

New Fusion Splicer

45S



The Essential Splicer

Faster operation
User-friendly design
Consistent quality

 **Fujikura**

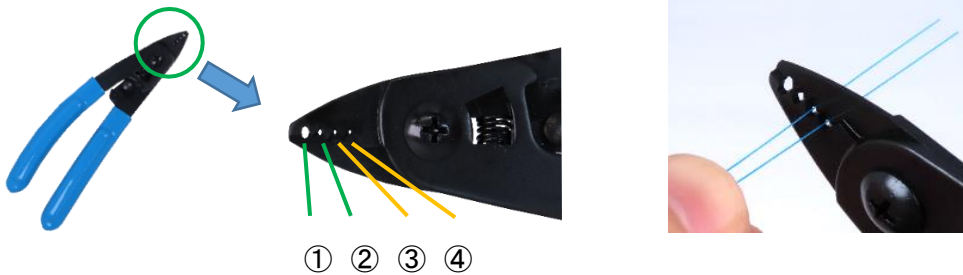
Faster operation

■ Simultaneous fiber preparation

Fiber preparation, stripping, cleaving, and setting in the splicer usually needs repeating separately for both left and right-side fibers. The 45S process does away with that and enables simultaneous fiber preparation thanks to the new SS05 double fiber stripper, the new AD-16A fiber adapter for the CT50 cleaver and the clever set plate mechanism of the 45S itself.

● Simultaneous fiber stripping

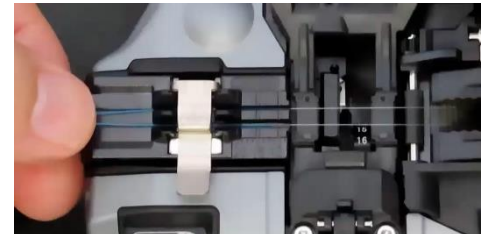
The SS05 fiber stripper is equipped with four blades: ① for 2mm/3mm, ② for 900 μ m, ③④ for 250 μ m fibers. Using blades ③ & ④ allows simultaneous stripping of 250 μ m fibers.



Fiber Stripper SS05

● Simultaneous fiber cleaving

The new AD-16A fiber adapter for the CT50 cleaver is equipped with two grooves. Placing one fiber in each groove provides simultaneous cleaving.



Optical Fiber Cleaver CT50

● Simultaneous fiber setting

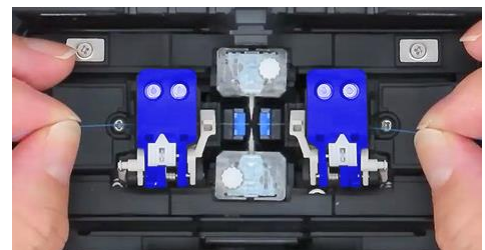
Previous fusion splicers required two-handed operation to close fiber clamp and hold the fiber. Thanks to a new clamp mechanism, the 45S close with fiber setting and provides one-handed fiber setting and simultaneous fiber setting.



Two-handed



One-handed



Simultaneously fiber setting

Refer to the movie

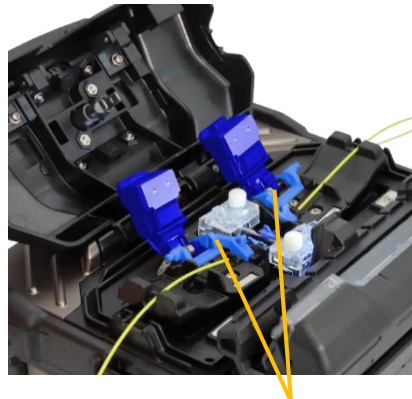


Faster operation

■ Faster fiber transportation time

The 45S is equipped with a mechanism linking the wind protector and fiber clamp so when you open wind protector, the fiber clamps opens automatically.

The 45S is also equipped with retention clamps which are reputed by our conventional fusion splicer models. The retention clamps prevent the fiber from jumping out after the fiber clamps are opened. These mechanisms work in tandem to provide easy fiber handling and a reduction in the time it takes to transfer the fiber to the heater.



Fiber retention clamps

Refer to the movie



■ Faster heating time

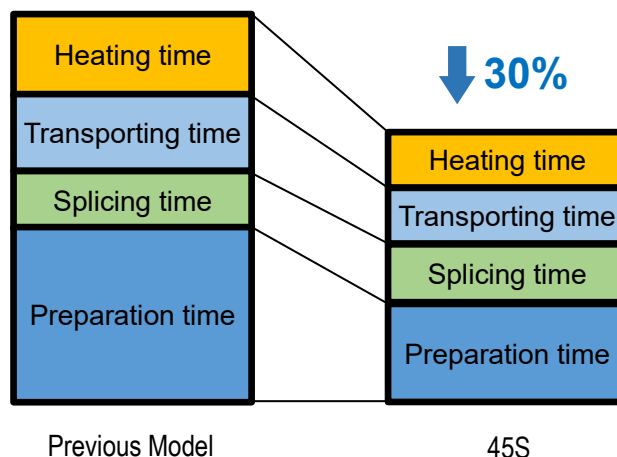
The 45S is equipped with a dual-plate heater mechanism which speeds up the heating time to between Avg.16 and 24 seconds when using the FP-03 sleeve.



※Measured at room temperature with the AC adapter. The heat time is defined from the start beep sound to the finish beep sound. The average heat time changes depending on the environmental conditions, sleeve type and battery pack condition. In addition, since the heating operation is constantly optimized, the average heating time changes depending on the usage conditions of the fusion splicer.

■ 30% faster than previous model

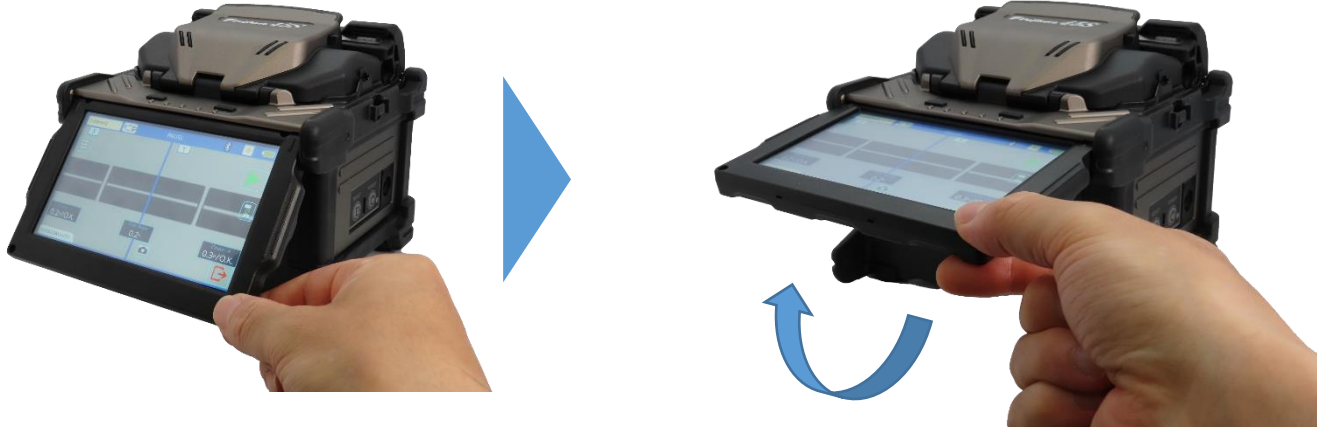
Thanks to the way the 45S streamlines the preparation process, reduces transport time and delivers faster heating, it is 30% faster than the 41S+ it replaces.



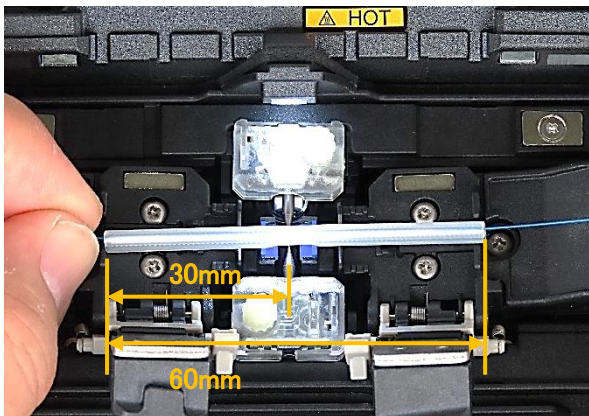
User-friendly design

■ Movable LCD monitor

The 45S is equipped with a movable 4.95-inch color LCD monitor to ensure optimum visibility in a range of conditions, even when outside under direct sunlight.



■ Easy sleeve positioning



The space between the edges of the left and right fiber clamp edges is 60mm, as per the image to the left. This distance allows for easy sleeve positioning, with the splice point positioned in the middle of the sleeve. The scale on the heater shows the guide for other sleeve lengths, for example 40mm.

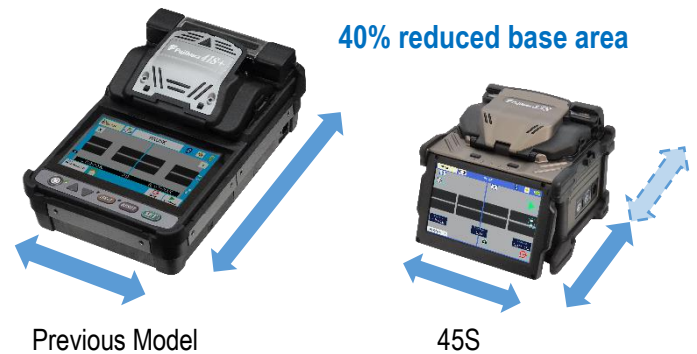
■ Removable battery

The removable battery makes replacement easy and convenient.



■ Smaller footprint

The cube shape provides a reduced base area while also giving the user a large operating space.



User-friendly design

■ Carrying case with work tray

The configurable 45S carrying case provides various usage configurations.



Configuration example 1
Open the carry case and start operation.

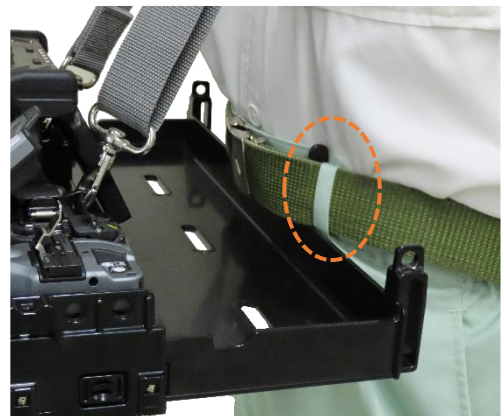


Configuration example 2
Remove the work tray and put on top of the carry case.

Removing the work tray from the carry case allows the tray to expand. Using the work tray with the strap provides a portable work surface and the strap can be fixed to the work tray at the sides of the splicer to secure the usability.



Secure working space

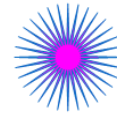


Increased security when used with a belt

Consistent quality

Active Fusion Control

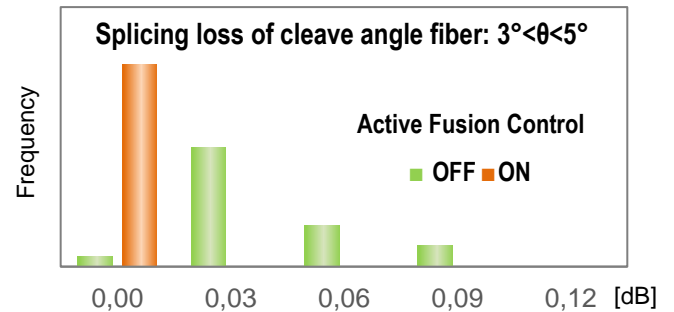
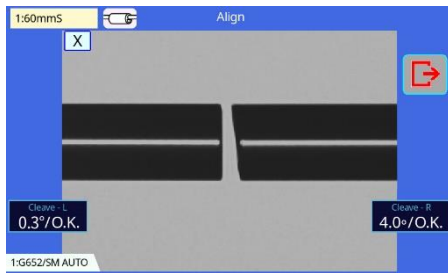
The 45S is equipped with Fujikura Active Fusion Control Technology, which analyses the fiber image during fusion and controls the arc discharge accordingly. The result is stable splice loss irrespective of the environment.



ACTIVE FUSION
CONTROL TECHNOLOGY

Control by fiber cleaved surface

A bad cleave end face is a potential reason for high splice loss. The 45S can address this because it's equipped to control fusion according to the condition of the cleaved surface. This function helps reduce splice loss by compensating for poor cleaves.

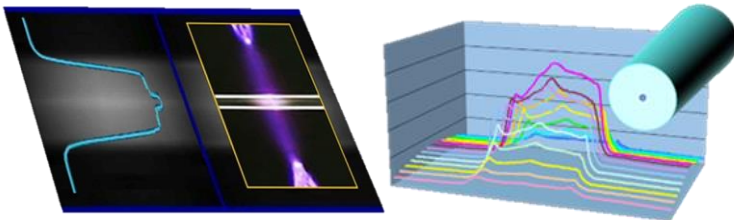


※Fujikura test result of ITU-T G652 fibers measured by cut-back method.

The splice loss may vary depending on operating environment or fiber characteristics.

Real-time fusion control

The 45S analyses the fiber image during fusion and controls fusion power according to the real-time condition of the fiber. This helps to minimize splice loss irrespective of the environment.



Analyzing fiber image during fusion

This process also provides Warm Splice Image (WSI) technology. WSI analyses during the splice and provides loss estimation, even though the 45S is a clad alignment splicer.

It would help to prevent the case of "good loss estimation but bad actual loss".

Active Blade Management

The 45S monitors the blade condition of the CT50 cleaver via wireless communication.



ACTIVE BLADE
MANAGEMENT TECHNOLOGY

When the 45S judges that the blade is worn, it will command the CT50 to rotate the blade to a new position to ensure the CT50 keeps delivering consistent cleaving performance.



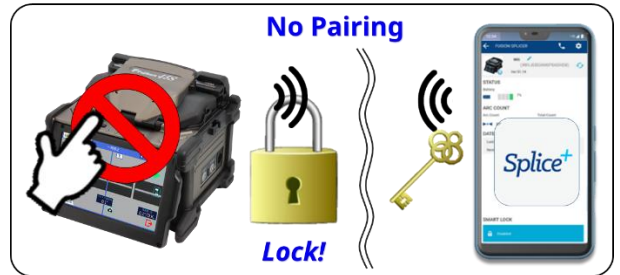
Additional features

■ Splice+ app

The Splice+ app provides convenient splicer management by wireless communications, between the 45S and mobile phone.

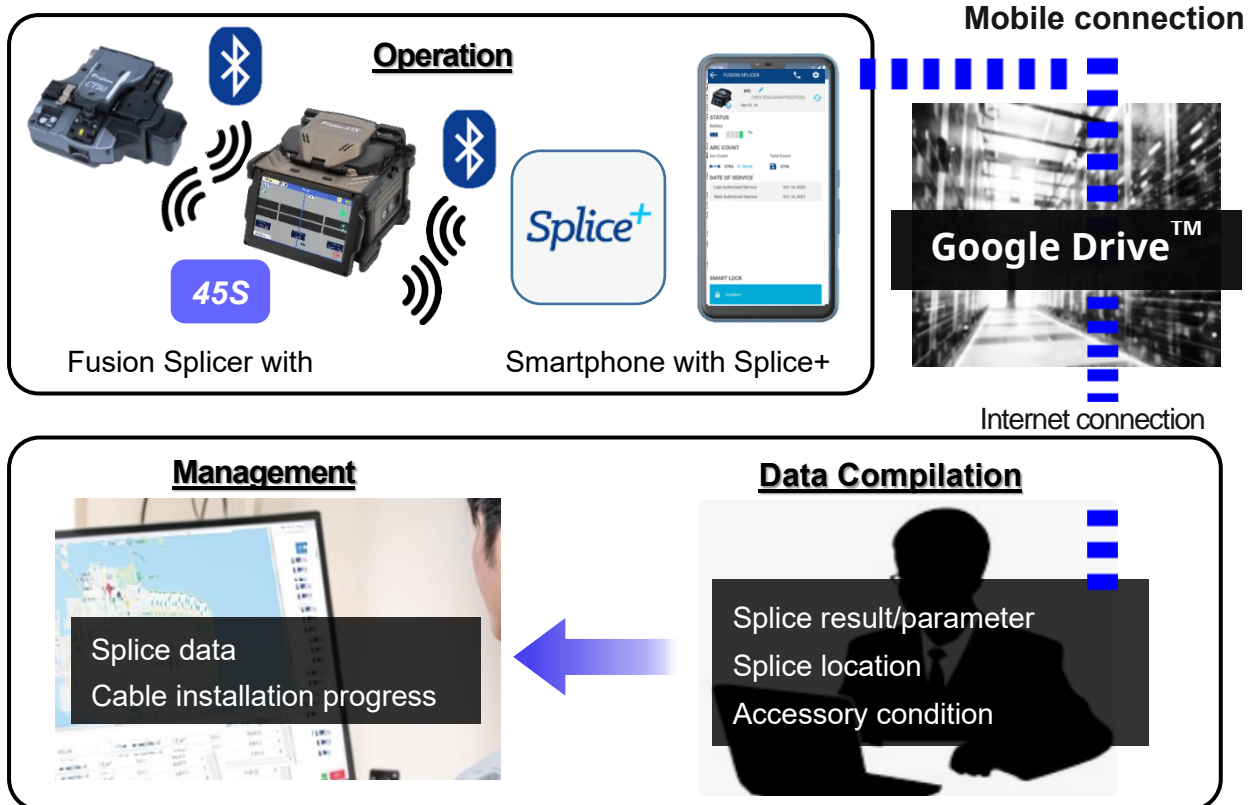
● Smart lock

A break in the pairing of wireless communication between the splicer and mobile phone can lock the splicer which prevents misuse and works as an anti-theft measure.



● Data management

The data management function retrieves data from the splicer and saves it to the cloud. This data can include the GPS data of a phone, which is useful for splicer operation management.



You can find and obtain Splice+ App from Google Play and App Store.



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Specifications / Items

45S Standard Items

| Item | Model | Qty |
|-------------------------------|--------------------------|--------|
| Clad Alignment Fusion Splicer | 45S | 1 pc |
| (1) Battery Pack * | BTR-17 | 1 pc |
| (2) AC Adapter | ADC-21 | 1 pc |
| (3) AC Power Cord | ACC-08, 09, 10, 11 or 12 | 1 pc |
| (4) USB Cable | USB-01 | 1 pc |
| (5) Electrodes, for spare | ELCT2-16B | 1 pair |
| (6) Carrying Case | CC-45 | 1 pc |
| (7) Work Tray | WT-10 | 1 pc |
| (8) Tripod Screw | TS-03 | 1 pc |
| (9) Carrying Case Strap | ST-03 | 1 pc |
| (10) Alcohol Dispenser | AP-02 | 1 pc |
| (11) Quick Reference Guide | QRG-08-E, C or J | 1 pc |
| Single Fiber Stripper | SS05 | 1 pc |
| Optical Fiber Cleaver | CT50 | 1 pc |
| (1) Fiber Scrap Collector | FDB-05 | 1 pc |
| (2) Fiber Setting Plate | AD-16A | 1 pc |
| (3) Case, for cleaver | CC-37 | 1 pc |
| (4) Hexagonal Wrench | HEX-01 | 1 pc |



* Please follow IATA regulation when shipping the battery by air

| | | | | |
|---|---|---|---|--|
| 45S  | (1)  | (2)  | (3)  | (4)  |
| (5)  | (6)  | (7)  | (8)  | (9)  |
| (10)  | (11)  | SS05  | | |
| CT50  | (1)  | (2)  | (3)  | (4)  |

Specifications / Items

45S Specifications

| Item | | Specification | |
|------------------------------|--------------------------|--|------------------------------------|
| Fiber alignment method | | Active clad alignment | |
| Fiber count can be spliced | | Single fiber | |
| Applicable fiber | Fiber type | Single mode optical fiber Multi mode optical fiber | |
| | Cladding dia. | Approx. 125µm | |
| Applicable coating | Sheath clamp | Coating dia. : Max. 3000µm Cleave length : 5 to 16mm *1 | |
| | Fiber splice performance | Splice loss *2 | ITU-T G.652 : Avg. 0.03dB |
| ITU-T G.651 : Avg. 0.01dB | | | |
| ITU-T G.653 : Avg. 0.05dB | | | |
| ITU-T G.655 : Avg. 0.05dB | | | |
| ITU-T G.657 : Avg. 0.03dB | | | |
| Applicable Protection sleeve | Splice time *3 | SM FAST mode : Avg. 6 to 7sec. | |
| | Sleeve type | Heat shrinkable sleeve | |
| | Sleeve length | Max. 66mm | |
| Sleeve heat performance | Sleeve dia. | Max. 6.0mm before shrinking | |
| | Heat time *4 | 60mm mode : Avg. 16 to 24sec. 60mm slim mode : Avg. 16 to 18sec. | |
| Fiber tensile test force | | Approx. 2.0N | |
| Electrode life *5 | | Approx. 6,000 splices | |
| Physical description | Dimensions W | Approx. 131mm without projection | |
| | Dimensions D | Approx. 123mm without projection | |
| | Dimensions H | Approx. 121mm without projection | |
| | Weight | Approx. 1.4kg including battery | |
| Environmental condition | Temperature | Operate: -10 to 50 °C Storage: -40 to 80 °C | |
| | Humidity | Operate: 0 to 95%RH non-condensing Storage: 0 to 95%RH non-condensing | |
| | Altitude | Max. 5000m | |
| AC adaptor | Input | AC100 to 240V, 50/60Hz, Max. 1A | |
| Battery pack | Type | Rechargeable Lithium Ion | |
| | Output | Approx. DC14.4V, 3190mAh | |
| | Capacity *6 | 60mm mode: | Approx. 200 splice and heat cycles |
| | | 60mm slim mode : | Approx. 230 splice and heat cycles |
| | Temperature | Recharge: 0 to 40 °C Long Term Storage : -20 to 30 °C | |
| | Battery life *7 | Approx. 500 recharge cycles | |
| Display | LCD monitor | TFT 4.95 inches with touch screen | |
| Illumination | Magnification | Approx. 132 to 300x | |
| | V-grooves | LED lamp | |
| Interface | PC | USB2.0 Mini B type | |
| | External LED lamp | USB2.0 A type Approx. DC5V, 500mA | |
| | Wireless *8 | Bluetooth 5.2 | |
| Data storage | Splice mode | 100 splice modes | |
| | Heat mode | 30 heat modes | |
| | Splice result | 20,000 splices | |
| | Splice image | 100 images | |
| Screw hole for tripod | | 1/4-20UNC | |
| Other features | Automatic functions | Fusion control Blade management and control | |
| | Reference guide | PDF file stored in splicer | |
| | Sheath clamp | Open with/without Wind Protector | |
| | | Close with fiber setting Easy sleeve positioning clamp | |
| | Electrode | Replaceable without tool | |



Notes

- *1 Cleave length range depending on fiber type
5 to 16mm : 125µm cladding dia. and 250µm coating dia.
10 to 16mm : 125µm cladding dia. and 400 or 900µm coating dia.
- *2 Measured with a cut-back method relevant to ITU-T and IEC standard after splicing Fujikura identical fibers. The average splice loss changes depending on the environmental condition and fiber characteristics.
- *3 Measured at room temperature. The definition of splice time is from the fiber image appeared in LCD monitor to the estimated loss displayed. The average splice time changes depending on the environmental conditions, fiber type, and fiber characteristics.
- *4 Measured at room temperature with the AC adaptor. The heat time is defined from the start beep sound to the finish beep sound. The average heat time changes depending on the environmental conditions, sleeve type and battery pack condition. In addition, since the heating operation is constantly optimized, the average heating time changes depending on the usage conditions of the fusion splicer.
- *5 The electrode life changes depending on the environmental conditions, fiber type and splice modes.
- *6 Test condition
(1) Splice and heat time: 1 minute cycle
(2) Using the splicer power save settings, subject to our testing condition.
(3) Using a not degraded battery
(4) At room temperature
The battery capacity changes when testing with a different conditions from the above.
- *7 The battery capacity decreases to a half after approx. 500 discharge and recharge cycles, The battery life is shortened further when using outside of the storage temperature range, operating temperature range, if completely discharged by storing for a long time without recharging.
- *8 Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

45S Options

| Item | Model | Remarks |
|------------------------|-------------|--------------------------------------|
| Fiber Holder | FH-70-200 | 200µm coating diameter |
| | FH-70-250 | 250µm coating diameter |
| | FH-70-900 | 900µm coating diameter |
| | FH-FC-20 | 900µm in 2mm diameter cable |
| | FH-FC-30 | 900µm in 3mm diameter cable |
| Sheath Clamp | CLAMP-S35B | 900µm loose buffer cable |
| Fiber holder set plate | SP-04 | Fiber holder set base |
| Transfer Clamp | CLAMP-DC-12 | Transferring drop cable on work tray |
| Protection sleeve | FP-03 | 60mm, Max. 900µm coating diameter |
| | FP-03(L=40) | 40mm, Max. 900µm coating diameter |
| | FP-03M | FP-03 with non-magnetic material |

Specifications / Items

CT50 Specifications

| Item | | Specification |
|--|---------------------|---|
| Applicable fiber | Fiber type | Single mode optical fiber Multi mode optical fiber |
| | Fiber count | Single and up to 16 fiber ribbon |
| | Cladding dia. | Approx. 125µm |
| Applicable coating | Fiber setting plate | AD-10-M24: Max. 900µm coating diameter AD-50: Max. 3mm coating diameter |
| | Fiber holder | Coating shape: Refer to splicer options |
| Cleave length | Fiber setting plate | AD-10-M24: 5 to 20mm *1 AD-50 *C.D. : coating diameter C.D. = 250µm or less : 5 to 20mm *1 250µm < C.D. < =900µm: 10 to 20mm 900µm < C.D. < =3mm : 14 to 20mm |
| | Fiber holder | Approx. 10mm |
| Cleave angle *2 | Single fiber | Avg. 0.3 to 0.9 degrees |
| | Fiber ribbon | Avg. 0.3 to 1.2 degrees |
| Blade life *3 | | Approx. 60000 fiber cleaves |
| Physical description | Dimensions W | Approx. 117mm without projection *4 |
| | Dimensions D | Approx. 94mm without projection *4 |
| | Dimensions H | Approx. 59mm without projection *4 |
| | Weight | Approx. 306g including battery and AD-10-M24 |
| Environmental condition | Temperature | Operate: -10 to 50°C Storage: -40 to 80°C |
| | Humidity | Operate: 0 to 95%RH non-condensing Storage: 0 to 95%RH non-condensing |
| Battery | | 2 pieces of LR03, AAA dry battery |
| Wireless interface *5 | | Bluetooth 4.1 LE |
| Screw hole for tripod | | 1/4-20UNC |
| Holding mechanism for the fiber holder | | Installed |
| Other features | Blade rotation | Motorized rotation |
| | | Manual rotation dial |
| | Replaceable parts | Blade Clamp arm |



Notes

- *1 When the cleave length is less than 10mm, the coating diameter should be 250µm or less. Also, a blade height adjustment is required before cleaving. The average cleave angle is worse than the specification when the cleave length is less than 10mm.
- *2 Measured with an interferometer at room temperature, not with a splicer. A new blade was used to cleave both the single fibers and ribbon fibers. The average cleave angle changes depending on the environmental conditions, blade condition, operating method, and cleanliness.
- *3 The blade life changes depending on the environmental conditions, operating method, and the fiber type cleaved.
- *4 Measured in a condition when closing the lever.
- *5 Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

CT50 Options

| Item | Model | Remark |
|-----------------------|-------------|---------------------------------------|
| Fiber Setting Plate | AD-50 | Optional fiber setting plate |
| Blade | CB-08 | Blade for replacement |
| Clamp Arm | ARM-CT50-01 | Clamp arm with anvil for replacement |
| Fiber Scrap Collector | FDB-05 | Scrap collector |
| Side cover | SC-CT50-01 | Side cover instead of scrap collector |
| Spacer | SPA-CT08-10 | Cleave length 10mm |
| | SPA-CT08-09 | Cleave length 9mm |
| | SPA-CT08-08 | Cleave length 8mm |



Please visit our web site!

<https://www.fusionsplicer.fujikura.com>

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