

FITEL[®] S179+ Fusion Splicer

Hand-Held, Core Alignment Fusion Splicer



Features and Benefits

New Automatic Cleave Compensation System (ACCS) Fluid Arc System (FAS) Improved Algorithm for Splice Loss Estimation

- Exceptional performance for fast and consistent fiber splicing
- Enhanced ease of use and portability
- High-speed splicing and heating¹
- Ruggedized body design
- Easy, intuitive operation
- Compatible with Splice-On-Connectors (SOC)
- State-of-the-art communication methods
- Quick and easy maintenance

Overview

The FITEL S179+ Hand-Held, Core Alignment Fusion Splicer offers powerful performance, delivering fast and reliable optical fiber splicing even under harsh environmental conditions. By combining speed, precision, durability, portability and state-of-the-art communication methods in one unit, this fusion splicing machine opens the door to an entirely new range of applications. The FITEL S179+ Fusion Splicer is highly effective for use in data centers, long-haul operations, Metro, LAN, and FTTx fiber, including ultra bend-insensitive fibers as well as large area effective fibers.

Applications

- Fiber sensors
- Manufacture of optical components
- FTTx
- LAN
- Backbone
- Enterprise
- Long-haul
- Data Centers

Product Description

Designed with users in mind, the FITEL S179+ Fusion Splicer delivers rapid splicing and heating ability with consistent results, splice after splice. A large-capacity battery system helps save time by allowing 200 splicing cycles (splicing/heating) in one charge.¹ While a 4.3-inch wide LCD screen with touch panel offers easy and intuitive operation, a proportionately wide splicing chamber makes optical fiber easy to load. For improved visibility in low-light conditions, 3+1 LED lights illuminate the entire splicing chamber. A detachable, left-side V-groove makes cleaning and maintenance a breeze.

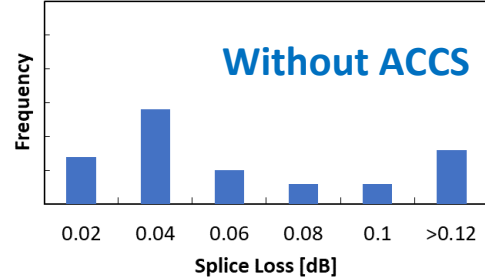
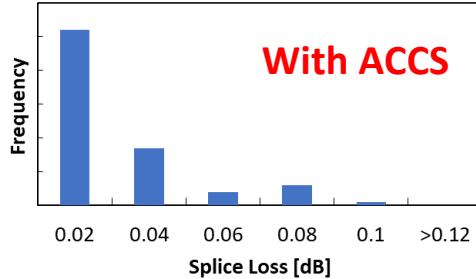
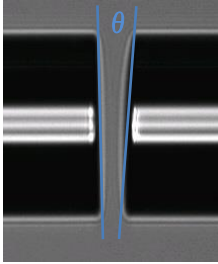
The S179+ Fusion Splicer is also designed to meet the rigors of use in the field. While a substantially lower profile and lighter weight enhance portability, this splicer's canopy design and ruggedized body provide resistance to shock, water and dust exposure. A powerful, high propulsion motor (8N) helps ensure stable splicing for the most rigid indoor and drop cables. Internal battery charging, embedded Near Field Communication (NFC) and Smartphone readiness combine with other features to make the S179+ one of the most powerful and user-friendly fusion splicing machines available today.

¹ In semi-auto splicing mode and regular heating mode

New Features

Automatic Cleave Compensation System (ACCS)

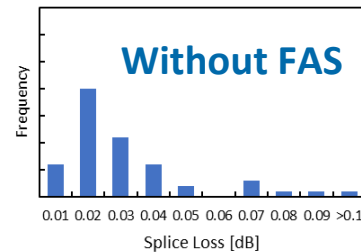
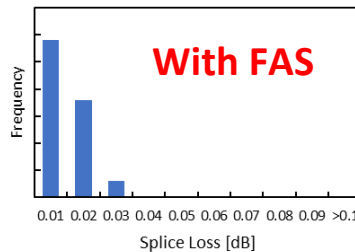
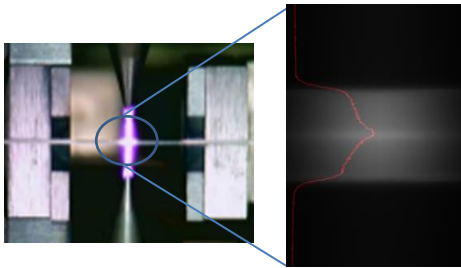
Cleave angles are critical to splice loss. The arc condition automatically adjusts when the relative cleave angle (θ) is high (between 2° and 5°), resulting in significantly lower splice loss.



(The average splice loss in specification isn't guaranteed in case of high cleave angle. Recommended 2 degrees or less.)

Fluid Arc System (FAS)

Small changes in environmental factors and electrode condition can affect the arc and thus splicing results. With our Fluid Arc System (FAS), the S179+ monitors the arc discharge during every splice and calibrates the arc for improved and consistent results.



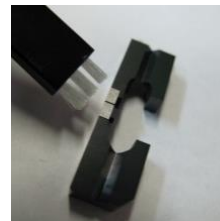
The S179+ provides more stable splice loss than previous model under pressure changes of 110 [hPa] (equivalent to an altitude difference of 1000m) without performing Arc Check process.

Improved Algorithm for Splice Loss Estimation

Our new algorithm for splice loss estimation is refined to improve the accuracy of estimated loss, especially in case of high splice loss caused by micro core bending.

General Features

- **Touch Screen:** 4.3-inch wide LCD screen
- **Illumination lamp:** 3 upper + 1 lower LED
- **Detachable V-groove:** Easy maintenance and lens cleaning
- **NFC:** Lock and unlock splicer via smartphone
- **WiFi Networking:** Communication to smartphone
- **High speed:** 6 sec of splicing time and 9 sec of heating time



Detachable V-groove and Easy Cleaning

Under Tough Environments

- **Drop Resistant:** 76 cm drop tests from 5 different angles
- **Water Resistant:** Equivalent to IPX2 rating drip proof
- **Dust Resistant:** Equivalent to IP5X rating dust proof
- **Shock Resistant:** Equivalent to IK07 rating Mechanical impact



Drop Resistant



Water Resistant



Dust Resistant



Shock Resistant

Product Specifications

| | |
|-------------------------------|--|
| Applicable Fibers | SM (ITU-T G.652, G.657A1 and G.657A2), MM (ITU-T G.651), DSF (ITU-T G.653), Cut-off Shifted Fiber (ITU-T G.654, Large Area type), NZD (ITU-T G.655), BIF/UBIF (Bend Insensitive Fiber ITU-T G.657B3) |
| Cladding Diameter | 80 - 150 µm |
| Coating Diameter | 100 - 3000 µm |
| Fiber Cleave Length | 5 - 16 mm |
| Average Splice Loss | SM:0.01dB, MM:0.01dB, DSF:0.03dB, NZD:0.04dB |
| Splice Time | 6 seconds (Semi-auto mode) 9 |
| Heat Time ² | 9 (60mm, Tyco SMOUV1120-01, coating diameter 250-900µm, Power mode) 13 (60mm, FITEL S921, coating diameter 250µm, Power mode) 15 (60mm, FITEL S921, coating diameter 900µm, Power mode) |
| Splice Programs | Max. 300 |
| Automatic Splicing Selection | Available |
| Heat Programs | Max. 100 |
| Automatic Heating Start | Available |
| Applicable Sleeves | 20/40/60 mm |
| Fiber Holder | Tight Holder (loose tube applicable) or Removable Fiber Holder System |
| Tension Test | 1.96 N |
| Splice Return Loss | 70 dB or more |
| Attenuation Splice Function | Intentional high splice loss of 0.1dB to 15dB(0.1dB step) can be made for an inline fixed attenuator |
| Fiber Image Magnification | 104X, 278X, 556X |
| Splice Result Storage | 20,000 |
| Image Capture Capacity | Last 100 images to be automatically captured + up to 100 images to be stored permanently |
| Dimension | 139W x 209D x 114H mm (not including shock absorber) 179W x 246D x 131H mm (including shock absorber) |
| Weight | 1.7 kg (without battery), 2.0 kg (with battery) |
| Monitor | 4.3" wide color LCD monitor with touch screen |
| Propulsion (motor) | 8 N (designed value) |
| Data Output | USB ver. 2.0 mini B x 1 port, Standard A x 1 port |
| Battery Capacity ³ | Typical 220 splice/heat cycles, 90sec/cycle |
| Altitude | 5000 m |
| Wind Protection | 15 m/s |
| Operating Temperature | -10 to + 50 °C (without excessive humidity) |
| Storage Temperature | -40 to +60 °C (without excessive humidity) |
| Humidity | 0 to + 95% RH (non-condensing) |
| Power Source | AC Input 100 to 240V (50/60Hz), DC Input 11 to 24 V |

² The heating time may vary depending on the type of sleeve. In addition, the first heating time after turning the power on can be longer than the standard heating time.

³ The number of splicing and heating cycles the machine can perform with a fully charged battery at 20 °C in semi-auto splicing mode and regular heating mode. The number of cycles may vary depending on the battery status and operating conditions.



Standard Package

Standard Package

| Item | P/N | Quantity |
|----------------------------|----------|----------|
| FITEL S179+ Fusion Splicer | S179+ | 1 |
| Built-in Battery Pack | S947 | 1 |
| Hard Carrying Case | HCC-05 | 1 |
| Spare Electrodes | ELR-01 | 1 |
| AC Adapter | S979A | 1 |
| AC Power Cord | - | 1 |
| Cooling Tray | CTX-03 | 1 |
| Cleaning Brush | VGC-01 | 1 |
| Electrode Sharpener | D5111 | 1 |
| Tool Case | TCC-01 | 1 |
| LCD ant-reflective sheet | ARS-01 | 1 |
| Instruction Manual | UMC-02 | 1 |
| Quick Reference Guide | FTS-B526 | 1 |



| Optional Components | | |
|--|---------------|----------|
| Item | P/N | Quantity |
| USB Cable | USB-01 | 1 |
| Battery Charger | S980A | 1 |
| Soft Carrying Case | SCC-01 | 1 |
| Angled Stand | AGS-02 | 1 |
| Working Belt | WBT-01 | 1 |
| Car Cigarette Cable | CDC-04 | 1 |
| Heater Clamp Base for SOC | HBS-01 | 1 |
| Tight Holder | | |
| 16 mm Cleave Length | S712T-016 | 1 pair |
| 10 mm Cleave Length | S712T-010 | 1 pair |
| Universal | S712T-UN | 1 pair |
| Fiber Holder | | |
| 160 μm coated fiber | S712S-160 | 1 pair |
| 250 μm coated fiber | S712S-250 | 1 pair |
| 500 μm coated fiber | S712S-500 | 1 pair |
| 900 μm coated fiber | S712S-900 | 1 pair |
| Fiber Holder Loose Tube Fiber (Left side) | | |
| Loose Tube Fiber (Left side) | S712S-LT-L | 1 |
| Loose Tube Fiber (Right side) | S712S-LT-R | 1 |
| SOC Holder | | |
| Seiko Giken FC/SC ferrule (9mm) | S712C-SGS9-L | 1 |
| Seiko Giken FC/SC ferrule (5mm) | S712C-SGS5-L | 1 |
| Seiko Giken LC ferrule (9mm) | S712C-SGL9-L | 1 |
| Seiko Giken LC ferrule (5mm) | S712C-SGL5-L | 1 |
| Seiko Giken TOUCH Plus SC (9mm) | S712C-SGS9C-R | 1 |
| Diamond E2000™/E3000™ ferrule | S712C-DM25-L | 1 |
| Seiko Giken Cordage (5mm) | S712C-SGC5-R | 1 |
| Seiko Giken Cordage (9mm) | S712C-SGC9-R | 1 |
| Diamond Cordage (5mm) | S712C-DMC5-R | 1 |
| WiFi dongle | WFD-01 | 1 |

Ordering Number Form S179+-(X1)-(X2)

| Category | Code | Description |
|-------------------|------|------------------------|
| Fiber holder type | 1 | 16 mm Tight Holder |
| | 2 | 10 mm Tight Holder |
| | 3 | Fiber Holder System |
| | 4 | Universal Tight Holder |
| WiFi dongle | 0 | W/O WiFi dongle |
| | 1 | W/ WiFi dongle |

FURUKAWA ELECTRIC CO., LTD.

| | | | | |
|--|---|---|---|---|
| <p>Head Office:</p> <p>Tokiwabashi Tower, 2-6-4, Otemachi, Chiyodaku, Tokyo 100-8322, Japan Tel: + 81 3 6218 8500 Fax: - www.furukawa.co.jp fec.abr_opt_splicer @furukawaelectric.com</p> | <p>Europe:</p> <p>Furukawa Electric Europe Ltd. Furukawa House 77-85 Fulham Palace Road, London W6 8JD, U.K. Tel: + 44 (0) 20 7313 5300 Fax: + 44 (0) 20 7313 5310 www.furukawa.co.uk splicers@furukawa.co.uk</p> | <p>North & South America:</p> <p>OFS Fitel, LLC 2000 Northeast Expressway Norcross, Georgia 30071, U.S.A TOLL FREE: + 1 866 452 9516 Tel: + 1 678 783 1090 Fax: + 1 678 783 1093 www.ofsoptics.com splicers@ofsoptics.com</p> | <p>China:</p> <p>Furukawa Shanghai, Ltd. Beijing Branch Room 1108 Beijing Jing Guang Center Hujialou Chaoyang District Beijing 100020, China Tel: + 86 10 8591 0608 Fax: + 86 10 8591 0609 www.furukawa-sh.cn</p> | <p>South East Asia:</p> <p>Furukawa Electric Singapore Pte. Ltd. 60 Albert Street, #13-10 OG Albert Complex, Singapore 189969 Tel: + 65 6224 4686 Fax: + 65 6336 2635 comms@furukawa.com.sg</p> |
|--|---|---|---|---|

Export Control Regulations
The products and/or technical information presented in this publication may be subject to the application of the Foreign Exchange and Foreign Trade Act and other related laws and regulations in Japan. In addition, the Export Administration Regulations (EAR) of the United States may be applicable. In cases where exporting or reexporting the products and/or technical information presented in this publication, customers are requested to follow the necessary procedures at their own responsibility and cost. Please contact the Ministry of Economy, Trade and Industry of Japan or the Department of Commerce of the United States for details about procedures.

* Furukawa Electric reserves the right to improve, enhance, or modify the features and specifications of FITELEL products without prior notification.
* Company and product names appearing in this catalogue are registered marks or trademarks of respective companies.