ACUTEQ

Fiber Fusion splicer

-user manual

Acuteq Instruments Inc

Chapter 1: General Information

Thanks for choosing Acuteq fiber fusion splicer! This manual will introduce fusion splicer features and operation methods.
By applying innovative design and exquisite manufacturing technology this instrument will make users splice easily.

The new technology shortens splicing and shrinking time:
1, Micron-level parallel clamping,
2, Spindle high precision alignment algorithm
3, Contour detection technology
All three applications will ensure the arithmetic accuracy of the splicing loss estimation;

Slight-weight but tough outer casing will protect the instrument from various of harsh working environments.

For further details, please visit: www.acuteq.us.

Chapter 2 Technical Specifications

Specification	Details
Fiber Type	SM(ITU-TG.652&G.657) , MM(ITU-TG.651) , DS(ITU-TG.653) , NZDS(ITU-TG.655)
Fiber Diameter	0.25-0.3mm / Indoor Cable
Splicing mode	Default 41 splice modes. Maximum 100 modes
Typical Splicing Loss	SM:0.02dB/MM:O.OldB/DS:0.04dB/NZDS: 0.04dB/G.657:0.02Db (According to ITU-T)
Return Loss	>=60 dB
Light	3 LED Lights
Splicing Time	SM FAST： 6 seconds
Splice loss estimation	Yes
Fusion length	20-60mm
Heating Oven	Default 5 types of Protection sleeves: 20mm , 30mm , 40mm , 50mm , 60mm ； Maximum 50 heating mode.
Heating Time	Heating Time： 20-900s Typical Heating time： 15-30 s
Storage	1,000 records
Pull Test	1.5-2.0N

Specification	Details
Display	90 C dual camera, 5 inches,800*480 Colorful Touch Screen
Fiber amplification and display	X , Y , X/Y 5OOX amplification
Power Supply	AC 100-240V, DC 12-l5V
Battery capacity	5200 mAh
Heating Times	280 times
Operation	Buttons and Touch Screen
Adaptive discharge	Automatically adjusted according to air pressure and outside temperature
Electrode Lifetime	3000 times
USB Port	Mini USB 2.0
Fiber alignment	Cladding Alignment or Core alignment (Depends on Model)
Weight	Main unit (with rubber protection casing) 2KG, (without rubber protection casing) 1.7KG; battery weight 0.38KG
Size	with rubber protection casing: 140W*l65L*160Hmm, without rubber protection casing: 130W*165L*150Hmm
Operating	Altitude: 0-5000 meters,Relative humidity 0-95%, -10 - 50 °C,15m/s maximum wind speed
Storage	Relative humidity 0-95%, -40-80 ° C, battery storage: -20-30 ° C long-term storage

Chapter 3 Installation

3.1 Security warning

Fusion splicer is designed only for connecting quartz glass fibers not for any other purposes. When operating Fusion Splicer, Please follow below safety regulations.

1.Must not operate the fusion splicer in high-explosive hazardous situations.

2.Must not expose the fusion splicer near flames, electric shock, rain or high-moisture situations;

3, Must not touch the fusion splicer electrode when instrument is on.

4, Please put on protective goggles during fiber preparation and fusion. Otherwise, fiber debris entering the eyes, skin, or swallowing may cause very serious consequences.

5, Do not disassemble any parts of the fusion splicer except those are allowed in this manual. Also Replacing and adjusting internal components are only allowed to be made by the manufacturer or authorized personnel/company.

Remove the battery immediately, when below conditions happen.

1.Fuming, Smell, abnormal sound or abnormal heating happens.

2.Liquid or solid items are dropped into fusion splicer.

3.Instrument is broken.

If these matters happen, please contact the service center immediately. Otherwise, Instrument may get damaged and can not be restored. In extremely situation, it may even cause fire, injuries or else.

Always choose the original battery/power adaptor only. Improper AC power/adaptor may cause fuming, abnormal performance or else. It may even cause fire, injuries or else.

When charge battery, do not stack the battery and adapter together to avoid over-heating problem.

Note:

To replace electrodes, please select the "Replace electrode" option in system maintenance, or turn off the power of the fusion splicer in advance. It is forbidden to perform the Discharge operation without installing electrodes.

3.2 Cautions for battery

Please take battery out of Fusion Splicer, If instrument will not be used for over one month.

1. Do not transport or store batteries in or with metal products.
2. Do not charge or discharge in low temperature or high temperature. Otherwise it will shorten battery lifetime.
3. Do not connect the positive and negative terminals of the battery with metal objects.
4. Do not disassemble the battery or drop it into the fire.
5. Battery is 100% charged but working time is very short, Please replace the battery;
6. After fully charging the battery, disconnect the power adapter in time. Keep charging battery when it is already fuuly charged, it will shorten battery life time.
7. Do not heat battery or throw it into the water.
8. Do not put the battery into microwave or high pressure container;
9. Do not charge or use or place battery in hot situation. I may case fire or shorten battery lifetime.
10. Do not use fault battery. If the electrolyte leaks or the electrolyte is discharged, keep the battery away from the fire source to avoid fire accident or exploding. Do not touch electrolyte. Clean it with water immediately if you touch it accidently. Seeking medical attention if necessary.

3.3 Maintenance

1.Check and clean the V-groove at regular basis.

2.Do not use tough objects to clean the V-groove or the electrodes

3.Use dry tissue to clean dust or other things from the fusion splicer;

4.If the appearance is not clean, Do not use propylene, paint thinner. users can use soft tissue with neutral cleaning solution to clean the fusion splicer.

3.4 Transportation and storage

1.Do not store the fusion splicer in excessively dusty or humid environment. Otherwise, it may result in electric shock. Performance of the fusion splicer may be also degraded;
2.Keep the humidity less than 95%
3.When the fusion splicer is transported from cold to warm atmosphere, Please try gradual heating method, otherwise condensation will generate inside the instrument, which will adversely affect the instrument;
4.The fusion splicer has been precisely calibrated. Please try to avoid impacting and vibration. Please use carrying case for long-distance transportation.
5.Avoiding to keep instrument in overheated environment;
6.To maintain the performance of the fusion splicer, it is recommended to do to calibration once a year;
7.The fusion splicer should be repaired by professional technicians. If there is any problem, please contact the manufacturer/authorized Personnel/Company.

Chapter 4 Basic Operations

4.1 Appearance and power supply

4.2 Power supply

Remove Battery by releasing this button

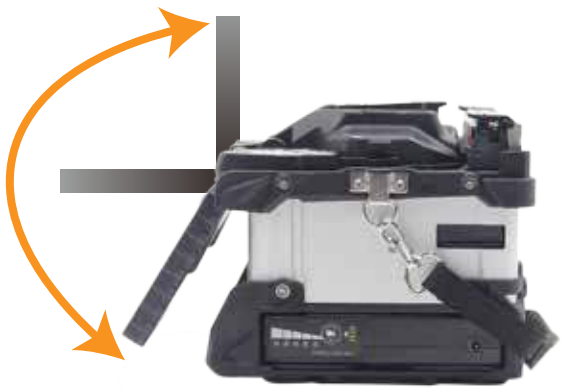
Insert battery as per arrow shows

4.3 Power on

Press Power On, And wait Splicer to be ready

4.4 Adjusting the display position

Adjust the display to the best angle for easy operation.



4.5 Adjust the height of the LCD backlight

Under the initial interface, adjust the brightness of the LCD backlight until it is clear.

4.6 Prepare for splicing:

Before splicing, three steps are needed for fiber cable.:

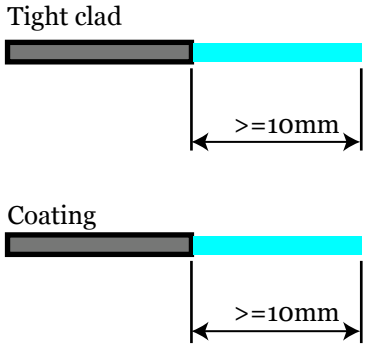
1, Stripping coating
Stripping the jacket to leave at least 50mm, then removing the coating about 30-40mm.

2,Clean the fiber with alcohol.

3, fiber cleaving
To ensure the quality of splicing, Please choose high-precision fiber cleaver, Length of fiber cutting should follow this picture strictly.

Note:
Please put on the heat shrink sleeve before all operations.

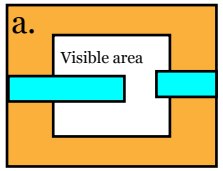
[Important]
Make sure the bare fiber and the splicing end-face are clean.
Make sure fiber cleaver is clean, otherwise clean it with alcohol.



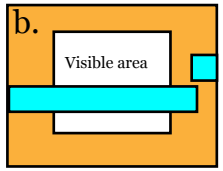
4.7 Automatic Inspection

After the fiber is loaded into the fusion splicer, Turn on the fusion splicer. Splicer will perform discharge cleaning automatically. After that, check the fiber -end-face..

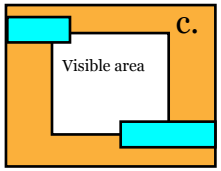
If the cutting angle is worse than the limit value, or the end face is not clean, buzzer will alarm and the display will also pop up warning info to advise user.



The fiber end face is shown in the visible area.



The fiber end face is beyond the visible area of the lens.



The fiber end face is above or below the visible area of the lens and cannot be found automatically.

1. The cutting angle is too large

2. Highlighted.

3. Fiber core.

4. There is dust on the surfaceof the bare fiber.

4.8 Splicing steps

1 Turn on the fusion splicer power supply. When Splicing SM fiber (ITU-T G.652) only, Please select the [SM Mode] mode.

2 Confirm splicing and heating mode. When Splicing different types of fiber, Please select [Auto Mode] mode. In the case, Speed may be slower.

3 Clean the fiber coating or tight casing

Insert the fiber into heat shrink sleeve

4 Strip and clean fiber, please use alcohol with concentration more than 99%

Please ensure that stripped fiber is clean. All objects like coating residue have been removed.

5.Place the fiber into the fixture.

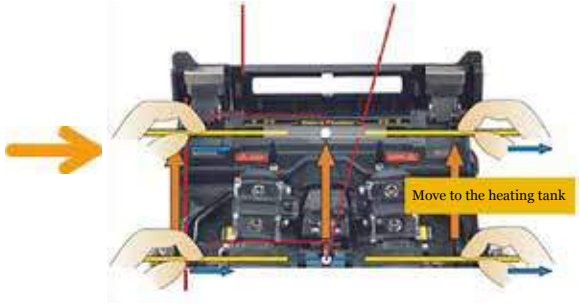
Do not touch any objects in case fiber will not be clean..

6.Electrodes should be placed between the edge of the V-groove and the center of the connection of the two pole electrode rods.Once Covered the windshield, Splicer will start the fusion splicing automatically. During this time, user can view the LCD screen.

Note:

Do not slide the fiber along the V-groove. Fiber should be beyond the V-groove, but not exceed the tip of electrodes.

7 Take out that Spliced fiber and place the heat shrinkable tube in the middle of the heating oven. Move the fiber so that the fusion point is at the center of the heat shrinkable sleeve, then cover the heating furnace cover to start heating.

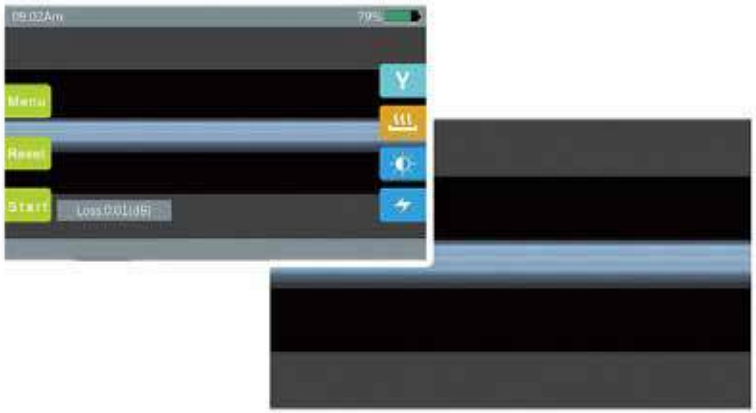


8 Process Finished

Note:
When there is a large splice loss or a high altitude changes of the environment,
[Stabilization Electrode] and [Discharge Correction] must be performed before splicing.

4.9 Zoom function

The user can click the screen twice to zoom the fiber splicing in screen.
Through the Screen, user can determine whether the splicing status is good or not..



Chapter 5 Splicing Mode

There are various fusion options modes inbuilt this fusion splicer.
Splicing Options define current, time, and other important parameters. It is necessary to choose the proper splicing mode.

5.1 Current splice mode

The current splice mode will be displayed at the top of the screen

Currently [splicing Mode]

5.2 Select the splicing option

Click to select the [Splice Menu]

Choose the suitable splice option and press the Select button (the yellow script shows the currently selected splice option)

View the selected fusion mode
Press [Back] to go back to the previous menu.

5.3 Splicing parameters of the general welding process

Parameters	Description
Form	A list of splicing patterns stored in the splicer data, according to the splicing mode selected by the user Selected items stored in the database will be copied to the user editable area.
Name	The title of the fusion mode, up to 7 characters.
Remarks	Detailed explanation of the fusion mode, up to 15 characters. Displayed in the [Select Fusion Mode] menu
Pull Test	If [Tension Test] is set to [NO], the tension test will be performed when the windshield is opened after the welding is completed or when the [SET] button is pressed.
Loss estimation	The loss is just the estimation of the connection loss, and the fusion splicer calculates the loss of the splicing point based on the fiber image.There is a certain deviation from the true value. The algorithm for estimating the loss is based on a single-mode fiber. The transmission wavelength is 1.31 um. The estimated value has a good reference value in the case of good splicing, but it cannot be used as The basis for project audition.
Fiber angle value	An error message will be displayed if the cutting angle of either side of the left and right fibers exceeds the selected cutting angle limit.
Overlap amount	Set the overlap value for fiber pushing. If the [Pre-Splicing discharge intensity] is low, Relatively small amount of [overlap] is recommended. If the [Pre-Splicing discharge intensity] is high, it is recommended to use relatively large [overlap amount].
spacing	Set the distance between the left and right fiber end faces during alignment and pre-melting discharge.
Cleaning/discharge time	The cleaning discharge can burn out tiny dust on the surface of the fiber Discharging time can be set based on different conditions.

Parameters	Description
Cleaning discharge intensity	Set the clean discharge arc intensity.
Pre-Splicing discharge strength	Set the pre-discharge intensity from the start of discharge to the fiber propulsion.If The [Pre-Splicing discharge intensity] setting is too low, the axial deviation of the fiber will occur in the case when the fiber cutting angle is relatively poor. If [Pre-Splicing discharge intensity] is set too high, the fiber end face may be melthed cause high tempeture, Then the splice loss will become high.
Pre-Splicing discharge time	Set the discharge time from covering the windshield to the fiber propulsion.Long [Pre-Splicing discharge time] and high [Pre-Splicing discharge intensity] will result in the same result.
Fusion discharge strength	Set the intensity of the arc discharge
Fusion discharge time	Set the time for arcing discharge

Chapter 6 Splicing Options

Go to the [Splicing Options] menu. Click on the selected item to modify the parameters.

Name	Parameters	Description
Splicing Options	Auto	If the automatic start setting is [ON], Splicing Procedure will start automatically as long as the windshield is closed. Fiber should be prepared in advance and placed in the fusion splicer.
	Ir	If [Pause One] is set to [ON], the splicing process will stop when the setting of fiber propulsion is finished. And the value of the cutting angle can be seen.
	Pause Two	If [Pause 2] is set to [ON], the operation is paused after the fiber alignment is completed.
	Secondary alignment	After long-time [Pause 2] status, the alignment may fail.Therefore, after the [Pause II] status, the fusion splicer performs the re-alignment function.If Setting t his function to [OFF], Splicer will prevent the realignment function. When axial displacement happens during [Pause 2], it is recommended to use the manual welding mode. It is also recommended to set this function to [OFF], when the re-alignment is not required.

Name	Parameters	Description
Splicing Options	Fault ignore	Ignore the splice error. For example, if the cutting angle exceeds the threshold and the function is set to [ON], the splicing procedure can be continued.
	Pull test	If [Tension Test] is set to [ON], Once the welding is completed, Please open the windshield to perform the pull test.
Fiber image setting	Fiber spacing setting	Set how the fiber is displayed on the screen during splicing.
	Pause One	
	Alignment	
	Pause Two	
	Discharging	
	Estimatation	

Chapter 7 Heating Mode

There are 50 heating options in the fusion splicer. 5 of them are default and rest of them can be customized. Select the suitable heating mode that meet the heat shrink tube. For different types of heat shrink sleeve, the user can edit the corresponding parameters in heating option.

7.1 Select heating Option

Select [Heat Menu]

Select [Heat Menu]

Select the required heating mode, and press the button (the yellow script is the currently selected heating mode)

View the selected heating mode Press [Back] to go back to the previous menu..

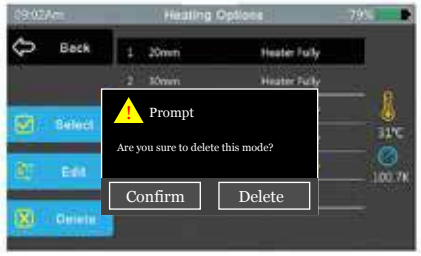
7.2 Edit heating mode

The heating conditions existed can be edited and modified.

Go to [Heating Mode] and select the one you want to edit.
Select [Edit] to customize.

Select the parameter you want to edit and edit it. After editing, select [Confirm] or [OK]

7.2 Deleting Heating Mode



Go to [heating mode] and select the one you want to delete.
Select [Delete]. A Pop-box appears, select [Confirm].

Parameters	Description
Name	Heating Mode
Heating type	Customer can choose {Full} (all heating) or {Part} partial heating based on different applications.
Heating Temp	Setting heating temperature
Heating Time	Set the time from Starting to the end of heating

Chapter 8 Maintenance

8.1 Dust Checking

Fusion splicer inspects fiber by imaging. Dust and dirt on the camera and lens may cause poor fusion results.

Steps

- Select [Dust Check] in [System Maintenance].
- If the fiber is placed, remove it and press the [SET] button to start the dust check.
- If dust is found during the test, the screen will pop [Execution failed] and display the location of the dust. Clean the objective lens and do [Dust Check] again until the screen prompts [Execution Complete].

Note:
If the dust is still there after cleaning the objective lens, please contact the your supplier.

8.2 Motor calibration

Motors have been adjusted before shipping.However, These settings may change for various reasons. This feature will calibrate motor speed automatically .

Steps

- Select [Motor Calibration] under [System Maintenance].
- Prepare the fiber and place it into the fusion splicer. Then press the [SET] button.
- Speed of all motors will be automatically calibrated. After completion, it will prompt [Execution completed]

8.3 Stabilizing electrodes

When suddenly changes happened to the external environment, the discharge intensity may become unstable, then it will increase the splicing loss..
Especially when the fusion splicer moves from a low altitude to a high altitude, it takes some time to stabilize the discharge intensity.
In this case, the fusion splicer can accelerate the process of stabilizing the discharge intensity by stabilizing the electrode, and it is necessary to perform several times tests until the screen displays [execution completed].

Steps

Select [Stabilized Electrode] in [System Maintenance].
Prepare the fiber and place it into the fusion splicer.
After pressing the SET button, the fusion splicer will automatically execute the stabilizing electrode according as the following procedure:
1, Discharge 5 times to determine approximate electrode position
2, Quick-Splicing.
3, Performing 16 times of stable electrodes to identify electrode position precisely.

8.4 Discharge Correction

Environments such as temperature, humidity, and air pressure are constantly changing, which causes the temperature of the discharge to constantly change.

The machine is equipped with temperature and air pressure sensor, which can collect the external environment parameters and send to the CPU, so that CPU will adjust the discharge intensity to maintain a stable state.

However, Changes in the discharge intensity caused by motor wear and fiber debris adhesion cannot be automatically corrected.
And when the center of the discharge is high, it will move to the left or right.
In this case, the fiber fusion position is offset relative to the discharge center, and a discharging correction is required to solve these problems.

Note:
What discharging correction corrects are the internal condition parameters, not the discharge intensity value.

Steps

- Select [Discharge Correction] under [System Maintenance] to display the discharge correction screen.
- Prepare the fiber and place it in the fusion splicer. Press [SET] to start the discharge calibration.

  If the prompt is completed, re-cut the fiber for discharge calibration, and do not quit the discharge calibration page.

Note:
The discharge calibration requires multiple operations to make sure it will be successful.

8.5 Electrode setting

Cause of lifetime, The electrodes should be cleaned or replaced periodically. Otherwise, the splicing loss will become higher and also the splicing strength will be lowered.
Set the electrode usage reminder. It is recommended user to replace new electrodes after using over 2000 times.
Also When the number of discharges of the electrode reaches 3000 times, it will prompt [Please replace the electrode rod] after turning on the machine.
To replace the electrodes, press [Replace Electrode] in [Electrode Setting] or just turn off fusion splicer and replace it.

Remove the old electrode, loosen the screw attached to the electrode cover, and remove the old electrode rod.
Be careful not to pull out the wiring when replacing the electrode rod.
Clean the new electrodes with clean gauze or lint-free cloth moistened with alcohol, then install it into the fusion splicer. Cover the electrode cover and tighten the screws.
· It is strongly recommended to make electrode discharge correction after replacing the electrode (Procedure will be explained in this manual), otherwise splicing loss or splicing strength cannot be guaranteed.

Chapter 9 Other Functions and Applications

9.1 Data Storage

This fusion splice can store 1000 splicing results maximum.
The stored data content varies depending on the splicing mode.

Display Splice record
--Go to the [Splice Record] menu and select [Show Fusion Record] to view it.
Clear Splice record
--Select the [Clear Fusion Record] option, enter the machine password, select [Enter], then user will be able to delete all the splicing records.
Cancel data storing
--If the user does not want to store the splice record, select [ON] in the [Record Storage] option.

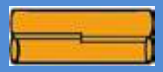
9.2 system settings

Parameters	Description
Buzzer	Turn on or turn off buzzer
Temperature Unit	Choosing °C or °F
Auto-Heating	If choosing No, Heat-oven will heat the fiber automatically when fiber is placed into it.
Lanaguage	Select the language
Calendar	Setting the time
Password	This is the password for some hidden menu. Initial Password will be 000000. if you forget, please contact with your supplier.
Electrodes Reminding	When using Electodes over limit, Instrument will remind user: Please replace the electords. Suggestion for this limit is 2000 times
Electrodes Warnning	When using Electodes over limit, Instrument will remind user: Must replace the electords. Suggestion for this limit is 3000 times
Display Auto-off	If no operations within 180 seconds, Display will be off automatically. When screen is off, the lED light besides of Power Button will be flickering. By touching any button, Display will be on again. User can seeting the auto-off time based on their situation
Instrument Auto-off	If no operations within 30 miniutes, Instruments will be off automatically. User can seeting the auto-off time based on their situation

9.3 System Information

Parameters	Description
Software	Software Version
Discharging statistics	The total discharging times
S/N	Serial Number
Model	Model Number

Chapter 10: Splice loss is too large and the solution

Phenomenon	Term	Reason	Solution
	Longitudinal offset	Dust in V-groove or fiber-optic Fixert	Clean V-groove and fiber Fixer
	Error-angle	Dust in V-groove or fiber-optic Fixer	Clean V-groove and fiber Fixer
		Poor quality of fiber end face	Check the cleaver performance
	Bending	Poor quality of fiber end face	Check if the fiber cutter is working well
		Low pre-splicing discharge power Or short pre-splicing discharge time	Increase [pre-splicing discharge power] and / or [discharge time]
	Diameter Dismatch	Low discharge power	Increase [pre-splicing discharge power] and / or [discharge time]
	Dust burning	Poor quality of fiber end face	Check the cleaver performance
		Cleaning fiber Or the dust is not removed during cleanning	Remove the fiber or increase the [cleaning discharge time]
	Bubbles	Poor quality of fiber end face	Check the cleaver performance
		Low pre-splicing discharge power Or short pre-splicing discharge time	Increase [pre-splicing discharge power] and / or [discharge time]

Phenomenon	Term	Reason	Solution
	Fiber separation	fiber propulsion value is not enough	Select [motor calibration] to do maintenance
		High pre-splicing discharge power or Long pre-splicing discharge time	Decrease [pre-splicing discharge power] and / or [discharge time]
	Too thick	fiber propulsion value is too much	Reduce [overlap amount] and Select [motor calibration] to do maintenance
	Too slin	Inappropriate discharge power	Execute [discharge correction]
		Parameters are not suitable	Adjust [pre-splicing discharge power] [pre-splicing discharge time] or increase [overlap amount]
	Splicing Wire	Parameters are not suitable	Adjust [pre-splicing discharge power] [pre-splicing discharge time] or increase [overlap amount]

Note:
When different fibers (different diameters) or multimode fibers are fused, the fusion splice sometimes may generate one vertical line - [Splice wire], which does not affect the weld quality (splicing loss and weld strength).

Chapter 11 Common Error Messages and Solutions

If an error message appears on the screen while using the fusion splicer, refer to the processing methods in the table below. If the problem cannot be resolved, then There may be a malfunction of the fusion splicer. Please contact your supplier.

Error message	Reason	Solution
Left/right fiber placement	Fiber end face beyond electrode center line	Reset to RESET and re-insert the fiber so that the fiber end face is between the Core line of the electrode and the edge of the V-groove
Propulsion motor travel exceeds	The fiber is not properly placed on the bottom of the V-groove, leading the fiber drifts beyond the motor's travel range.	Press reset and replace the Fiber
Left and right fiber contact	[Overlap] setting is not enough	Adjust the [overlap] parameter
	Motor is not calibrated	Perform [Calibration] Maintenance
Fiber positioning failed	The fiber is placed incorrectly in V-groove	Press the RESET button. Reposition the fiber so that it fits correctly on the bottom of the V-groove
	The fiber is not placed in the view-range of the camera	Confirm the fiber that has been stripped is placed properly in fiber cleaver.
	length (bare fiber part) is too short	Check the length

Error message	Reason	Solution
The angle of End face is too much	Fiber end face quality is too bad	Re-prepare the fiber. If the problem still exsits, check the cleaver blade. If it is worn, rotate the blade to the new side.
	[Cutting angle limit] is not enough	Increase the [cutting angle limit] to a suitable value (standard 2.0°)
Core angle is too much	[core angle limit] is not enough	Increase the [cutting angle limit] to a suitable value (standard 1.0°)
	V-groove or fiber-optic fixer are not clean	Clean the V-groove and fiber Fixer, Re-prepare the fiber and splicing.
Fiber is not clean	Fiber is not clean	Re-prepare the fiber
	Lens is not clean	Perform [Dust Check] after cleaning the lens. If it is, please clean the lens.
	[Clean Discharge Time] is too short	Set [Clean Discharge Time] to 180ms

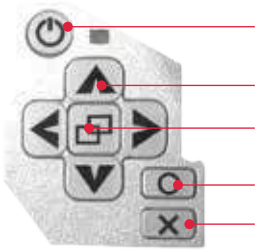
Chapter 12 Common Faults and Solutions

The following is a list of common troubleshooting solutions for user's reference.
If the user can't solve it, Please contact your supplier.

Phenomenon	Solution
Not able to shut down by pressing ON/OFF button	Press and hold the ON/OFF button until the LED flashes. Release the button, and the Fusion Splicer will be off.
Fully charged batteries can only lasts for few times.	When the battery is stored for a long time, the memory effect will occur.Then, the power will reduce. Therefore, please discharge the battery completely, and recharge the battery.
	Battery lifetime is comming, Please replace the battery
	Using the battery in extremely low condition.
Splicing loss is too large	Cleaning V-Groove, and Fiber Fixer
	Replacing electrodes, Correcting Discharge procedure, Stabling electrode
	The cutting angle of fiber, the discharge condition, and the degree of cutting of the fiber will all affect the splice loss.
The display is off suddenly	The fusion splicer has the Auto-Off function for screen. If there is no operation for a certain period (Default is 180 seconds), Machines will turn off the display. At this point, press any key to go back to working state.
The machine is off suddenly	The fusion splicer has the Auto-Off function. If there is no operation for a certain period (Default is 30 mins), Machines will be off automatically.
Improperly identify fiber in AUTO mode	AUTO mode is only suitable for standard SM, MM, NZ fiber. When splicing special fiber, the AUTO mode may not be able to identify the fiber correctly.

Phenomenon	Solution
The estimated splice loss is not the same as the actual loss value	The splice loss estimate is based on calculation which is only for reference.
	Need to clean the Fusion Splicer components.
Heat shrink tubing does not shrink completely	Extand the heating time.
How to cancel heating	To stop the heating during the heating process, press the HEAT button. then the heating LED will be off.
The heat shrinkable sleeve sticks to the heating oven	Remove the heat shrinkable sleeve by using cotton swab
Forget password	Please contact with your Supplier
After the discharge correction, the discharge power did not change.	The discharge correction is only for Splicer internal procedure. The discharge intensity value in the fusion mode is not changed.
Forget to put the fiber when some maintenance functions need to put into fiber.	Open the windsheld cover and place he cut fiber to the fusion splicer. Press the SET button to continue, or press RESET to continue.

Key Panel:



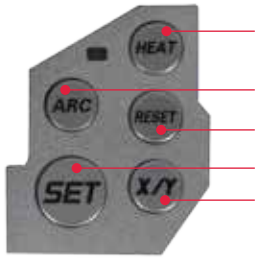
ON/OFF button power switch

Arrow keys select direction, change quantity

Menu key Open the main menu

OK button open / save

ESCAPE Key Return to Previous Screen



Heating button Execute / cancel heating

ARC button discharge

RESET button cancel execution and return to the default state

SET button perform splicing

X/Y button Switch X/Y screen

Indicator description:

Turn on the power
Press the power until the LED light is always on (red)

Turn off the power
Press the power button until the LED lights up (red) Heating indicator (blue)

Heater LED

Press Key until Blue LED Turns On

How To Recharge Battery Pack:

▲AC input range: AC 100-240V, 50-60Hz

▲Do not use a non-original power adapter to charge the battery

▲Do not stack the battery pack on the power adapter while charging

▲Confirm that the power saving function is able to be turned on when using the battery

How to check the battery level

Cleaning work before Splicing:

V Groove:

▲ Clean the V-groove with a cotton swab dipped with alcohol

▲ Use the prepared fiber to clean V-GROOVE to make there is no other objects

▲Use a clean cotton swab to remove excess alcohol.

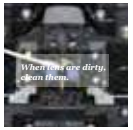
Fiber Cleaver:

▲Clean elastic cutting mat

▲Clean rubber material

▲Cleaning blade surface

Fiber Clamp Chips:



Objective Lens:

Cautions for Cleaning:

1. Do not touch the electrode rods.

2. Please use alcohol with a concentration of 99% or higher.

Error info may show:

Error Messag	Reason	Solution
Left/right fiber placement	Fiber end face beyond electrode center line	Reset to RESET and re-insert the fiber so that the fiber end face is between the Core l ine of the electrode and the edge of the V-groove
Propulsion motor travel exceeds	The fiber is not properly placed on the bottom of the V-groove, leading the fiber drifts beyond the motor's travel range.	Press reset and replace the Fiber
Left and right fiber contact	[Overlap] setting is not enough	Adjust the [overlap] parameter
	Motor is not calibrated	Perform [Calibration] Maintenance
Fiber positioning failed	The fiber is placed incorrectly in V-groove	Press the RESET button.Reposition the fiber so that it fits correctly on the bottom of the V-groove
	The fiber is not placed in the view-range of the camera	Confirm the fiber that has been stripped is placed properly in fiber cleaver.
	length (bare fiber part) is too short	Check the length
The angle of End face is too much	Fiber end face quality is too bad	Re-prepare the fiber. If the problem still exsits, check the cleaver blade. If it is worn, rotate the blade to the new side
	[Cutting angle limit] is not enough	Increase the [cutting angle limit] to a suitable value (standard 2.0°)
Core angle is too much	[core angle limit] is not enough	Increase the [cutting angle limit] to a suitable value (standard 1.0°)
	V-groove or fiber-optic fixer are not clean	Clean the V-groove and fiber Fixer, Re-prepare the fiber and splicing.
Fiber is not clean	Fiber is not clean	Re-prepare the fiber
	Lens is not clean	Perform [Dust Check] after cleaning the lens. If it is, please clean the lens.
	[Clean Discharge Time] is too short	Set [Clean Discharge Time] to 180ms

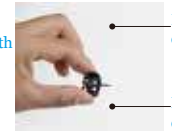
Replace the electrodes:

when the “Please replace electrodes” show out or the electrodes cap is damaged.

1. Execute [Replace Electrode] in maintenance menu.
2. Replace a new pair of electrodes by using screwdriver.

Loosen the screw and remove the electrode rod sheath

Cover the electrode rod cover and tighten the screws



Remove old electrode rod

Install a new electrode rod

Put into the prepared fiber ·
Execution [stabilized electrode]
Perform discharge correction

Splicing Procedure:

1.Turning on the fusion splicer

When splicing only standard SM fibers (ITU-T G.652.), “SM Auto” mode is recommended.

2.Choosing fusion and heating mode

When splicing different types of fiber, Please choose Auto Mode in this situation, speed may be slower.

3.Cleaning the fiber coating or tight buffer

4.Inserting the fiber into the heat shrinkable protective sleeve

5.Stripping fiber

6.Cleaning fiber

7.Putting the fiber into the fixture

8.Cutting fiber

9.Covering the windproof-shell and starting splicing

10.LCD screen will display the fusion process during splicing.

11.Taking out the fused fiber

12.Placing the heat shrink sleeve in the middle of heating-oven

13.Moving the fiber so that the fusion point is at the center of heat shrink sleeve

14.Covering the heating-oven and start heating

15.Done

Notes:
When there is a large splicing loss or huge change in the altitude of the environment, it is necessary to perform [stabilizing electrode] and [discharge correction] before splicing.