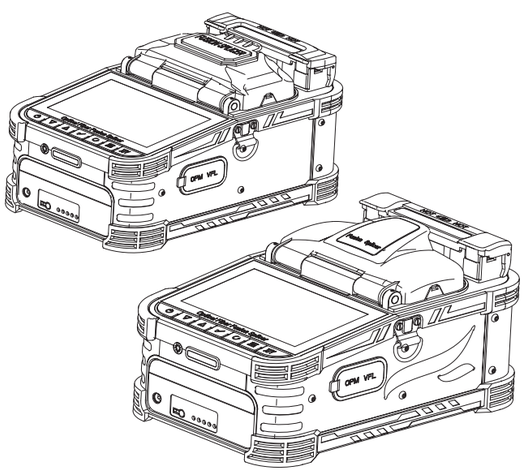
Fiber optic fusion splicer

––Operation manual––

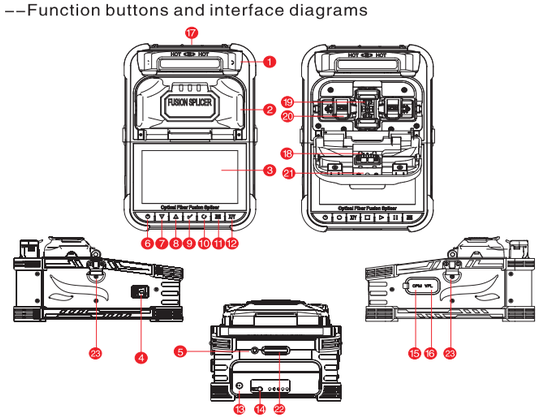
Note: The manual is for reference only,
and everything is subject to the actual product!



––summary

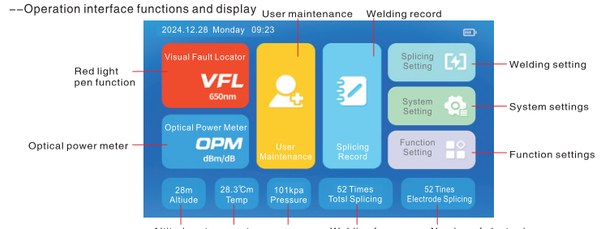
The fiber fusion splicer adopts high–speed image processing technology, 6–motor autofocus, and special precision positioning technology,The entire process of fiber fusion can be automatically completed in about 8 seconds. The model is lightweight, easy to carry, and easy to operateSimple, fast welding speed, low welding loss, built–in optical power meter, red light testing, lighting function, especially suitable forFiber optic cable engineering and maintenance in communication fields such as telecommunications, broadcasting and television, railways, petrochemicals, electricity, military, and public securityResearch and teaching. Mainly used for fiber optic splicing, it can splice optical cables, patch cables, jumper tails, and cladding diametersFor various quartz based optical fibers ranging from 80 μ m to 150 μ m, including single–mode, multi–mode, and dispersion shifted. Attention should be paid during useKeep clean and avoid strong vibrations and impacts.

––Function buttons and interface diagrams

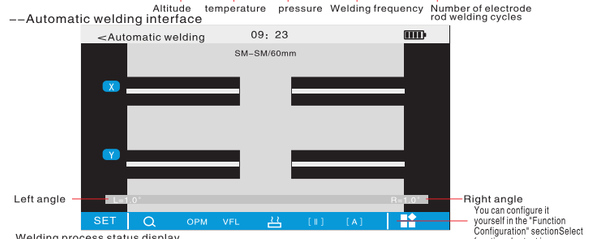


1. Heating furnace components
2. Windproof cover
3. Touch screen display
4. Battery switch button
5. Lighting switch
6. Open the key
7. Down
8. Up
9. Confirm button
10. Return key
11. Heating key
12. X/Y switching
13. Charging port
14. Battery level display
15. Optical power meter port
16. Red light function port
17. USB interface
18. Pressed fiber ceramic
19. Electrode needle
20. Fiber optic fixture
21. Lighting fixtures
22. LED lights
23. Handle buckle

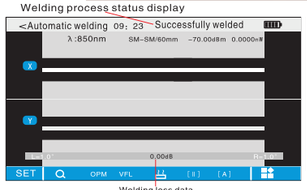
––Operation interface functions and display



––Automatic welding interface



Welding process status display

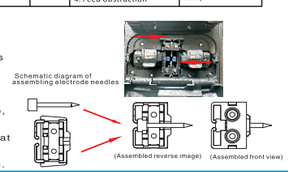


Welding loss data

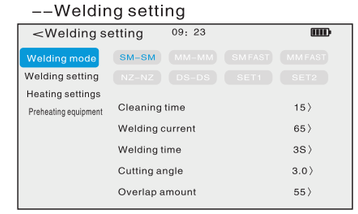
Appearance	Defects	reason	measures
	Bubble	1. Dust on the fiber end face 2. Condensation 3. Poor fiber end face 4. The discharge current is too low	1. Remake the end 2. Adjust the program or electricity Flow (parameter optimization)
	Not connected	1. Excessive current 2. The propulsion speed is too slow 3. Welding advancement is too small 4. Feed obstruction	1. Adjust the program or electricityFlow parameters (parameter optimization)Transformation)
	Fine diameter		

Operation of replacing electrode needle

When the electrode needle is used nearly 3000 times, the welding loss will increaseThe electrode needle needs to be replaced, otherwise it will affect the welding performance.
1. Turn off the power first, then unscrew the hexagonal socket screw on the electrode bracket (As shown by the red arrow in the left figure)
2. After removing the electrode cap and electrode needle, install the new electrode needle onto the electrode capInstall it onto the bracket and tighten the screws. Ensure that the two electrode pins are not looseCheck that the tips of the two electrode needles are symmetrical.
3. After replacing the electrode, it is necessary to re stabilize the electrode and perform discharge calibration.

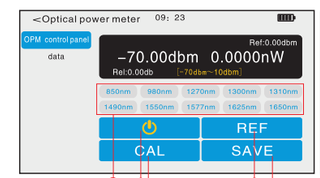


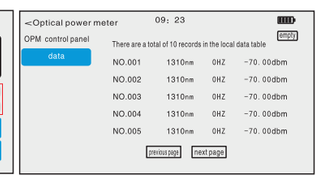
––Welding setting



There are 8 welding modes to choose from when entering the welding settings.
Can be set –>cleaning time –>welding current –>welding time→ Cutting angle → Overlap amount.
Select Welding Settings to enter Settings → Welding Operation Mode→ Welding quality → Display mode.
Enter Heating Settings → Heat Shrink Tube Settings → Heating Humidity→ Heating time → Heating switch
Enter preheating settings → preheating mode

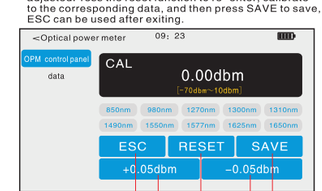
––Optical power meter setting



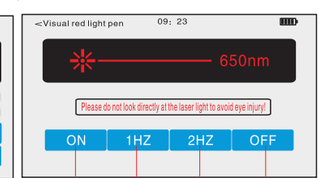


1. Switch 2. Calibration 3. Reference Value 4. Save 5. Optional Band
Enter the optical power meter function and click the CAL button to enter the manual calibration of optical powerThe power value can only be increased or decreased by 0.05dbm each time. If there is an input error, it can be adjustedPress the reset function to re–enter, calibrate to the corresponding data, and then press SAVE to save, ESC can be used after exiting.

––Red light function setting–

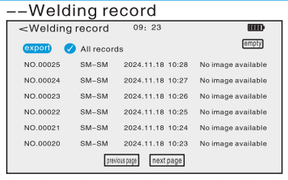


1. Exit 2, Reset 3, Save 4. Increase by+0.05dbm 5.decrease by –0.05dbm



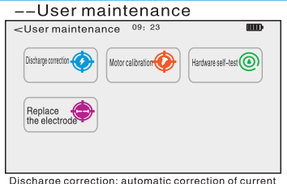
Switching red light status:
1. Constant brightness 2. Slow flashing
3. Fast flashing 4, turn off four modes

––Welding record



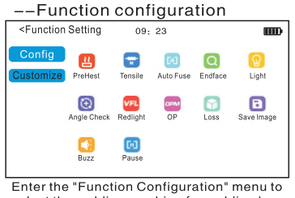
Enter the welding record interface, click the "Export" button to export allExport welding records to a USB drive; After the recorded data is full, you can press "ClearEmpty key "to delete all welding records

––User maintenance

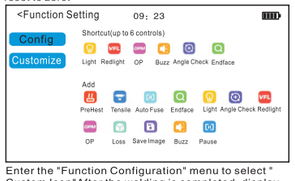


Discharge correction: automatic correction of current arc intensity and automaticDischarge test.
Motor testing: Enter the program to self check whether the motor is running normally.
Hardware self–test: enter the program to self check the power supply unit CPU、Control unit CAMERA、High voltage unit.
Replace electrode: The electrode rod is a consumable part and needs to be replaced after reaching the end of its usageAfter prompt to perform discharge calibration, the number of times the electrode rod is used will be reset to zero.

––Function configuration

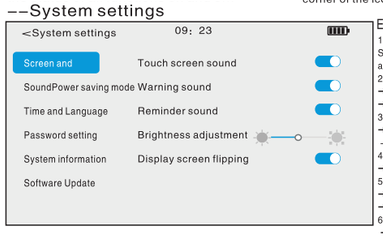


Enter the "Function Configuration" menu to select the welding machine for welding by yourselfThe completion interface can display the status of all functions on and off.



Enter the "Function Configuration" menu to select " Custom Icon"After the welding is completed, display the corresponding functional status dataOnly six icons can be selected.Select the+or – in the upper right corner of the icon to switch the icon.

––System settings

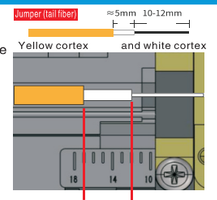


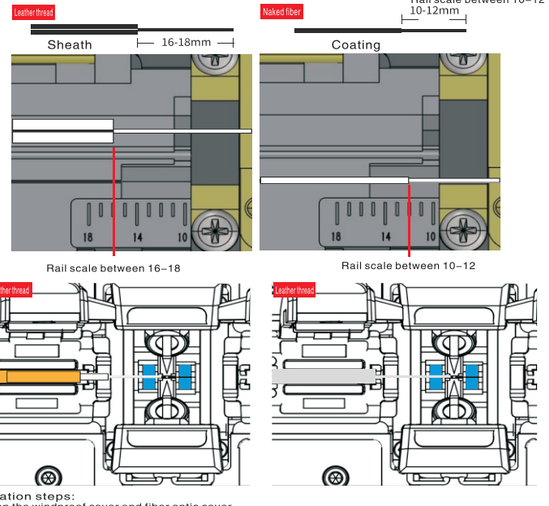
Enter the system settings to choose from
1. Screen and Sound Settings → Touch Screen Sound → Warning Sound→ Sound → Brightness adjustment → Display screen flipping.
2. Power saving mode settings → Screen off → Screen off time → Automatic shutdown → Shutdown time.
3. Time and language settings → 24–hour clock → Time settingSet –>Date Settings –>Date Format –>System Language.
4. Password settings → Power on password → Change power on password.
5. System Information → Model → Place of Origin → Production Date→ Firmware version → Software version → Serial number.
6. Software update → Update → Restore default settings.

The rental function is optional, and the rental duration and password can be customized in a loop (note: the duration and password can be set differently each time), making mac hine rental more flexible and secure! To activate this feature, please contact the supplier or manufacturer.

––Prepare fiber optic cables

1. Use a peeler to peel off the sheath, leaving at least 30mm of bare fiber, and then use Miller pliersRemove the coating layer.
2. Clean the fiber optic cable with cotton paper dipped in alcohol.
3. Use a high–precision cutting knife to cut the optical fiber, and the cutting length is described as follows:



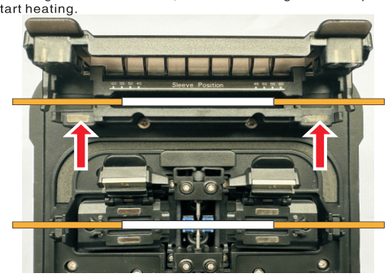


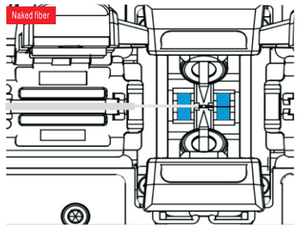
Operation steps:
1. Open the windproof cover and fiber optic cover.
2. Place the prepared optical fiber into the V–groove and ensure that the fiber end is between the edge of the V–groove and the electrode tip.
3. After placement, use a fiber optic cover to press down on the fiber optic cable.
4. Place the other end in the same way, close the windproof cover and start welding.
–The 'welding operation mode' is set to 'automatic'. After closing the windproof cover, welding will automatically begin.
–The "welding operation mode" is "manual". After closing the windproof cover, press the prompt button to operate the welding.

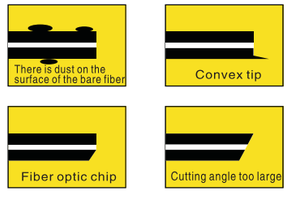
––Heating heat shrink tubing

Operation steps:
1. Open the windproof cover and then open the heating cover of the heating tank.
2. Open and place two fiber optic covers, hold the heat shrink tubing, remove the fiber optic cable, keep it tight, and move the heat shrink tubing to the fusion point position.
3. Move the fiber optic cable with heat shrink tubing into the heating tank.
4. Start heating. When heating, the upper left corner of the fusion interface will start counting down the heating time. After completion, it will prompt "Heating completed".

–When the "heating mode" is set to "automatic", heating will start automatically after closing the heating cover.
–When the "heating mode" is "manual", close the heating cover and press the heating button to start heating.







When the "end face detection" is turned on, the fusion splicer will automatically check whether the optical fiber is damaged and whether there are dust particles, such as detectionIf the above situation exists in the fiber optic cable, please remove the fiber optic cable and prepare it again.

Attention:
When releasing the optical fiber, it should be placed in the blue V–shaped groove. The top of the fiber should be close to the center point of the electrode rod. If it is too far away or exceeds the center point of the electrode rod, an error will be prompted.

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––technical parameter

Suitable for optical fiber	SM(G.652&G.657)、MM(G.651)、DS(G.653)、NZDS(G.655) And customizing fiber types
Fiber diameter	The diameter of the coating layer is 80-150 μ m, and the diameter of the coating layer is 100-1000 μ m
Splice loss	0.02dB (SMF)、0.01dB (MMF) 0.04dB (DSF/NZDS) Measurement using ITU–I shear method
Alignment method	Fiber core, cladding
Focusing method	Six motor automatic focusing
Welding method	Automatic/Manual
Welding time	8s (SMF typical value)
Tensile test	1.96N～2.1N
Image display	5.0–inch high–definition capacitive touch screen, dual button/ touch operation, content can be flipped and operated in both directions
Magnification factor	300 times (X–axis/Y–axis)
Welding record	1000 sets
Typical heating time	18s
Heating mode	Heating time/temperature can be adjusted, supporting automatic or manual heating
Heat shrink tubing sleeve	20–60mm
OPM	Range (dBm): –70 to+10dBm/wavelength 850–1650mm (10 bands)
Red light(VFL)	⩾15KW
Operation interface	GUI graphical user interface
System upgrade	USB(Export data, upgrade functions, power output)
Electrode lifespan	About 3000 times
Lighting method	LED
Battery capacity	7800mAh（Typical number of welding and heating operations 260 times ）
Power supply	Built in lithium battery with 11.8V power supply, charging time of about 3.5 hoursExternal adapter, AC100–240V, 50/60HZ output DC13.5V/4.81A
Work environment	Temperature: –15~+50 ℃/Humidity: ⩽ 90% RH (non condensing)/altitude: 0–5000m/wind speed: ⩽ 15m/m
Storage conditions	Temperature: –40~+50 ℃/Humidity: 0–95%
Welding machine size	Length x Width x Height(231×153×125mm)
Weight of fusion splicer	1928g (including battery), 1431g (excluding battery)

––The data is for reference only, please refer to the actual product!