the optical fiber is not good, and there is an issue about the optical fiber cleaver.
g. The operating environment is rather poor, such as: the gale or wet, etc.
h. The optical fiber is more special.

Solution: First of all, it is required that the test method should be correct, then do all kinds of cleaning (for the V-shaped groove, the objective lens, the lights, the reflecting mirror, and the needle electrodes); select the appropriate procedures to do the discharge tests; adjust the optical fiber cleaver to ensure that the end-face of the optical fiber is well-cleaved .

If the fusion splicing loss index is still somewhat large, you may do the parameter setting many times so as to find the better parameters for the fusion splicing, by way of increasing or decreasing the values of the "Pre-Fusion Time, Pre-Fusion Strength, Pre-Fusion Boost Quantity, and Pre-Fusion Boost Speed", or you may reset the parameters to be the default parameters set at the factory. If it is still impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- It is sparking on the electrodes or the electrode is sparking to the metals nearby it.

Reasons: a. The electrode connecting cable is loose.
b. The operating environment is humid.

Solution: Check to see if the electrode connecting cable is loose or not. Change the operating environment to be the dry one, to see if there is the said phenomenon or there is not . If it is still impossible to solve these issues, please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

3. HEATING OPERATION

- The optical fiber heat-shrinkable sleeve has not completely shrinked.

Reason: a. The set heating time is too short.
b. As the outside temperature is too low so that the heating has not been fully and completely done.

Solution: Adjust the program to extend the heating time.

- The optical fiber heat-shrinkable sleeve adheres in the heating tank.

Reason: Some optical fiber heat-shrinkable sleeve may cause adhesions.

Solution: Take out the optical fiber heat-shrinkable sleeve after it is completely cooled. Or use a cotton swab to lightly poke at its edges to break it away from the heating tank.

- The heating indicator light does not shine, but the normal heating can be done.

Reason: a. The heater is faulty.
b. The heating indicator light is bad.

Solution: Please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

- The heating indicator light shines, but the heater does not heat. Or the heating indicator light does not shine; also the heater cannot heat.

Reason: The heater is faulty, or the heating control circuit is faulty.

Solution: Please contact your dealer to repair/maintain it or send it back to the factory for repair/maintenance.

GUARANTEE

1. GUARANTEE

1-1. Warranty Period and Conditions

If it occurs a failure in the optical fiber fusion splicer within one year starting from the date of goods delivery, we will provide a free repair/maintenance. However, we will not provide a free repair/maintenance within the Warranty Period, if it occurs the following events:

1) Failure or damage caused by natural disasters;
2) Failure or damage caused by the wrong operation;
3) Failure or damage caused by ignoring the operation instructions and procedures in this manual to make bold to operate;
4) The parts are easy to wear off or to be consumable. (For example, needle electrodes);
5) Failure or damage caused by the abnormal voltage power supply.

1-2. Before delivering the Optical Fiber Fusion Splicer, please contact its manufacturer's agent in advance.

1-3. Information required for repair/maintenance

Along with the Optical Fiber Fusion Splicer, please attach the following information:

1) Your full name, industry, company, department, address, telephone number, fax number and e-mail box.
2) The model and the serial number of the Optical Fiber Fusion Splicer.
3) Problems about the Optical Fiber Fusion Splicer you have met.
4) When did the Optical Fiber Fusion Splicer have the problem? Which problem has happened? How about the present situation? and so on.

1-4. Transportation of the Optical Fiber Fusion Splicer.
As the Optical Fiber Fusion Splicer is a high precision instrument, you should by all means use the original carrying case to transport and store it, so as to protect it against the moisture and shock. If you need repair/maintain the Optical Fiber Fusion Splicer, please put the related fitting accessories in the carrying case before sending it.

1-5. Information recorded before the repair/maintenance
Please record in advance the stored info contents in the Optical Fiber Fusion Splicer, such as the fusion splicing results, fusion splicing modes, etc., because these information and data may be lost in case of the repair/maintenance.

2. **CONTACT**
Please contact the distributor nearest to your location or the following organization if the user needs supports or services.
Note: If the program has been updated and the structure been changed, resulting in errors and the unconformity to the manual, please take the actual product as the reference standard.

DESIGN AND CHANGE

In order to improve the product performance, product hardware and software technology upgrades will change without noted advance.

Some pictures are for reference only, please subject to actual product。

Pro'sKit®

TE-6801G/TE-6801G-W

光纤熔接机操作手册

1st dition, 2024

操作前请仔细阅读本手册
请遵守本手册中的所有安全规程和警告
请妥善保管本手册

目录

本光纤熔接机是为通信用石英玻璃光纤设计的，除此外不能熔接其它任何物质和其他用途。

本公司考虑到使用者的人身安全，我们提供了很多的安全注意事项，如果使用不当可能会导致电击.火灾和人身伤害。

请在使用前一定要认真的阅读本操作手册

遵守本手册中的所有安全要求和警告

遇到故障时停止使用，尽快联系我们

妥善保存本手册，以便将来参考

⚠ 警告与注意事项

当熔接机遇有下列故障时，应立即关闭熔接机的电源开关将交流线电源线从电源插座上拔下.将电池从熔接机取出。 • 冒烟.异味.异响或加热异常； • 液体或异物进入机器内； • 熔接机损坏或摔坏； 如果遇到了这些故障未及时地对熔接机采取措施，可能会造成机器报废.电击.火灾或人身伤害甚至死亡。
熔接机的电源适配器.电池充电器只能使用100-240V 50-60Hz的交流电源，如果使用不适当的交流电源可能会导致冒烟.电击.机器损坏，甚至会造成火灾或人身伤害或死亡。(注：交流发电机一般不正常的输出高压和不规则的频率，连接交流电源线前要用电表测量发电机的输出电压值。不正常的高压或频率会导致机器损坏.电击.燃烧冒烟.甚至会造成火灾或人身伤害或死亡。确保发电机定期检查和维护。)
请使用专用的电源适配器。如果使用不适当的电源适配器可能会导致机器损坏.电击.燃烧冒烟.火灾或人身伤害甚至死亡。
请使用专用的电池，只有厂家提供的电池才是被允许使用的。使用专用的充电器为电池充电。使用其它的电池或电池充电器可能会导致机器损坏.电击.燃烧冒烟.火灾或人身伤害甚至死亡。
不要擅自拆卸或改动熔接机.电源适配器或电池，特别是不能拆除或桥接机器内部的任何电子和机械装置 (保险丝或安全开关)。任何错误的维修都可能导致熔接机的损坏，甚至造成电击.火灾或人身伤害或死亡。

禁止在易燃液体或气体的环境下使用熔接机，在这种环境下熔接机的放电会导致火灾或爆炸。

不要用压缩或罐装的气体清洁剂清洁熔接机，否则熔接时产生的电弧会引燃残留的可燃物。

不要在高温的环境下或在高温的物体旁使用熔接机，也不要在灰尘过多或湿度较大的地方使用熔接机，否则可能会导致机器损坏.起火.触电.熔接机的性能降低，造成较差的熔接损耗。

手湿的时候不要接触熔接机.交流电源线和交流电源插头，否则可能会造成触电的危险。

当熔接机表面有水汽凝结时，不要操作熔接机，否则会导致电击或机器损坏。

当熔接机工作时请不要触摸电极，否则电极放电时所产生的高压和高温会造成严重的电击和灼伤（更换电极前一定要先关闭熔接机电源，卸下电池.拔掉交流电源线）。

不要短路熔接机的 DC 输入端口，过大的电流会导致燃烧冒烟.电击.机器损坏或人身伤害。

不要用酒精以外的任何化学物质去清洁熔接机的物镜镜头.V 型槽.反射镜.LCD 屏幕等器件，否则会照成成像不清，污点，腐蚀和损坏。

熔接机不需要任何润滑剂，润滑油或油脂，会降低熔接机的性能并可能损坏熔接机。

熔接机经过了精确的调整和校准，不要使其受到强烈的震动或冲撞，否则可能会造成机器的损坏，请使用提供的携带箱来运输和储存熔接机，可有效的避免熔接机受到强烈的震动或冲撞。

不要将熔接机不稳定或不平衡的地方，否则熔接机可能会移动并失去平衡而摔落，导致机器的损坏和人身的伤害。

不要在加热过程中或在加热刚刚结束时接触热缩套管，此时的热缩套管的表面温度很高，接触它可能会造成烫伤。

当需要使用肩带来携带熔接机携带箱时，请检查肩带和挂钩是否完好我，如果使用损坏的肩带可能会造成背带断裂或脱钩从而导致人身伤害或设备的损坏。

熔接机必须由专业的技术人员或工程师进行维修与调试，不正确的维修可能会引

起火灾和电击。如果熔接机出现故障，请与本公司销售及经销商联系。

请严格按照操作手册使用蓄电池，错误的使用方法可能会造成电池爆炸和 人身伤害。

- 不要用说明书所述以外的方法为蓄电池充电；
- 不要将蓄电池丢入焚化炉或火中；
- 不要在接近火源或阳光直射的地方为 蓄电池充.放电；
- 不要让蓄电池受到剧烈的震动；
- 如果电池漏液，一定要小心处理，并注意不要让电池的漏液接触到皮肤或眼睛。万一不小心接触到，必须马上彻底清洗接触部位，并立即就医。同时妥善处理 电池并通知维修中心联系相关事宜。
- 充电时不能将电池叠放在交流适配器或充电器的上面。

根据使用说明，正确使用电极。

- 只能使用专用电极；
- 正确的更换电极；
- 必须成对的更换；

忽视以上的说明会引起熔接机异常放电，熔接性能的降低，甚至损坏熔接机。

对于忽视警告不正确使用或修理而造成的人身.物品或设备的损失不负任何责任。

回收与处理

欧盟国家：

根据欧盟议会执行标准 2012/19/EU ，为了令新资源的使用和废物掩 埋的 数量能够达到最小化，对于可再利用和/或回收的电子元器件与材料已进行 了鉴 明确认。

如您在欧盟国家中，请不要将本产品当作未分类的城市生活垃圾丢弃。 请联系您所在当地有关机构

其它国家：为回收本产品，请先将它拆卸，按照不同的材料对每一部分进 行分类，遵循当地的有关回收处理的相关规定。

产品介绍

1. 规格表

型號	TE-6801G	TE-6801G-W
界面语言	简体中文	
适用光纤	SM（单模），MM（多模），NZDS(非零色散), EDF(掺饵光纤)	
平均损耗	0.015dB(SM)，0.01dB(MM)，0.04dB(NZDS)，0.04dB(EDF)	
熔接时间	9 秒（SM 光纤）	
适合切割光纤长度	10～16mm	
适合光纤线芯	包层直径:80-150μm,涂层直径:100-1000μm	
回波损耗	≧60dB	
放大倍数	520 倍独立显示(X 轴或 Y 轴)，260 倍双显(X 轴和 Y 轴)	
工作马达	6(个)	
光纤对准	纤芯对纤芯	
光纤识别	G651/G652(654)/G655	
张力测试	2.0N(200gf)（标准）	
焊接程序	50 组可定义程序	
电极寿命	5000 次	
热缩套管	20mm~60mm	
熔接记录存储	6000 组	
熔接图像存储	100 组	
显示器	4.3” 高分辨率 LCD 彩色显示器	
通讯接口	Micro USB	
施工照明	1 LED 照明	
电量指示	5 段 LED 电量指示	
工作环境	温度：-10~+50℃，湿度：0~95%RH(不结露),海拔：0~5000m	
插头	A type	A type
标准配置	1. 主机	1. 主机

	2. 光纤切割刀 3. 光纤剥线钳 4. 皮线光纤开剥器 5. 点滴瓶 6. 备用电极 x 1付 7. 热缩套管(60mm) x 25 根 8. 电池 x 1个 9. 电源适配器 10. 冷却托盘 11. 说明书 12. 提带x 1条 13. ABS携带箱及背带 14. 光盘（附通讯程序,驱动及使用说明）	2. 备用电极 x 1付 3. 热缩套管(60mm) x 25 根 4. 电池 x 1个 5. 电源适配器 x 1只 6. 冷却托盘 x 1个 7. 说明书 8. 提带x 1条 9. ABS携带箱及背带 11.光盘（附通讯程序,驱动及使用说明）
工作电源	锂电池：10.95V/5.2AH	
	电源适配器:输入 100~240v 50/60Hz; 输出 DC 15V/5A	
重量	1.75kgs (含電池); 1.4kgs(不含電池)	
尺寸(长x宽x高)	149x135x135mm	

TE-6801G

TE-6801G-W

2. 其他熔接操作必需品

1) 光纤热缩管（20~60mm； 另购）.

2) 无水酒精(纯度>99% ， 另购).

3) 薄纸巾，纱布或脱脂棉布. （另购）

3. 熔接机部件名称

熔接步骤要点

1. 怎样得到小的熔接损耗

1-1 必要的日常清洁工作

- 清洁 V 型槽
- 清洁反光镜
- 清洁光纤压头
- 清洁物镜

清洁物镜时不需要拆除电极针

1-2 选择/使用合适的熔接模式

请根据不同的光纤种类选择正确的熔接模式。

1-3 每次熔接前的设备清理

- 清洁开剥刀刀片
- 清洁切割刀橡胶垫.刀片

1-4 熔接步骤

•请确保开剥后的光纤上涂覆层残渣和其它污物已被清除

•请使用浓度为 99%以上的纯酒精

•不要让已切割好的光纤末端触碰到任何物体或受到污染

•将光纤末端放置于 V 型槽边缘与电极中心之间

•将光纤正确放在 V 型槽的底部

•确保正确的切割长度，如果切割长度过短则光纤的涂覆层边缘可能会碰到 V 型槽，这样在放电过程中两根光纤就不能充分相互靠近从而导致不良的熔接损耗

•不要紧绷光纤，否则在放电过程中两根光纤就不能充分相互靠近从而导致不良的熔接损耗

•检查光纤端面切割角度和形状。光纤切割角度会影响熔接质量，大的切割角度将会增大熔接损耗

• 可以从显示屏上面观察放电情况。如果观察到放电 “颤动” 或 “亮度忽明忽

暗”，此时放电可能不稳定，将导致损耗不良

• 加热时将热缩管置于加热器中部，避免受热不均导致额外损耗

2. 供电

请仅使用厂商提供的电源适配器

请仅使用厂商提供的蓄电池及电池充电器

2-1 避免电源适配器损坏

•交流发电机可能会产生不正常的输出交流高压或不规则的频率

•发电机输出的这种不正常的高压和频率可能会导致燃烧.电击和设备损坏，甚至会造成火灾.人身伤害或死亡。所以在连接交流电源之前要先用万用表测量发电机的输出电压值

2-2 电池

•即使不去使用电池，电池的容量也会随着时间的推移而逐渐变小，而且如果电池被完全放电，那么它将再也不能充进电了。所以，如果长期储存电池或使用电池后，请及时为电池充电

•如需长期储存一块电池，无论此电池之前已充进多少电，应每六个月对它进行充电

•请参照以下条件来操作/充电/长时间储存电池

操作：-10℃ ~ 50℃

充电：0℃ ~ 40℃

长时间储存：-20℃ ~ 30℃

基本操作

1．电源连接

熔接机提供两种供电方式：1. 电池；2.电源适配器。

1-1 插入电池

将电池插入到电池插槽内直到它正确到位。

1-2 取出电池

一手按住释放按钮并扶持住熔接机边缘，一手将电池推出。

1-3 连接适配器

将电源适配插头对准主机后端电源插口，确保有效插入。

1-4 断开适配器

关机后，将电源适配器插头拔出便可。

2.开机

安装好电池，确保电池电力充沛，或接插好外部电源后，按下面板开机按键 ，开启机器。

3.放置光纤

3-1 打开防风罩和光纤夹盖具；

3-2 依据使用的光纤类型选择夹具方式； 夹具使用请见—6.光纤夹具使用

3-3 把准备好的光纤放置在v型槽内，并使光纤末端处于v型槽边缘和电极尖端之间；

3-4 用手指捏住光纤，然后合上光纤夹具盖以保证光纤不会移动，并确保光纤放置在v型槽的底部。如果光纤放置不正确，请重新放置光纤；

3-5 按照上面的步骤放置另一根光纤；

3-6 关闭防风罩。

4.熔接操作

4-1.可选工作模式：自动， 手动，全自动.

手动：操作依据屏幕右侧菜单提示操作，手动完成对芯及熔接作业 。

自动：关闭上防风罩，按下放电键 SET 开始对纤，完成后按下放电键 SET 开始熔接。

全自动：关闭上防风罩开始对纤芯并进行熔接。

4-2 可选择光纤类型:单模（SM）/多模（MM）/非零色散位移（NZDS）/掺饵（ED）

4-3 暂停功能：开启/ 关闭

开启：在自动及全自动模式下,对芯完成后会先暂停,须手动按放电键 SET 才进行熔接。

关闭：不影响自动及手动模式下的作业方式。

5.取出光纤并加热

5-1 打开加热器上的加热盖；

5-2 打开防风罩；

5-3 打开左右两侧光纤夹盖具；

5-4 将光纤取出并将热缩管移至熔接点处,注意熔接点须位于套管中央；

5-5 将热缩套管放置于加热器中央，并盖上加热盖；

5-6　按加热键HEAT进行加热，加热指示灯会同时亮起；

5-7　当加热指示灯熄灭后加热完成；

5-8　当打开加热盖，取出光纤检查是否有气泡；

5-9　完成检查后将光纤放置于散热盘中待其冷却。

6.光纤夹具使用

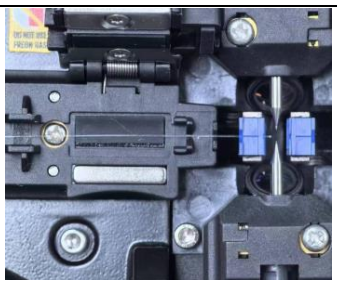
3合1夹具设计，适合跳线,皮线,裸线光纤使用。

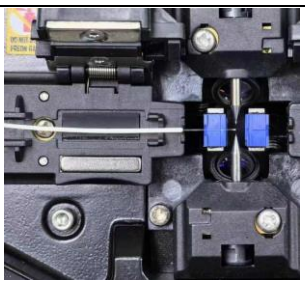
6-1 跳线或皮线光纤使用，如图示：

将切割好的光纤放入夹具内，定位好后盖下压板.

6-2 裸线光纤使用:

将切割好的光纤放入夹具，定位好后盖下压板





熔接质量维护

1. 熔接前的清洁和检查

以下描述的是关键的清洁点和重要部位的保养检查

1-1. 清洁Ｖ型槽

如果Ｖ型槽中有灰尘或污染物，光纤压头就不能正确的压住光纤，从而导致熔接损耗偏大，所以在平时的操作过程中应经常检查和定期清洁Ｖ型槽。

•打开防风盖

•用一根沾有酒精（99%以上的酒精）的棉签清洁Ｖ型槽的底部，并用干棉签清除Ｖ型槽内的多余酒精。

•如果Ｖ型槽内的赃物不能用沾有酒精的棉签清除，可用切割好的光纤端面去清理Ｖ型槽的底部，然后重复上一步骤。

•清洁Ｖ型槽时小心不要用力过度，以免损坏Ｖ型槽。

•小心不要碰到电极针尖

1-2. 清理光纤压头

如果光纤压头上有赃物，压头就不能正常压住光纤，从而降低熔接质量。

•打开防风盖

•用一根沾有酒精（99%以上的酒精）的棉签清洁压头的表面，并用干棉签清除压头表面的多余酒精。

1-3. 清洁光纤切割刀

切割刀的刀片或是垫子有脏，切割质量会下降，导致光纤表面有灰尘，熔接损耗的增大。用一根沾有酒精（99%以上的酒精）的棉签清洁切割刀的刀片和橡胶压垫。

1-4. 放电测试

大气环境如：温度.湿度.气压，是在不断变化的，使放电温度也在变化。由于电极的磨损，光纤的碎屑粘接而造成的放电强度的是无法自动修正的。放电的中心位置有时会向左或向右移动。此时因该进行放电测试来解决这些问题。

在以下条件下使用熔接机时，也应该进行放电测试如：超高温.超低温.极干燥.极潮湿.电极劣化.异类光纤接续.清洁.更换电极后，或上述条件同时存在的情况下。

2. 定期的检查和清洁

为了保证较好的熔接质量，建议对熔接机做定期的检查和清洁。

2-1. 清洁物镜镜头

如果物镜镜头表面有赃物，正常的观测到的光纤纤芯位置可能会被影响，导致熔接损耗的增大或不良的熔接，所以定期清洁二个物镜镜头，否则赃物累积而难以清除。

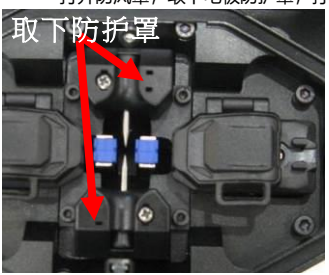
- 在清洁之前，首先关闭电源。
- 用沾有酒精（99%以上的酒精）的棉签轻轻擦拭物镜镜头的表面，从镜头的中间开始做圆形运动开始擦，一直到镜头的边缘，反复几次，直到没有赃物或污迹.条纹。最后用一根干净的干棉签擦去表面残留的酒精。
- 清洁的时候小心不要碰到电极的针尖。
- 建议在更换电极针的时清洁物镜镜头。

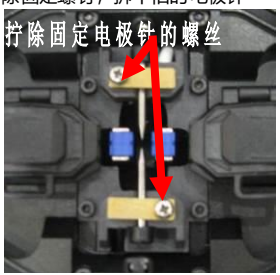
2-2. 更换电极

电极在使用中会磨损，电极针尖上还会有硅氧化物的聚集，要定期清洁氧化物可有效的延长电极针的使用寿命。建议在熔接机放电 3000 次后更换电极。如果继续使用，很可能导致非常大的熔接损耗并降低熔接点的强度。

更换电极针的步骤：

- 关闭熔接机电源
- 打开防风罩，取下电极防护罩，拧除固定螺钉，拆下旧的电极针





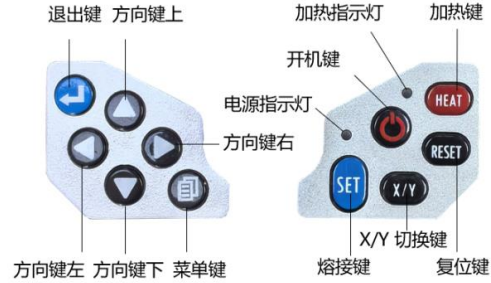
•用沾有酒精的棉纸清洁新电极针，然后把电极针正确的安装到熔接机上并拧紧固定螺丝。

•打开电源，将制备好的光纤放入熔接机做放电测试

菜單

菜单的进入与选择

在系统“准备就绪”下按 进入菜单，按“▲”“▼”“◄”和“►”选择菜单



“常用功能”菜单 “参数设置”菜单 “系统调试”菜单

“维护信息”菜单 “其他设置”菜单 “一键检测”菜单

1.“常用功能”菜单

按[自]进入“常用菜单”，按“▲”“▼”移动光标选择功能，按[自]进入设置。

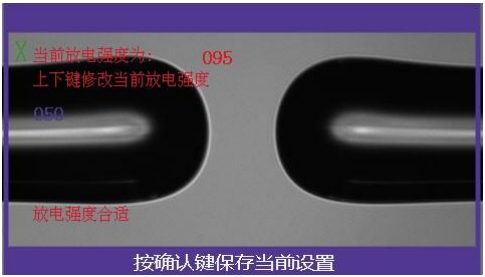
1-1.“放电测试”功能

为确保稳定的熔接质量，使用者应定期操作。在以下条件下使用熔接机时，应进行放电试验：超高温.超低温.极干燥.极潮湿环境.电极恶化.异类光纤接续.清洁或更换电极后。

放电试验需要使用 2 根准备接续的光纤，按照一般熔接的方法对光纤剥纤.切断.和放置。按[自]进入放电测试程序。屏幕显示“请放光纤，按确认键继续”，光纤放好后按[自]。

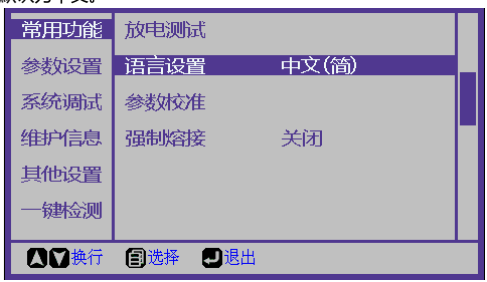
- 放电后，屏幕上显示一个数值，如果数值在 45-65 之间，说明放电强度正常。如果数值小于 45 说明放电强度弱，如果数值大于 65 说明放电强度过强。
- 放电后，如果显示太弱或太强，直接点击[自]，保存数据，然后重复执

行放电测试，直到显示放电强度合适。



1-2.“语言”功能

系统默认为中文。



1-3.“参数校准”功能

系统自动校正的参数，无须手动修改。

1-4. “强制熔接”功能

正常使用时，强制熔接功能关闭。

强制熔接功能开启，光纤切割的不好也可以熔接。

1-5. “调芯模式”功能

光纤熔接采用“精准模式”或是“快速模式”选择。

精确模式熔接损耗低，相对熔接完成时间延长。

1-6. “用户密码设置”功能

用户设置密码时使用。

1-7. “熔端处理”功能

用户需要对切割光纤端面做处理时，使用此功能，例如冷接作业。

按照提示，放置好光纤后，按 [redacted] 完成作业。

2.“参数设置”菜单

2-1.“熔接程序”功能

按 进入“熔接程序”菜单，按 进入程序选择，按“▲”“▼”移动光标可选择不同预设程序。继续按 进入子程序选项，选择完成按 确认，按 退出保存。

2-2.“熔接参数”菜单

按 进入“熔接参数”菜单

熔接参数菜单为当前使用的熔接参数

按“▲”“▼”移动光标，按 进入需修改的菜单，按“▲”“▼”修改参数，再按 确认保存。按“◄”和“►”为切换下一个页面。修改完成按 退出。

2-3. “加热模式”菜单

按 进入“加热模式”菜单，按“▲”“▼”移动光标有两种工作方式可选择“自动、手动”。选择完成按 确认保存。修改完成按 退出。

- 自动加热方式

  将热缩管放入加热器，盖上加热器盖就可自动热缩。

- 手动方式

  将热缩管放入加热器，盖上加热器盖，按 HEAT 就可热缩。

2-4. “加热程序”功能

按 进入预设的“加热程序”，按“▲”“▼”移动光标选择需要的程序，按 确认，按 返回。

2-5. “加热参数”菜单

加热参数菜单为当前使用的加热参数

按“▲”“▼”移动光标，按 进入需修改的菜单，按“▲”“▼”修改参数，再按 确认保存。修改完成按 退出。

功能项	功能说明	取值范围
加热时间	加热器工作的时间	10-90
持续加热（4分钟）	连续加热4分钟	开启/关闭
加热温度	加热温度	100-250
校对值	传感器校正结果	00
传感器校正	用于校正温度传感器偏差	15

2-6.“熔接模式”功能

按 进入“熔接模式”菜单，按“▲”“▼”移动光标有三种工作方式可选择“全自动.自动.手动”。选择完成按 确认保存。修改完成按 退出。

- 全自动工作方式

在常规的光纤经清洁和切断后，盖上防风盖就可自动熔接。

- 自动工作方式

在常规的光纤经清洁和切断后，按 SET 熔接程序自动对芯熔接。

在正常的熔接操作时，一般选择全自动或自动的工作方式。

- 手动工作方式

在手动工作方式下，光纤的对芯.放电.熔接的每一个步骤都由操作员利用键盘控制。

在手动工作方式下按键的功能

为选择键：可选左.右.X.Y四个电机的操作

SET 为切换键，可上下移动光标，选择操作命令。

为光纤推进键，可推进光纤。

“◀”和“▶”为左.右电机的推进.后退键，可控制左.右电机的推进.后退。

“▲”和“▼”为X.Y电机调芯的上行.下行键，可控制X.Y电机的上行.下行。

3.“系统调试”菜单

按 进入“系统调试”菜单，按“▲”“▼”移动选择菜单内容。

3-1.“传感器参数”菜单

按 进入“传感器”菜单，显示当前传感器的参数。按 退出。

3-2.“稳定电极”菜单

当外界环境突然发生变化时，放电强度有时会变的不稳定，从而导致熔接损耗变大，特别是熔接机从低海拔地区移至高海拔地区时，需要一定的时间来稳定放电强度，在这种情况下，稳定电极可以加快放电强度稳定的过程，需要做多次的放电试验来稳定电极。

按[菜单]进入“稳定电极”菜单，机器自动进行内部调整。完成后自动退出。

自检时按[确认]可退出。

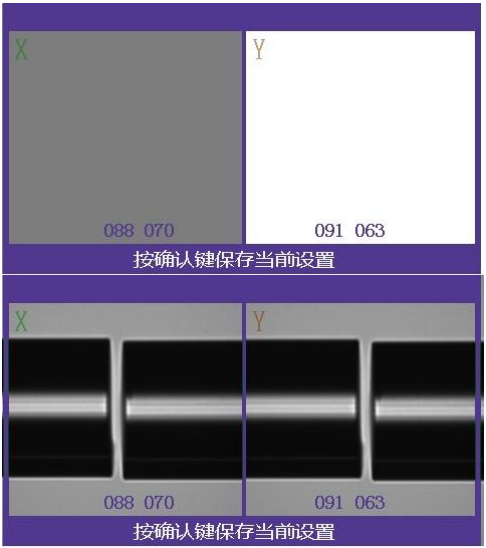
3-3.“显示设置-自动”菜单

显示设置是调节光纤的显示范围，使光纤显示在屏幕正中间。

按照一般熔接的方法对光纤剥纤，切断，和放置。

按[菜单]进入“显示设置试自动”的菜单。屏幕显示“请放光纤，按确认键

继续”，光纤放好后按 [自]



3-4.“显示设置-手动”菜单

按照一般熔接的方法对光纤剥纤，切断，和放置。

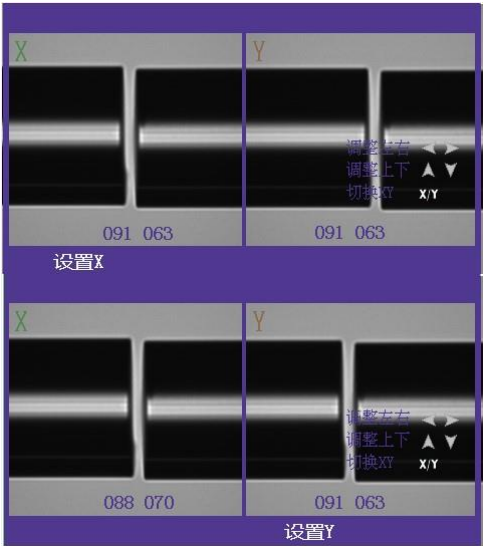
按[自]进入“显示设置手动”的菜单。屏幕显示“请放光纤，按确认键继

续”，光纤放好后按 

“◄”和“►”为光纤左右位置显示的移动。

“▲”和“▼”为光纤上下位置显示的移动。

“X/Y”切换调整 X 显示和 Y 显示。



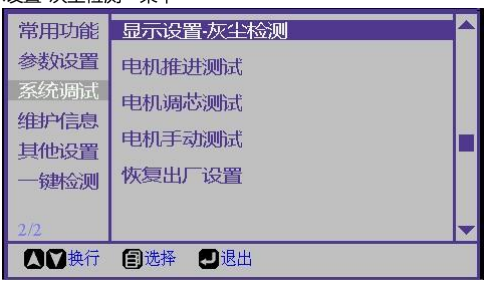
3-5.“显示设置-CCD”菜单

按 自 进入“显示设置-CCD”的菜单。屏幕显示“熔接键开始自检”，光纤放好后按 SET。

3-6.“显示设置-LED”菜单

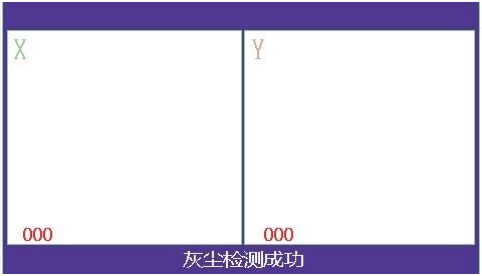
按[菜单]进入“显示设置—LED”的菜单。[上]和[下]为手动调节 X 头灯亮度，[左]和[右]为手动调节 Y 头灯亮度。

3-7.“显示设置-灰尘检测”菜单

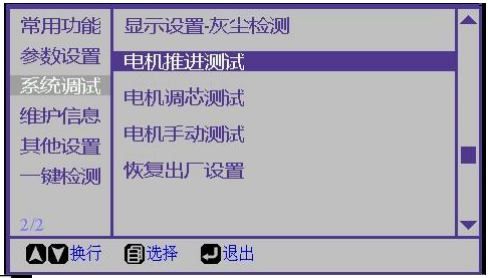


检测显示是否有灰尘

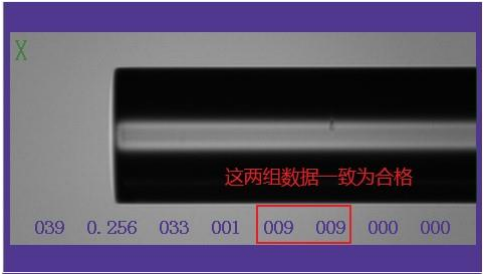
按[菜单]进入“显示设置—灰尘检测”的菜单。没有灰尘，会显示“灰尘检测成功”。

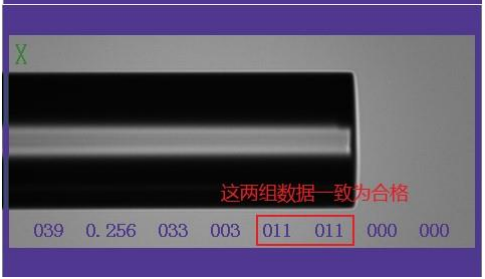


3-8. “电机推进测试”菜单



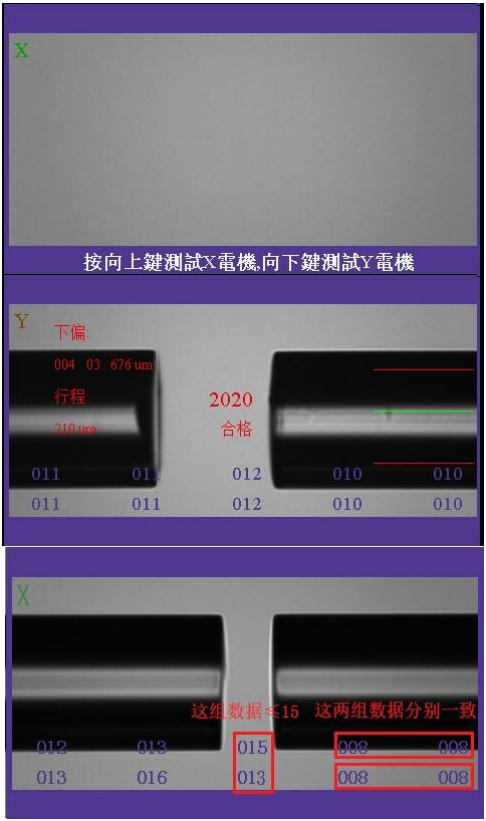
按[redacted]进入“电机推进测试”的菜单，屏幕显示“按向上键测试右电机，向下键测试左电机”



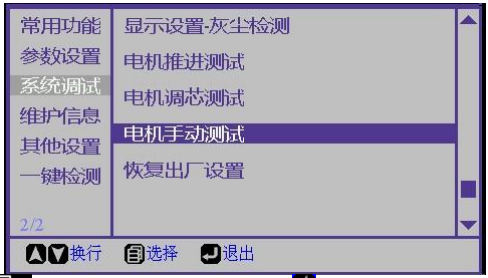


3-9.“电机调芯测试”菜单

按[redacted]进入“电机调芯测试”的菜单，屏幕显示“按向上键测试 X 电机，向下键测试 Y 电机”



3-10.“电机手动测试”菜单



按 进入“电机手动测试”的菜单， 可以选择需要测试的电机。

- 左电机手动触发

  按SET选择到左电机手动触发，在左夹具放上一根切好的光纤，使光纤能在屏幕显示，按住 不放，光纤向左移动，按住 不放，光纤向右移动。

- 右电机手动触发

  按SET选择到右电机手动触发，在右夹具放上一根切好的光纤，使光纤能在屏幕显示，按住 不放，光纤向左移动，按住 不放，光纤向右移动。

- X 电机手动触发

  按SET选择到 X 电机手动触发，在左夹具放上一根切好的光纤，使光纤能在屏幕显示，按住 或 不放，光纤向上向下移动。

- Y 电机手动触发

  按SET选择到 Y 电机手动触发，在右夹具放上一根切好的光纤，使光纤能在屏幕显示，按住 或 不放，光纤向上向下移动。

- Z_X 电机手动触发

  按SET选择到 Z_X 电机手动触发，在左夹具放上一根切好的光纤，使光纤能在屏幕显示，按住 或 不放，光纤向上向下移动。

- Z_Y 电机手动触发

  按SET选择到 Z_Y 电机手动触发，在右夹具放上一根切好的光纤，使光纤能在屏幕显示，按住 或 不放，光纤向上向下移动。

- 左电机自动运行

  按SET选择到左电机自动运行，在左夹具放上一根切好的光纤，按 一次，光纤向右移动。再按一次 ，光纤停止移动。

- 右电机自动运行

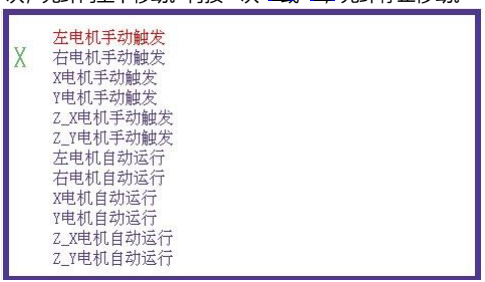
  按SET选择到右电机自动运行，在右夹具放上一根切好的光纤，按 ◀ 一次，光纤向左移动。再按一次 ◀ 光纤停止移动。
- X 电机自动运行

  按SET选择到 X 电机自动运行，在左夹具放上一根切好的光纤，按 ▲ 或 ▼ 一次，光纤向上下移动。再按一次 ▲ 或 ▼ 光纤停止移动。
- Y 电机自动运行

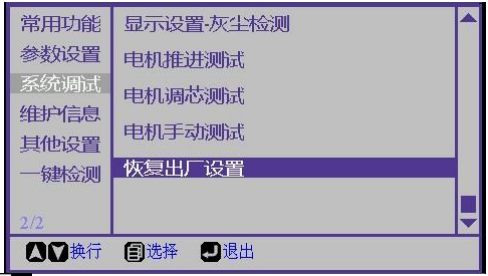
  按SET选择到 Y 电机自动运行，在右夹具放上一根切好的光纤，按 ▲ 或 ▼ 一次，光纤向上下移动。再按一次 ▲ 或 ▼ 光纤停止移动。
- Z_X 电机自动运行

  按SET选择到 Z_X 电机自动运行，在左夹具放上一根切好的光纤，按 ▲ 或 ▼ 一次，光纤向上下移动。再按一次 ▲ 或 ▼ 光纤停止移动。
- Z_Y 电机自动运行

  按SET选择到 Z_Y 电机自动运行，在右夹具放上一根切好的光纤，按 ▲ 或 ▼ 一次，光纤向上下移动。再按一次 ▲ 或 ▼ 光纤停止移动。



3-11.“恢复出厂设置”菜单



按[■]进入“出厂设置菜单”的菜单，需输入密码。

(恢复出厂设置后参数要重新调整，仅提供厂商维修人员使用)

4. “维护信息”菜单

进入该菜单可看到本机的出厂序列号、软件版本号、固件版本号和本机的总放电次数。

4-1. “序列号”菜单

本机器的序列号

4-2. “软件版本号”菜单

本机器的软件版本号

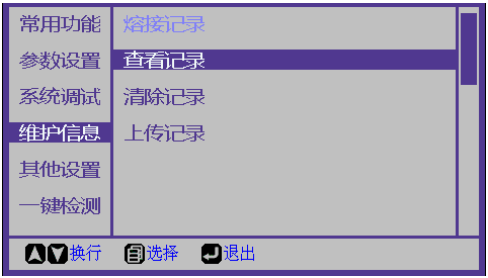
4-3. “固件版本号”菜单

本机器的固件版本号

4-4. “熔接次数”菜单

本机器的熔接次数

4-5. “熔接记录”菜单



按[■]进入“熔接次数”菜单，按“◄”，“►”选择查看熔接记录。

在此菜单下可以看到 6000 次的熔接记录。

4-6. “程序更新”菜单

更新软件。(机器使用无问题不需要更新)

5.“其他设置”菜单

5-1.“暂停设置”菜单

按 进入“暂停”功能菜单，按“▲”“▼”可选择暂停功能“开启或关闭”。选择完成按 确认保存。

在正常的熔接操作时，一般暂停功能“关闭”。

5-2.“张力测试”菜单

按 进入“张力测试”功能菜单，按“▲”“▼”可选择功能“开启或关闭”。选择完成按 确认保存。

5-3.“图像翻转”功能

按 进入“图像翻转”功能菜单，按“▲”“▼”可选择图像翻转的关闭或开启。修改完成按 确认保存。按 退出菜单。

在显示屏上正视图像或翻转 180 度显示图像。

5-4. “按键声音”功能

按 进入“按键声音”功能菜单，按“▲”“▼”可选择按键声音的关闭或开启。修改完成按 确认保存。按 退出菜单。

5-5. “人工衰减”功能

按 进入“人工衰减”功能菜单，按“▲”“▼”可调整参数。修改完成按 确认保存，按 退出菜单。

需要增加熔接损耗时使用。

5-6. “自动调焦” 功能

按 进入 “自动调焦” 功能菜单，按 “▲” “▼” 可设置开启、关闭。修改完成按 确认保存，按 退出菜单。

5-7. “时间设置” 功能

按 进入 “时间设置” 功能菜单，按 “▲” “▼” 可选择 “年.月.日.时.分”，按 “◀”，“▶” 对参数修改。修改完成按 确认保存。修改完成 按 退出。

5-8. “功能设置”功能

按 进入“功能设置”功能菜单。

按“▲”“▼”可选择“节能开关、待机时间、图像缓存开关、查看熔接图象、纤芯检测阈值、触屏开关”。按“▲”“▼”对参数修改。修改完成 按 确认保存。按 退出。

功能项	功能说明	取值范围
节电开关	开启一段时间无操作，机器自动熄屏	开启/关闭
待机时间	出现熄屏的时间，节电开关开启时生效	1-20 分钟
图像缓存开关	开启后，存储每一芯熔接完成的图像	开启/关闭
查看熔接图像	查看机器内存储的熔接图像	1-100
纤芯检测阈值	判断纤芯质量，数值越大，检测越宽松	1-20
触屏开关	触屏功能开启/关闭(需触屏产品)	开启/关闭

6.“一键检测”菜单

6-1.“一键检测”菜单

按 进入“一键检测”功能菜单，按照一般熔接的方法对光纤剥纤，切断，和放置，按 确认。检测完成按 退出。

6-2.“更换电极针”

提示电极使用次数，及时根据需要进行更换。(当剩余放电次数减到 0 的时候 ，开机时熔接机就会提示更换电极针，“更换电极针”这几个字会变成红色，执行更换电极针菜单后 剩余放电次数恢复成初始值)

6-3.“剩余放电次数”

预先设定熔接放电次数，及时根据需要进行更换电极。(每放一次电后，数值减 1，降到 0 时，更换电极针选项变成红色，选择更换电极针并确认后，重置剩余放电次数。

问题与故障排除

1．开机与供电

- 打开电源开关，电源没有反应

原因：a 电源插座没有插好

b 电源开关接触不良

c 电池没有正确插好

解决方法：检查电源插头或电池是否插好，以熔接机连接是否正确，后查看电源开关是否良好。

- 开启熔接机，机器无任何反应（屏幕没有亮光）

原因：a 电源保险丝断开

b 机器内部发生短路或故障

c 电池电量不足或极性接反

d 交流适配器坏，电压输出不对

e 显示屏坏

解决方法：

a. 检查电源保险丝是否断开，机器内部有无短路或其他故障。主板电源保险丝更换，机器内部短路或其他故障，请与经销商联系维修或返厂维修。

b. 检查电池电量不足需要充电，检查电池极性是否接反，若有则改之。

c. 检查交流适配器电压输出是否正常（输出电压为 15V），若不正常则需更换交流适配器。请与经销商联系更换专用的交流适配器。

d. 显示屏的亮度出厂时已调好，若不能正常的显示，说明显示屏有故障，请与经销商联系维修或返厂维修。

- 开机后中，总是显示“系统复位”机器一直处于复位中

原因：a 熔接机光电开关有故障

b 电机或电机驱动有故障

解决方法：请与经销商联系维修或返厂维修。

2．熔接操作

- 放置光纤后，显示屏有半边图像很暗或不亮

原因：a 防风罩没有放到位

b 对应的灯不亮

c 对应的摄像头信号控制线脱落或摄像头有故障

解决方法：检查防风罩是否盖好，有无异物卡住防风罩。检查对应的灯是否不亮，若不亮请与经销商联系维修或返厂维修。

•按“AUTO”键光纤停止不动，按“RESET”键系统能正常复位，但光纤仍不动

原因：a 光纤断纤

b 光纤压板没有压住光纤

解决方法：重新制作光纤。重放光纤，合上光纤压板，用手向后轻拉光纤，能轻易拉动，说明光纤压板没有压住光纤。检查光纤压条能否弹起，不能弹起的需要维修。

•按“AUTO”键光纤向前运动一定位置后，又向前运动，最后显示“重放光纤”

原因：a 光纤切割长度达不到要求

b 光纤压板向前推进有障碍

解决方法：光纤切割长度约为 10~16mm，达不到要求的重新制作。在光纤压板推进方向，用手轻推光纤压板，检查有无障碍，确定其位置，处理之。

•按“AUTO”键，光纤在调芯过程中，一边光纤图像在垂直方向上下移动，两端光纤端面对不齐。不能熔接。

原因：a 精密 V 型槽上有灰尘，导致一边的光纤位置偏高，大于另一边的光纤上下远动的最大值。

b 物镜表面.灯.CCD 上有灰尘或暗斑。

解决方法：用一根沾有酒精（99％以上的酒精）的棉签清洁 V 型槽的底部，并用干棉签清除 V 型槽内的多余酒精。如果 V 型槽内的脏物不能用沾有酒精的棉签清除，可用切割好的光纤端面去清理 V 型槽的底部，然后重复上一步骤。用一根沾有酒精（99％以上的酒精）的棉签同样清洁物镜表面.灯.反光镜，并用干棉签清除多余酒精。仍然不能解决，请与经销商联系维修或返厂维修。

•经常出现对不齐就熔接，结束后显示损耗大，或熔接失败

原因：a 光纤脏.光纤端面不良

b 物镜镜头上.灯上有灰尘或暗斑

解决方法：重新制作合格的光纤，用一根沾有酒精（99%以上的酒精）的棉签同样清洁物镜表面.灯，并用干棉签清除多余酒精。仍然不能解决，请与经销商联系维修或返厂维修。

•总是显示一边光纤端面不良

原因：a 菜单中“端面设置”值偏小

b 物镜镜头上.灯上有灰尘或暗斑

c 相对应的灯不亮

d V 型槽内有灰尘，或光纤没有正确放入 V 型槽内

解决方法：进入菜单增大“端面设置”值。用一根沾有酒精（99%以上的酒精）的棉签同样清洁 V 型槽.物镜表面.灯，并用干棉签清除多余酒精。检查相对应的灯是否正常，光纤有没有正确放入 V 型槽内。仍然不能解决，请与经销商联系维修或返厂维修。

•熔接过程中电极不放电

原因：a 选择了没有设置参数的程序或程序中放电强度设置为 0

b 高压电源损坏或电极连接线脱落

解决方法：检查选择的程序是否正确或程序中放电强度设置是否正确。仍然不能正常放电，请与经销商联系维修或返厂维修。

•熔接现象正常，但熔接损耗一直偏大或熔接失败

原因：a 检测系统有故障或物镜镜头上有灰尘。

b 参数中光纤“端面设置”的值较大

c 放电熔接后机器检测还没有完成就打开了防风盖。

解决方法：用一根沾有酒精（99％以上的酒精）的棉签同样清洁物镜表面.灯，并用干棉签清除多余酒精。检查参数中光纤“端面设置”的值是否较大。然后再重新做放电试验直到电流适中。仍然不能解决，请与经销商联系维修或返厂维修。

•按“AUTO”键,间隙设置，调芯都正常，但熔接不上，总是烧成二个球。

原因：a 熔接电流太大，环境湿度太大

b 推进量偏小或为 0，推进速度值偏大

c 光纤压板没有压住光纤

d 光纤本身质量不好，包层脱离

解决方法：换干燥的环境下看是否还有该问题，确认所熔接的光纤没有包层脱落的现象，进入使用程序菜单，检查参数设置并设置正确的参数，然后再重新做放电试验直到电流适中。仍然不能解决，请与经销商联系维修或返厂维修。

•多模光纤熔接后起泡.变粗或变细

原因：a 光纤端面不合格或光纤表面脏

b 程序参数设置有问题

解决方法：保证光纤端面良好，做放电试验直到电流适中。仍然变粗或起泡则增大程序“预熔电流，预熔时间”的值。相反则减小程序“预熔电流，预熔时间”的值和增大“熔接推进”量，仍然不能解决，请与经销商联系维修或返厂维修。

•熔接损耗指标一直偏大

原因：a 光纤有灰尘，熔接机 V 型槽有灰尘

b 放电电流不适中

c 对不齐就熔接

d 电极老化

e 程序参数设置不当

f 光纤端面不好，光纤切割刀有问题

g 操作环境较恶劣如：大风或潮湿等

h 较特殊光纤

解决方法：首先要求测试方法正确，然后做各类清洁（V 型槽.物镜镜头.灯.反光镜.电极针），选择合适的程序进行放电测试，调整光纤切割刀保证切割光纤端面良好。如果仍然熔接损耗指标偏大，通过增大或减小“预熔时间.预熔强度.熔接推进量.熔接推进速度”的值，多次进行参数找到较好的熔接参数，或恢复出厂时的参数设置。仍然不能解决，请与经销商联系维修或返厂维修。

•电极上放火花或电极向附近金属上放电

原因：a 电极联机松动

b 操作环境潮湿

解决方法：检查电极的联机是否松动。换干燥的环境下看是否还有该现象。仍然不能解决，请与经销商联系维修或返厂维修。

3．加热操作

• 热缩套管没有完全收缩

原因：a 加热时间设置过短

b 由于外界温度太低使加热没有充分完全

解决方法：调整程序，延长加热时间

- 热缩管粘在加热槽内

原因：部分热缩管可能引起粘连

解决方法：待完全冷却后再取出或用棉签在其边缘轻轻拨动，使其与加热槽脱离。

- 加热指示灯不亮，但能正常加热

原因：a 加热器有故障

b 加热指示灯坏

解决方法：请与经销商联系维修或返厂维修。

- 加热指示灯亮，加热器不加热。或加热指示灯不亮，加热器也不能加热

原因：加热器有故障，或加热控制电路故障

解决方法：请与经销商联系维修或返厂维修。

保固卡和运输方式

1.保固卡

1-1.保修期限及条件

如果熔接机在发货之日起的一年之内发生故障，我们将为其免费维修。但如果在保修期内发生以下情况则不予免费保修：

（1）由自然灾害造成的故障或损坏；

（2）由错误操作引起的故障或损坏；

（3）忽略本手册中的操作说明和步骤擅自操作引起的故障或损坏；

（4）易损易耗件（如电极针）；

（5）由非正常电压供电引起的故障或损坏；

（6）其他未尽事项请见保固卡内容;

1-2.维修所需的信息

（1）请随熔接机附上以下信息：

（2）您的全名.行业.公司.部门.地址.电话号码.传真号码和电子邮箱

（3）熔接机的型号和序列号

（4）遇到的问题

（5）熔接机在什么时候发生了什么问题；

（6）现在的情况如何，等等。

1-3.维修前的信息记录

请事先记录好熔接机里的储存内容，例如熔接结果.熔接模式等，因为在维修时这些信息数据可能会丢失。

2. 熔接机的运输

2-1. 由于熔接机是高精密仪器，一定要用原装携带箱来运输和储存，以防潮与防震，如果需要维修熔接机，发送前请在携带箱内一并放入相关配件，如电源适配器等。

2-2.在发送熔接机之前，请先与经销商或代理商联系，以确认维修事宜.

设计与变更

为提升产品性能，产品软件及硬件技术升级会有变动，恕不奉告。

部分内容使用图片为参考，请以实物为准。

Pro'sKit® **中国地区产品保固卡**

购买日期		店章
公司名称		
联络电话		
电子邮箱		
联络地址		
产品型号	□ TE-6801G □ TE-6801G-W	

※ 在正常使用情况下，自原购买日起 12 个月免费维修保证（不含耗材.消耗品）。

※ 产品保固卡需盖上店章.日期章，其保固效力始生效。

※ 本卡请妥善保存，如需维修服务时，请出示本卡以为证明。

※ 保固期满后，属调整.保养或是维修性质之服务，则酌收检修工时费用。若有零件需更换，则零件费另计。

产品保固说明

- 保固期限内，如有下列情况者，维修中心则得酌收材料成本或修理费(由本公司维修人员判定)：
  - 对产品表面的损伤，包括外壳裂缝或刮痕
  - 因误用.疏忽.不当安装或测试，未经授权打开产品修理，修改产品或者任何其它超出预期使用范围的原因所造成的损害
  - 因事故.火灾.电力变化.其它危害，或自然灾难所造成的损害。
- 非服务保证内容：
  - 机件本体外之消耗品：如电极，棉签，热收缩管，电池，剥线钳...等消耗品
  - 机件本体之外之附配件：如背带，USB 连接线，CD 等附配件。
- 超过保证期限之检修或服务,虽未更换零件，将依公司保固维修政策酌收服务费。

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