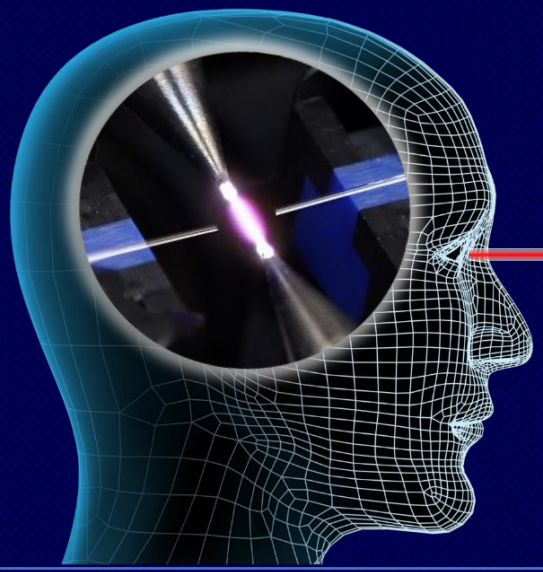
Clad Alignment Fusion splicer 41S+ kit

ACTIVE FUSION

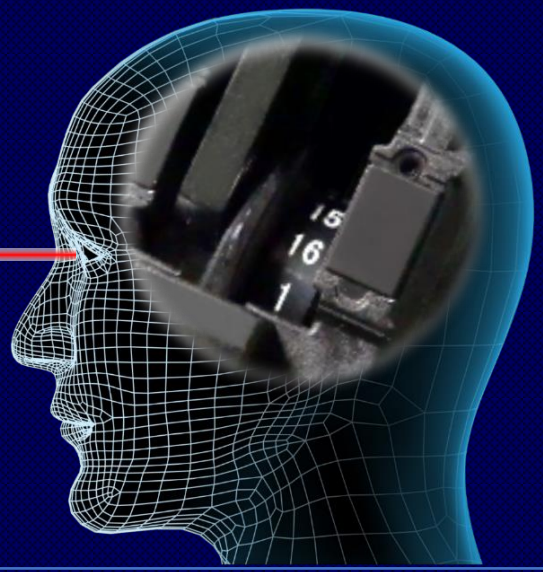
CONTROL TECHNOLOGY

ACTIVE BLADE

MANAGEMENT TECHNOLOGY



Enhanced Splice Quality



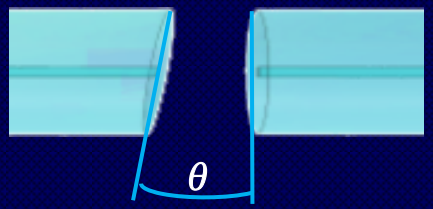
Fujikura

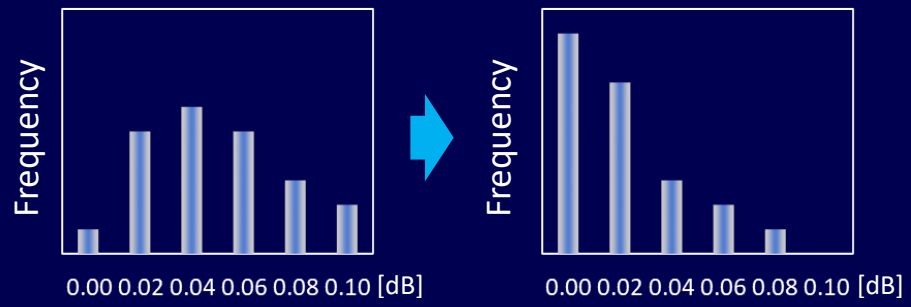
Active Fusion Control Technology

ACTIVE FUSION
CONTROL TECHNOLOGY

1. Active Fusion control by cleave condition

One of main causes of high splice loss is bad cleave end face quality. The 41S+ analyzes the condition of both L and R cleave end faces and applies optimal fusion control. This new technology improves splice loss significantly and greatly reduces needs for rework.



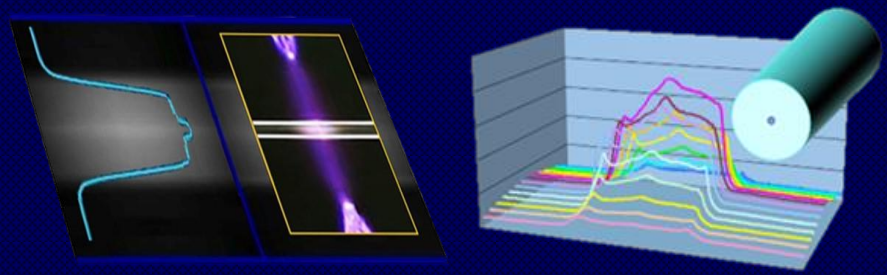


Splice loss with large cleave angle: $3 < \theta < 5$ degree

*G.652 splicing result measured by the cut-back method. Splicing results may change depending on the fiber type and fiber characteristics.

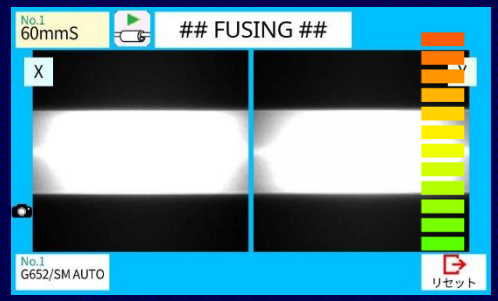
2. Active Fusion control by fiber brightness

Fusion is easily affected by changes in the environment. The 41S+ uses real-time fusion parameter control by analyzing the fiber brightness intensity during splicing. This contributes to stable, low-loss splice results.



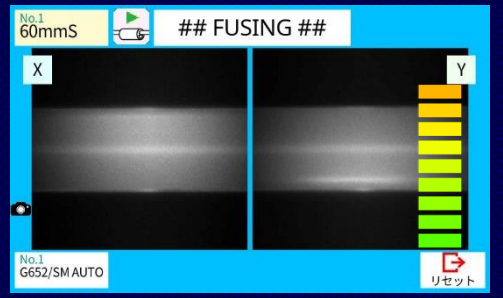
Analyzing the fiber brightness intensity

Fiber brightness: Weak



Fiber brightness: Strong

Real-time fusion control



Real-time fusion control

Fiber brightness: Appropriate

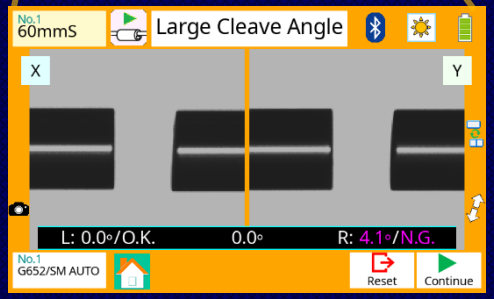
Active Blade Management Technology

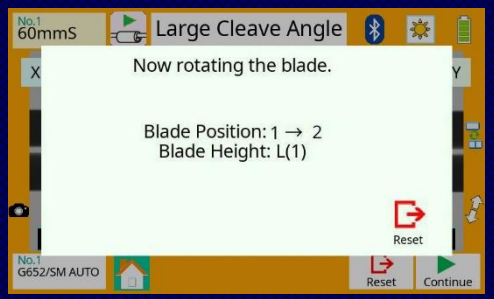
ACTIVE BLADE
MANAGEMENT TECHNOLOGY

1. Active Blade rotation by motor

The 41S+ and CT50 fiber cleaver are equipped with wireless data connectivity. This capability allows automatic cleaver blade rotation when the 41S+ judges the blade is worn.

Motorized blade

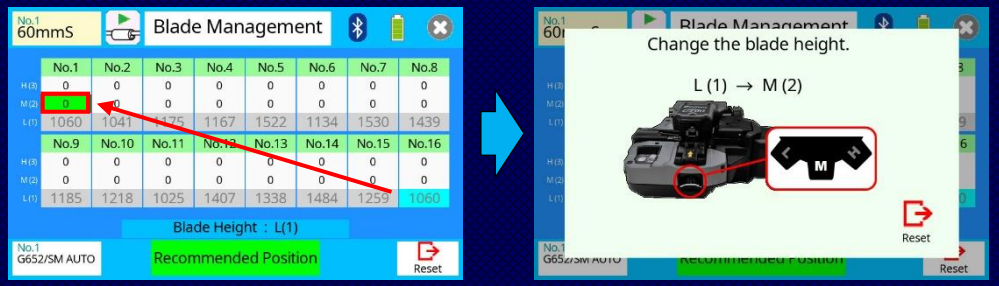




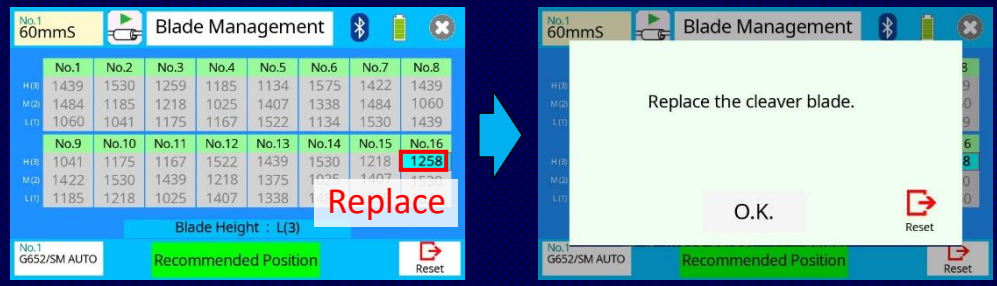
2. Active Blade life management

The 41S+ displays the remaining blade life and informs the user when a blade height change, blade position change, or new blade is required.

Blade position change



Blade height change

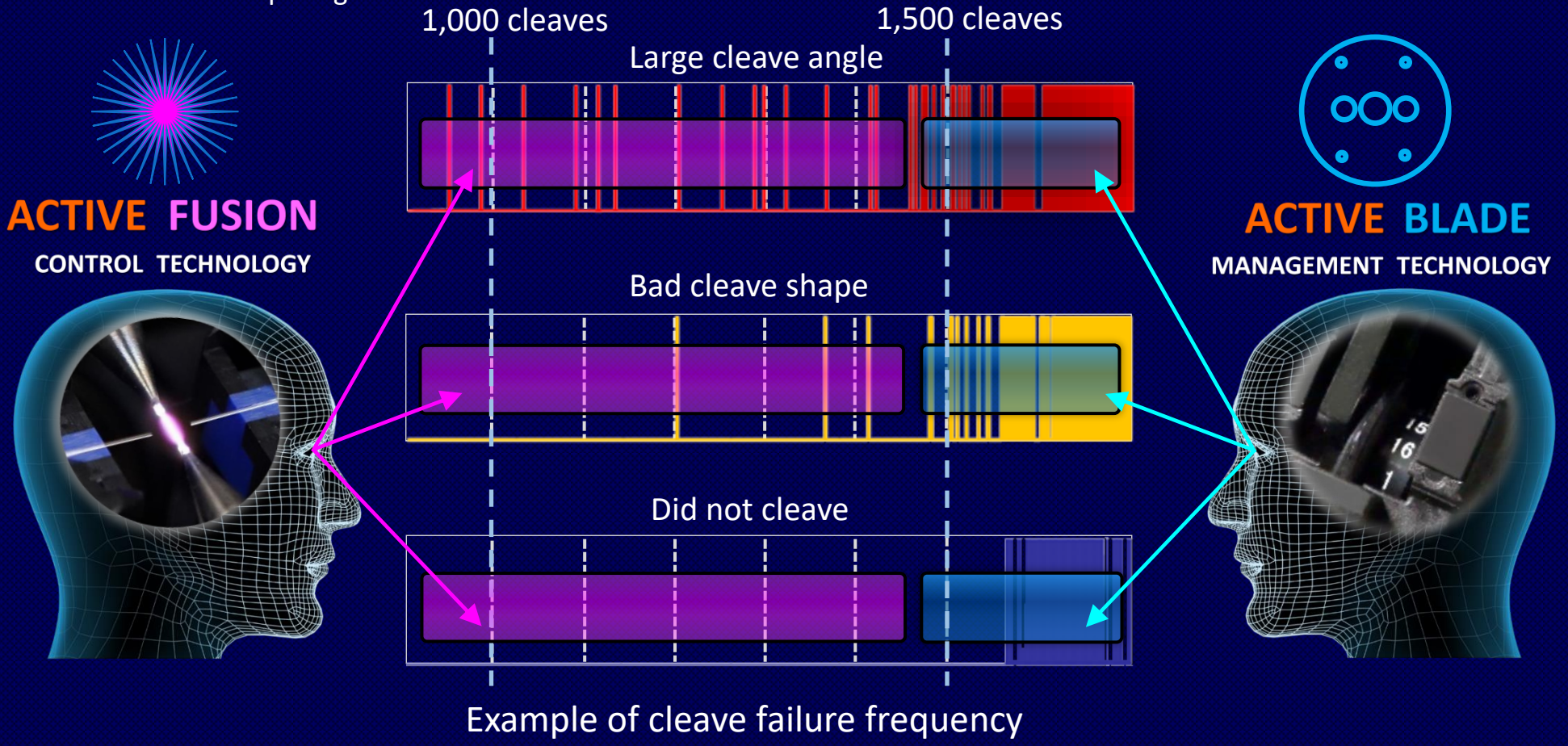


Blade replacement

Enhanced Splice Quality

The graphs below show the number of cleaves on the horizontal line with frequency of large cleave angle, bad cleave shape and failure to cleave. When the frequency of large cleave angle or other cleave problems increases, **Active Blade** Management Technology can detect this increasing ratio of poor cleaves and rotate the blade position automatically. **Active Blade** Management Technology therefore significantly reduces the frequency of poor quality cleaves. Even when a poor cleave is detected, the 41S+ compensates by using **Active Fusion** Control Technology to apply optimized fusion to reduce the incidence of high splice loss.

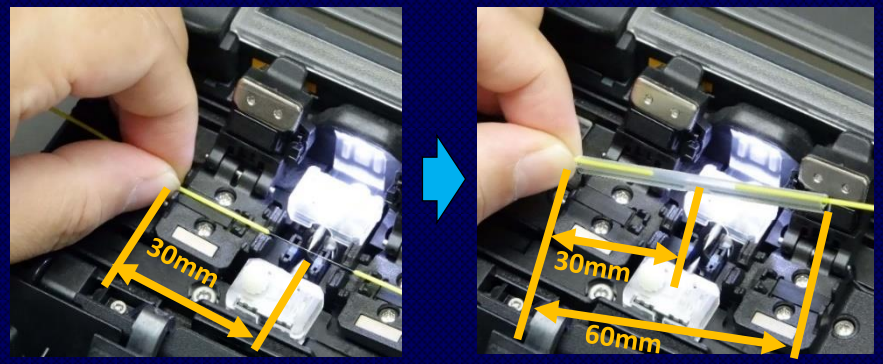
By using these 2 key technologies together, the 41S+ minimizes the occurrence of high splice loss and greatly reduces the need for rework and re-splicing.



User Friendly

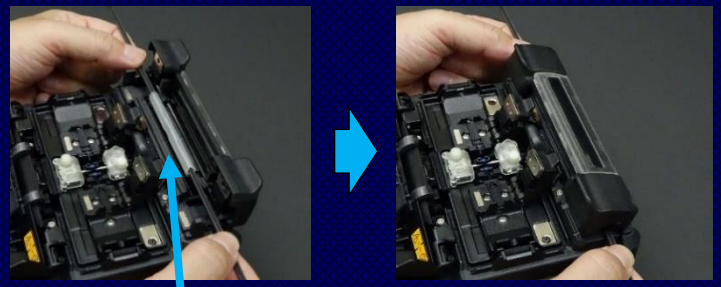
1. Easy Fiber Protection Sleeve Positioning

The shape of the sheath clamp is optimized for the 60mm length protection sleeve. The length from the splice point to the edge of the sheath clamp is 30mm. Therefore, it is easy to center the protection sleeve over the splice by using your finger as the reference point.



2. Universal Tube Heater

The 41S+ fusion splicer can accommodate splice sleeves with a diameter of up to 6.0mm. Therefore, it supports a wide range of protection sleeve sizes.

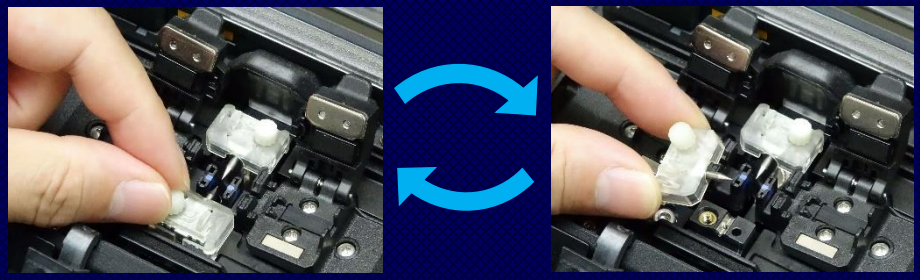


Max. 6.0mm diameter before shrinking

3. Easy replacement of consumable parts

3-1 Tool-less Electrodes replacement

The 41S+ electrodes comes as an assembly including electrode mounting fixture and thumb screw. The thumb screw is easily loosened or tightened by hand without tools. This enables easy electrode replacement.



Electrodes replacement without tools

3-2 User replaceable blade and clamp arm

The CT50 fiber cleaver has a user replaceable blade and clamp arm - there's no need to send the device to a service center for blade or clamp arm replacement.

Replaceable clamp arm Replaceable blade

4. Carrying Case

There are multiple ways to utilize the 41S+ carrying case. The 41S+ is ready to use just by opening the case, but the splicer with an included work tray can also be removed. The tray can be placed on top of the carrying case or other work surface, mounted it on a tripod, etc.

5. Work Tray

The work tray has a drawer which can slide open to expand the work area. The tray has convenient features such as a recess to lock an included alcohol dispenser in place to prevent it from falling.

Ready to use

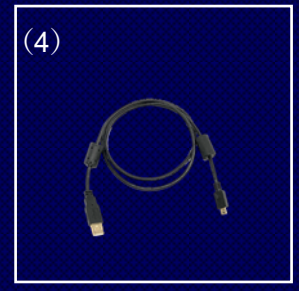
Splicing on the Carrying Case

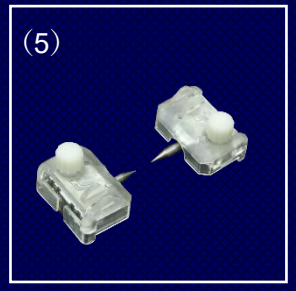
Expandable work tray structure

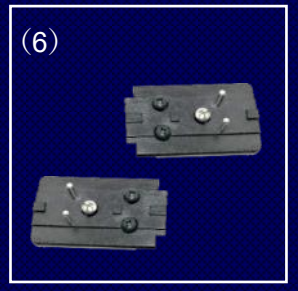
Stable aerial operation with belts

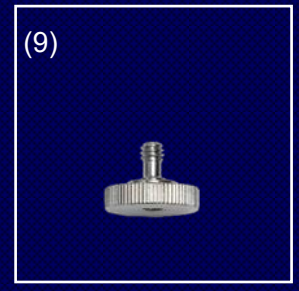
Standard Package

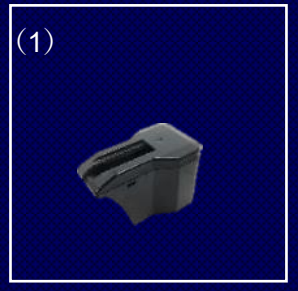
41S+ Standard Package

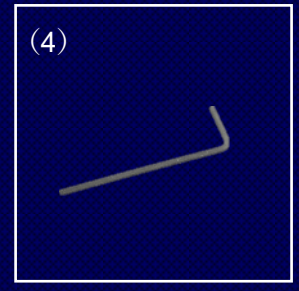












Item	Model	Qty
Clad Alignment Fusion Splicer	41S+	1 pc
(1) Battery Pack *	BTR-11A	1 pc
(2) AC Adapter	ADC-19A	1 pc
(3) AC Power Cord	ACC-08, 09, 10, 11 or 12	1 pc
(4) USB Cable	USB-01	1 pc
(5) Electrodes, for spare	ELCT2-16B	1 pair
(6) Fiber Holder Set Plate	SP-01	1 pair
(7) Carrying Case	CC-36	1 pc
(8) Work tray	WT-08	1 pc
(9) Tripod Screw	TS-03	1 pc
(10) Carrying Case Strap	ST-03	1 pc
(11) Alcohol Dispenser	AP-02	1 pc
(12) Quick Reference Guide	QRG-01-E	1 pc
(13) Instruction Manual	PDF file stored in Splicer	
Single Fiber Stripper	SS03	1 pc
Optical Fiber Cleaver	CT50	1 pc
(1) Fiber Scrap Collector	FDB-05	1 pc
(2) Fiber Setting Plate	AD-10-M24	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.

Specifications

41S+ 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
	Splice time *3	SM FAST mode : Avg. 6 to 7sec.
Applicable protection sleeve	Sleeve type	Heat shrinkable sleeve
	Sleeve length	Max. 66mm
	Sleeve dia.	Max. 6.0mm before shrinking
Sleeve heat performance	Heat time *4	60mm mode : Avg. 25 to 27sec.
Fiber tensile test force		Approx. 2.0N
Electrode life *5		Approx. 5000 splices
Physical description	Dimensions W	Approx.131mm without projection
	Dimensions D	Approx.201mm without projection
	Dimensions H	Approx.79mm without projection
	Weight	Approx. 1.3kg 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. 1.5A
Battery pack	Type	Rechargeable Lithium Ion
	Output	Approx. DC14.4V, 3190mAh
	Capacity *6	Approx. 200 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 4.9 inches with touch screen
	Magnification	Approx 132 to 300x
Illumination	V-grooves	LED lamp
Interface	PC	USB2.0 Mini B type
	External LED lamp	USB2.0 A type Approx. DC5V, 500mA
	Wireless *8	Bluetooth 4.1 LE
Data storage	Splice mode	100 splice modes
	Heat mode	30 heat modes
	Splice result	10000 splices
	Splice image	100 images
Screw hole for tripod		1/4-20UNC
Other features	Automatic functions	Fusion control
	Reference guide	PDF file stored in splicer
	Sheath clamp	Easy sleeve positioning clamp
	Electrode	Replaceable without tool

41S+ Options

Item	Model	Remark
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-S31B	900µm loose buffer cable
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

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 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.

*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.

Specifications

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		Existence
Other features	Blade rotation	Motorized rotation
		Manual rotation dial
	Replaceable parts	Blade
		Clamp arm

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	Spare 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

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.

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