



AI-20

**THE FOURTH GENERATION TRUNK LINE
OPTICAL FIBER FUSION SPLICER**

AI-20

The Fourth Generation trunk line optical fiber fusion splicer

CRAFTSMAN SPIRIT

Upholding the original aspiration with craftsmanship
Winning trust through quality



0.1 μm

Accurate of fiber
alignment

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. In such a compact and compact situation, the combination design of workbench and bench has been achieved simultaneously. 1s startup, 6s rapid fusion, 15s heating, 5-inch color touchscreen, 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.

AI-20

The Fourth Generation trunk line optical fiber fusion splicer

Full link integration design Highly integrated

4.50 KG

Total weight

**Machine+Toolbox+Complete
Accessory Set**



Six motors



Fiber core
alignment



6s splicing



15s heating



Within OPM
function



Within VFL
function



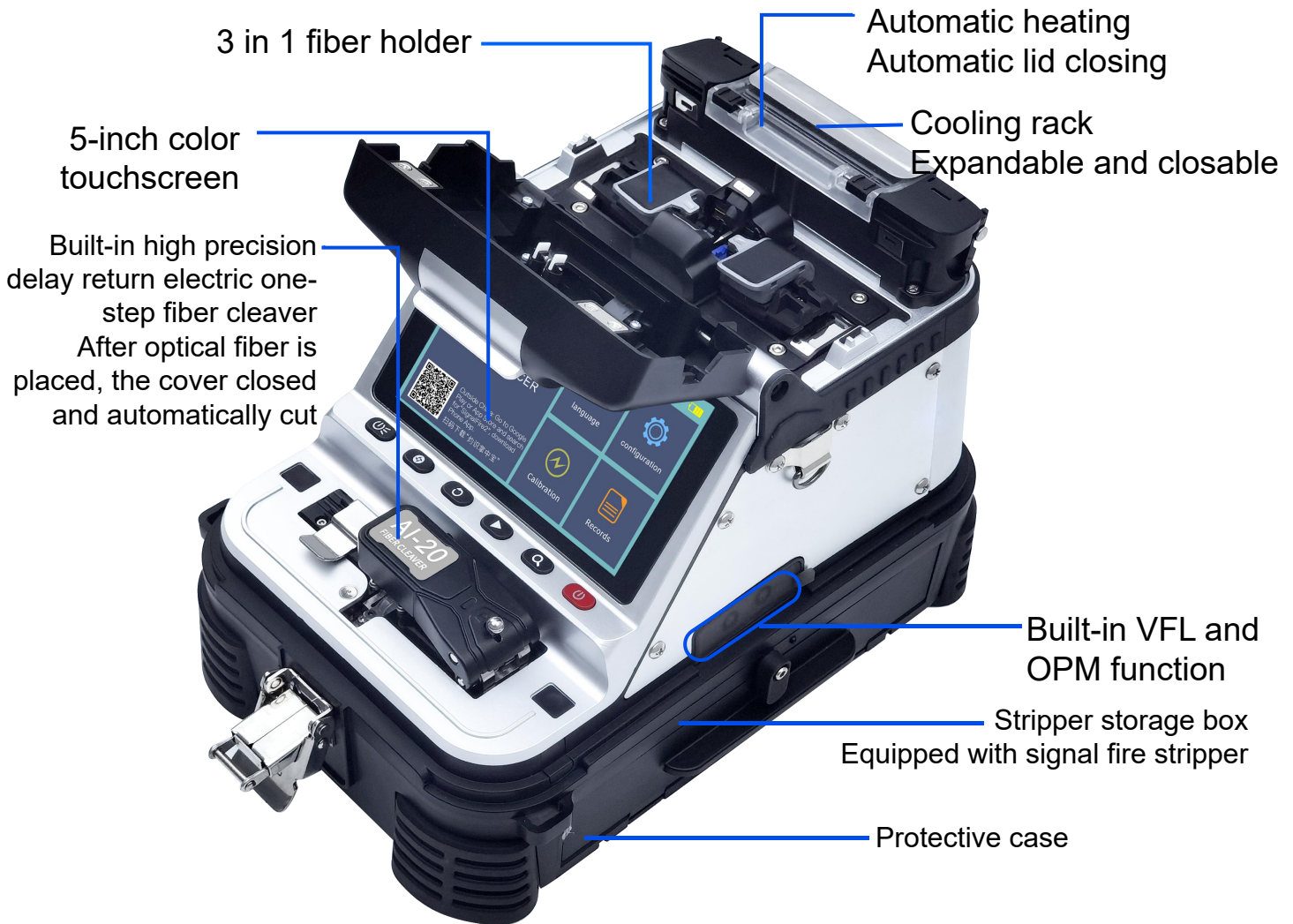
Electric
one-step fiber
cleaver



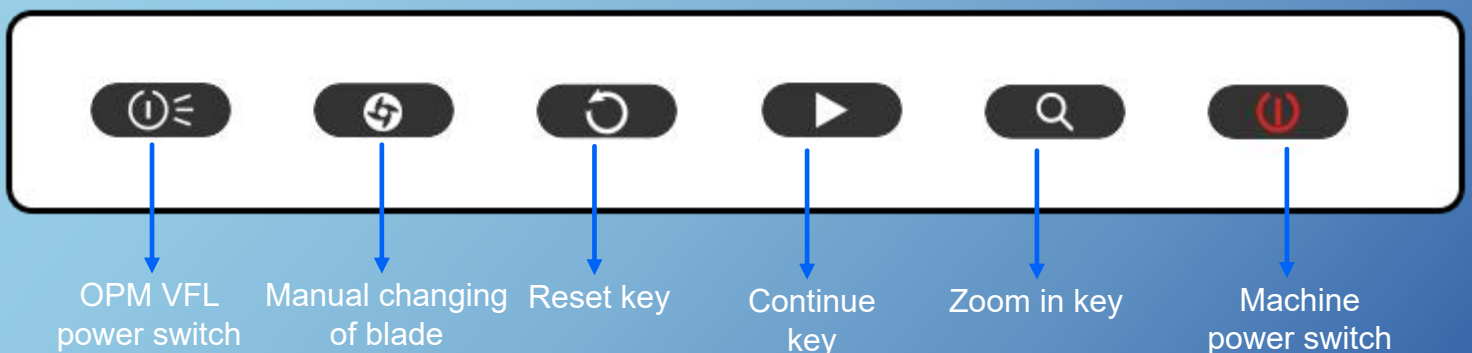
SIGNAL FIRE
Stripper

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.

Exquisite craftsmanship High standard design



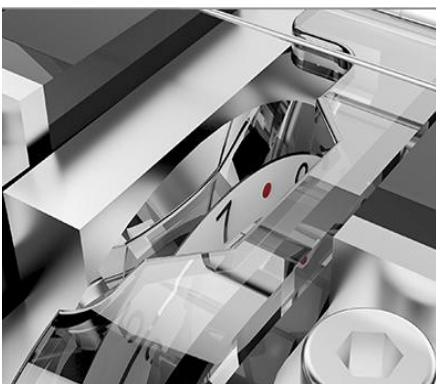
The buttons are clear and beautiful



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.



Automatic/Manual 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.



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 0.5s, and the adjustable range is 0.2s to 2s.



Cleaver LED auxiliary lighting

Brightness can be adjusted through APP.

AI-20

The Fourth Generation trunk line optical fiber fusion splicer

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

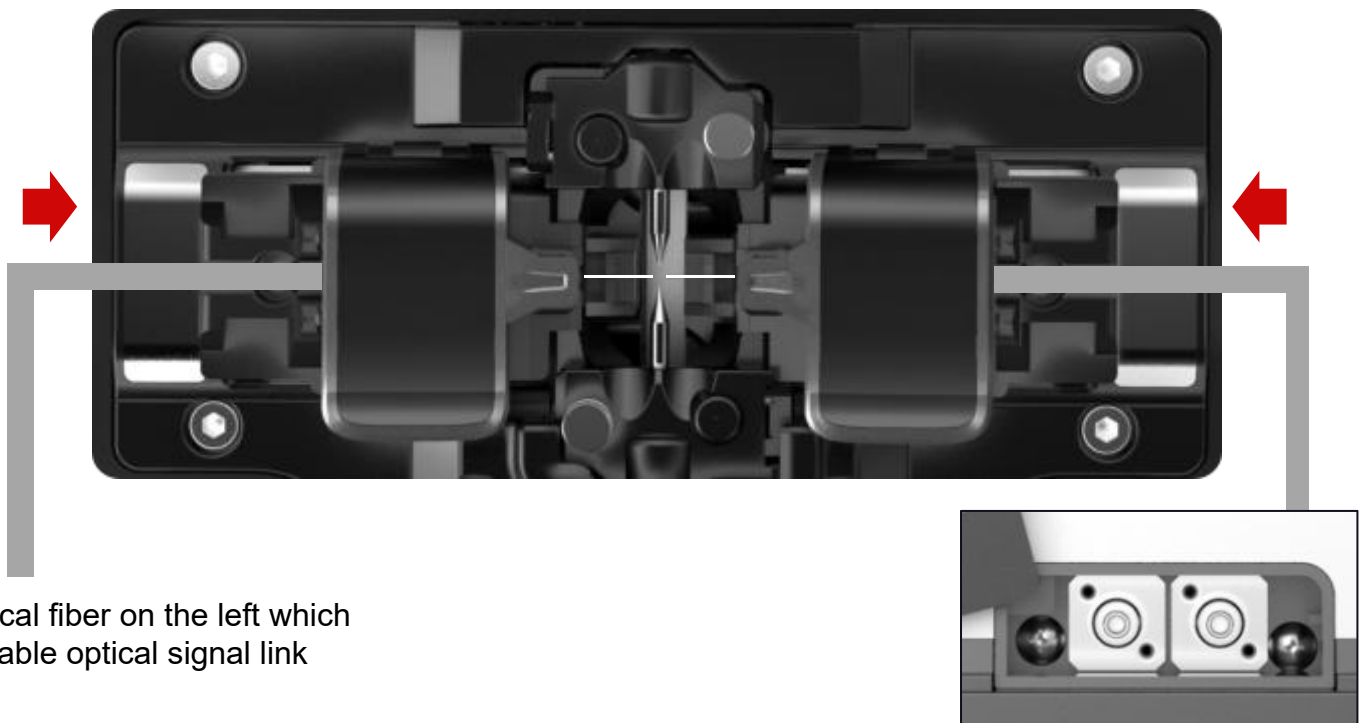
Only applicable to environments with stable optical signal link from front

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

5-inch color touchscreen

Intuitive operation, easily accessible with just one touch



11 languages to switch freely



Chinese



English



French



Russian



Italian



Ukrainian



Portuguese



Polish



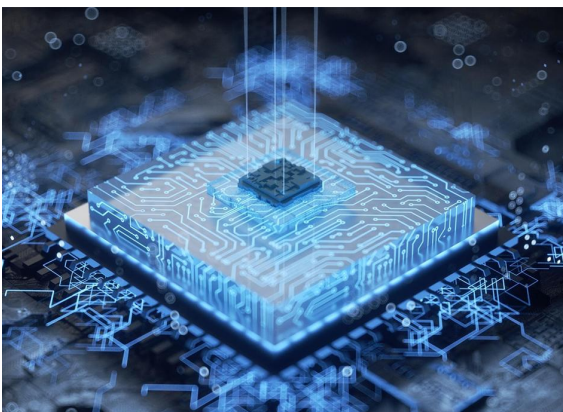
Spanish



Thai



Arabic



Industrial-grade CPU

1 second startup

Sensitive response/Smooth experience

AI-20

The Fourth Generation trunk line optical fiber fusion splicer

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

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

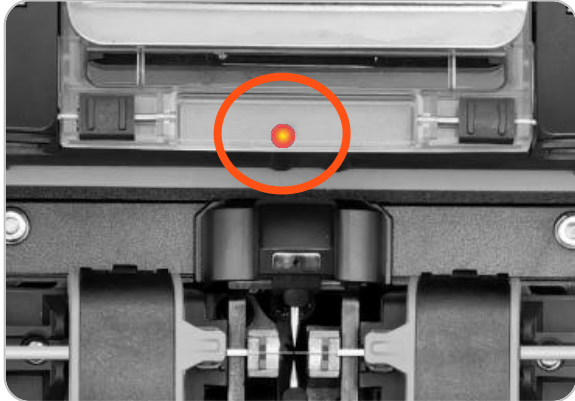
Press to popup the battery

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

Charging channel ②

Charging time ≤ 3.5 hours

- **Activate preheating function in winter**



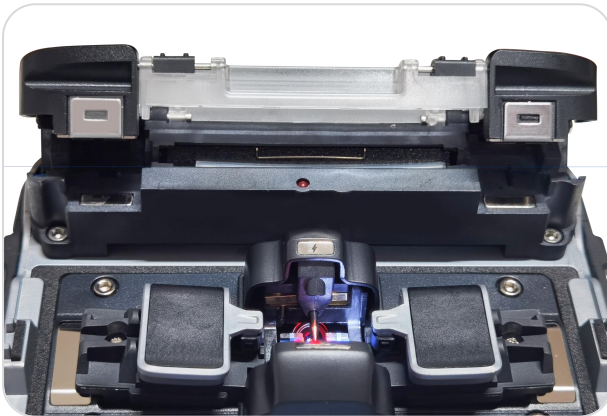
The fiber fusion is successful. At the same time as opening the windproof cover, the heating tank automatically starts preheating for 6 seconds.

- **Heating part compatible with SC fiber**



SC Fiber: Push up
Ordinary fiber: Push down

- **Heating part automatic lid closing**



- **Cooling rack Expandable and closable**



- **Dust prevention/fall prevention/shock prevention**



- **3 in 1 fiber holder**



Outdoor fiber splicing

Compact and portable



Bench+support platform



Compact and portable



Combination hanging chain
Climbing homework



Compact and easy to carry

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 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), multimode fiber (MMF/G.651), dispersion-shifted fiber (DSF/G.653), G.654 fiber, non-zero dispersion-shifted fiber (NZ-DSF/G.655), and bend-insensitive fiber (BIF/G.657); suitable for splicing bare fiber, pigtail, drop fiber, patch cord, and invisible fiber.
The cladding diameter	80-150 μ m
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)
Fusion splicer languages	11 languages (chinese、 Russian、 english、 French、 Italian、 Ukrainian、 Thai、 Portuguese、 Spanish、 Arabic、 polish)
Battery capacity	7800mAh large capacity lithium battery charging time \leq 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: 80-150 μ m/Coating diameter: 100-1000 μ m
Cutting length	Coating layer 250 μ m below: 8-16mm/coating layer 250-1000 μ m: 16mm
Heat shrink tube	60mm、 50mm、 40mm、 25mm
Tensile testing	standard 2N
display	5-inch color touchscreen
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 $^{\circ}$ C, humidity: < 95%RH (no condensation), working altitude: 0 ~ 5000m, maximum wind speed: \leq 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**

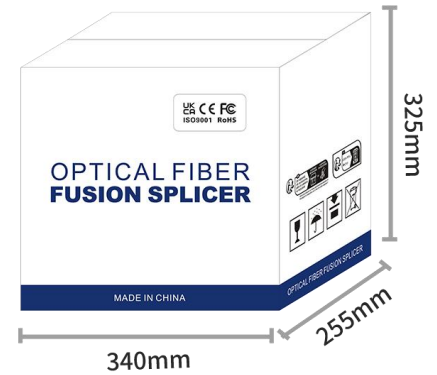
165mm x 255mm x 185mm

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.

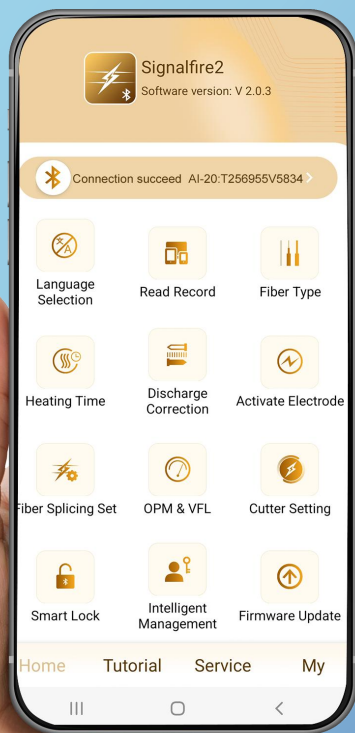
01. Except for the cleaver, Signal fire stripper, fiber holders and other tools whose life depends on the frequency of use and the use of the environment. Also electrodes are consumption material which are not in the warranty.

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.

Support bluetooth Bluetooth connection

Intelligent interaction, avoid tedious



Bluetooth™

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



- ✓ 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;



Signal Fire Technology Co., Ltd. is a high-tech joint-stock enterprise specializing in the research and development, production, and sales of communication equipment, with a registered capital of 10 million. It is a national high-tech enterprise. Our main products include fiber optic fusion splicers, electric fiber cleaver, OTDR (Optical Time Domain Reflectometer), and 9-in-1 optical fiber stripper. They are widely used in the construction, maintenance, emergency repair, security monitoring, and research and teaching of optical cable lines in telecommunications, mobile, China Unicom, radio and television operators, post and telecommunications, railway, engineering companies, and public institutions.





The factory is located in Chengdu High tech International Enterprise Port, with a modern production factory and standardized office buildings. We have passed the ISO9001 international quality management system certification, and our products have passed the EU CE, ROHS. International certifications such as FCC in the United States and UKCA in the United Kingdom have been passed by the National Institute of Quality Supervision and Inspection, China Academy of Information and Communications Technology.







The qualified testing of Taier Laboratory has obtained nearly a hundred domestic and international patents at the same time. The "Signal Fire" series products have been sold to over 100 countries and regions including North America, South America, Europe, Africa, and Asia, and have received unanimous praise from customers.



Operator winning bid brand



Telecom installation and maintenance skills competition, Signal fire fusion splicer excellent performance, won the group first prize



Exhibition photos



Product testing certificate

Signal Fire Technology Co., Ltd. has passed the ISO9001 international quality management system certification. The product has passed international certifications such as the CE, RoHS, the United States FCC, and UKCA in the United Kingdom, and passed the qualified test through National Quality Supervision Institute, China Xintong Institute, and Tel Laboratory. At the same time, we obtained nearly 100 patents.

CERTIFICATE



CERTIFICATE
Of Conformity
Directive 2014/53/EU
On The Radio Equipment Directive

Certificate No.: AT18220WC202819
Certificate Holder: SIGNAL FIRE TECHNOLOGY CO., LTD.
Address: Building 18, Chengdu Hi-Tech International Enterprise Park, Liando U Valley, 1111 Changsheng Bridge, Pidu District, Chengdu China
Manufacturer: SIGNAL FIRE TECHNOLOGY CO., LTD.
Address: Building 18, Chengdu Hi-Tech International Enterprise Park, Liando U Valley, 1111 Changsheng Bridge, Pidu District, Chengdu China
Product Name: OPTICAL FIBER FUSION SPLICER
Model No.: AI-9, AI-6C, AI-6V, AI-7C, AI-8C, AI-8X, AI-7V, AI-X, S9
Trade Mark: Signal fire
Rating: Input: 13.5V/4.8A DC (with DC 11V, 7800mAh Battery inside)

The radio equipment meets the following essential requirements	Complied
Article 3(1)(a) EN IEC 62368-1:2020+A11:2020	Yes
Article 3(1)(a) Safety EN 50663:2017; EN 62479:2010	Yes
Article 3(1)(b) Health EN 301 489-1 V2.2.3 (2019-11)	Yes
EMC EN 301 489-1 V3.2.4 (2020-09)	Yes
Article 3(2) Radio EN 300 328 V2.2.2 (2019-07)	Yes

Note: The attached Annex forms part of this certificate which consists of 2 pages.

Certified by

Kingkong Jin

Jan. 03, 2023
Date



The CE Marking may only be used if all relevant and effective EU Directives are complied with



Shenzhen Anbotek Compliance Laboratory Limited
1/F, Building D, Sogood Science and Technology Park, Sarwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China. 518128
Tel: (86)755-26068440 Fax: (86)755-26014772
http://www.anbotek.com Email: service@anbotek.com

CE

CERTIFICATE



CERTIFICATE
Of Conformity
Radio Equipment Regulations 2017
(SI 2017 No. 1206)

Certificate No.: AT18220WC202820
Certificate Holder: SIGNAL FIRE TECHNOLOGY CO., LTD.
Address: Building 18, Chengdu Hi-Tech International Enterprise Park, Liando U Valley, 1111 Changsheng Bridge, Pidu District, Chengdu China
Manufacturer: SIGNAL FIRE TECHNOLOGY CO., LTD.
Address: Building 18, Chengdu Hi-Tech International Enterprise Park, Liando U Valley, 1111 Changsheng Bridge, Pidu District, Chengdu China
Product Name: OPTICAL FIBER FUSION SPLICER
Model No.: AI-9, AI-6C, AI-6V, AI-7C, AI-8C, AI-8X, AI-7V, AI-X, S9
Trade Mark: Signal fire
Rating: Input: 13.5V/4.8A DC (with DC 11V, 7800mAh Battery inside)

The radio equipment meets the following essential requirements	Complied
CHAPTER 1 General(1)(a) BS EN IEC 62368-1:2020+A11:2020	Yes
CHAPTER 1 General(1)(a) Safety BS EN 50663:2017; BS EN 62479:2010	Yes
CHAPTER 1 General(1)(b) Health EN 301 489-1 V2.2.3 (2019-11)	Yes
EMC EN 301 489-1 V3.2.4 (2020-09)	Yes
CHAPTER 1 General(2) Radio EN 300 328 V2.2.2 (2019-07)	Yes

Note: The attached Annex forms part of this certificate which consists of 2 pages.

Certified by

Kingkong Jin

Jan. 03, 2023
Date



The UKCA Marking may only be used if all relevant and effective UK Regulations are complied with



Shenzhen Anbotek Compliance Laboratory Limited
1/F, Building D, Sogood Science and Technology Park, Sarwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China. 518128
Tel: (86)755-26068440 Fax: (86)755-26014772
http://www.anbotek.com Email: service@anbotek.com

UKCA

TCB

GRANT OF EQUIPMENT AUTHORIZATION
Certification
Issued Under the Authority of the
Federal Communications Commission
By:

LGAI Technological Center S.A. (APLUS)
Ronda de la Font del Carme, s/n
P.O. Box 08193,
Barcelona,
Spain

Date of Grant: 01/17/2024
Application Date: 01/17/2024

TCB

Signal Fire Technology Co., Ltd.
No.8-8 Qingyang Zone, Jiaolong Industrial Park
Qingyang District, Chengdu, China
Chengdu, China
Attention: Jason Yang

NOT TRANSFERABLE
EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: 2AB98-AI-10A
Name of Grantee: Signal Fire Technology Co., Ltd.
Equipment Class: Digital Transmission System
Notes: OPTICAL FIBER FUSION SPLICER

Grant Notes	FCC Rule Parts	Frequency Range (MHz)	Output Watts	Frequency Tolerance	Emission Designator
	15C	2402.0 - 2406.0	0.00153		

Output power listed is conducted. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons. End-users must be provided with operating procedures for satisfying RF exposure compliance.

FCC



QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 11423Q45347R2M

This is to certify that the Quality Management System of
SIGNAL FIRE TECHNOLOGY CO., LTD.
 Unified Social Credit Code: 91510100072411028D
 Registered Address: No. 1111 Changsheng Bridge, Hongguang Town, Small and Micro Enterprise Innovation Park, North Area of Chengdu Modern Industrial Port, Pidu District, Chengdu
 Production Office Address: Building 18, Chengdu High-tech International Enterprise Park, Liando U Valley, No.1111 Changsheng Bridge Road, Pidu District, Chengdu City, Sichuan Province, China

Has been audited to conform to the following Quality Management System standard
GB/T19001-2016/ISO9001:2015
 The Applicable Scope
 The production of optical fiber fusion splicer

Date of initial issuance: Aug. 22, 2017
 Date of issuance: Jul. 11, 2023
 Date of expiry: Jul. 31, 2026

Issued by:  Beijing East Allreach Certification Center Co., Ltd.

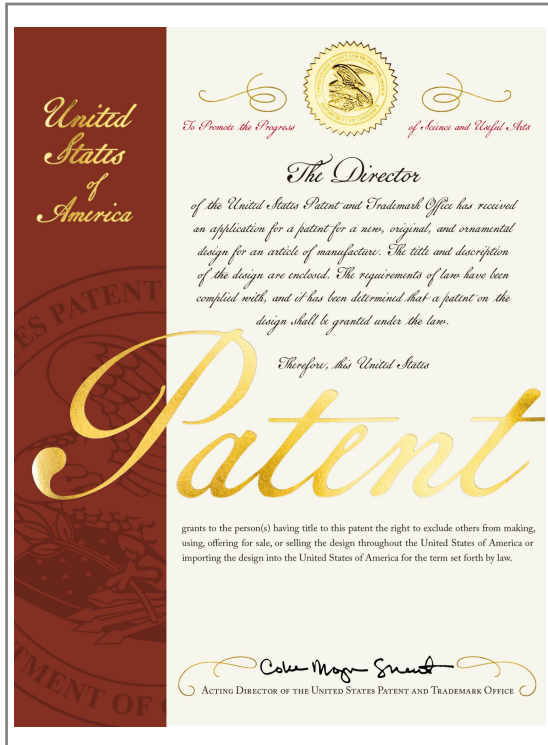




The certificate will remain valid only if the certified organization accepts continuous audits at regular intervals and is audited in the practice. The effectiveness of this certificate is available at EACC website (www.eacc.com.cn) and it's also available by entering the QR Code at the lower right corner.
 Address for EACC: No. 123 Building, No. 11, Zhongyuan Street, Haidian Science & Technology Industrial Base, Tsinghua Park of Zhongyuan Science & Technology Zone, Tsinghua District, Beijing 100084

ISO9001

International Patent



US Design Patent Certificate



European PCT Patent

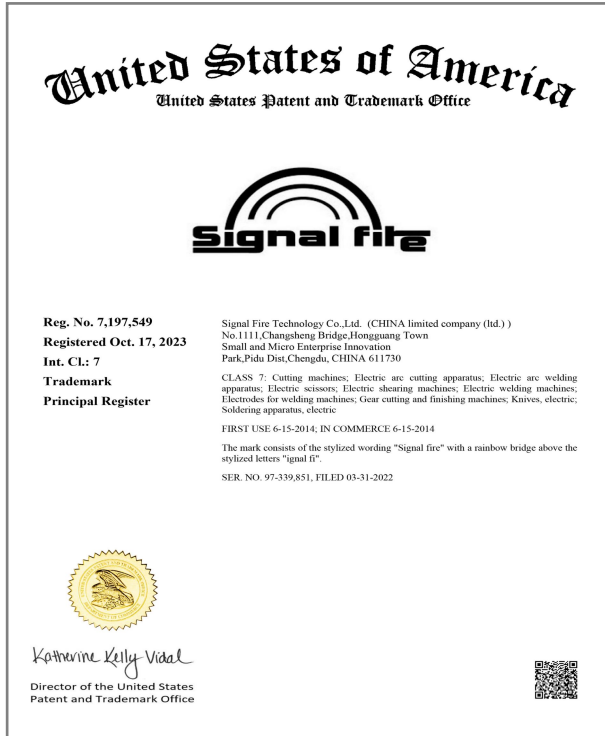


European Unified Patent



EU design patent

International trademark



U.S. Trademark



EU trademark



Australian trademark



Russian trademark

International trademark



Indian trademark



Mexican trademark



UK trademark



EU Registration Certificate