

Hand-Held Core-Alignment Fusion Splicer

FITEL NEW Fusion Splicer

The FITEL S178A Hand-Held Core-Alignment Fusion Splicer is the latest, state-of-the-art addition to the S17x series of splicers. By combining speed, precision, durability and portability in one unit, the S178A Fusion Splicer brings an entirely new range of applications for core alignment splicing.

The S178A is equipped with a new alignment system that can reduce the splicing time by up to 20%. In addition, the improved heating mechanism also reduces the protection sleeve shrink time by more than 30% and the newly incorporated USB 2.0 interface speeds up PC communication and image/video transfer, whilst enhancing reliability.



Although the S178A Fusion Splicer is significantly smaller and lighter in weight than previous models, its canopy design, durable metal body frame and rubber protection corners provide robust protection, enabling use in demanding environments without compromising splicing performance. Along with its rugged durability, the splicer also offers convenience. A new battery system allows up to 200 splicing cycles (Splicing/heating) before additional batteries are needed, and an innovative, mirror-free alignment system makes maintenance work a snap.

While the S178A Fusion Splicer is fast and durable, it continues the FITEL tradition of quality and excellence by delivering precise and accurate splicers even under rigorous field conditions.

The S178A Fusion Splicer is your versatile best choice for a wide range of uses including FTTx, LAN, backbone, enterprise, long-haul installations, data-center and/or OEM applications. It is also an excellent option for use in the conventional telecommunications industry, along with other industries (including oil and gas).

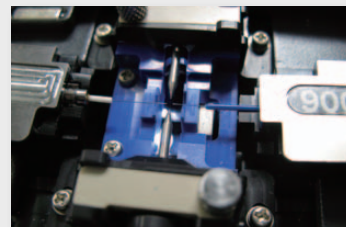
Key features

- **Rugged and compact handheld design** endure harsh environmental conditions
- **Fast splice (7 sec)** at super low loss and Fast Heating (25 sec)^{*1}
- **200 cycles (Splicing & Heating)** with new battery configuration^{*2}
- **Available for All METRO/LAN/FTTx fibers** including ultra bend-insensitive fibers (e.g. EZ-Bend™)
- **Splicer is compatible with the Seikoh Giken and Diamond Splice-on-connector (SOC)**
- **Easy maintenance** - Easy electrode replacement /mirror free alignment system
- **Easy Software upgrade** via the internet
- **Easily exchanged fiber holder systems** (tight holder/fiber holder/SOC holder)
- **PC interface software** to allow user manage splicing recipes and splicing results
- **Auto-start** shrink sleeve oven feature
- **Improved GUI** to further enhance ease-of-use
- **Large memory** for storing data (2,000 splice data) and image (100 images)
- **RoHS compliant**

^{*1} By using semi-auto mode for splicing and pre-heating mode for heating.

^{*2} By using 2-batteries, semi-auto mode for splicing and regular mode for heating.

Compatible with Splice-on-connector (SOC)



FITEL Splicer SOC partners



Under Tough Environment

S178A passed criteria as below ^{*3};

- **Drop Resistance** - 76 cm Drops from 5 different angles
- **Water Resistance** - IPX2 rating drip proof ^{*4}
- **Dust Resistance** - IP5X rating dust proof ^{*5}

^{*3} Above tests were performed at Furukawa Electric Co., Labs, and do not guarantee that the machine will be undamaged under these conditions.

^{*4} IPX2 rating drip proof means that the machine can be exposed to 3 mm/min drip from 4 different angles with 15° tilt for 2.5 min each and still functions.

^{*5} IP5X rating dust proof means that the machine can be exposed to dust particles with a diameter of 0.1 to 25 µm for 8 hours and still functions.



Drop Resistance



Water Resistance



Dust Resistance

SPECIFICATIONS

Applicable Fibers	SM, MM, DSF, NZD, EDF, BIF/UBIF (Bend insensitive fiber)
Cladding Diameter	80~150 μm
Coating Diameter	100~1,000 μm
Fibers Cleave Length	5~16 mm
Average Splice Loss	SM: 0.02 dB, MM: 0.01 dB, DSF: 0.04 dB, NZD: 0.04 dB
Splice Time	7 seconds (semi-auto mode) 9 seconds (regular mode)
Heat Time	25 seconds* ⁶ (S922: 40 mm Sleeve, S921: 60 mm Sleeve) (Pre-heat mode) 31 seconds* ⁶ (S922: 40 mm Sleeve, S921: 60 mm Sleeve) (regular mode)
Splice Programs	Max. 150
Automatic Splicing Selection	SM: SM, DSF, NZD, BIF/UBIF, MM: MM
Heat Programs	Max. 18
Automatic Heating Start	Available
Applicable Sleeves	20/40/60 mm
Fiber Holding	Tight holder (Loose tube applicable) or Fiber Holder System
Tension Test	1.96 N
Return Loss of Splice	60 dB or greater
Attenuation splice function	Intentional high splice loss of 0.1 dB to 10 dB (0.1 dB step) can be made for an inline fixed attenuator
Fiber Image Magnification	304X, 608X
Splice Memory	Max. 2,000
Image capture Capacity	Last 100 images to be automatically captured + Up to 24 images to be stored permanently
Dimension	127W \times 199D \times 105H mm (not including shock absorber) 159W \times 231D \times 130H mm (including shock absorber)
Weight	1.9 kg (without battery) 2.3 kg (with two batteries)
Monitor	3.5" color LCD monitor
Data Output	USB ver.2.0 mini
Diaplaying Language	20 languages (e.g. English, Spanish, Japanese, Chinese)
Battery Capacity	Typical 80 splice/heat cycles with single battery* ⁷ Typical 200 splice/heat cycles with 2 batteries* ⁸
Altitude	5,000 mh
Wind Protection	Max. wind velocity of 15 m/s.
Operating Temperature	-10 to +50°C (0 to 95% Relative Humidity [Non-Condensing])
Storage Temperature	-40 to +60°C (0 to 95% Relative Humidity [Non-Condensing])
Humidity	0 to +95% RH (non-condensing)
Power Source	AC Input 100 to 240 V (50/60 Hz), DC Input 11 to 17 V without any change of hardware

*⁶ The first heating after turning on the power can be longer than the usual heating time.

*⁷ The number of the splicing and heating the machine can produce using a fully charged brand new battery at room temperature of 20°C, semi-auto mode for splicing and regular mode for Heating. Depending on the condition of the batteries and operation environment, the number can vary.

*⁸ The number of the splicing and heating the machine can produce using 2 fully charged brand new batteries at room temperature of 20°C, semi-auto mode for splicing and regular mode for Heating. Depending on the condition of the batteries and operation environment, the number can vary.

STANDARD PACKAGE

Item	P/N	Quantity
① S178A Main Body	S178-A-A-0001	1
② Hard Carrying Case	HCC-01	1
③ Battery Pack Depending on the package	S943B	1 or 2
④ Battery Charger	S958C	1
⑤ Spare Electrodes	S969	1pair
⑥ AC Adaptor for S178A and S958C	S976A	1
⑦ AC Cable Cord	—	1
⑧ Electrode Sharpener	D5111	1
⑨ Cleaning Brush	VGC-01	1
User Manual	FTS - 347	1



⑤ Spare Electrodes



⑧ Electrode Sharpener



⑨ Cleaning Brush

OPTIONAL COMPONENTS

Item	P/N	Quantity
① Soft Carrying Case	SCC-01	1
② Cooling Tray	CTX-01	1
③ Angled Stand	AGS-01	1
④ Working Belt	WBT-01	1
⑤ USB Cable	USB-01	1
⑥ Car Cigarette Cable	CDC-01	1
⑦ Tight Holder 16 mm Cleave length	S712T-016	1pair
10 mm Cleave length	S712T-010	1pair
⑧ Fiber Holder		
160 μm coating diameter fiber	S712S-160	1pair
250 μm coating diameter fiber	S712S-250	1pair
500 μm coating diameter fiber* ⁹	S712S-500	1pair
900 μm coating diameter fiber	S712S-900	1pair
Loose Tube Fiber (Left side)	S712S-LT-L	1
Loose Tube Fiber (Right side)	S712S-LT-R	1
⑨ SOC Holders <For Ferrule>		
Seiko Giken FC/SC connector (9 mm)	S712C-SGS9-L	1
Seiko Giken FC/SC connector (5 mm)	S712C-SGS5-L	1
Seiko Giken LC connector (9 mm)	S712C-SGL9-L	1
Seiko Giken LC connector (5 mm)	S712C-SGL5-L	1
Diamond E-2000™/F-3000™ LC/SC connector	S712C-DM25-L	1
<For Cordage>		
Seiko Giken Cordage (5 mm)	S712C-SGC5-R	1
Seiko Giken Cordage (9 mm)	S712C-SGC9-R	1
Diamond Cordage (5 mm cleave, 1.8~3 mm cordage)	S712C-DMC5-R	1
<Tool>		
Diamond Mount	WTX-01	1
⑩ AC Adaptor for S958C	S977A	1
Smart Fuse Software Interface for Machine	SF-01	1

*⁹ Used for 400-500 μm cladding diameter fiber.



ORDERING NUMBER FORM S178A-(X1)-(X2)

	Category	Code	Remark
X1	Fiber Holder Type	1	16 mm Tight Holder S712T-016
		2	10 mm Tight Holder S712T-010
		3	Fiber Holder System
X2	Number of Battery Pack (S943B)	1	1 pack (with 1 S958C battery charger)
		2	2 packs (with 1 S958C battery charger)

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eFriendly Logo Mark

This logo mark indicates that the products and services satisfy the standards of environmentally friendly products of the Furukawa Electric Group.



Our Group has configured the environmental management system at each of our plants worldwide, and acquired ISO14001 certification.

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