NEW Product LAUNCH

# AI-20

# THE FOURTH GENERATION TRUNK LINE OPTICAL FIBER FUSION SPLICER

*Built-in high precision*

***Delay return electric one-step fiber cleaver***




Accurate of fiber alignment :0.1μm

# Full link integration design Highly integrated

The AI-20, the fourth generation fiber fusion splicer developed by Signal fire, is the latest generation of fiber fusion splicer designed for full link integration. It combines Signal fire's latest research and development of a delayed return electric one-step cleaver with fiber fusion splicing, while integrating OPM and VFL functions. Combined with a nine in one signalfire fiber stripper, a combinable workbench and worktable, it truly becomes a compact, lightweight, and easy to operate fiber fusion splicer, which will greatly improve your work efficiency.

SIX MOTORS

FIBER CORE ALIGNMENT

6S SPLICING

15S HEATING

WITHIN OPM FUNCTION

WITHIN VFL FUNCTION

DELAY RETURN ELECTRIC ONE-STEP FIBER CLEAVER

SIGNAL FIRE STRIPPER

# Humanized design meets different Construction environments



Compact and portable



Climbing high is also easy



Bench+support platform



Can be used as a bench



Host support /protection console



Equipped with signal fire stripper

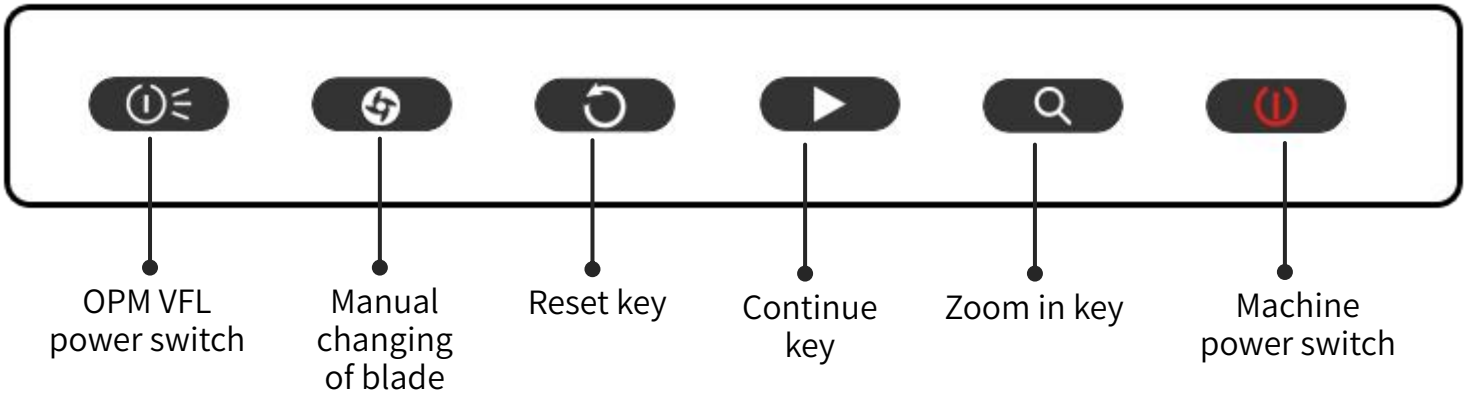



Signal fire AI-20 fusion splicer applies multiple of the latest patented technologies of Signal fire, and adopts a more advanced central processing unit, more advanced algorithms, and higher precision cameras. The weight of bare machine,tool case and complete set of accessories only 4.5kg, size of tool case is 25.5cmx16.5cmx23cm. In such a compact and compact situation, the combination design of workbench and bench has been achieved simultaneously. 1 second startup, 6 seconds rapid fusion, 15 seconds heating, 5-inch color high-definition LCD screen, 320x magnification, 7800mAh large capacity lithium battery can fuse and heat 240 cores, still performs well in harsh environments such as high altitude, dry, and cold.

# Exquisite craftsmanship
# High standard design

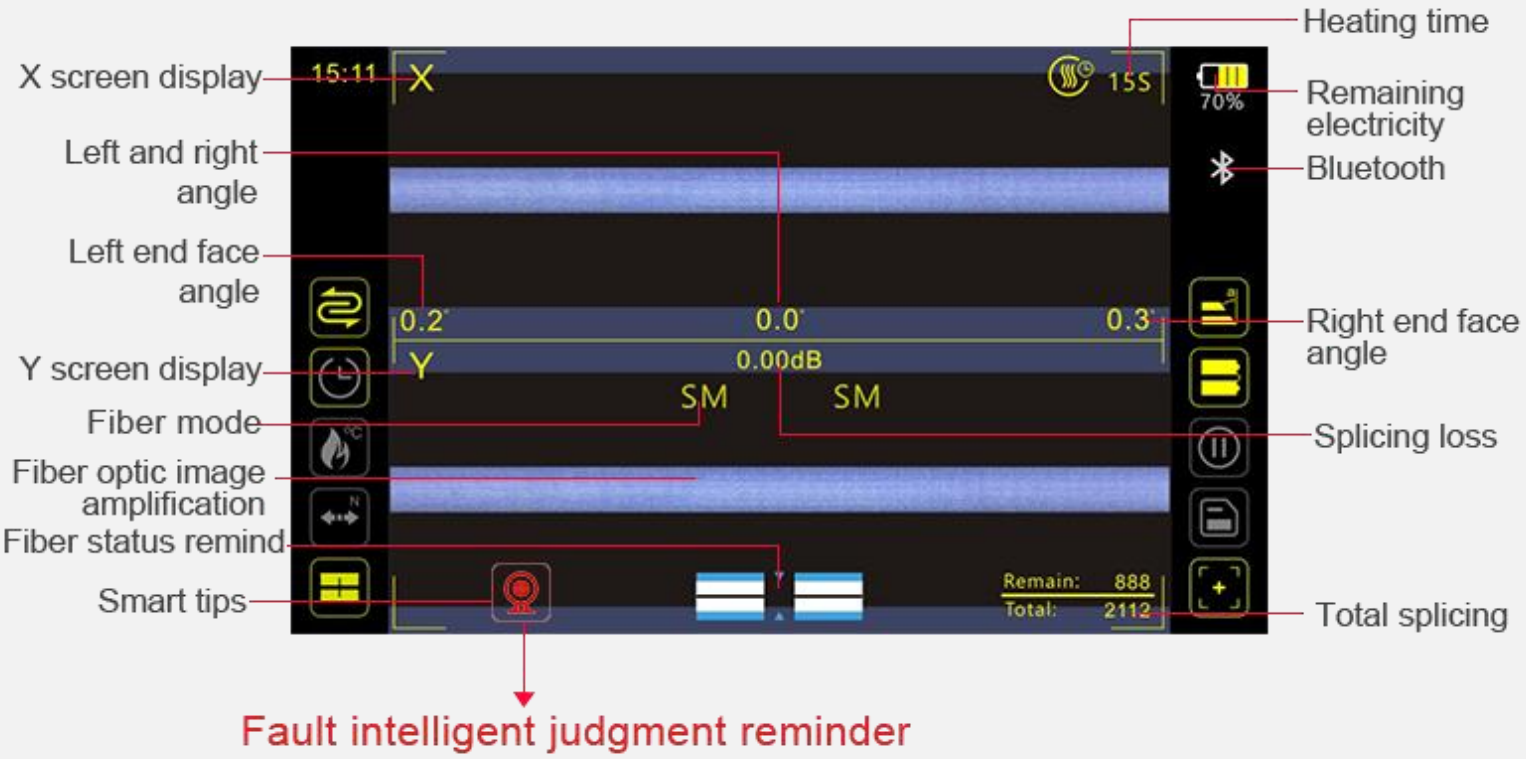



## The buttons are clear and beautiful



# Display 5 inch TFT color display screen

320X (X or Y axis single display)  200X (X and Y axis dual display)





Camera failure


Core align failed


Focus failed


ARC calibration failed



Left and right fiber does not match

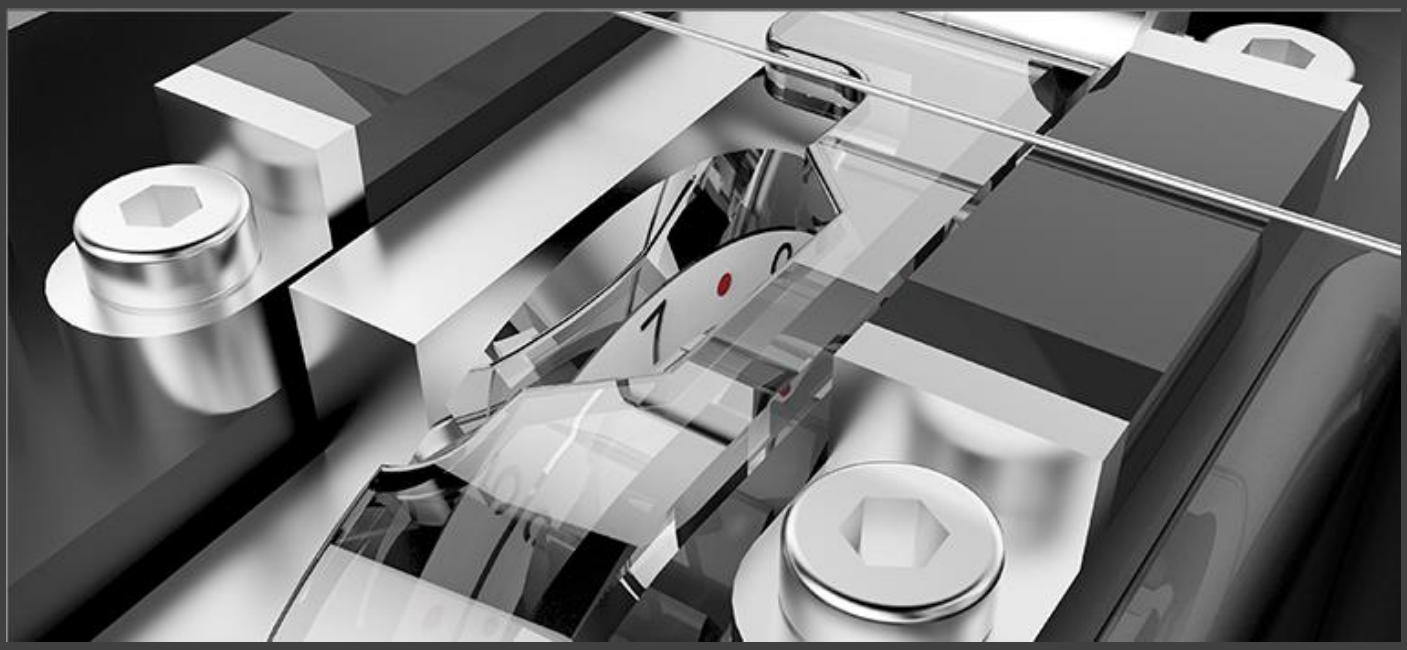

The lens is foggy or foreign body interference

# Built-in high precision delay return electric one-step fiber cleaver




Signal fire new generation fiber fusion splicer has significantly reduced the actual weight and volume of the entire equipment by reducing auxiliary tools and improving the automation level, ultimately achieving a true improvement in fusion quality and efficiency. This is the fourth generation fiber fusion splicer that we first launched, and the core is full link integration design, highly integrated.

# Blades surface automatically manually change delayed cleaver return



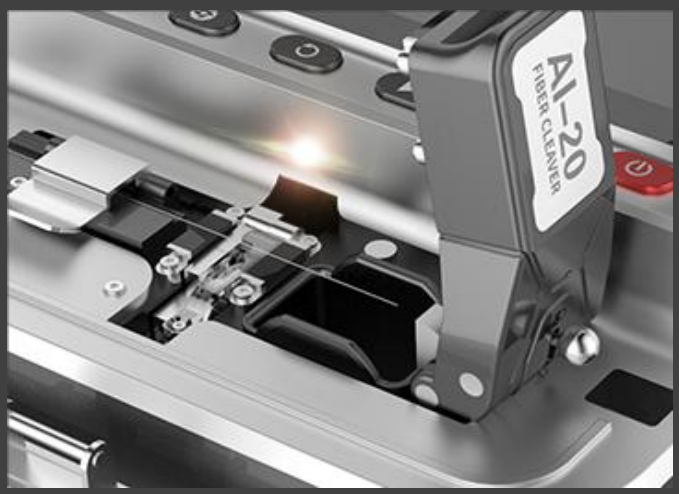
## AUTOMATIC CHANGE

Cleaver blades surface automatically change when the current cutting point cut fiber more than 1000 times and continuously shown three times unqualified cutting results.

## MANUAL CHANGE

Manual button operation, cleaver blades surface will change.Cleaver has 24 cutting points in total, current cutting point cut numbers, blades total cut numbers, Available within the APP.





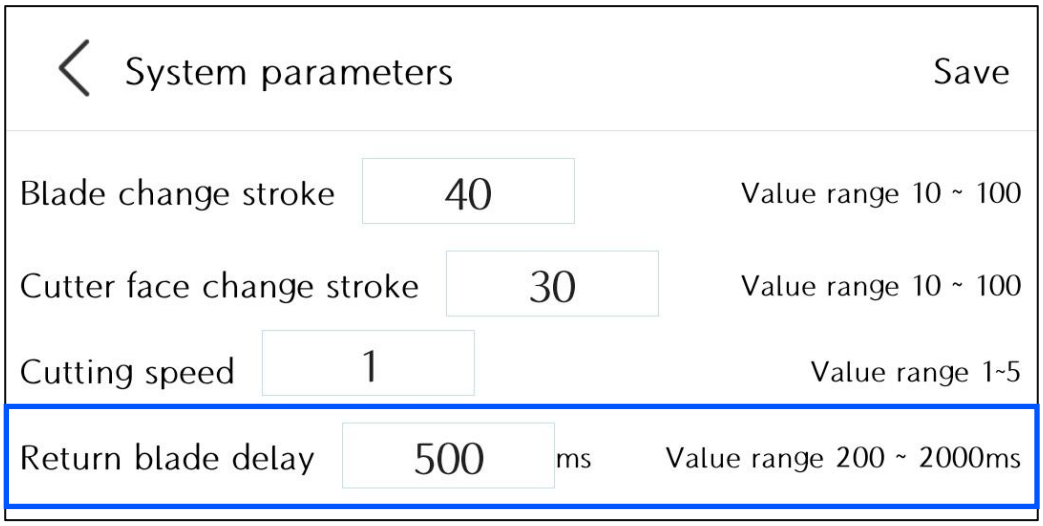

## AUTOMATIC DELAYED CLEAVER RETURN

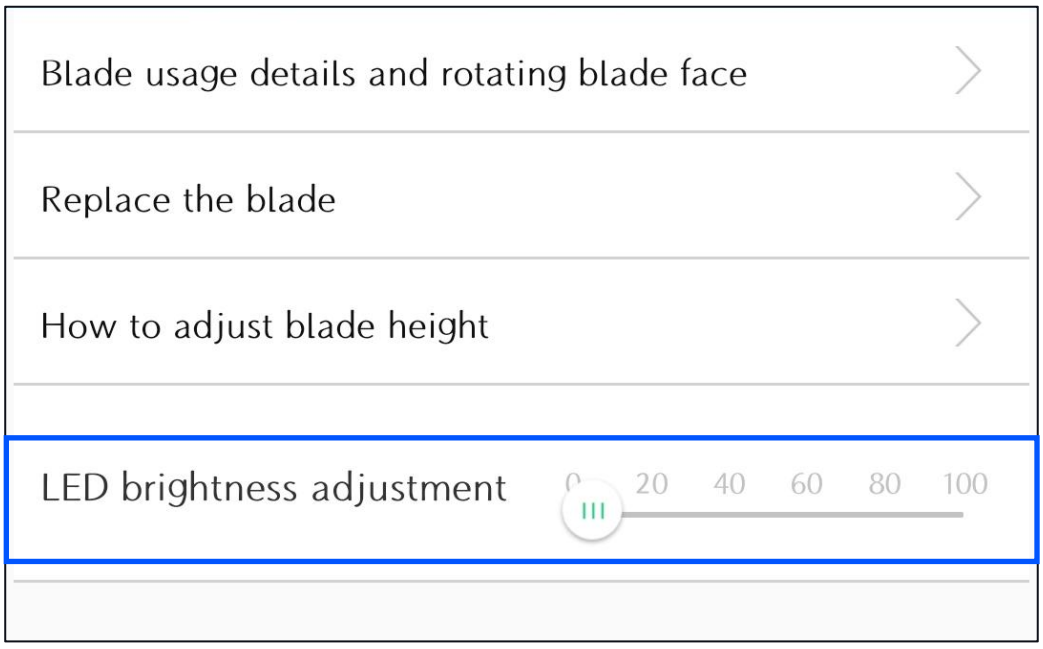
Perfectly solves the problem of traditional mechanical one-step cleaver back cutting scratching the fiber end face. The factory standard delay time is set to 0.5 seconds, and the adjustable range is 0.2 seconds to 2 seconds.

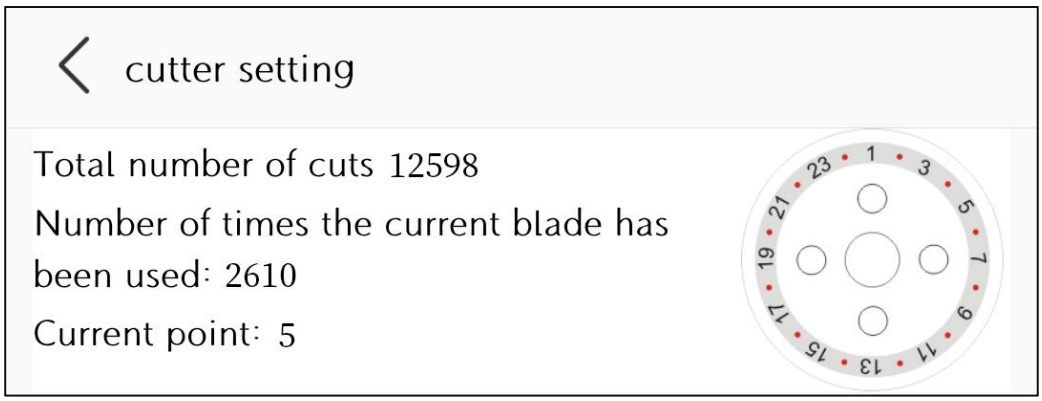
## CLEAVER LED AUXILIARY LIGHTING

Brightness can be adjusted through APP.

# APP Bluetooth connection

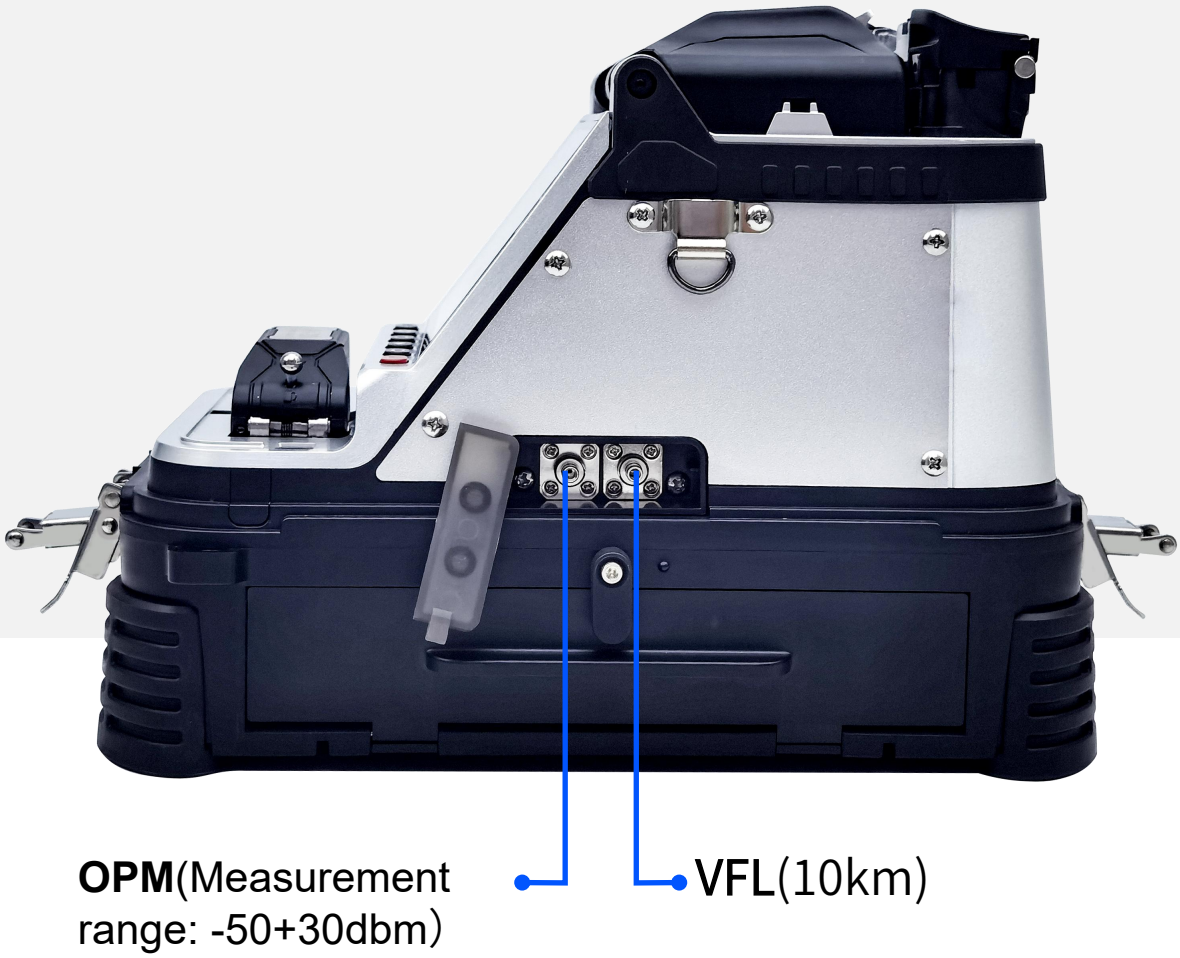


# Built-in VFL and OPM function

Measure fiber link loss/luminous flux
Fiber line tracking, breakpoint/light leakage detection




## OPM

### Switch between ten states

Wavelength: 850nm、1300nm、1310nm
1490nm、1550nm、1625nm、980nm
1270nm、1577nm、1650nm

## VFL

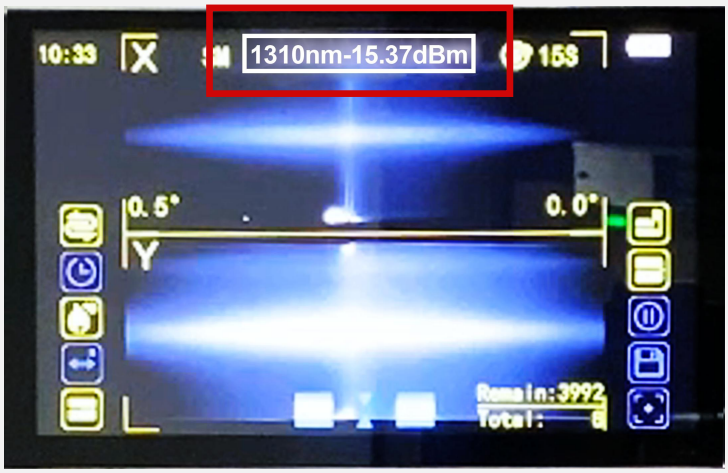
### Switch between three states

power: 15mW, 2Hz flashing and steady on mode

# Real-time luminous flux assisted alignment

Only applicable to environments with stable optical signal link from front

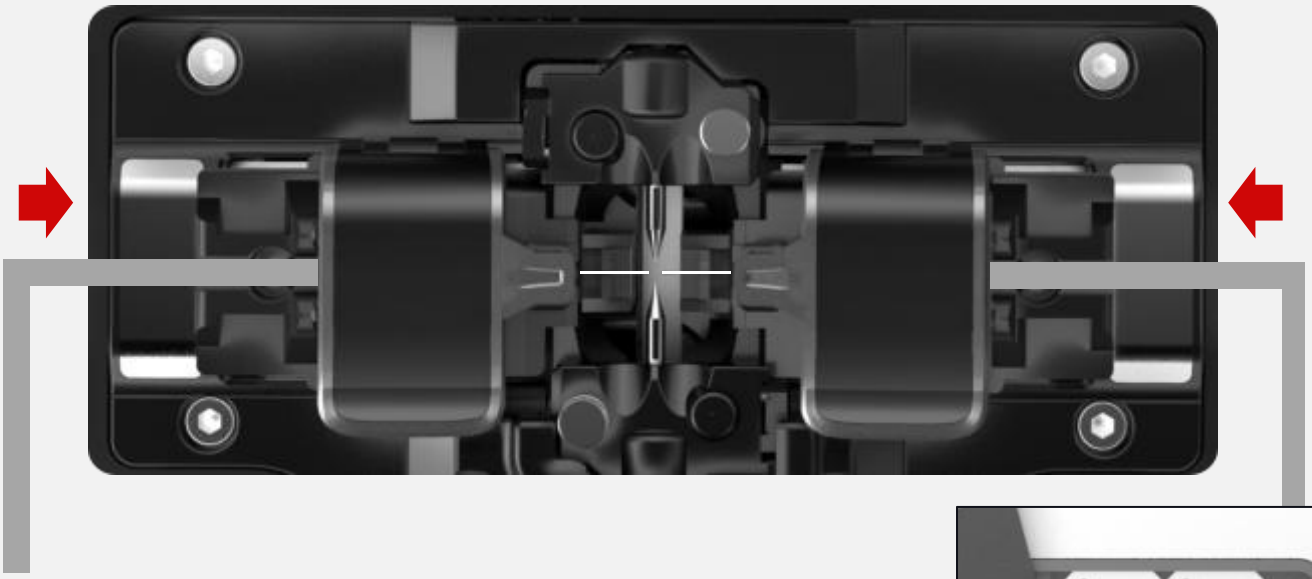
Intelligently analyze the alignment point with the lowest splicing loss and then splice the fiber



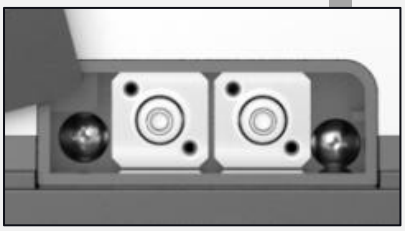

Splicing is completed




Real-time luminous flux assisted alignment technology developed by Signalfire, which intelligently analyzes the alignment point with the least loss to minimize the fiber fusion loss.



Optical fiber on the left which is stable optical signal link



Optical Fiber on the right with fast connector which has pluged to OPM Port

# Equipped with signal fire stripper




## A GOOD STRIPPER
## NINE FUNCTIONS

- kevlar scissors
- Three-port Miller stripper
- 5G FTTH Drop cable
- Both regular FTTH Drop cable
- FTTH Drop cable steel wire pliers
- Rotary ruler
- Cleaning cotton

# Signal fire stripper

**kevlar scissors**
(prohibit cutting steel wires )

**5G FTTH Drop cable**
Caliber: 2mm x 1.6mm

**Three-port Miller stripper**

**Both regular FTTH Drop cable**
Caliber: 3mmx2mm

**Cleaning cotton**

**Rotary ruler**

**FTTH Drop cable steel wire pliers**

Can not cut FRP steel wire/else steel wire Blade maybe will scratch and have trace, It’ s normal and will not influence you to use it If you are care about this, Then please buy with cautions.



# 7800mAh lithium battery

## Dual charging path

In full state, 240 cores can be continuously fused and heated



**Charging channel ①**
Input voltage :13.5±0.5V
Input current :4.8A

**Power indicator light**

**Charge indicator light**
Indicator light turns off when fully charged

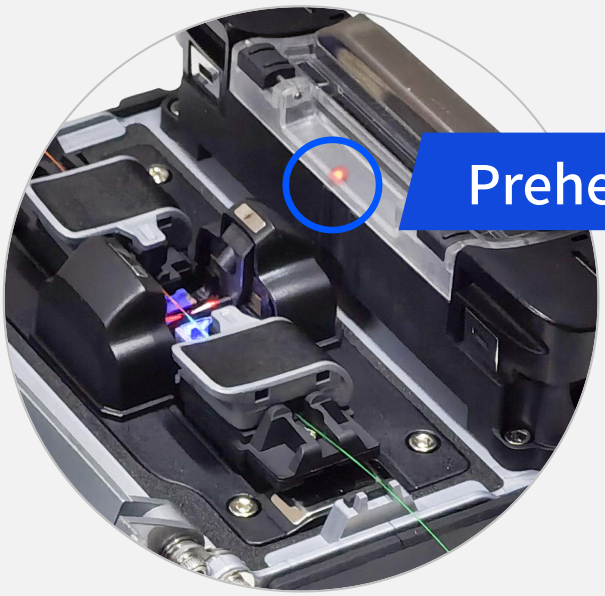
**Press to check the power level**

**Press to popup the battery**
Press the button and the battery will pop up slightly Can charge the battery separately

**Charging channel ②**

**Charging time ≤3.5 hours**

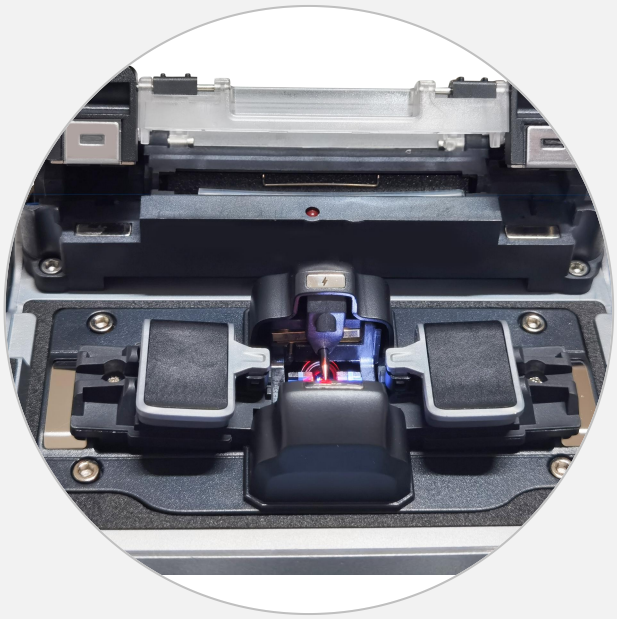
# 15S automatic heating

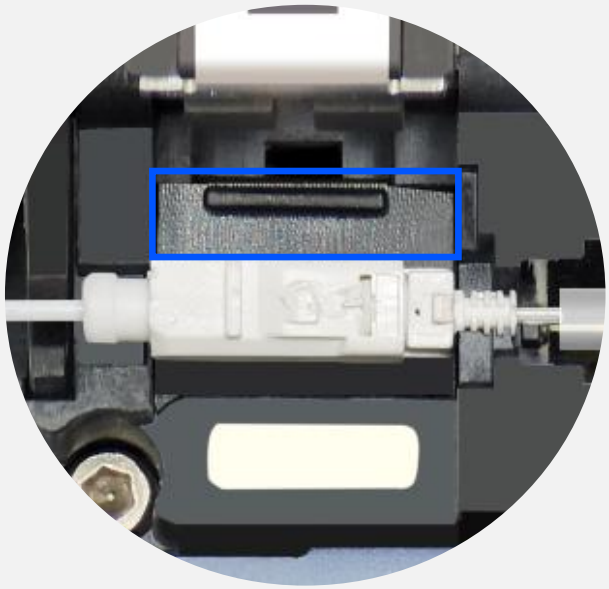


## Preheating

Successful fiber spliced. When opening the windproof cover to take out the fiber, the machine turns on pre heating for up to 6 seconds

**Heating part automatic lid closing**





**Heating part compatible with SC fiber**

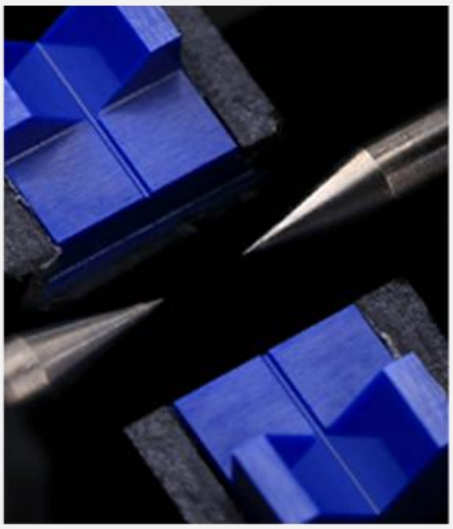
SC Fiber: Push up

Ordinary fiber: Push down



# 3-IN-1 UNIVERSAL FIBER HOLDER

SM, MM, bare fiber, pigtail,
Drop cable , multi fiber cable











## EXQUISITE DETAILS

THE BUTTONS ARE CLEAR AND BEAUTIFUL

# COOLING RACK EXPANDABLE AND CLOSABLE





# ULTRA THICK PROTECTIVE RUBBER PAD

Thickened buffer structure provides maximum protection

# Outdoor fiber splicing
# Compact and portable



Bench+support platform



Compact and portable



Combination hanging chain
Climbing homework



Compact and easy to carry

# 10 languages available

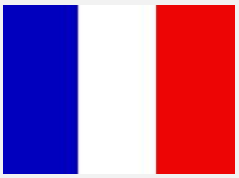
Multilingual Settings, covering the global market



Chinese



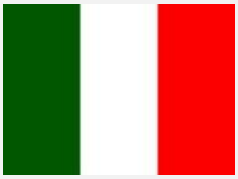
English



French



Russian



Italian



Portuguese



Polish



Spanish



Thai



Arabic

## Exported to nearly 100 countries and regions worldwide

Get unanimous praise from customers!








# Basic parameter

| | |
|---|---|
| **Fiber alignment** | Core/cladding；Real-time luminous flux assisted alignment（Only applicable to environments with stable optical signal link from front） |
| **Motor number** | 6 motors<br>**Accurate of fiber alignment :0.1μm** |
| **Splicing time** | 6s |
| **Heating mode** | 15s， can be customized according to the external environment |
| **Fiber type** | Single-mode fiber (SMF/G.652), BIF/G.657); Suitable for single mode, multi-mode, bare fiber, tail fiber, drop cable, jumper, invisible optical fiber. |
| **The cladding diameter** | 80-150μm |
| **Splicing loss** | 0.02dB（SM）、0.01dB（MM）0.04dB（DS/NZDS） |
| **Splicing mode** | Automatic focusing core alignment, conventional/high precision splicing |
| **Splicing way** | Automatic, semi-automatic,manually |
| **Fiber cleaver** | High precision delay return electric one-step fiber cleaver |
| **Fiber holder** | Three in one fixture, no need to change, suitable for single/multi-mode, multi-core cable/bare fiber, tail fiber, jumper fiber,drop cable |
| **VFL** | The machine comes with power: 15mW, 2Hz flashing and steady on mode |
| **OPM** | Wavelength: 850nm、1300nm、1310nm、1490nm、1550nm、1625nm、980nm、1270nm、1577nm、1650nm/Measurement range: -50+30dbm Absolute error: <0.3dB (-50dbm ~+3dBm range) |
| **Battery capacity** | 7800mAh large capacity lithium battery charging time ≤3.5 hours; It can continuously weld and heat about 240 cores |
| **Magnification** | 320x (X or Y axis single display)， 200x (x and Y axis dual display) |
| **Fiber diameter** | Coating diameter: 80-150μm/Coating diameter: 100-1000μm |
| **Cutting length** | Coating layer 250μm below: 8-16mm/coating layer 250-1000μm: 16mm |
| **Heat shrink tube** | 60mm、50mm、40mm、25mm |
| **Tensile testing** | standard 2N |
| **display** | 5 inch TFT color display screen |
| **Boot time** | 1s, boot can enter the working mode |
| **Data is stored** | Unlimited, machine storage 1000 groups, the excess part can be stored in the server, can export data. |
| **Wireless communication** | Based on bluetooth 4.2 protocol standard, the working band is 2.4GHz, the maximum transmission range is 60m |
| **Software upgrade** | Mobile phone APP Internet update, enable Bluetooth synchronization upgrade machine software |
| **Management function** | The equipment owner can be bound as the highest authority, and can remotely view the splicing records, splicing time, loss, etc. through the mobile phone APP. The number of splicing times or working time of the equipment can be set. The manager can effectively manage a single or multiple equipment. |
| **Return loss** | Better than 60 db |
| **Product protection** | Waterproof, dustproof and fall proof |
| **Power supply** | Input AC100-240V 50/60Hz, output DC13.5V/4.8A, the current power mode can be identified, real-time monitoring of the current battery level |
| **The work environment** | Temperature: -15 ~ +50℃, humidity: < 95%RH (no condensation), working altitude: 0 ~ 5000m, maximum wind speed: ≤15m/s |

# Accessories in the tool box




❶ Toolcase ❷ Fusion splicer ❸ Spare electrode ❹ signal fire stripper
(Including a bag of cleaning cotton)

❺ Alcohol bottle ❻ Cleaver cleaning cotton swab ❼ Allen wrench ❽ Brush

❾ Climbing combination hanging chain ❿ Toolbox strap ⓫ Belt ⓬ Power adapter

⓭ User' s manual / Quality Certificate / Warranty Card / Fiber for ARC

# Size and weight




**Machine size**

165mm x 255mm x 185mm

**Machine weight**

3.09kg

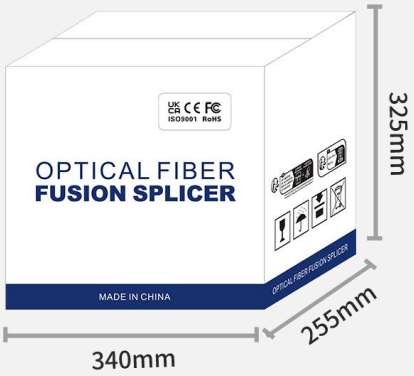



**Toolbox size**

165mm x 255mm x 230mm

**Weight of toolbox**

**(complete set)** 4.50kg




**Total size**

340mm x 255mm x325mm

**Total weight**

5.50kg

# SERVICE COMMITMENT

**Five years warranty, but these circumstances are not within the scope of this provision.**

*01.* Except for the cleaver,Signal fire stripper,fiber holders and other tools whose life depends on the frequency of use and the use of the environment. Also electrodes are consumption material which are not in the warranty.

*02.* Battery and power adapter are warranty for one year, it is in free warranty where it is damaged or can not be charged in one year.

*03.* Electrodes are consumables, the service life of each pair of electrode is 4000 times.

# Bluetooth Connection

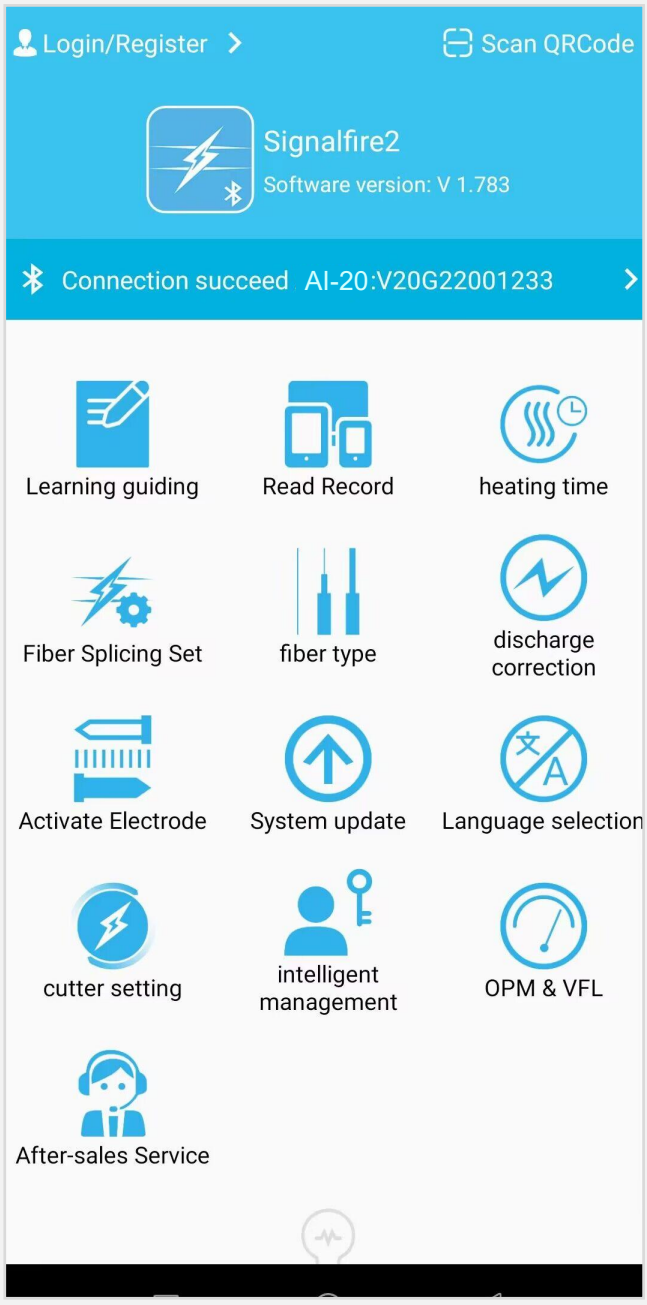
Establishing wireless communication through Bluetooth technology to achieve data transmission



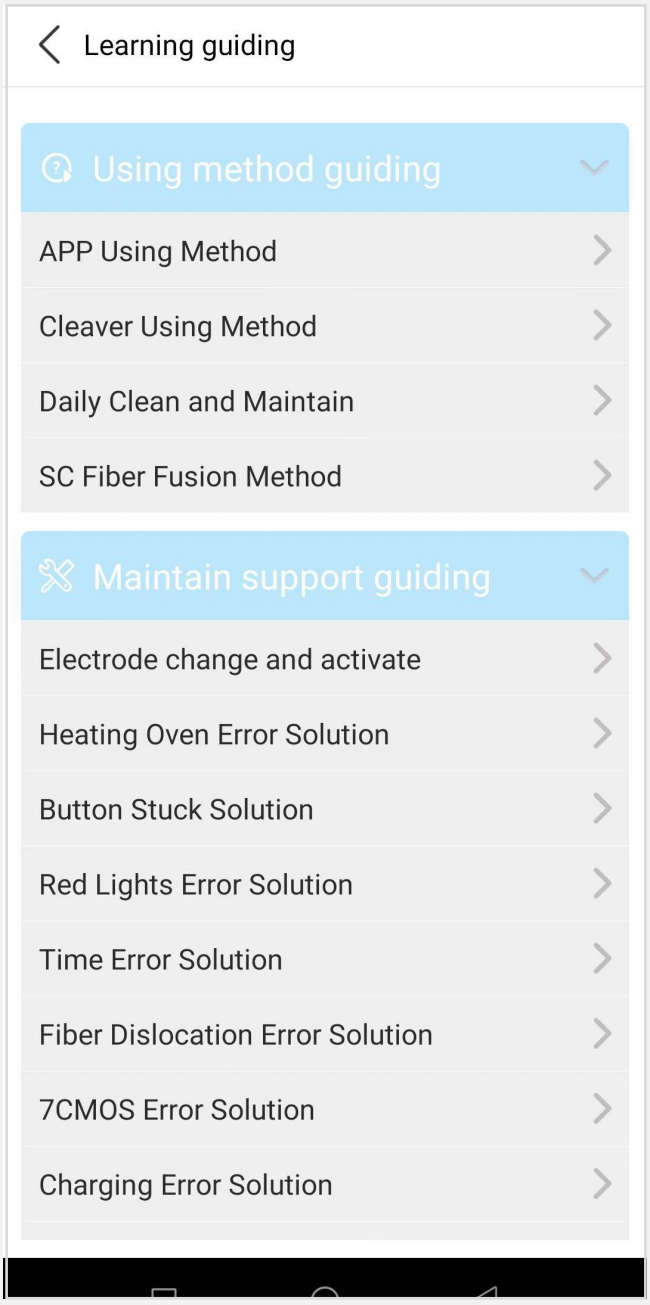
- Welding record can be read through mobile phone, and the data can be exported;
- You can set the parameters of the welding machine, such as selecting the machine language, changing the heating time, selecting the fiber optic alignment mode, etc;
- You can manage the welding machine, such as setting the use time of the machine, welding times, etc;
- Upgrade the phone APP, bluetooth connected to the machine to upgrade the machine software;

# Intelligent interaction, avoid tedious

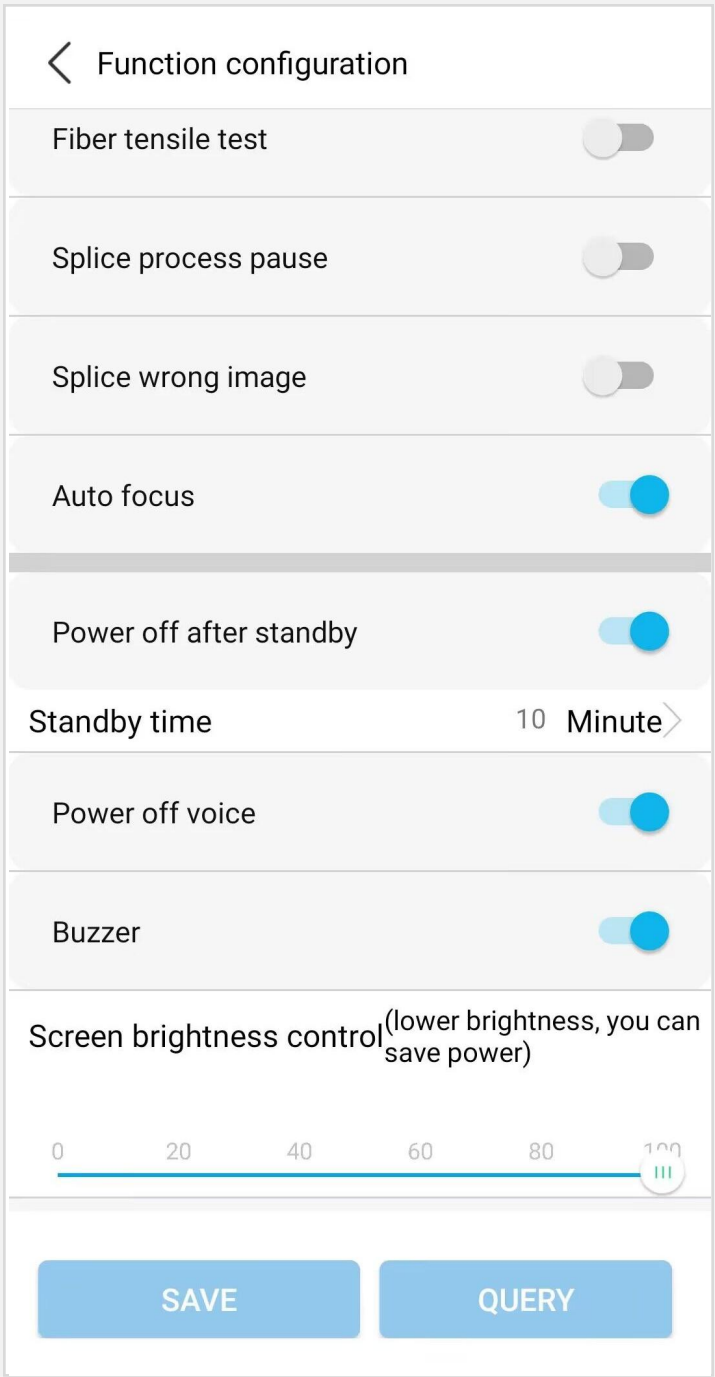
Scan the QR code of the welding machine startup screen to download the Mobile APP The phone connects to the splicer via Bluetooth




APP main interface

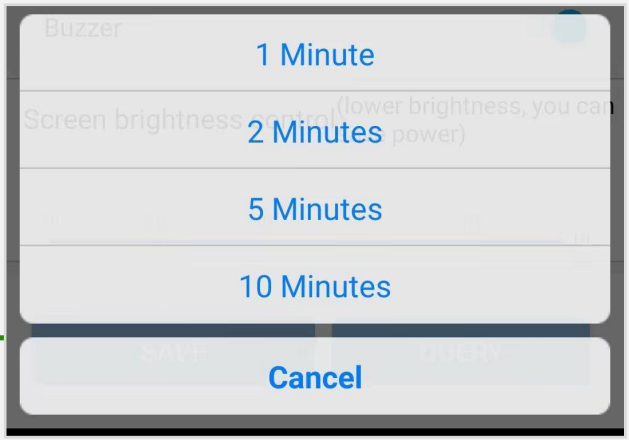



Learning guidance interface



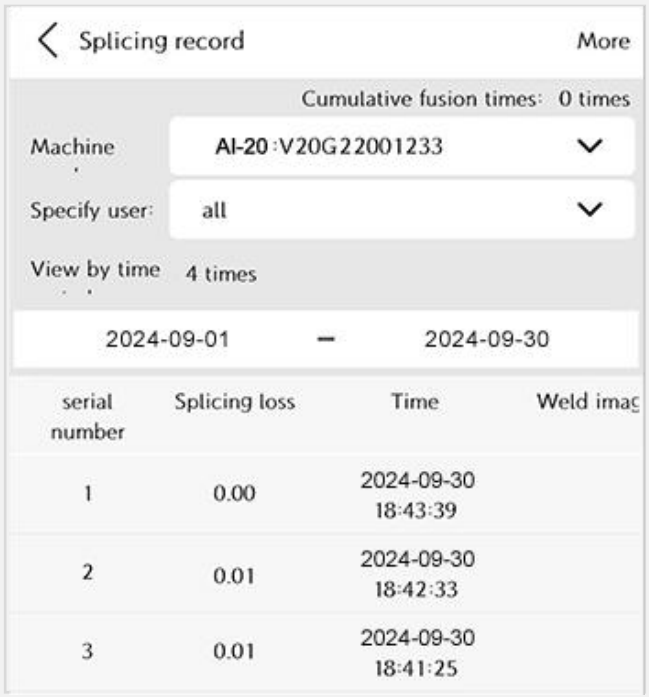

## Energy saving mode

Automatic shutdown of the machine without any action within the set time



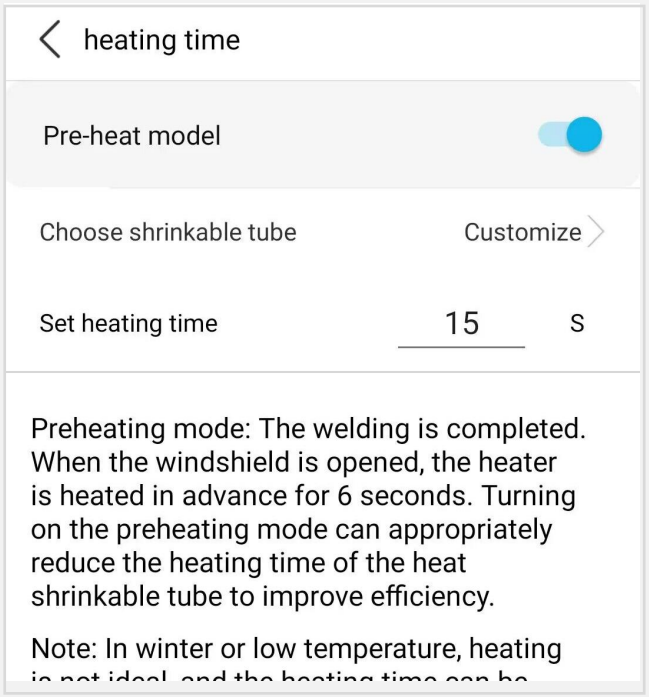

After it is opened, there will be voice prompt in the whole process from fiber laying, fiber matching, welding and loss value. In case of unqualified items, it will be directly informed.

Adapt to bright light, dark and other different outdoor environment



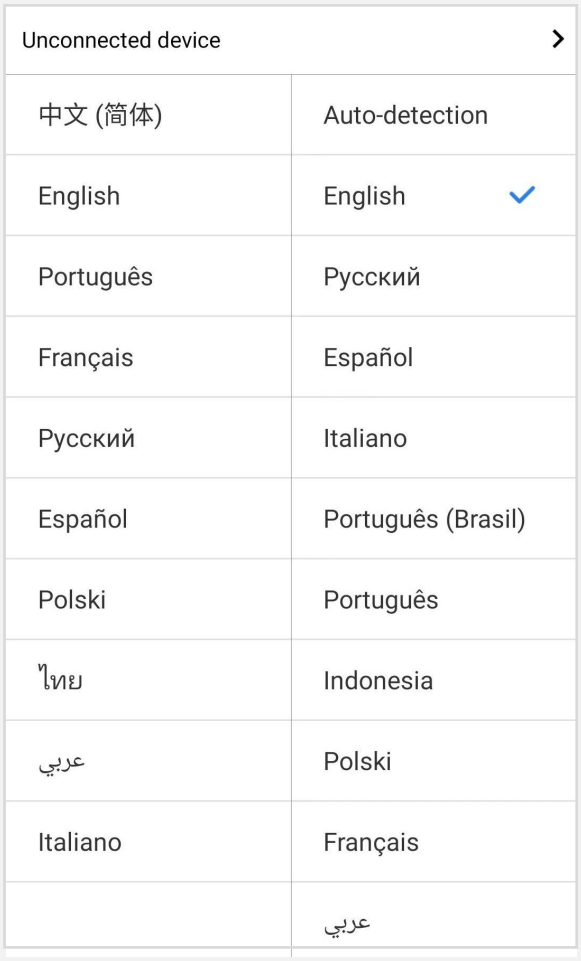

## Splicing records can be downloaded and exported

Unlimited storage of splicing records
Can be viewed on mobile devices

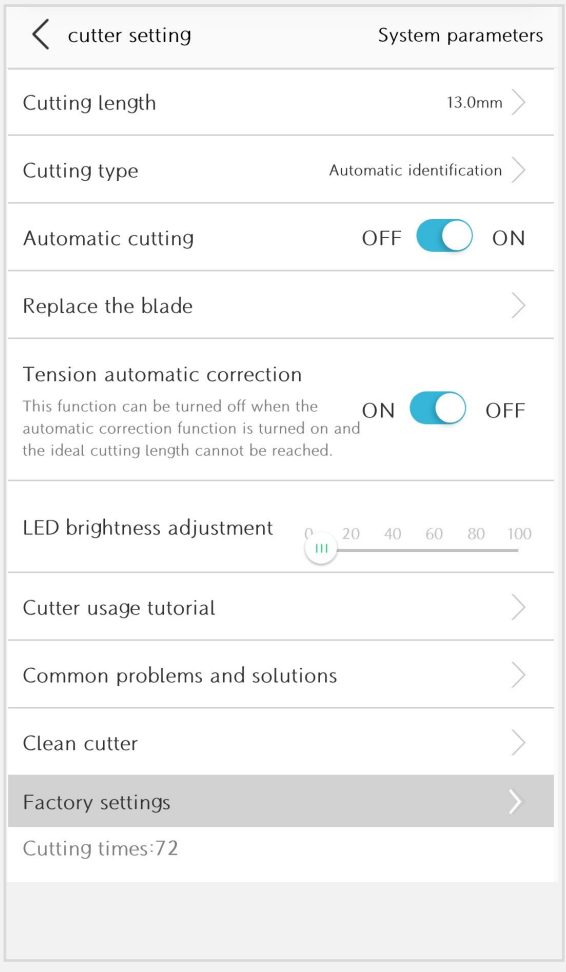



## Heating time customization

Extreme cold/high temperature can be extended or shortened appropriately




## Fusion splicer language/ mobile app selection




## Cleaver Parameter setting /adjustment