



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 :0.1 μ m

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 core splicer, which will greatly improve your work efficiency.



SIX MOTORS

FIBER CORE
ALIGNMENT

6S SPLICING



15S HEATING

WITHIN OPM
FUNCTIONWITHIN VFL
FUNCTIONDELAY RETURN ELECTRIC
ONE-STEP FIBER CLEAVERSIGNAL FIRE
STRIPPER

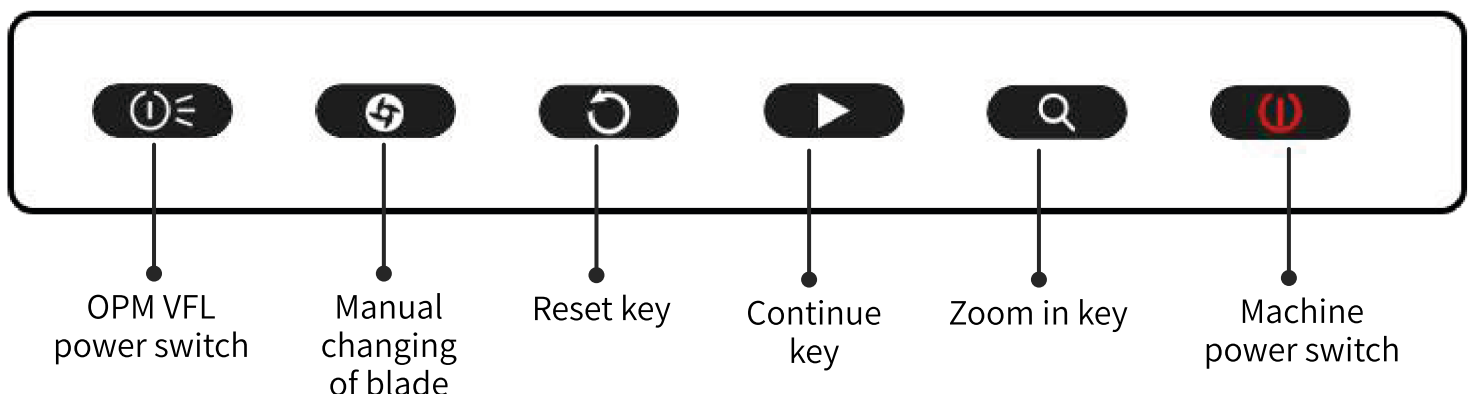


Signal fire AI-20 fusion splicer applies multiple of the latest patented technologies of Signal fire, and adopts a more advanced central processing unit, more advanced algorithms, and higher precision cameras. The weight of bare machine, tool case and complete set of accessories only 4.5kg, size of tool 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)

The screenshot shows the main interface of the optical fiber fusion splicer. It features a central display area with two fiber images being aligned. The top left shows the time '15:11' and a mode indicator 'X'. The top right shows a temperature icon with '155' and a battery icon with '70%'. The central area displays 'Left and right angle' (0.2), 'Left end face angle' (0.0), and 'Right end face angle' (0.3). Below these are 'Fiber mode' (SM) and 'Splicing loss' (0.00dB). The bottom left has 'Fiber optic image amplification' and 'Fiber status remind' icons. The bottom right shows 'Total splicing' (Remain: 888, Total: 2112) and a '+' icon. A red arrow points from the 'Smart tips' icon to a 'Fault intelligent judgment reminder' section below.

Labels on the left:

- X screen display
- Left and right angle
- Left end face angle
- Y screen display
- Fiber mode
- Fiber optic image amplification
- Fiber status remind
- Smart tips

Labels on the right:

- Heating time
- Remaining electricity
- Bluetooth
- Right end face angle
- Splicing loss
- Total splicing

Fault intelligent judgment reminder



Camera failure



Core align failed



Focus failed



ARC calibration failed



Left and right fiber does not match



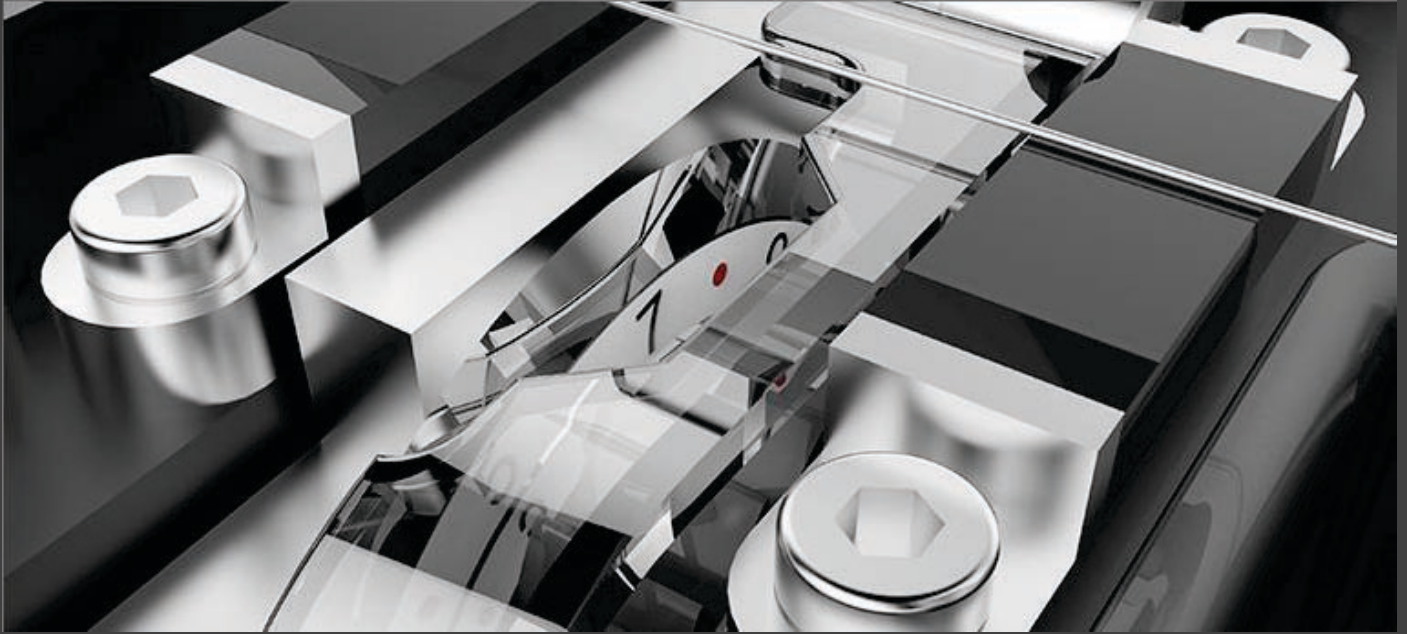
The lens is foggy or foreign body interference

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.

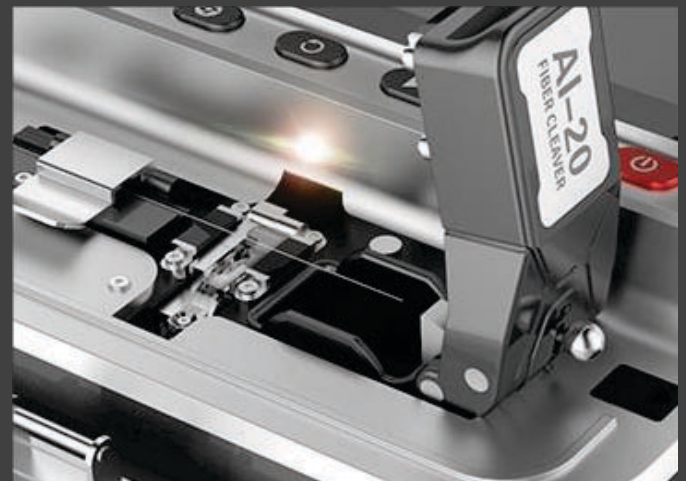
MANUAL CHANGE

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

< System parameters Save

Blade change stroke Value range 10 ~ 100

Cutter face change stroke Value range 10 ~ 100


Cutting speed Value range 1~5

Return blade delay ms Value range 200 ~ 2000ms

Blade usage details and rotating blade face >

Replace the blade >

How to adjust blade height >

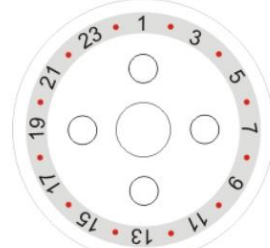
LED brightness adjustment 

< cutter setting

Total number of cuts 12598

Number of times the current blade has been used: 2610

Current point: 5



Built-in VFL and OPM function

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



OPM(Measurement range: -50+30dbm)

VFL(10km)

OPM

Switch between ten states

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

VFL

Switch between three states

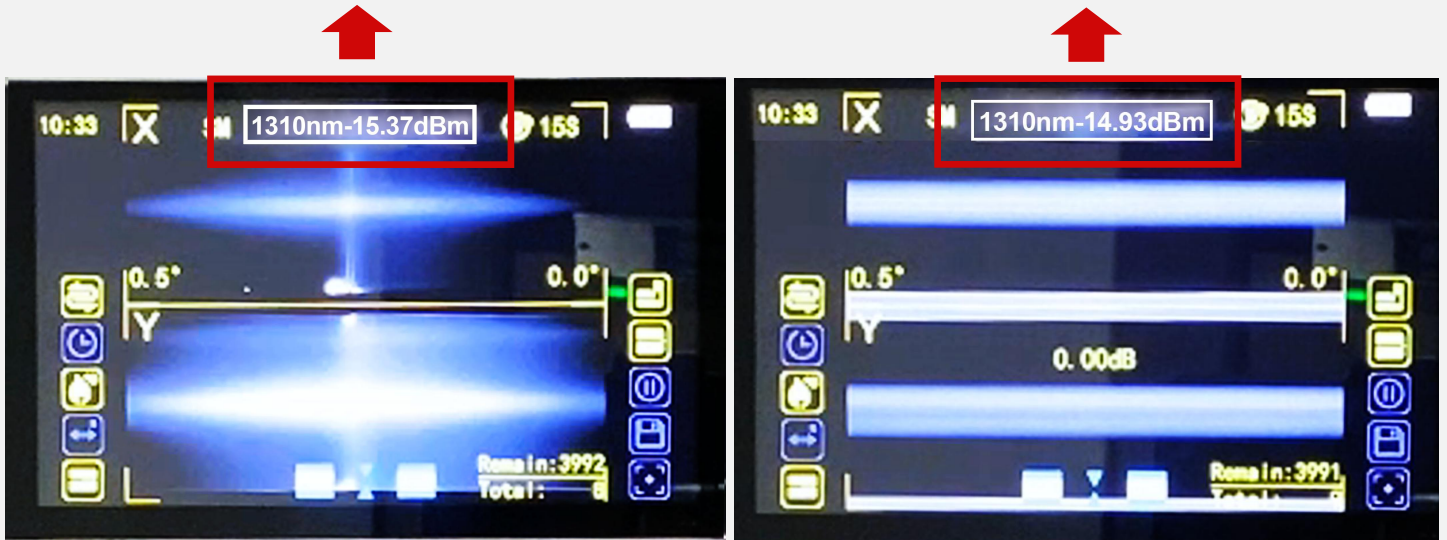
power: 15mW, 2Hz flashing and steady on mode

Real-time luminous flux assisted alignment

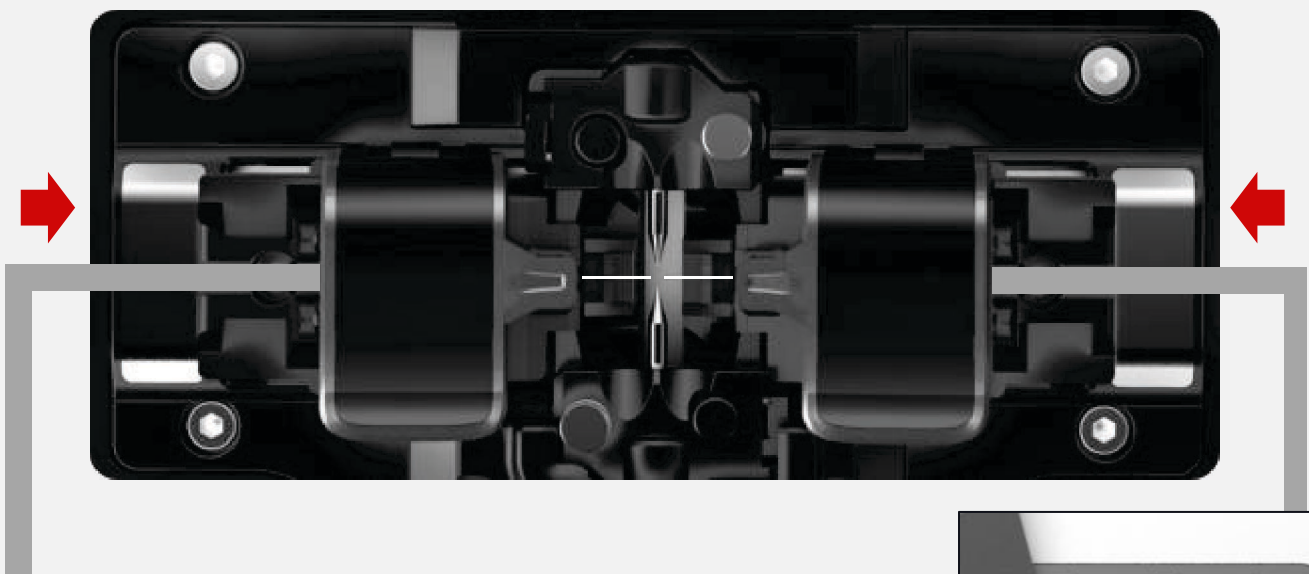
Only applicable to environments with stable optical signal link from front

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

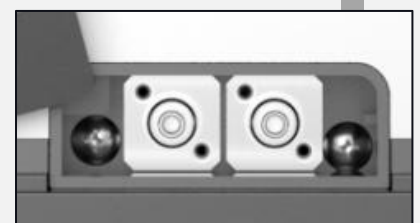
Splicing is completed



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 plugged 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)

Three-port Miller stripper

Cleaning cotton

5G FTTH Drop cable

Caliber: 2mm x 1.6mm

Both regular FTTH Drop cable

Caliber: 3mmx2mm

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 : $13.5 \pm 0.5V$

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

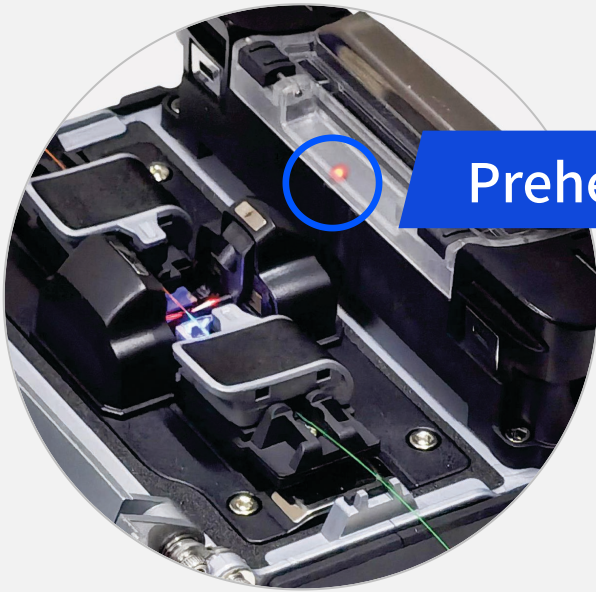
Press the button and the battery will pop up slightly Can charge the battery separately

Charging channel ②



Charging time ≤ 3.5 hours

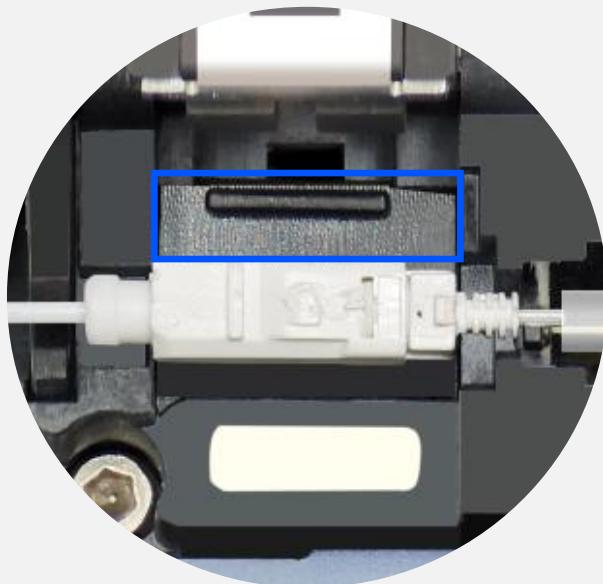
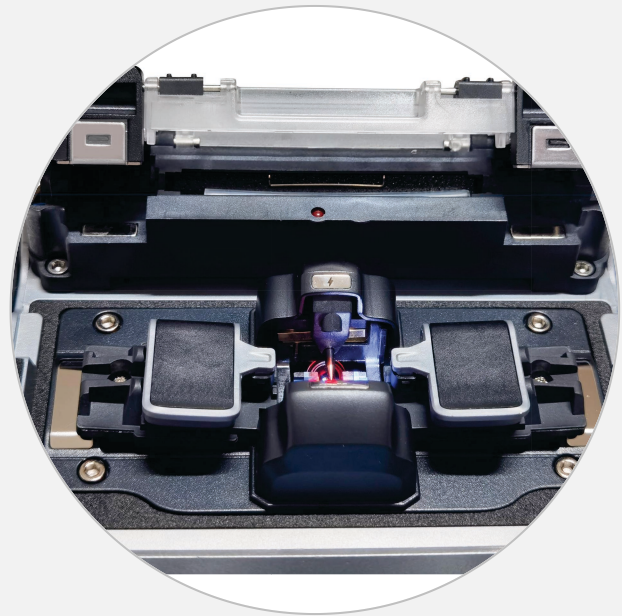
15S automatic heating



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

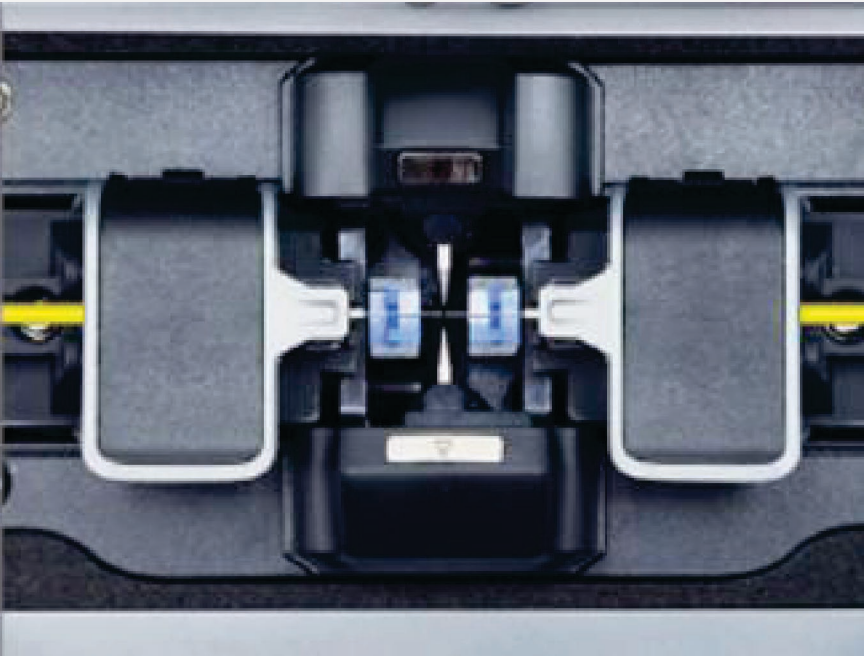
Heating part automatic lid closing



Heating part compatible with SC fiber

SC Fiber: Push up

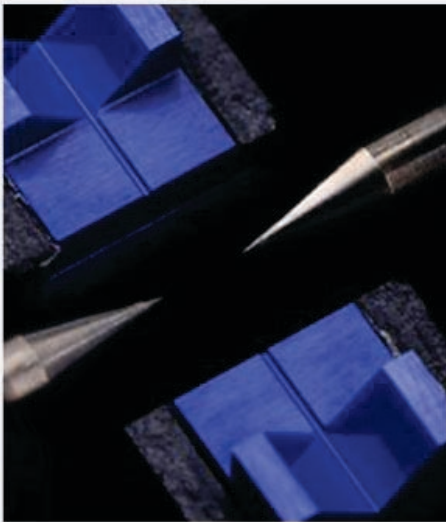
Ordinary fiber: Push down



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

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 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°C, humidity: < 95%RH (no condensation), working altitude: 0 ~ 5000m, maximum wind speed: ≤15m/s

Accessories in the tool box



- ① Toolcase
- ② Fusion splicer
- ③ Spare electrode
- ④ signal fire stripper
(Including a bag of cleaning cotton)
- ⑤ Alcohol bottle
- ⑥ Cleaver cleaning cotton swab
- ⑦ Allen wrench
- ⑧ Brush
- ⑨ Climbing combination hanging chain
- ⑩ Toolbox strap
- ⑪ Belt
- ⑫ Power adapter
- ⑬ 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 x 325mm

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

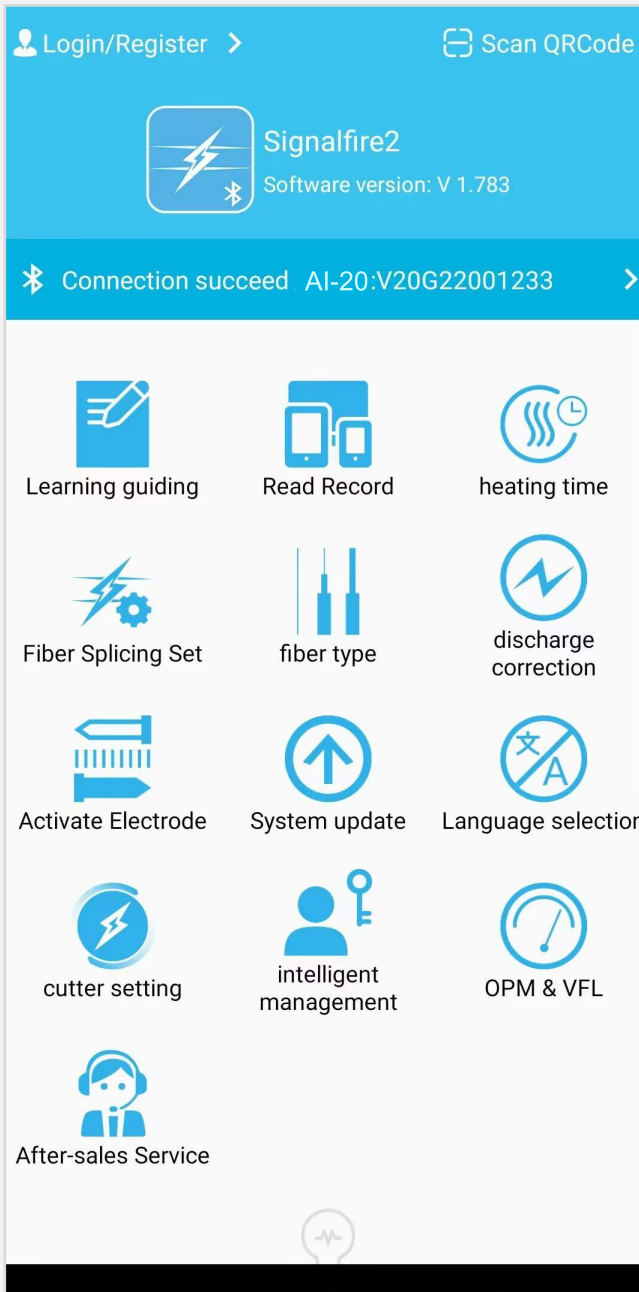
Establishing wireless communication through Bluetooth technology to achieve data transmission



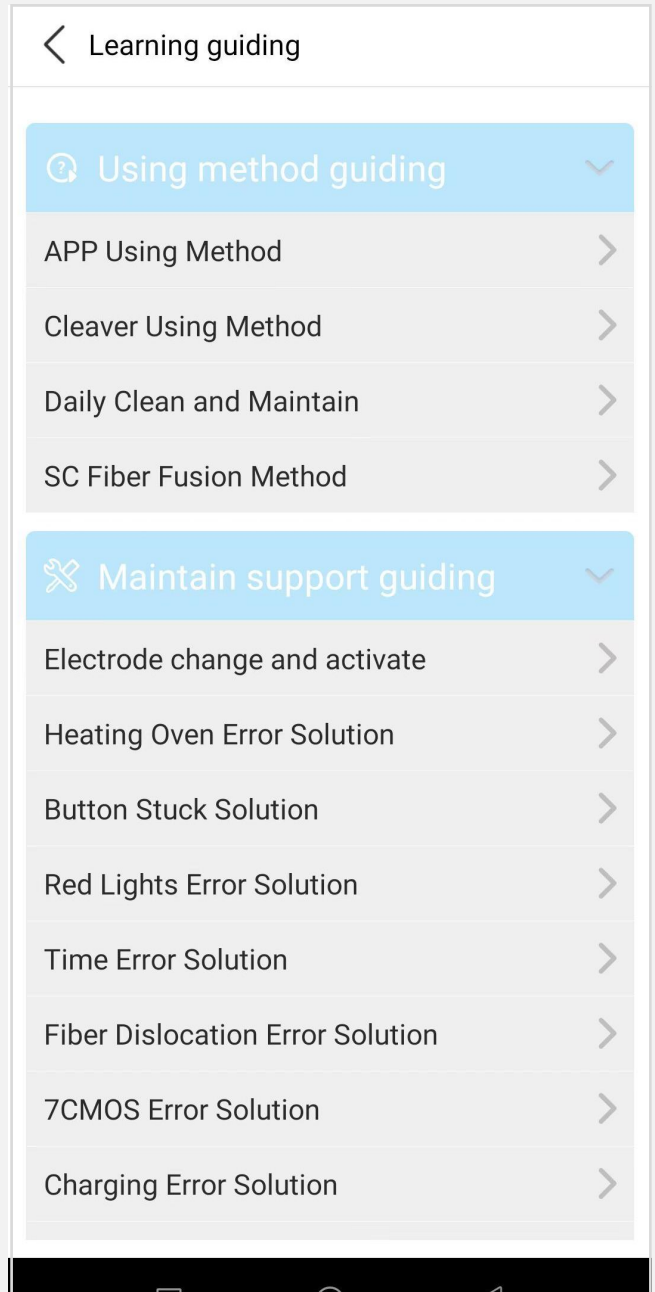
- Welding record can be read through mobile phone, and the data can be exported;
- You can set the parameters of the welding machine, such as selecting the machine language, changing the heating time, selecting the fiber optic alignment mode, etc;
- You can manage the welding machine, such as setting 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

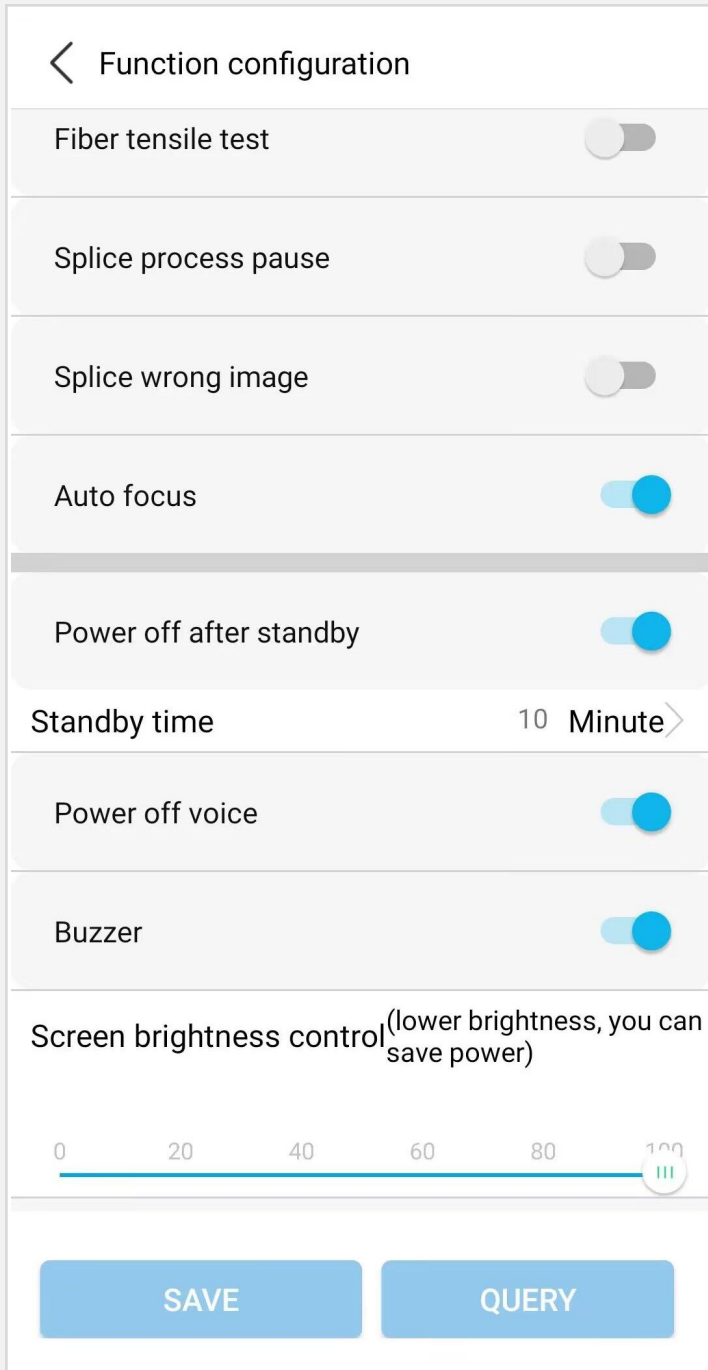
Scan the QR code of the welding machine startup screen to download the Mobile APP. The phone connects to the splicer via Bluetooth.



APP main interface

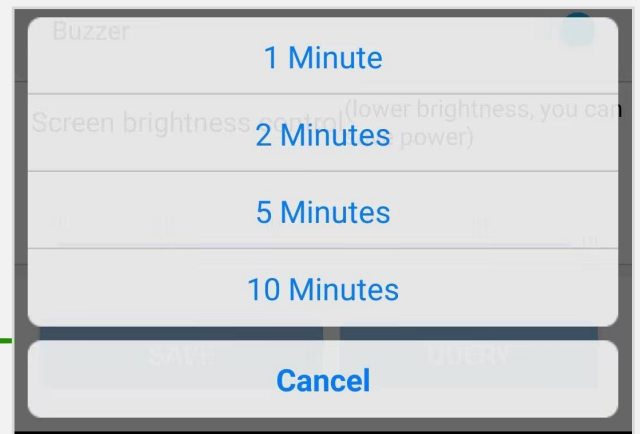


Learning guidance interface



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 record More

Cumulative fusion times: 0 times

Machine: AI-20 :V20G2 2001233

Specify user: all

View by time: 4 times

2024-09-01 - 2024-09-30

serial number	Splicing loss	Time	Weld image
1	0.00	2024-09-30 18:43:39	
2	0.01	2024-09-30 18:42:33	
3	0.01	2024-09-30 18:41:25	

Splicing records can be downloaded and exported

Unlimited storage of splicing records
Can be viewed on mobile devices

heating time

Pre-heat model

Choose shrinkable tube Customize >

Set heating time s

Preheating mode: The welding is completed. When the windshield is opened, the heater is heated in advance for 6 seconds. Turning on the preheating mode can appropriately reduce the heating time of the heat shrinkable tube to improve efficiency.

Note: In winter or low temperature, heating is not ideal, and the heating time can be

Heating time customization

Extreme cold/high temperature can be extended or shortened appropriately

Unconnected device >

中文 (简体)	Auto-detection
English	English <input checked="" type="checkbox"/>
Português	Русский
Français	Español
Русский	Italiano
Español	Português (Brasil)
Polski	Português
ไทย	Indonesia
عربي	Polski
Italiano	Français
	عربي

**Fusion splicer language/
mobile app selection**

cutter setting System parameters

Cutting length >

Cutting type >

Automatic cutting OFF ON

Replace the blade >

Tension automatic correction
This function can be turned off when the automatic correction function is turned on and the ideal cutting length cannot be reached. ON OFF

LED brightness adjustment

Cutter usage tutorial >

Common problems and solutions >

Clean cutter >

Factory settings >

Cutting times:72

**Cleaver Parameter setting
/adjustment**