

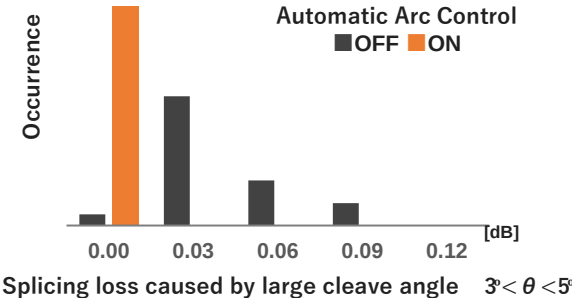
Telecommunication uses

Splicers	Core Alignment Fusion Splicer 100S Kit
	Mass Fusion Splicer 90R Kit series
	Clad Alignment Fusion Splicer 45S Kit
	Mass Fusion Splicer 41R Kit
Others	Splice+ Cloud Connectivity App
	Optical Fiber Identifier FID-30R/31R/32R



Not just ease of use.

Stable splicing quality with our standard features.



Optical fiber type and end-face condition are analyzed in real-time, and arc conditions are automatically adjusted for optimal performance. This ensures consistently low splice loss.



Detects blade worn position!
The blade condition is managed in real-time via Bluetooth. When worn position is detected, the blade automatically rotates to the next position, allowing work to be performed at the optimal position.

Standard Package

Item	Model	Qty
Core Alignment Fusion Splicer	100S	1pc
(1) Battery Pack *	BTR-19	1pc
(2) AC Adapter	ADC-22	1pc
(3) AC Power Cord	ACC-19	1pc
(4) USB Cable	USB-02	1pc
(5) Fusion Splicer Strap	ST-02	1pc
(6) Electrodes, for spare	ELCT2-16B	1pairs
(7) Fiber Holder Set Plate	SP-05	1pairs
(8) Carrying Case	CC-48	1pc
(9) Work Tray Left	WT-11L	1pc
(10) Work Tray Right	WT-11R	1pc
(11) Work Tray J-Plate	JP-11	1pc
(12) Tripod Screw (For splicer)	TS-04A	1pc
(13) Carrying Case Strap	ST-04	1pc
(14) Alcohol Dispenser	AP-02	1pc
(15) Instruction Manual	PDF file stored in Splicer	
Single Fiber Stripper	SS05	1pc
Optical Fiber Cleaver	CT60	1pc
(1) Fiber Scrap Collector	FDB-07	1pc
(2) Fiber Setting Plate	AD-60A	1pc
(3) Case, for cleaver	CC-49	1pc
(4) Hexagonal Wrench	HEX-01	1pc

*Please follow IATA regulation when shipping the battery by air.

Our after-sales service

Fujikura has a worldwide network of authorized distributors who have certified maintenance center. We provide comprehensive after-sales service, including usage assistance and repair services, this ensures our products maximum lifetime.



Core Alignment Fusion Splicer
100S



Innovation at your fingertips

Fujikura Ltd.

Issue date : October 2025

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Telecommunication Systems Business Unit
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Inquiry from
here→

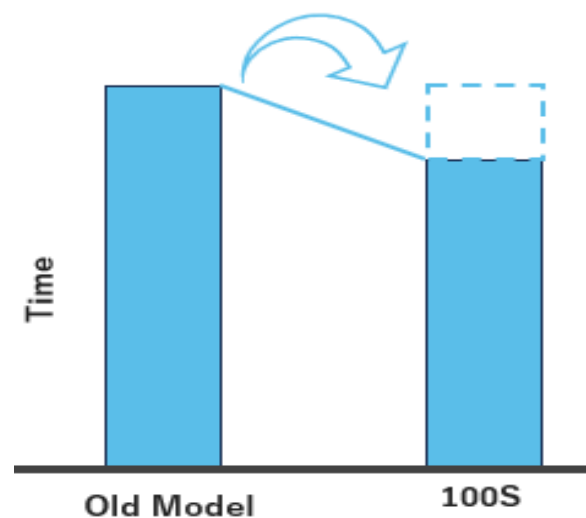


<https://www.optic-product.fujikura.com/jp/>

Core Alignment Fusion Splicer 100S

Faster, easier, changing the field use with advanced fusion splicers.

Achieved **20%** faster operation



Simultaneous Optical fiber preparation.



Stripping

The single fiber stripper SS05 can strip two optical fibers at the same time



Cleaving

The optical fiber cleaver CT60 can cleave two optical fibers simultaneously.



Setting

When setting the optical fibers, the clamp cover closes automatically, allowing two optical fibers to be set simultaneously.

Simplified optical fiber set using the finger placement guide

A V-shaped guide has been added to the optical fiber setting area. By aligning your finger with the guide, it has become easier to place the optical fiber accurately.



Finger placement guide

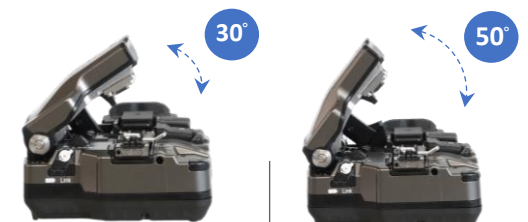
Wind protector with automatic open and close function

After setting the optical fiber, the wind protector closes automatically and opens automatically once the splicing process finishes.



Adjustable lever opening angles

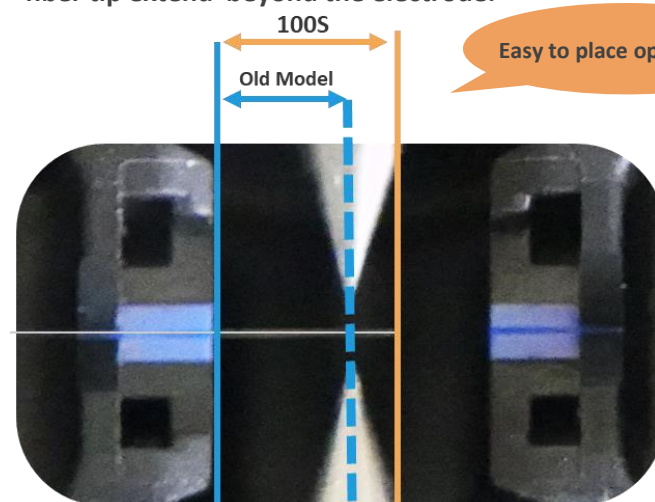
By adjusting the lever opening angle, it is easy to use in various situations, whether on a tabletop or handheld.



Optical fiber cleaver, CT60

Expanded allowable range for optical fiber setting

It is possible to splice even when the optical fiber tip extend beyond the electrode.



Increased number of blade positions.

By increasing the number of blade positions from 16 to 28 compared to the previous model, no need for blade height adjustment anymore.



Blade, CB-10



For external illumination

AC Adapter

Linked with smartphone app

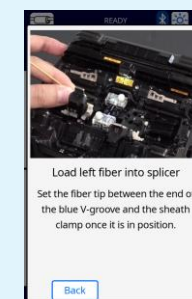
With the app Splice+, you can view the location information and splice results. Additionally, it is equipped with a locking function to prevent theft.



DOWNLOAD ⇒

Splice Coach function

Step-by-step instructions appear on the screen, allowing for seamless and confident work.



Compatible with mobile batteries*

Supports charging via standard mobile batteries, ensuring reliability even during sudden power loss.

Please confirm that any mobile battery connected to this product meets USB PD standards and adhere to the mobile battery's precautions. Do not use mobile batteries that are incompatible with this machine.

User-friendly features

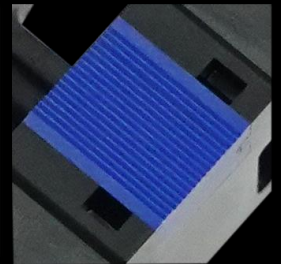
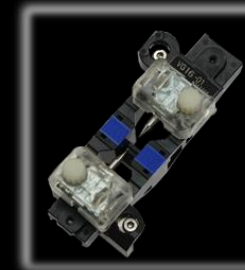
GPS

Location information acquired via GPS at the time of splicing is saved in memory. It helps with daily workflow management.

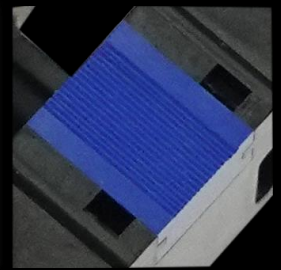
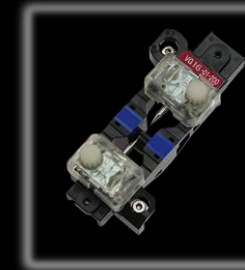
Mass Fusion Splicer **90R** kit series

Replaceable V-groove

Up to 16F



250µm fiber spacing



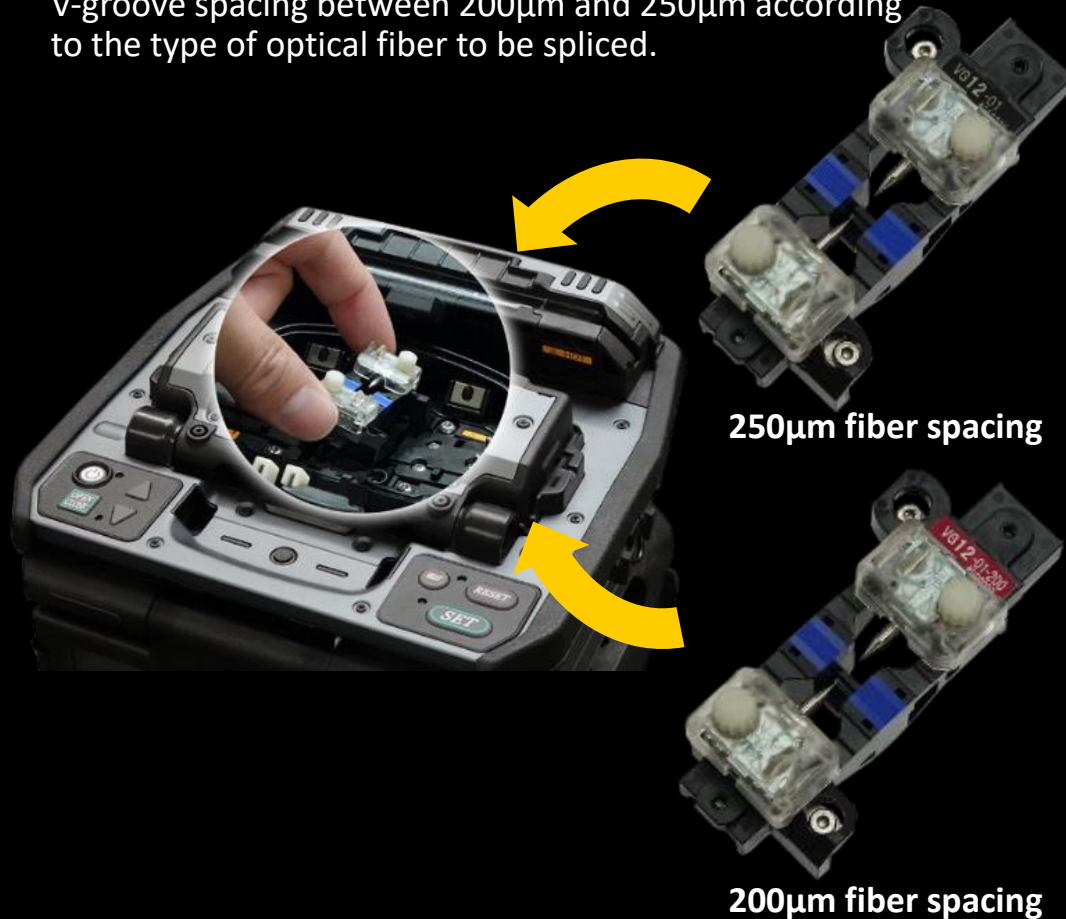
200µm fiber spacing



Cutting-edge Feature

1. Replaceable 200 μ m/250 μ m spacing V-groove 2. Minimizing the downtime on the field

The 90R features an easily replaceable V-groove system, which allows customers to install and remove the V-groove very quickly. Almost all ribbon cables that have already been installed contain ribbons with fibers that have 250 μ m coating and therefore a 250 μ m fiber-to-fiber spacing. But with increasing cable densities, cable installations with 200 μ m coated fibers at a 200 μ m spacing is increasing. The 90R user can splice various types (and combination) of ribbon fiber by switching the V-groove spacing between 200 μ m and 250 μ m according to the type of optical fiber to be spliced.



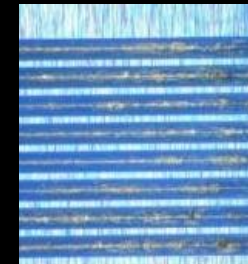
Accumulation of dust and melted glass on the V-groove is one of the causes of high splice loss during fusion splicing. The 90R includes a spare set of 12 fiber V-grooves with electrodes installed and ready to splice as part of the standard package. These spare V-grooves are field replaceable, so user downtime is minimized. The electrodes are pre-stabilized, so electrode stabilization is not required.

Glass deposition on Electrode Glass deposition on V-groove



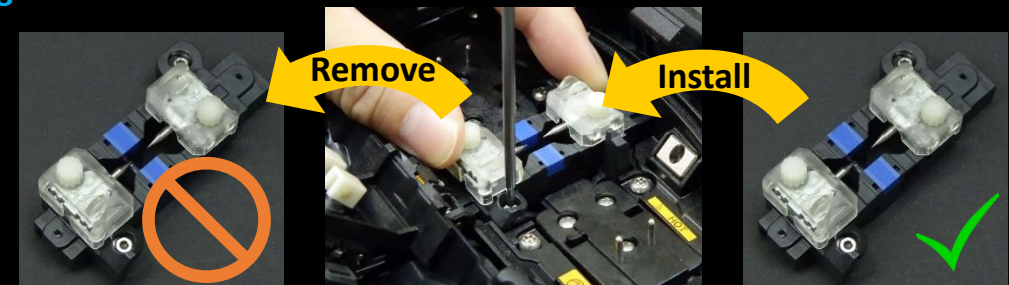
Cause of Large Fiber Offset

No.	Gap (μ m)	Offset (μ m)	Cleave L ($^\circ$)	Cleave R ($^\circ$)
1	68	0.9	1.4 $^\circ$	1.9 $^\circ$
2	63	0.3	0.5 $^\circ$	1.1 $^\circ$
3	55	1.3	0.7 $^\circ$	0.9 $^\circ$
4	54	5.2	1.7 $^\circ$	1.2 $^\circ$
5	54	0.4	1.3 $^\circ$	0.4 $^\circ$
6	62	1.1	0.4 $^\circ$	0.7 $^\circ$
7	48	1.2	1.9 $^\circ$	0.3 $^\circ$
8	48	2.7	1.0 $^\circ$	1.5 $^\circ$
9	48	0.8	1.9 $^\circ$	0.1 $^\circ$
10	43	6.7	0.9 $^\circ$	0.3 $^\circ$
11	42	0.7	0.4 $^\circ$	1.8 $^\circ$
12	40	2.8	2.0 $^\circ$	0.5 $^\circ$



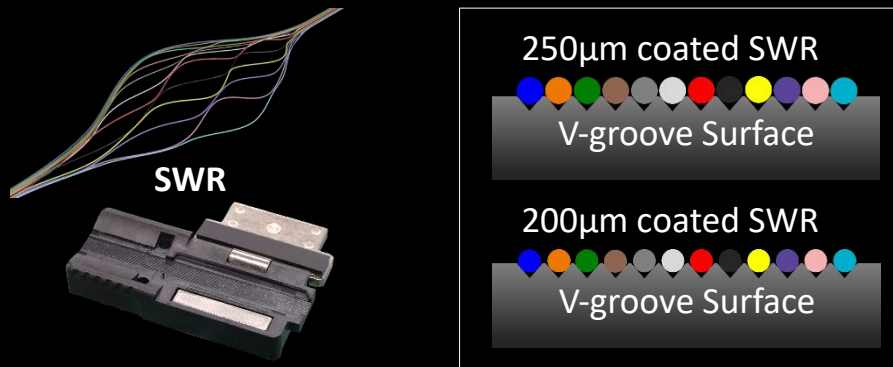
Glass deposited V-groove and electrodes

Spare V-groove with stabilized electrodes



3. Universal Fiber Holder

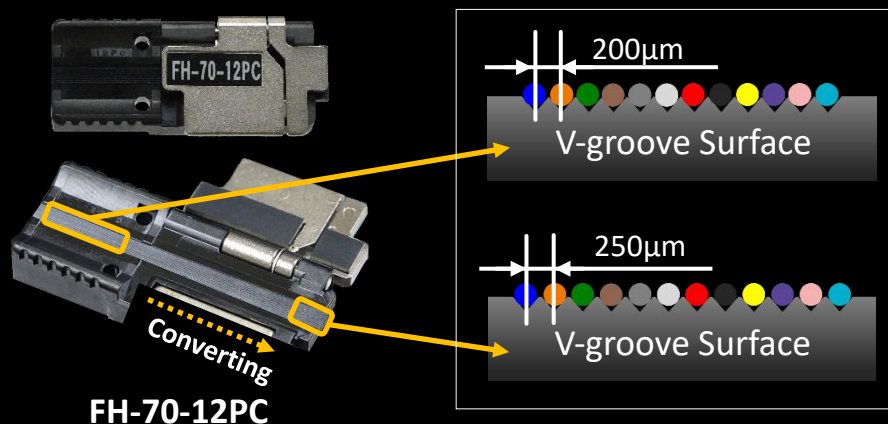
The FH-70-12 fiber holder is compatible with many types of 12 fiber ribbon, such as 0.3mm or 0.4mm thick encapsulated ribbons and 200μm or 250μm coated Spider Web Ribbon (SWR). The 250μm spacing V-grooves in the FH-70-12 fiber holder simplify SWR loading and ribbon preparation.



FH-70-12

4. Pitch Conversion Fiber Holder

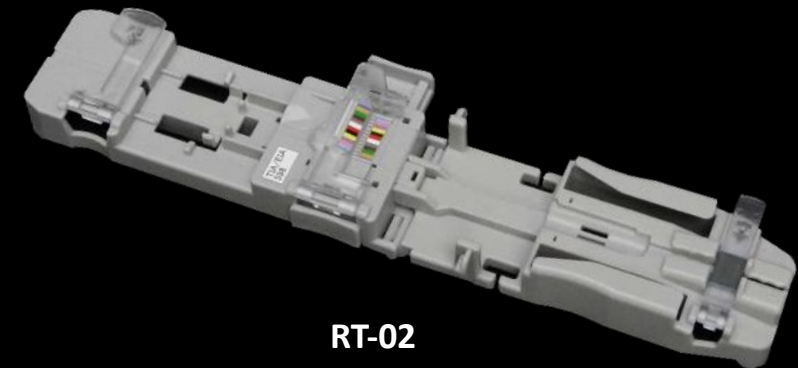
The pitch conversion fiber holder, FH-70-12PC, enables pitch conversion of individual 200μm coated fibers from a 200μm to 250μm spacing. It also enables many ribbons with 200μm spacing to be converted to 250μm spacing so they can be loaded into the standard 90R 250μm V-groove.



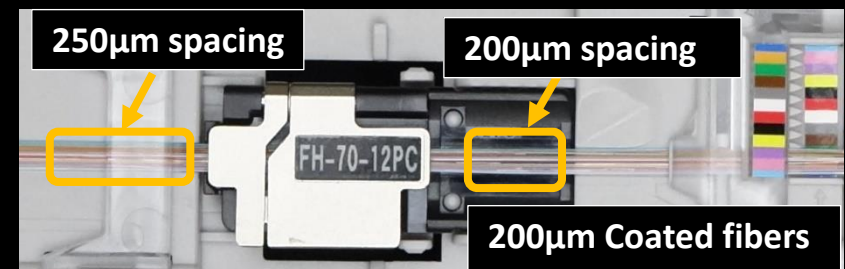
FH-70-12PC

5. Ribbonizing Tool

The RT-02 is a tool which enables quick and easy ribbonization of 12 individual fibers into a temporary ribbon which can be spliced using a 90R. No glue or adhesive is required when using this ribbonizing tool since the arranged fibers are immediately loaded into the fiber holder. The RT-02 doesn't require the user to insert the fibers in the color code sequence, which is necessary with other ribbon arrangement tools. The user can choose any fiber at random and place it in the correct slot by referring to the color code label on the tool. The RS-02 is applicable to ribbonize both 200μm and 250μm coated fibers. It's also capable of ribbonizing 200μm coated fibers into 250μm spacing ribbon using the FH-70-12PC pitch conversion fiber holder or a 200μm spacing using the "Red Label" FH-70-12-200 (200μm spacing) fiber holder.

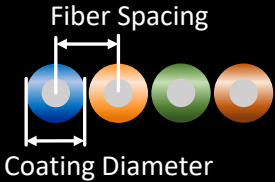


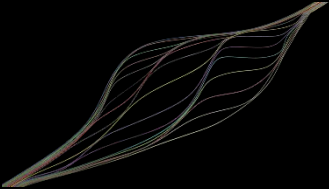
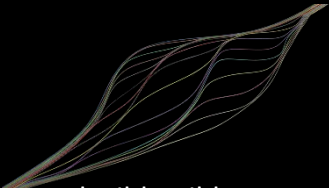
RT-02



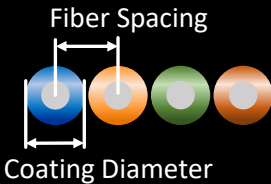
Ribbonizing 200μm coated fiber at a 250μm pitch

6. 90R16 Accessories Enable Splicing any Combination of 250μm and 200μm Ribbon



Coating Diameter	Fiber Spacing	Ribbon Structure	Replaceable V-groove	Fiber Holder
250μm	—	 Single fibers	 VG16-01-250  250μm	 FH-70-16
	250μm	 Encapsulated ribbon		
200μm	250μm	 Flexible Ribbon		
200μm	—	 Single fibers	 VG16-01-200  200μm	 FH-70-16-200
	200μm	 Encapsulated ribbon		
		 Flexible Ribbon		

7. 90R12 Accessories Enable Splicing any Combination of 250μm and 200μm Ribbon



Coating Diameter	Fiber Spacing	Ribbon Structure	Replaceable V-groove	Fiber Holder
250μm	—	 Single fibers	 VG12-01	 FH-70-12
200μm	250μm	 Encapsulated ribbon		
		 Flexible Ribbon		
200μm	—	 Single fibers	 250μm	 FH-70-12PC
	200μm ↓ 250μm	 Encapsulated ribbon		
		 Single fibers		
		 Flexible Ribbon		
200μm	200μm	 Single fibers	 VG12-01-200	 FH-70-12-200
		 Encapsulated ribbon		
		 Flexible Ribbon		

Well-developed operability

1. Carrying Case

There are multiple ways to utilize the 90R carrying case. The 90R is ready to use just by opening the case, but it is also possible to use the 90R on top of the carrying case or only with the work tray depending on the work environment.

Ready to use



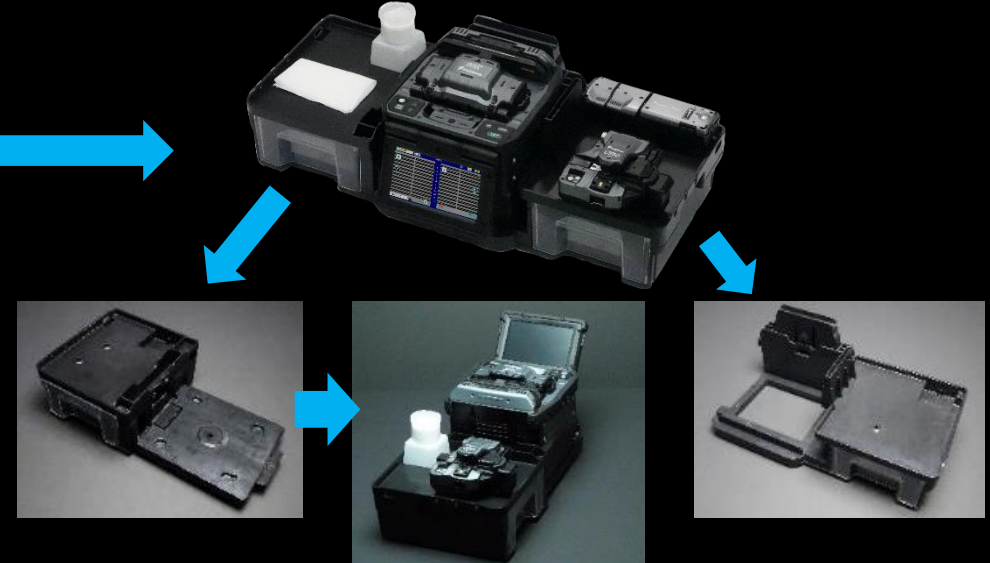
Large storage space under work tray

Lid of carrying case becomes a work tray

2. Work Tray

The work tray has many functions. There are two drawers for storage which are large enough to store tools or battery packs. Also, the work tray can be divided in two, so it is configurable to fit your work space.

Separable Work Tray



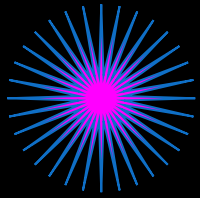
Cleaver & Stripper



Battery packs

Plenty of space in work tray

Active Fusion Control Technology



ACTIVE FUSION

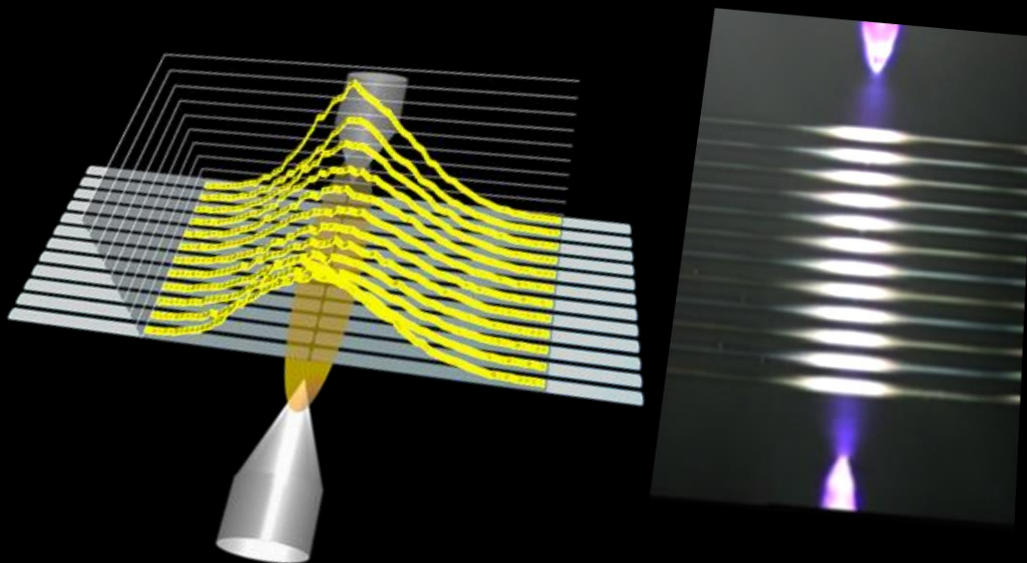
CONTROL TECHNOLOGY

The 90R features ACTIVE FUSION CONTROL TECHNOLOGY which has two key components. This function enables stable fusion splicing with a wide variety of optical fibers and field conditions.

1. Active Fusion control by Real-time

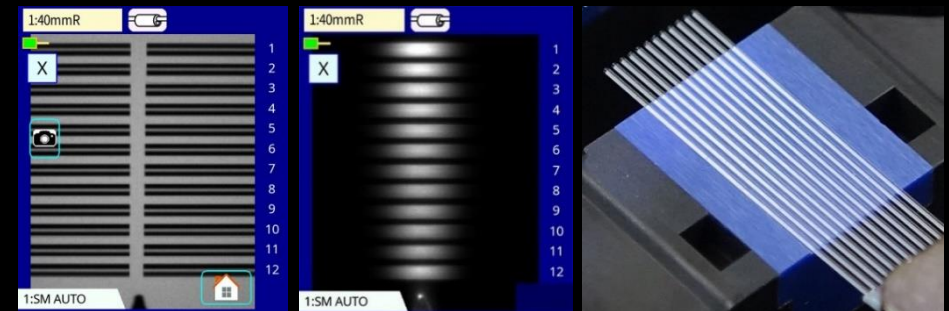
The 90R mass fusion splicer uses a wide electrode gap and heats the ribbon fibers uniformly. It features real-time fusion power control by analyzing the fiber's brightness intensity during the splicing arc. Therefore, it can splice the fiber by appropriate fusion parameters.

The 90R does not have active core alignment mechanisms, however, during the fusion, fiber surface tension effects minimize preexisting offsets.

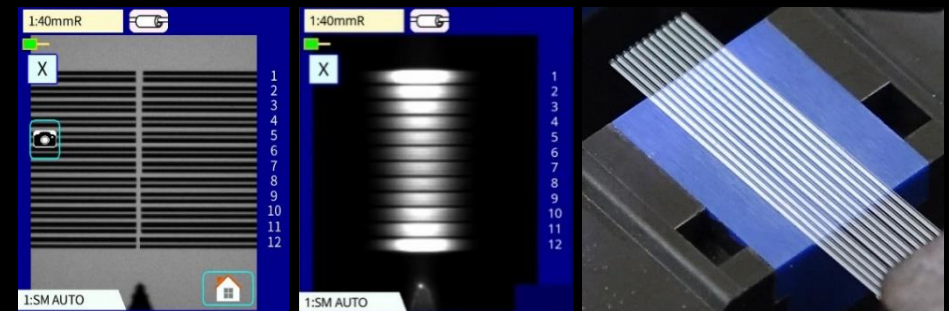


2. Active Fusion control by V-groove and fiber count

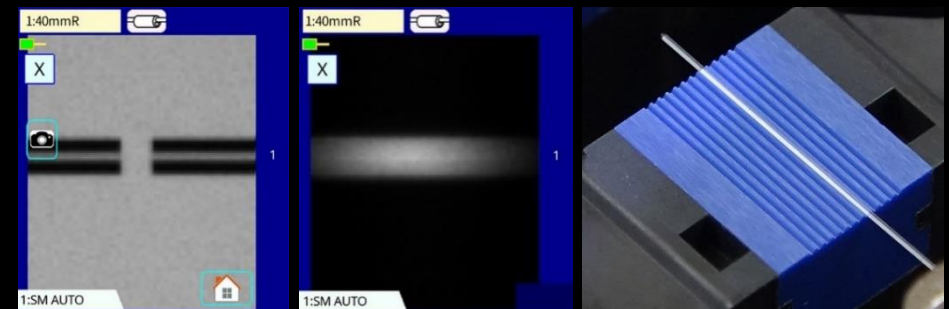
The 90R automatically determines the appropriate fusion splicing parameters according to the ribbon fiber count and the installed V-groove spacing.



250µm fiber spacing / 12-fiber ribbon

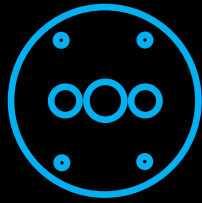


200µm fiber spacing / 12-fiber ribbon



Single fiber

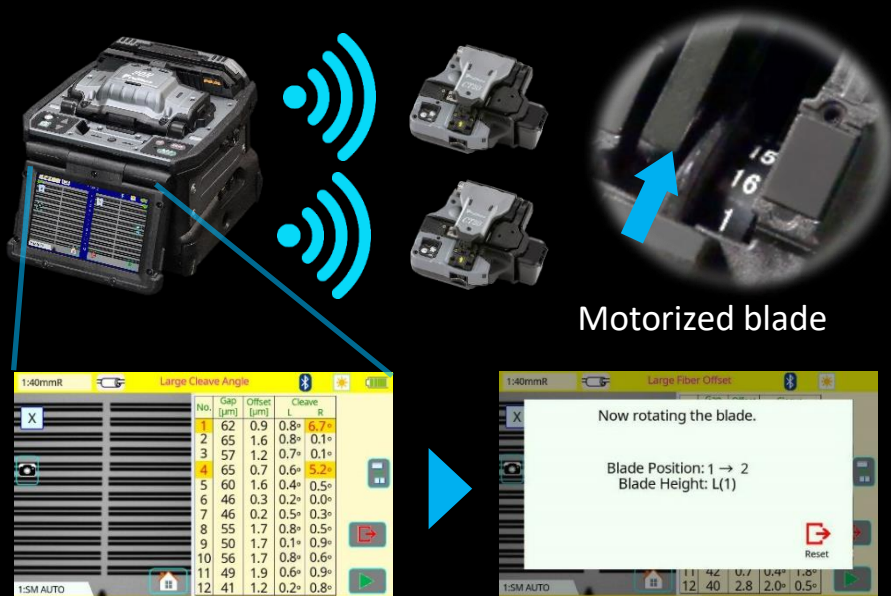
Active Blade Management Technology



ACTIVE BLADE MANAGEMENT TECHNOLOGY

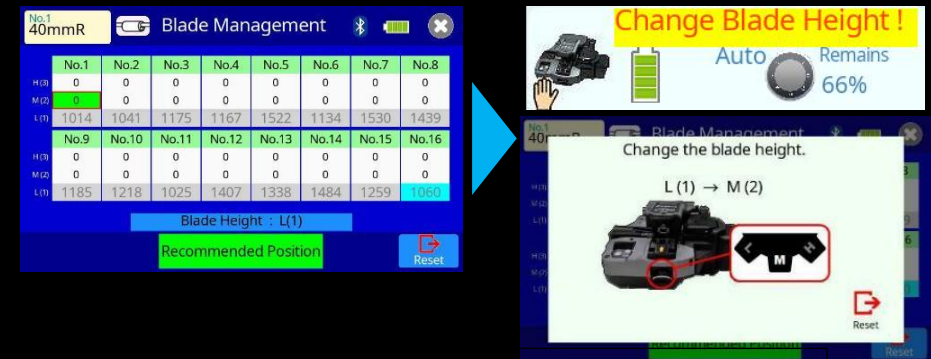
1. Active Blade rotation by motor

The 90R and CT50 fiber cleaver are provided with wireless data connectivity. This capability allows automatic cleaver blade rotation when the 90R judges the blade is worn. The 90R can be connected to two CT50 cleavers simultaneously.



2. Active Blade life management

The 90R displays the remaining blade life and informs the user when a blade height change, position change, or new blade is required.



3. Stripping Condition Control

When the user changes the splice mode, e.g. from 12 fiber ribbon splice mode to SWR fiber splice mode, a wireless command from the splicer automatically changes the ribbon stripper RS03 heating temperature and time.

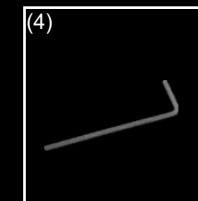
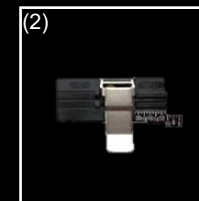
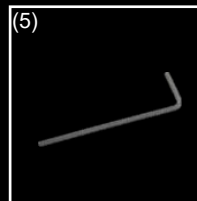
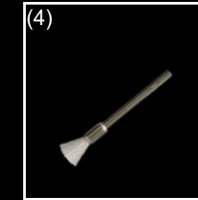
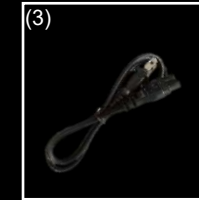
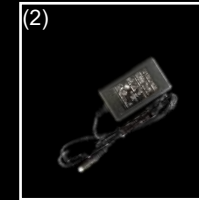
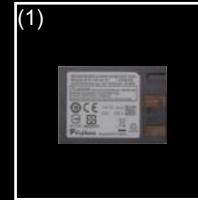
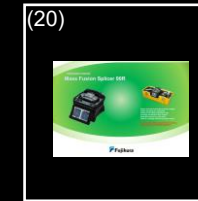
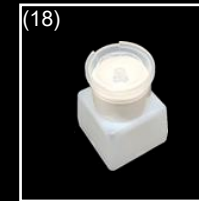
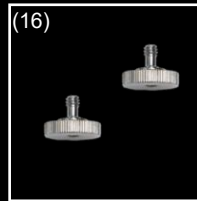
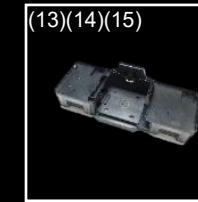
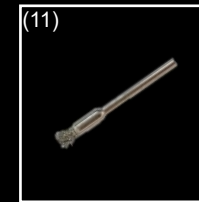
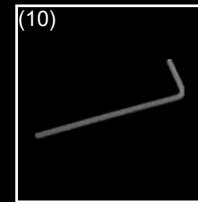
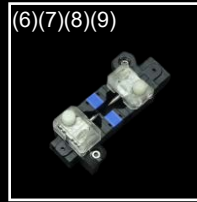
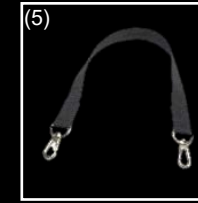
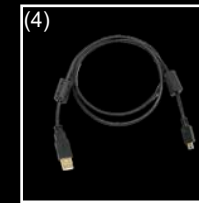
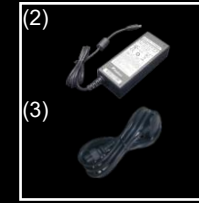
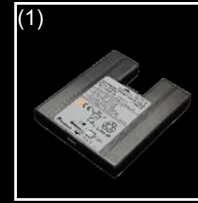


Standard Package



Item	Model	90R16	90R12
Mass Fusion Splicer	90R16	1 pc	—
	90R12	—	1 pc
(1) Battery Pack *	BTR-15	1 pc	
(2) AC Adapter	ADC-20	1 pc	
(3) AC Power Cord	ACC-14, 15, 16, 17 or 18	1 pc	
(4) USB Cable	USB-01	1 pc	
(5) Fusion Splicer Strap	ST-02	1 pc	
(6) Electrodes, on spare V-groove	ELCT2-16B	2 pair	1pair
(7) 16 fiber V-groove, spare	VG16-01, 250 to 255μm spacing	1 pc	—
(8) 16 fiber V-groove, spare	VG16-01-200, 200 to 210μm spacing	1 pc	—
(9) 12 fiber V-groove, spare	VG12-01, 250 to 255μm spacing	—	1 pc
(10) Hexagonal Wrench	HEX-01	1 pc	
(11) V-groove Cleaning Brush	VCB-01	1 pc	
(12) Carrying Case	CC-39	1 pc	
(13) Work Tray Left	WT-09L	1 pc	
(14) Work Tray Right	WT-09R	1 pc	
(15) Work Tray J-Plate	JP-09	1 pc	
(16) Tripod Screw	TS-03	2 pcs	
(17) Carrying Case Strap	ST-03	1 pc	
(18) Alcohol Dispenser	AP-02	1 pc	
(19) Quick Reference Guide	QRG-03-E	1 pc	
(20) Instruction Manual	PDF file stored in Splicer RS03		
Ribbon Fiber Stripper	RS03	1 pc	
(1) Battery Pack *	BTR-12A	1 pc	
(2) AC Adapter	ADC-09A	1 pc	
(3) AC Power Cord	ACC-08, 09, 10, 11 or 12	1 pc	
(4) Blade Cleaning Brush	BRS-02	1 pc	
(5) Hexagonal Wrench	HEX-01	1 pc	
Single Fiber Stripper	SS03 or SS01	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

90R16 Specifications



Item		Specification
Fiber alignment method		Self cladding alignment with surface melting tension
Fiber count can be spliced		90R16 : Single and up to 16 fiber ribbon
Applicable fiber	Fiber type	Single mode optical fiber
	Cladding dia.	Multi mode optical fiber
Applicable coating	Fiber holder	Coating shape : Refer to options
		Cleave length : Approx.10mm
Fiber splice performance	Splice loss *1	ITU-T G.652 : Avg. 0.05dB
		ITU-T G.651 : Avg. 0.02dB
		ITU-T G.653 : Avg. 0.08dB
		ITU-T G.655 : Avg. 0.08dB
		ITU-T G.657 : Avg. 0.05dB
	Splice time *2	SM FAST mode : Avg. 17 to 18sec. SM AUTO mode : Avg. 20 to 21sec.
Applicable protection sleeve	Sleeve type	Heat shrinkable sleeve
	Sleeve length	Max. 66mm
	Sleeve dia.	Max. 6.0mm before shrinking
Sleeve heat performance	Heat time *3	40mm FP-05 mode : Avg. 38 to 40sec.
		40mm FP-04T FAST mode : Avg. 17 to 19sec.
		Single 60mm mode: Avg. 13 to 15sec.
Fiber tensile test force		Approx. 2.0N
Electrode life *4		Approx. 800 splices
Physical description	Dimensions W	Approx.170mm without projection
	Dimensions D	Approx.173mm without projection
	Dimensions H	Approx.150mm without projection
	Weight	Approx. 2.6kg 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
AC adaptor	Altitude	Max. 2000m
	Input	AC100 to 240V, 50/60Hz, Max. 1.5A
Battery pack	Type	Rechargeable Lithium Ion
	Output	Approx. DC14.4V, 6380mAh
	Capacity *5	Approx. 130 splice and heat cycles
	Temperature	Recharge : 0 to 40°C Long Term Storage : -20 to 30°C
	Battery life *6	Approx. 500 recharge cycles
Display	LCD monitor	TFT 4.9 inches with touch screen
	Magnification	Approx. 15X : 16 ribbon to 60X : single
Illumination	V-grooves	LED lamp
Interface	PC	USB2.0 Mini B type
	External LED lamp	USB2.0 A type Approx. DC5V, 500mA
	Ribbon Stripper	Mini DIN 6pin DC12V, Max. 1A
	Wireless *7	Bluetooth 4.1 LE
	Splice mode	100 splice modes
Data storage	Heat mode	30 heat modes
	Splice result	10000 splices
	Splice image	100 images
Screw hole for tripod		1/4-20UNC
Other features	Automatic functions	Splice mode select by fiber count analysis
		Fusion power calibration
		Wind protector : open and close
		Heater lid : open and close
		Heater clamp : open and close
Reference guide	Video and PDF file stored in splicer	
Electrode	Replaceable without tool	

90R16 Options

Item	Model	Remark
V-groove	VG12-01-200	12 fiber ribbon, 200 to 210μm spacing
	VG16-01-200	16 fiber ribbon, 200 to 210μm spacing
Fiber holder	FH-70-200	200μm coating diameter
	FH-70-250	250μm coating diameter
	FH-70-900	900μm coating diameter
	FH-70-2	2 fiber ribbon
	FH-70-4	4 fiber ribbon
	FH-70-8	8 fiber ribbon
	FH-70-10	10 fiber ribbon
	FH-70-12	12 fiber ribbon
	FH-70-16	16 fiber ribbon
	FH-70-12PC	Pitch conversion for 12 fiber ribbon
	FH-70-16PC	Pitch conversion for 16 fiber ribbon
	FH-70-12-200	12 fiber ribbon, 200 to 210μm spacing
	FH-70-16-200	16 fiber ribbon, 200 to 210μm spacing
	FH-FC-20	900μm in 2mm diameter cable
DC adapter	FH-FC-30	900μm in 3mm diameter cable
	FH-60-LT900	900μm loose buffer cable
	DCA-03	Connect AC adapter not through battery
DC power cord	DCC-20	Car cigar socket to BTR-15/DCA-03
	DCC-21	Car battery to BTR-15/DCA-03
	DCC-11	Splicer to ribbon stripper
Ribbonizing tool	FAT-04	2 to 16 fibers, 250μm diameter
Transfer Ccamp	CLAMP-DC-12	Transferring drop cable on work tray
J-Plate	JP-10	Attaching to splicer, not to work tray
	JP-10-FC	JP-10 with fiber clamps
Protection sleeve	FP-04(T)	40mm, up to 8 fiber ribbon
	FP-05	40mm, up to 12 fiber ribbon

Notes

*1 Measured with a cut-back method after splicing the same type of fibers.

*2 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.

*3 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.

*4 The electrode life changes depending on the environmental conditions, fiber type and splice modes.

*5 Test condition

(1) 16 fiber ribbon : Splice and heat time : 3.5 minutes cycle with FP-05 sleeve

(2) Using the splicer power save settings, subject to our testing condition.

(3) Using a not degraded battery

(4) At room temperature

(5) Without accessories, RS03 etc., that use the power supply of the fusion splicer

The battery capacity changes when testing with different conditions from the above.

*6 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.

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Specifications

90R12 Specifications



Item		Specification
Fiber alignment method		Self cladding alignment with surface melting tension
Fiber count can be spliced		90R12 : Single and up to 12 fiber ribbon
Applicable fiber	Fiber type	Single mode optical fiber
	Cladding dia.	Multi mode optical fiber Approx.125μm
Applicable coating	Fiber holder	Coating shape. : Refer to options
		Cleave length : Approx.10mm
Fiber splice performance	Splice loss *1	ITU-T G.652 : Avg. 0.05dB
		ITU-T G.651 : Avg. 0.02dB
		ITU-T G.653 : Avg. 0.08dB
		ITU-T G.655 : Avg. 0.08dB
		ITU-T G.657 : Avg. 0.05dB
Applicable protection sleeve	Splice time *2	SM FAST mode : Avg. 16 to 17sec. SM AUTO mode : Avg. 19 to 20sec.
	Sleeve type	Heat shrinkable sleeve
	Sleeve length	Max. 66mm
Sleeve heat performance	Sleeve dia.	Max. 6.0mm before shrinking
	Heat time *3	40mm FP-05 mode : Avg. 38 to 40sec.
		40mm FP-04T FAST mode : Avg. 17 to 19sec.
Single 60mm mode: Avg. 13 to 15sec.		
Fiber tensile test force		Approx. 2.0N
Electrode life *4		Approx. 1500 splices
Physical description	Dimensions W	Approx.170mm without projection
	Dimensions D	Approx.173mm without projection
	Dimensions H	Approx.150mm without projection
	Weight	Approx. 2.6kg 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. 3700m
AC adaptor	Input	AC100 to 240V, 50/60Hz, Max. 1.5A
Battery pack	Type	Rechargeable Lithium Ion
	Output	Approx. DC14.4V, 6380mAh
	Capacity *5	Approx. 165 splice and heat cycles
	Temperature	Recharge : 0 to 40°C Long Term Storage : -20 to 30°C
	Battery life *6	Approx. 500 recharge cycles
Display	LCD monitor	TFT 4.9 inches with touch screen
Illumination	Magnification	Approx. 20X : 12 ribbon to 60X : single
	V-grooves	LED lamp
Interface	PC	USB2.0 Mini B type
	External LED lamp	USB2.0 A type Approx. DC5V, 500mA
	Ribbon Stripper	Mini DIN 6pin DC12V, Max. 1A
	Wireless *7	Bluetooth 4.1 LE
	Data storage	Splice mode
Heat mode		30 heat modes
Splice result		10000 splices
Splice image		100 images
Screw hole for tripod		1/4-20UNC
Other features	Automatic functions	Splice mode select by fiber count analysis
		Fusion power calibration
		Wind protector : open and close
		Heater lid : open and close
Reference guide	Heater clamp : open and close	
	Video and PDF file stored in splicer	
Electrode	Replaceable without tool	

90R12 Options

Item	Model	Remark
V-groove	VG12-01-200	12 fiber ribbon, 200 to 210μm spacing
	FH-70-200	200μm coating diameter
	FH-70-250	250μm coating diameter
	FH-70-900	900μm coating diameter
	FH-70-2	2 fiber ribbon
	FH-70-4	4 fiber ribbon
	FH-70-8	8 fiber ribbon
	FH-70-10	10 fiber ribbon
	FH-70-12	12 fiber ribbon
	FH-70-12PC	Pitch conversion for 12 fiber ribbon
	FH-70-12-200	12 fiber ribbon, 200 to 210μm spacing
	FH-FC-20	900μm in 2mm diameter cable
Fiber holder	FH-FC-30	900μm in 3mm diameter cable
	FH-60-LT900	900μm loose buffer cable
DC Adapter	DCA-03	Connect AC adapter not through battery
DC power cord	DCC-20	Car cigar socket to BTR-15/DCA-03
	DCC-21	Car battery to BTR-15/DCA-03
	DCC-11	Splicer to ribbon stripper
Ribbonizing Tool	FAT-04	2 to 16 fibers, 250μm diameter
Transfer Clamp	CLAMP-DC-12	Transferring drop cable on work tray
J-Plate	JP-10	Attaching to splicer, not to work tray
	JP-10-FC	JP-10 with fiber clamps
Protection sleeve	FP-04(T)	40mm, up to 8 fiber ribbon
	FP-05	40mm, up to 12 fiber ribbon

Notes

*1 Measured with a cut-back method after splicing the same type of fibers.

*2 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.

*3 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.

*4 The electrode life changes depending on the environmental conditions, fiber type and splice modes.

*5 Test condition

(1) 12 fiber ribbon : Splice and heat time : 2 minutes cycle with FP-05 sleeve

(2) Using the splicer power save settings, subject to our testing condition.

(3) Using a not degraded battery

(4) At room temperature

(5) Without accessories ,RS03 etc., that use the power supply of the fusion splicer

The battery capacity changes when testing with different conditions from the above.

*6 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.

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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
		AD-16A : Max. 900μm coating diameter 1 fiber + Max. 250μm coating diameter 1 fiber
	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
		AD-16A : 5~20mm *1
	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		Equipped
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
	AD-16A	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.
- *5 Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

RS03 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
	Coating dia.	200 to 400μm
Stripping length		Max. 35mm
Heat time *1		Approx. 3sec
Heat temperature		Approx. 5sec with Eco-mode 85 to 140 °C
Physical description	Dimensions W	Approx.156mm without projection
	Dimensions D	Approx.49mm without projection
	Dimensions H	Approx.37mm without projection
	Weight	Approx. 265g 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
AC adaptor	Input	AC100 to 240V, 50/60Hz, Max. 0.58A
DC input		DC10 to 17V, Approx. 1A
Battery pack	Type	Rechargeable Lithium Ion
	Output	Approx. DC7.2V, 1840mAh
	Capacity *2	Approx. 600 times with Eco-mode
	Temperature	Operate : -10 to 50°C
		Recharge : 0 to 40°C
		Long Term Storage : -20 to 30°C
	Battery life *3	Approx. 500 recharge cycles
Wireless interface *4		Bluetooth 4.1 LE
Other features	Stripping force	Lower stripping force design
	Automatic heat setting	Controlled from splicer or smartphone

RS03 Options

Item	Model	Remark
Spacer	SPA-RS02-08	Coating length 8mm
DC power cord	DCC-11	Splicer to ribbon fiber stripper

Notes

- *1 Measured at room temperature. The heat time changes depending on the environmental conditions and fiber coating type.
- *2 Tested at room temperature with a not degraded battery and Eco-mode. The number of cycles changes depending on the environmental conditions, stripper settings and battery degrading condition.
- *3 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.
- *4 Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

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Clad Alignment Fusion Splicer

45S



The Essential Splicer

Faster operation
User-friendly design
Consistent quality

 **Fujikura**

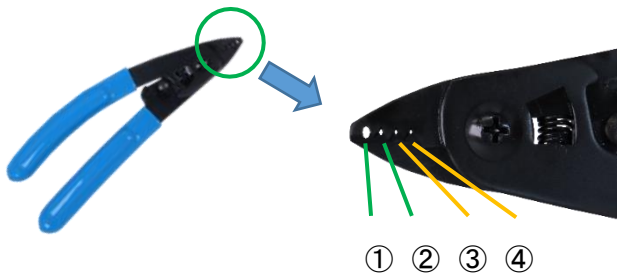
Faster operation

■ 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 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

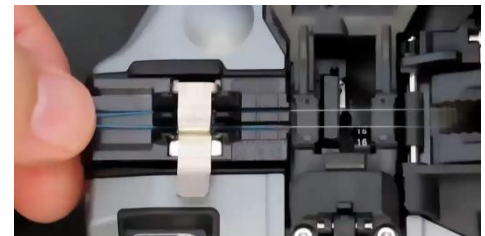
The SS05 fiber stripper is equipped with four blades: ① for 2mm/3mm, ② for 900μm, ③④ for 250μm fibers. Using blades ③ & ④ allows simultaneous stripping of 250μm fibers.



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

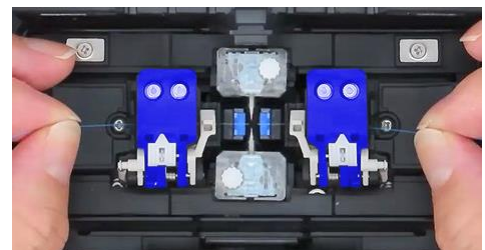
Previous fusion splicers required two-handed operation to close fiber clamp and hold the fiber. Thanks to a new clamp mechanism, the 45S close with fiber setting and provides one-handed fiber setting and simultaneous fiber setting.



Two-handed



One-handed



Simultaneously fiber setting

Refer to the movie

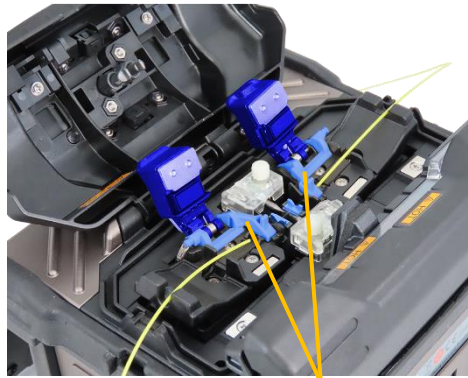


Faster operation

■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 open 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

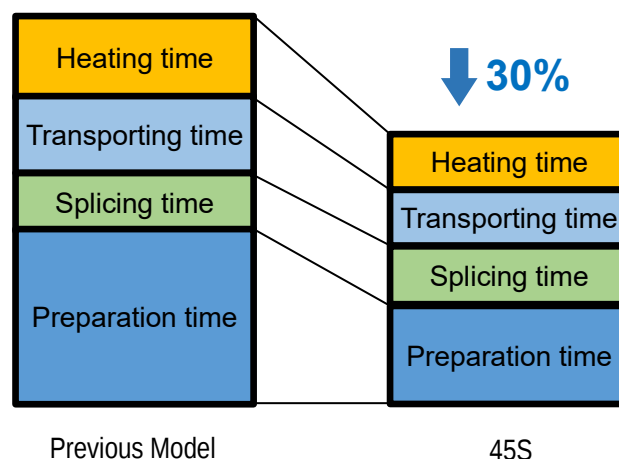
The heater for shrinking the protection sleeve is designed to heat the protection sleeve between two heaters in the front and rear. It shortens 15% of the heating time in case of using FP-03 sleeve.



※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.



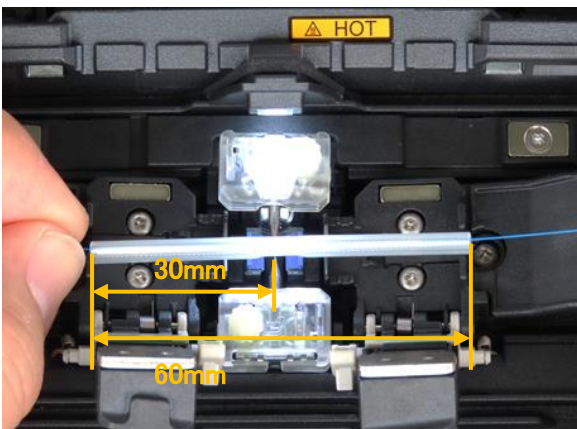
User-friendly design

■ 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.

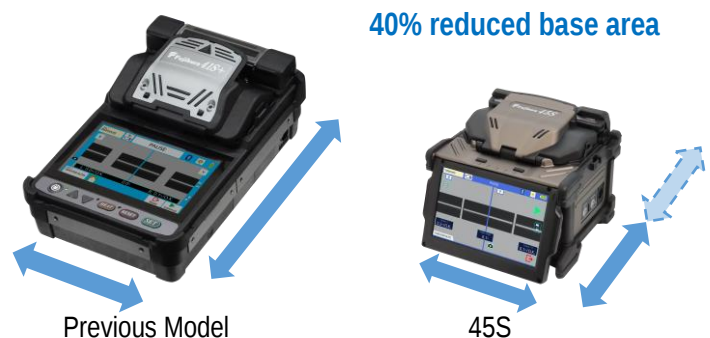
■ Removable battery

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 carrying case and start operation.



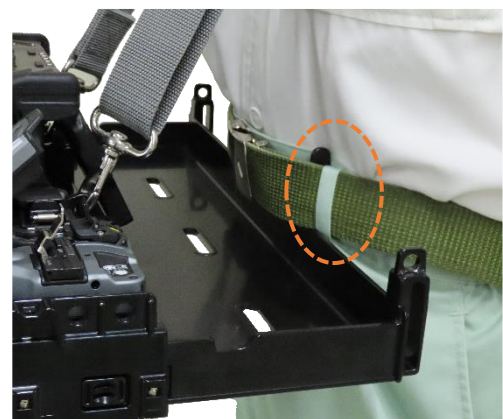
Configuration example 2
Remove the work tray and put on top of the carrying case.

Removing the work tray from the carrying 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.

Expandable



Secure working space

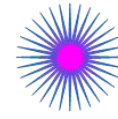


Increased security when used with a belt

Consistent quality

■Active Fusion Control

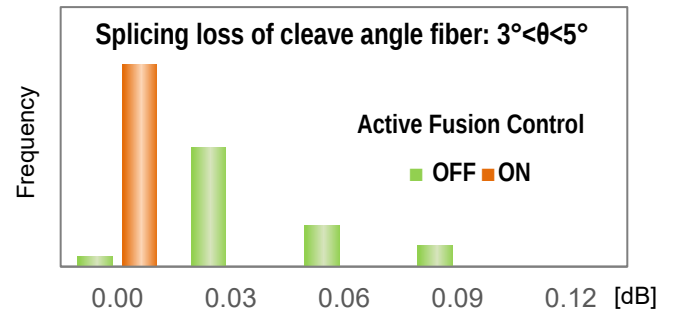
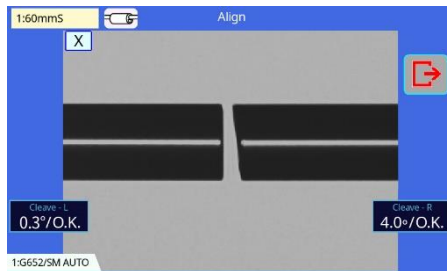
The 45S is equipped with Fujikura Active Fusion Control Technology, which analyses the fiber image during fusion and controls the arc discharge accordingly. The result is stable splice loss irrespective of the environment.



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.

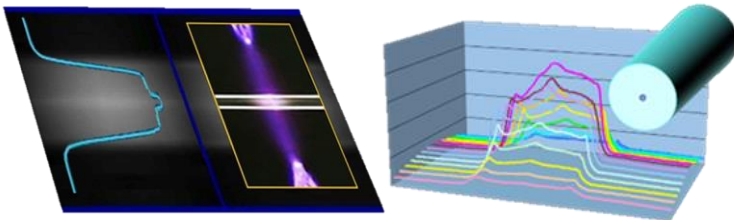


※Fujikura test result of ITU-T G652 fibers measured by cut-back method.

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.

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.



ACTIVE BLADE
MANAGEMENT TECHNOLOGY



Additional features

■ Splice+ app

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

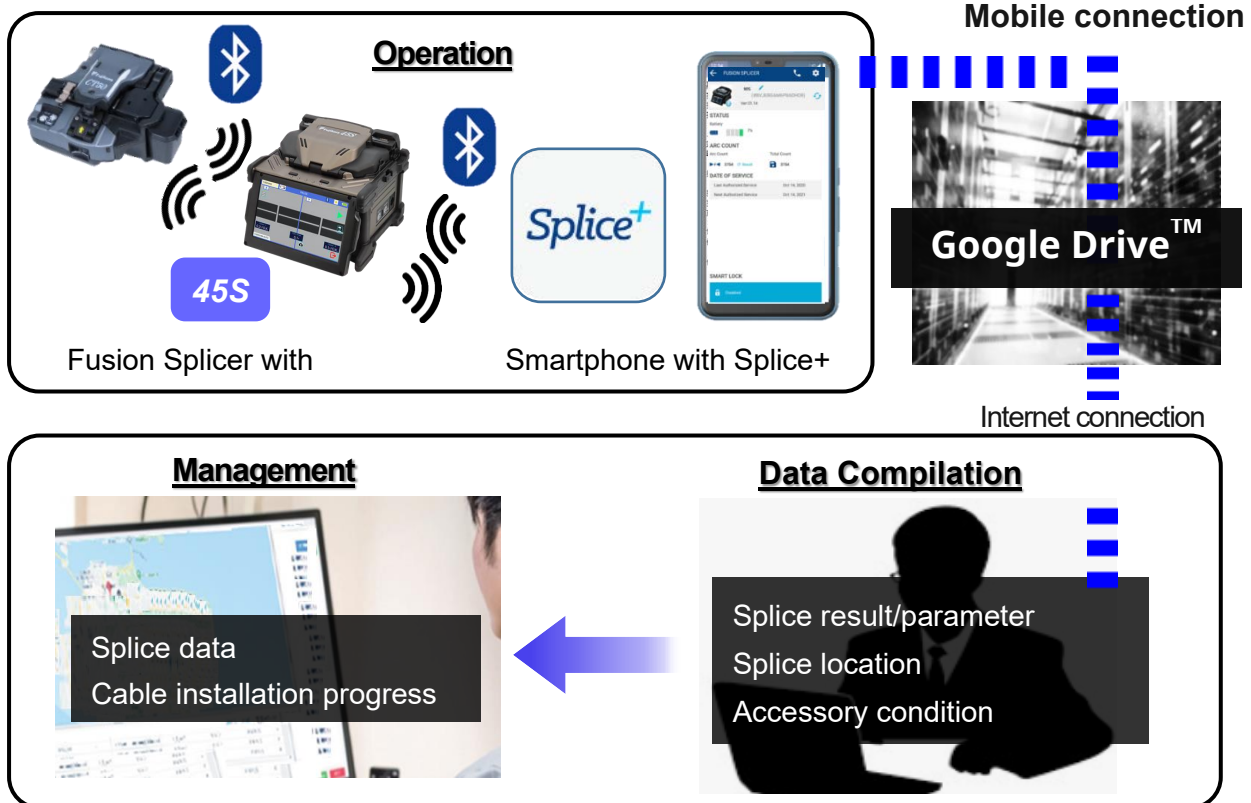
● Smart lock

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-04	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)

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 magnetic material
Battery Charger	BTC-17	Battery Charger Body Capable of charging 2 pcs of BTR-17 simultaneously
	ADC-21	AC Adapter
	ACC-08, 09, 10, 11 or 12	AC Power Cord

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
	Cladding dia.	Multi mode optical fiber
Applicable coating	Sheath clamp	Approx. 125μm
	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 8sec.
	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. 21 to 23sec. 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
Magnification	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	PDF file stored in splicer
	Reference guide	Open with/without Wind Protector
	Sheath clamp	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 after splicing the same type of 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.

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 AD-16A : Max. 900µm coating diameter 1 fiber + Max. 250µm coating diameter 1 fiber
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 AD-16A : 5 to 20mm *1
		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		Equipped	
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	Max. 3mm coating diameter
	AD-10-M24	Max. 900µm coating diameter
	AD-16A	Max. 900µm coating diameter 1 fiber + Max. 250µm coating diameter 1 fiber
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



Please visit our web site!

<https://www.optic-product.fujikura.com/>



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Mass Fusion Splicer 41R kit

Smart Management

ACTIVE FUSION

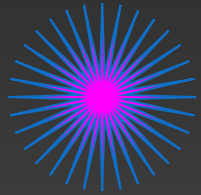
CONTROL TECHNOLOGY

ACTIVE BLADE

MANAGEMENT TECHNOLOGY



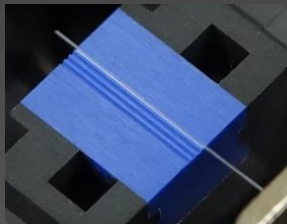
Active Fusion Control Technology



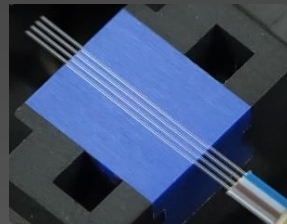
ACTIVE FUSION CONTROL TECHNOLOGY

1. Active Fusion control by fiber count

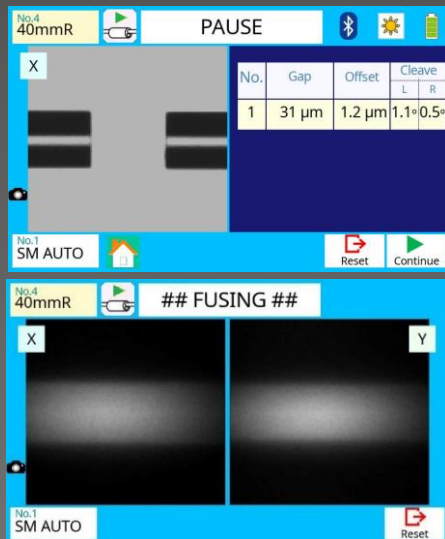
The 41R automatically determines the number of optical fibers from a single to maximum of 4 fiber ribbon. It minimizes splice loss by performing fusion splicing according to the number of fibers.



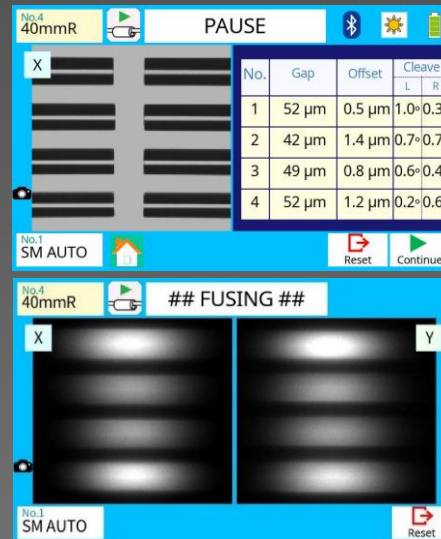
Single fiber



4 fiber ribbon

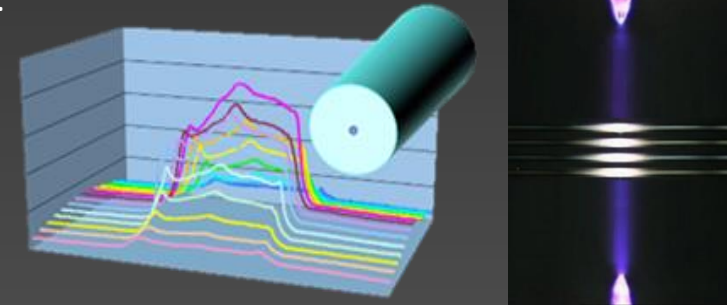


Automatic fusion control by fiber count

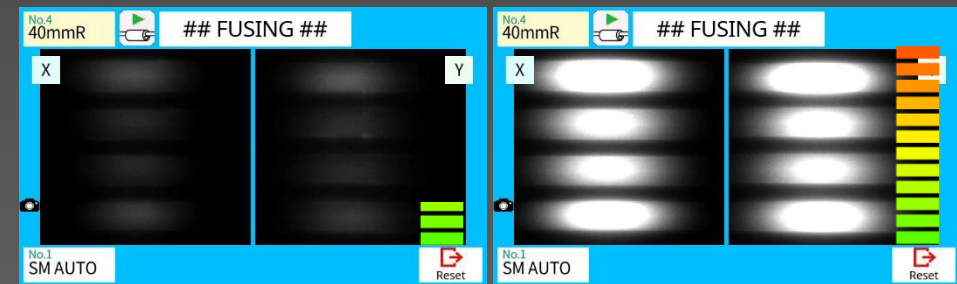


2. Active Fusion control in real-time

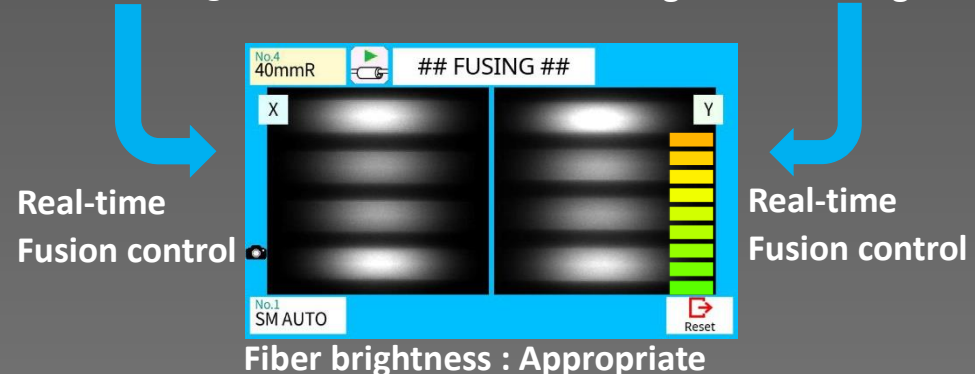
The 41R features real-time fusion power control by analyzing the fiber's brightness intensity during splicing. Therefore, it can splice the fiber using appropriate fusion parameters. The 41R does not have active core alignment mechanisms, however, during fusion, fiber surface tension effects minimize preexisting offsets.



Analyzing Brightness Intensity



Fiber brightness : Weak Fiber brightness : Strong

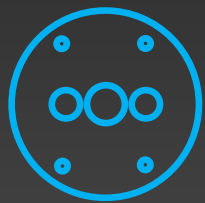


Real-time
Fusion control

Real-time
Fusion control

Fiber brightness : Appropriate

Active Blade Management Technology



ACTIVE BLADE MANAGEMENT TECHNOLOGY

1. Active Blade rotation by motor

The 41R fusion splicer and CT50 fiber cleaver are enabled with wireless data connectivity. This capability allows automatic cleaver blade rotation when the splicer judges the blade is worn.



Motorized blade

No.4 40mmR Large Cleave Angle

No.	Gap	Offset	Cleave Left Right
1	41 μm	0.5 μm	1.0° 1.0°
2	45 μm	0.6 μm	5.7° 0.9°
3	49 μm	0.7 μm	5.3° 0.6°
4	44 μm	0.8 μm	1.0° 0.2°

No.1 SM AUTO

No.4 40mmR Large Cleave Angle

Now rotating the blade.

Blade Position: 1 → 2
Blade Height: L(1)

No.1 SM AUTO

2. Active Blade life management

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

No.4 40mmR Blade Management

No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8
H(B)	0	0	0	0	0	0	0
M(D)	0	0	0	0	0	0	0
L(T)	1060	1060	0	0	0	0	0

No.9 No.10 No.11 No.12 No.13 No.14 No.15 No.16

H(B) 0 0 0 0 0 0 0 0

M(D) 0 0 0 0 0 0 0 0

L(T) 0 0 0 0 0 0 0 0

Blade Height : L(1)

No.1 SM AUTO Recommended Position Reset

No.4 40mmR Blade Management

Now rotating the blade.

Blade Position: 1 → 2
Blade Height: L(1)

No.1 SM AUTO Recommended Position Reset

Instructions for changing position

No.4 40mmR Blade Management

No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8
H(B)	0	0	0	0	0	0	0
M(D)	0	0	0	0	0	0	0
L(T)	1060	1175	1167	1522	1134	1530	1439

No.9 No.10 No.11 No.12 No.13 No.14 No.15 No.16

H(B) 0 0 0 0 0 0 0 0

M(D) 0 0 0 0 0 0 0 0

L(T) 1185 1218 1025 1407 1338 1484 1259 1060

Blade Height : L(1)

No.1 SM AUTO Recommended Position Reset

No.4 40mmR Blade Management

Change the blade height.

L(1) → M(2)

No.1 SM AUTO Recommended Position Reset

Instructions for changing height

No.4 40mmR Blade Management

No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8
H(B)	1439	1530	1259	1185	1134	1575	1422
M(D)	1484	1185	1218	1025	1407	1338	1484
L(T)	1060	1041	1175	1167	1522	1134	1530

No.9 No.10 No.11 No.12 No.13 No.14 No.15 No.16

H(B) 1041 1175 1167 1522 1439 1530 1218 1259

M(D) 1422 1530 1439 1218 1377 1422 1422 1439

L(T) 1185 1218 1025 1407 1338 1484 1259 1060

Blade Height : L(1)

No.1 SM AUTO Recommended Position Reset

No.4 40mmR Blade Management

Replace the cleaver blade.

O.K.

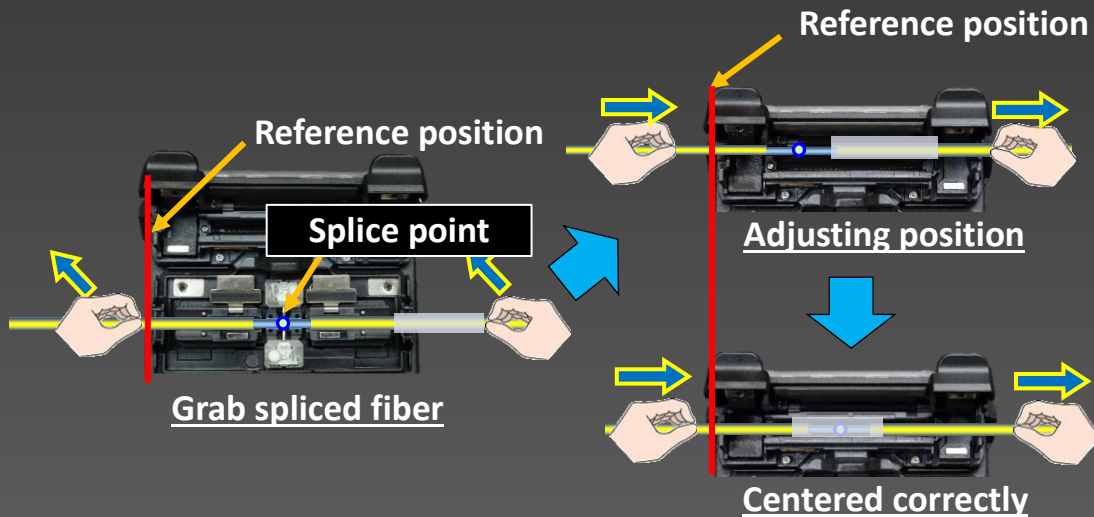
No.1 SM AUTO Recommended Position Reset

Instructions for changing new blade

Well-developed operability

1. Simple sleeve centering

The 41R mass fusion splicer features simple sleeve positioning with its designated centering area on top of the tube heater.



2. Universal Tube Heater

The 41R mass fusion splicer can accommodate a max 6.0mm (before shrinking) diameter protection sleeve. As a result, 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 Electrode replacement

The 41R electrode comes as an assembly including the fixing screw. The screw can be tightened by hand without tools, enabling easy electrode replacement.



Electrode replacement without tools

3-2 Easy Maintenance

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



Replaceable rubber clamps

Replaceable cleaver blade

4. Carrying Case

There are multiple ways to utilize the 41R carrying case. The 41R is ready to use just by opening the case, but it is also possible to place the tray on top of the carrying case or only with the work tray depending on the work environment.

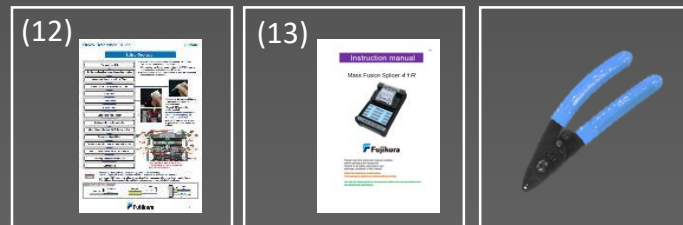
5. Work Tray

The tray incorporates a drawer which can be slid open to provide more work-space. A locking mechanism is also provided which secures the alcohol pot in place

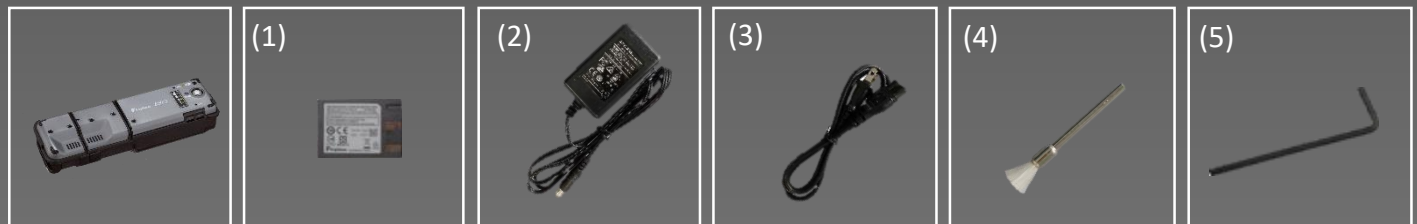


Standard Package

41R Standard Package



Item	Model	Qty
Mass Fusion Splicer	41R	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) V-groove Cleaning Brush	VCB-01	1 pc
(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-04-E	1 pc
(13) Instruction Manual	PDF file stored in Splicer	
Single Fiber Stripper	SS03	1 pc
Ribbon Fiber Stripper	RS03	1 pc
(1) Battery Pack *	BTR-12A	1 pc
(2) AC Adapter	ADC-09A	1 pc
(3) AC Power Cord	ACC-08, 09, 10, 11 or 12	1 pc
(4) Blade Cleaning Brush	BR5-02	1 pc
(5) Hexagonal Wrench	HEX-01	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

41R Specifications



Item		Specification
Fiber alignment method		Self cladding alignment with surface melting tension
Fiber count can be spliced		Single and up to 4 fiber ribbon
Applicable fiber	Fiber type	Single mode optical fiber
	Cladding dia.	Multi mode optical fiber
Applicable coating	Fiber holder	Approx.125μm
		Coating shape. : Refer to options
Fiber splice performance	Splice loss *1	Cleave length : Approx. 10mm
		ITU-T G.652 : Avg. 0.05dB
		ITU-T G.651 : Avg. 0.02dB
		ITU-T G.653 : Avg. 0.08dB
		ITU-T G.655 : Avg. 0.08dB
	Splice time *2	ITU-T G.657 : Avg. 0.05dB
SM FAST mode : Avg. 10 to 12sec.		
Applicable protection sleeve	SM AUTO mode : Avg. 15 to 18sec.	
	Sleeve type	Heat shrinkable sleeve
	Sleeve length	Max. 66mm
Sleeve heat performance	Sleeve dia.	Max. 6.0mm before shrinking
	Heat time *3	40mm FP-04T mode : Avg. 29 to 30sec.
Fiber tensile test force		Single 60mm mode: Avg. 25 to 27sec.
	Electrode life *4	Approx. 2.0N
Physical description	Dimensions W	Approx. 2000 splices
	Dimensions D	Approx.131mm without projection
	Dimensions H	Approx.201mm without projection
	Weight	Approx.79mm without projection
Environmental condition	Temperature	Approx. 1.2kg including battery
		Operate : -10 to 50°C
	Humidity	Storage : -40 to 80°C
		Altitude
AC adaptor	Input	Storage : 0 to 95%RH non-condensing
		Max. 3700m
Battery pack	Type	AC100 to 240V, 50/60Hz, Max. 1.5A
	Output	Rechargeable Lithium Ion
	Capacity *5	Approx. DC14.4V, 3190mAh
	Temperature	Approx. 140 splice and heat cycles
		Recharge : 0 to 40°C
	Battery life *6	Long Term Storage : -20 to 30°C
Display	LCD monitor	Approx. 500 recharge cycles
	Magnification	TFT 4.9 inches with touch screen
Illumination	V-grooves	Approx. 44 to 66X
Interface	PC	LED lamp
	External LED lamp	USB2.0 Mini B type
	Wireless *7	USB2.0 A type
		Bluetooth 4.1 LE
Data storage	Splice mode	Approx. DC5V, 500mA
	Heat mode	Bluetooth 4.1 LE
	Splice result	100 splice modes
	Splice image	30 heat modes
Screw hole for tripod		10000 splices
Other features	Automatic functions	100 images
	Reference guide	1/4-20UNC
	Electrode	Splice mode select by fiber count analysis
		Fusion power calibration
		PDF file stored in splicer
		Replaceable without tool

41R 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-70-2	2 fiber ribbon
	FH-70-4	4 fiber ribbon
	FH-FC-20	900μm in 2mm diameter cable
	FH-FC-30	900μm in 3mm diameter cable
	FH-60-LT900	900μm loose buffer cable
Transfer Clamp	CLAMP-DC-12	Transferring drop cable on work tray
Protection sleeve	FP-04(T)	40mm, up to 8 fiber ribbon

Notes

- *1 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.
- *2 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.
- *3 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.
- *4 The electrode life changes depending on the environmental conditions, fiber type and splice modes.
- *5 Test condition
 - (1) Splice and heat time: 2 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 different conditions to the above.
- *6 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.
- *7 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
		AD-16A : Max. 900μm coating diameter 1 fiber + Max. 250μm coating diameter 1 fiber
	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
		AD-16A : 5 to 20mm *1
	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	
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		Equipped
Other features	Blade rotation	Motorized rotation
		Manual rotation dial
	Replaceable parts	Blade
		Clamp arm

CT50 Options

Item	Model	Remark
Fiber Setting Plate	AD-50	Max. 3mm coating diameter
	AD-16A	Max. 900μm coating diameter 1 fiber + Max. 250μm coating diameter 1 fiber
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.
- *5 Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.

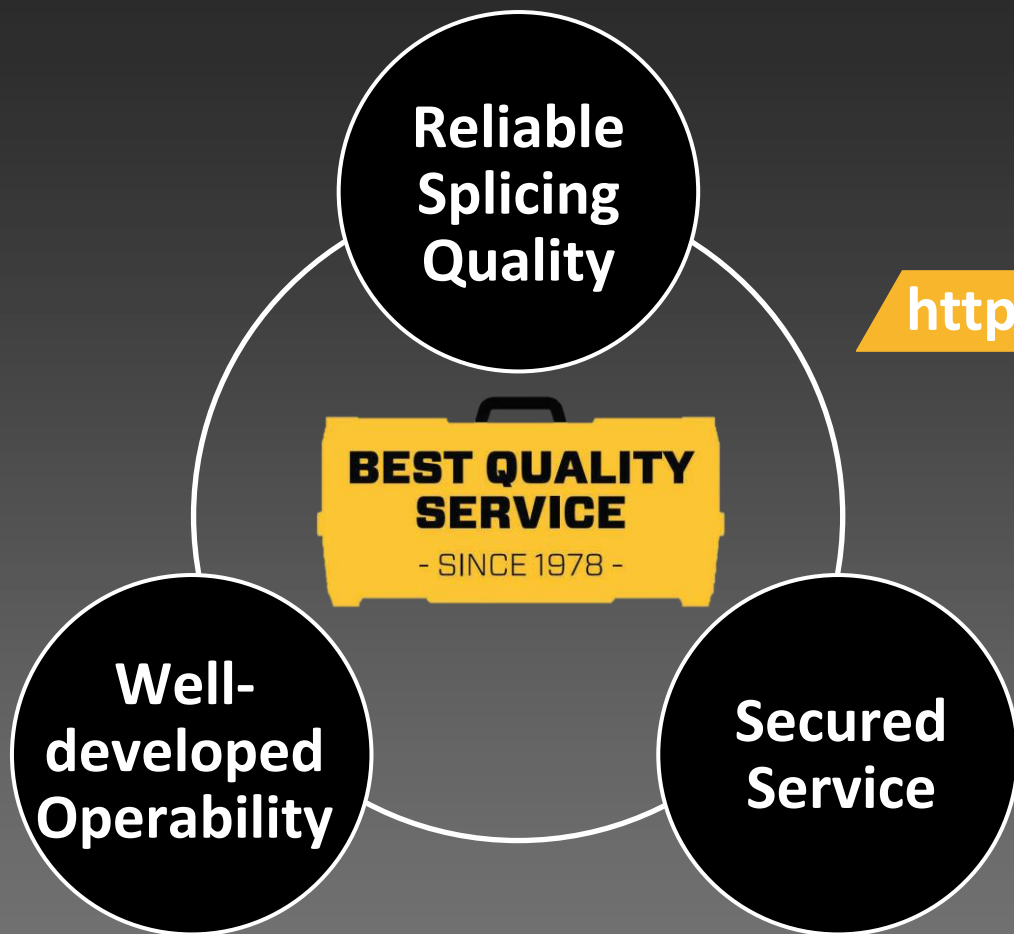
RS03 Specifications



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
	Coating dia.	200 to 400µm
Stripping length		Max. 35mm
Heat time *1		Approx. 3sec
		Approx. 5sec with Eco-mode
Heat temperature		85 to 140°C
Physical description	Dimensions W	Approx.156mm without projection
	Dimensions D	Approx.49mm without projection
	Dimensions H	Approx.37mm without projection
	Weight	Approx. 265g 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
AC adaptor	Input	AC100 to 240V, 50/60Hz, Max. 0.58A
DC input		DC10 to 17V, Approx. 1A
Battery pack	Type	Rechargeable Lithium Ion
	Output	Approx. DC7.2V, 1840mAh
	Capacity *2	Approx. 600 times with Eco-mode
	Temperature	Operate : -10 to 50°C
		Recharge : 0 to 40°C
		Long Term Storage : -20 to 30°C
Battery life *3	Approx. 500 recharge cycles	
Wireless interface *4		Bluetooth 4.1 LE
Other features	Stripping force	Lower stripping force design
	Automatic heat setting	Controlled from splicer or smartphone

Notes

- *1 Measured at room temperature. The heat time changes depending on the environmental conditions and fiber coating type.
- *2 Tested at room temperature with a not degraded battery and Eco-mode. The number of cycles changes depending on the environmental conditions, stripper settings and battery degrading condition.
- *3 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.
- *4 Bluetooth® mark and logos are the registered trademarks of Bluetooth SIG, Inc.



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Splice+

Cloud Connectivity App

Convenient splice data management and more!

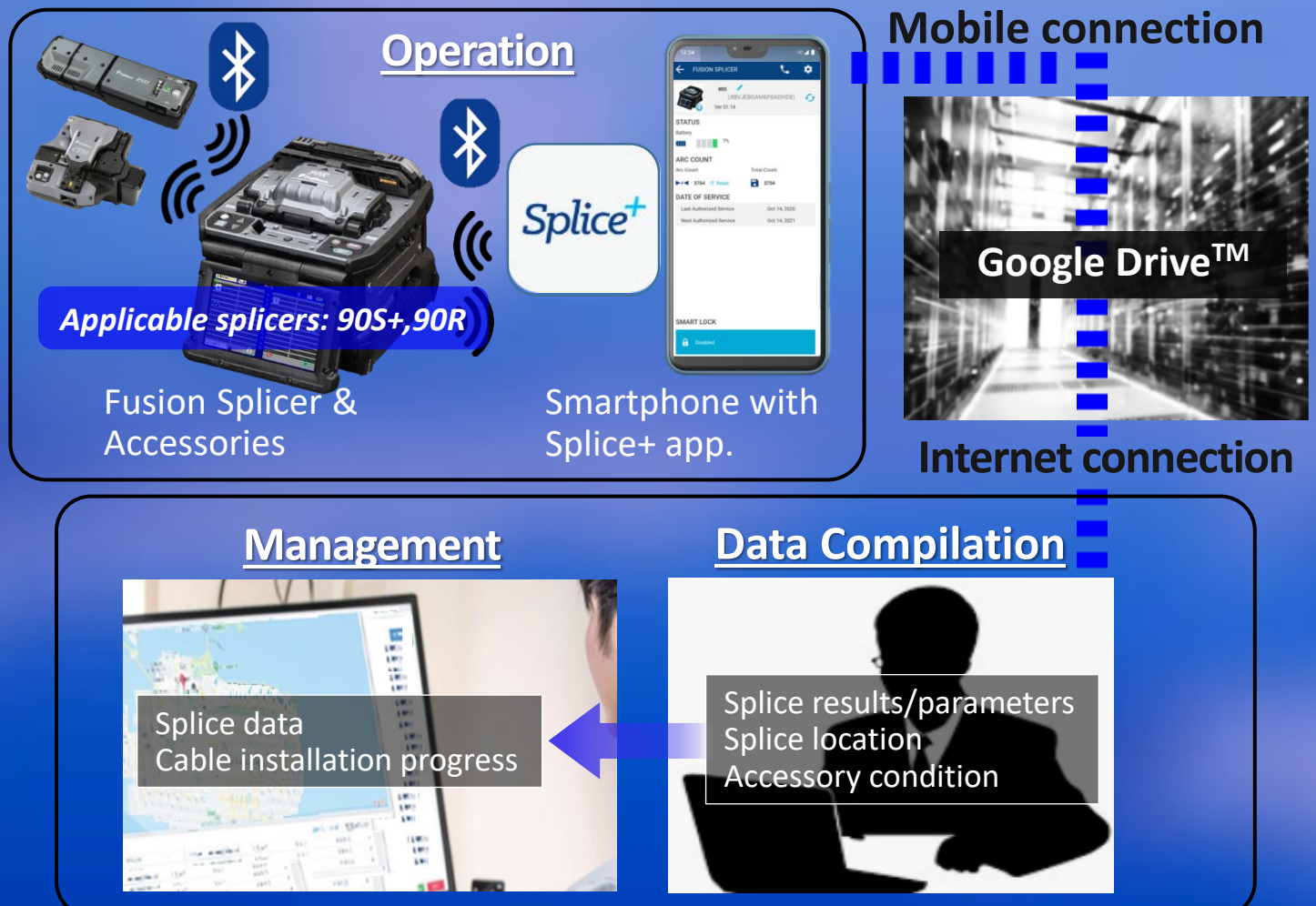
- *Splice data with splice location/error message*
- *Cable installation progress*

Management

Evaluation

Investigation

The Solution!



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Google Drive is trademarks of Google LLC.

Splice+ Function



Real Time Data Collection

Splice+ collects splice & accessory data together, in real time. Splice+ can provide GPS data for each splice data via smartphone.



The fusion splicer is automatically locked when Bluetooth communication with the smartphone is lost, preventing unauthorized use. But users can easily unlock the fusion splicer when pairing via smartphone.



Software Update

Splice+ can update the software version of fusion splicers & accessories.

- USB cable between fusion splicer and smartphone is required.
 - Fusion splicer software update feature is only available on Android™.
- Android is trademarks of Google LLC.



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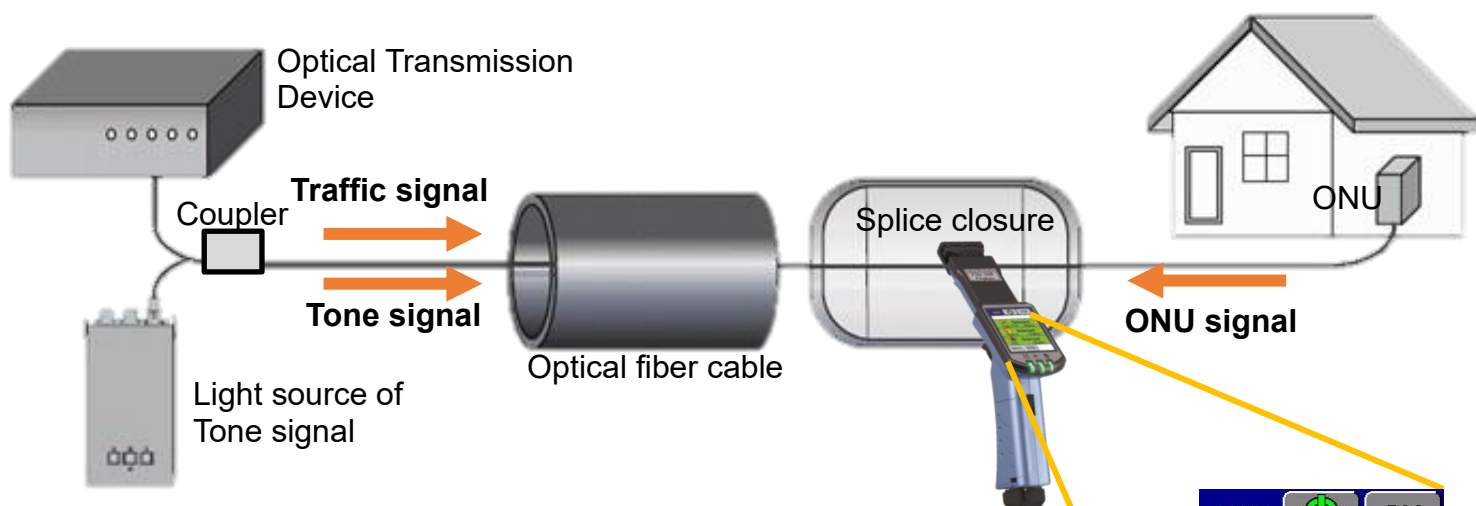
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Optical Fiber Identifier ***FID-30R/FID-31R***

One Shot, Detects All



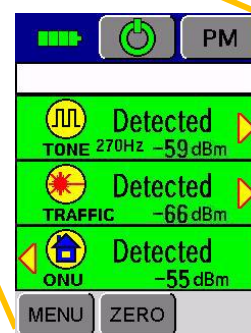
Advanced Features



1. Various measurement functions

FID-30R is a device that easily and quickly detects the presence or absence of "Tone signal", "Traffic signal", and "ONU signal" without interrupting the light by bending the optical coated fiber*. It supports single-mode and multimode optical fibers. The measurement mode (Normal, Fast, Fine) can be changed depending on the purpose of use and the line conditions.

*It does not mean that all ONUs can be detected. If there is an ONU that is not detected, there is a possibility of analyzing and optimizing the waveform of ONU to detect.

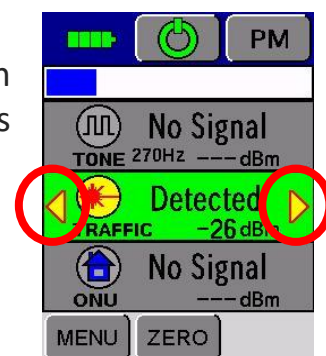


2. No need to change clamp heads

The clamp head can accommodate 250μm single fiber up to 3000μm Jacketed cord, and up to 12-fiber ribbon. No need to change the clamp head depending on the type of optical fiber.

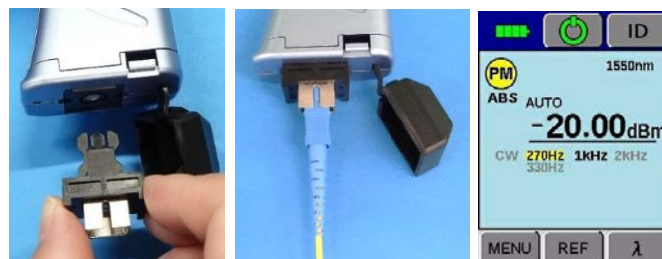
3. External Light Detection

Strong external light such as direct sunlight can cause false detection of "Traffic signal". When FID-30R detects external light, triangles indicating the light propagation direction are lit on both sides of the LCD screen at the same time. False detection can be prevented by covering the clamp head with your hand to block the external light source.



4. Power Meter for FID-30R

FID-30R is equipped with a power meter. It can measure "Traffic signal" with the wavelengths of 1310/1490/1550nm, as well as the intensity 270Hz/330Hz/1kHz/2kHz "Tone signal". It is possible to connect various optical connectors by selecting the optical connector head according to the connector type.



Specifications

FID-30R/31R Specifications

Item			Specification			
Identification	Applicable fiber	Fiber type	Single mode optical fiber/Multi mode optical fiber			
		Cladding dia.	Approx.125μm			
	Applicable Cable	250 to 900um coated fiber				
		Up to 12 fiber ribbon				
		1100 to 3000μm Jacketed cord				
	Wavelength	850 to 1650nm				
	Display range of optical power	Fast mode	23 to -62dBm			
		Normal Mode	23 to -67dBm			
		Fine Mode	23 to -73dBm			
	Detectable light signals *1		270Hz, 330Hz, 1kHz, 2kHz			
	Direction detection		Display the direction of tone *2			
	ITU-T G.651 Insertion loss & Required Core power for Identification *3	Wavelength	850nm	1300nm	—	
		250μm *4	Insertion loss : 0.2dB or less Normal mode : Avg. -43dBm or more	Insertion loss : 0.5dB or less Normal mode : Avg. -53dBm or more	—	
		Fiber ribbon *4	Insertion loss : 0.2dB or less Normal mode : Avg. -40dBm or more	Insertion loss : 0.5dB or less Normal mode : Avg. -50dBm or more		
		ITU-T G.652 Insertion loss & Required Core power for Identification *3	Wavelength	1310nm	1550nm	1650nm
	250μm *4		Insertion loss : 0.5dB or less Normal mode : Avg. -53dBm or more	Insertion loss : 2.0dB or less Normal mode : Avg. -53dBm or more	Insertion loss : 3.0dB or less Normal mode : Avg. -64dBm or more	
	900μm *4		Insertion loss : 0.5dB or less Normal mode : Avg. -17dBm or more	Insertion loss : 2.5dB or less Normal mode : Avg. -27dBm or more	Insertion loss : 3.5dB or less Normal mode : Avg. -27dBm or more	
	1.1mm *4		Insertion loss : 0.3dB or less Normal mode : Avg. -42dBm or more	Insertion loss : 2.0dB or less Normal mode : Avg. -52dBm or more	Insertion loss : 2.0dB or less Normal mode : Avg. -52dBm or more	
	1.5mm *4		Insertion loss : 0.3dB or less Normal mode : Avg. -43dBm or more	Insertion loss : 1.5dB or less Normal mode : Avg. -55dBm or more	Insertion loss : 2.0dB or less Normal mode : Avg. -55dBm or more	
	1.7mm *4		Insertion loss : 0.5dB or less Normal mode : Avg. -11dBm or more	Insertion loss : 2.0dB or less Normal mode : Avg. -21dBm or more	Insertion loss : 3.0dB or less Normal mode : Avg. -21dBm or more	
	2mm *4		Insertion loss : 0.5dB or less Normal mode : Avg. -17dBm or more	Insertion loss : 2.0dB or less Normal mode : Avg. -27dBm or more	Insertion loss : 3.0dB or less Normal mode : Avg. -27dBm or more	
	3mm *4		Insertion loss : 1.0dB or less Normal mode : Avg. -13dBm or more	Insertion loss : 3.0dB or less Normal mode : Avg. -23dBm or more	Insertion loss : 4.0dB or less Normal mode : Avg. -23dBm or more	
	Fiber ribbon *4		Insertion loss : 0.5dB or less Normal mode : Avg. -50dBm or more	Insertion loss : 2.5dB or less Normal mode : Avg. -60dBm or more	Insertion loss : 3.5dB or less Normal mode : Avg. -60dBm o more	
	ITU-T G.657.A1 Insertion loss & Required Core power for Identification *3		Wavelength	1310nm	1550nm	1650nm
			250μm *4	Insertion loss : 0.2dB or less Normal mode : Avg. -41dBm or more	Insertion loss : 1.0dB or less Normal mode : Avg. -55dBm or more	Insertion loss : 1.5dB or less Normal mode : Avg. -55dBm or more
			500μm *4	Insertion loss : 0.5dB or less Normal mode : Avg. -55dBm or more	Insertion loss : 2.0dB or less Normal mode : Avg. -64dBm or more	Insertion loss : 3.5dB or less Normal mode : Avg. -64dBm or more
	Live Fiber Detection	Display range of optical power		23 to -59dBm		
Detectable light signals *1		CW, Traffic				
Power Meter FID-30R	Wavelength		1310nm, 1490nm, 1550nm			
	Measurement Range		10 to -60dBm at modulated tone 10 to -40dBm at CW or Traffic *1			
	Accuracy *5		+/- 0.3dB			
	Detectable light signals *1		CW, Traffic or 270Hz, 330Hz, 1kHz, 2kHz tone			
ONU Detection FID-30R/31R	Applicable Cable		250 to 500um coated fiber 900um Loose tube			
	Required Core Power *6	G(E)-PON	Upper stream signal at 1310nm : -7.5 to 9.0dBm Down stream signal at 1490nm : -25.5 to -6.7dBm			
			Down stream signal at 1550nm : -12.0 to 2.8dBm			
		B-PON	Upper stream signal at 1310nm : -5.5 to 4.0dBm Down stream signal at 1490nm : -21.6 to -12.7dBm			
			Physical description		Dimensions	Without projection Approx. W50mm × D210mm× H113mm
		Weight	FID-31R Approx. 220g including battery FID-30R Approx. 235g including battery			
Environmental condition		Temperature	Operate : -10 to 50 degreeC, Storage : -20 to 60 degreeC			
		Humidity	Operate : 0 to 95%RH non-condensing, Storage : 0 to 95%RH non-condensing			
Interface		PC	USB2.0 Mini B type for Firmware update			
Power Source		Battery type	2 pieces of LR6/AA dry battery			
		Battery life *7	Approx. 8 hours			
Display		LCD monitor	TFT 2.4 inches with touch screen			
Other features	Trigger		Trigger hold function			
	Software for PC		Firmware update via internet			

Note

*1 CW is a light signal that is not modulated. Traffic is a light signal modulated by a random data sequence. Tone is a light signal modulated into a nominal 50% duty cycle square wave.

*2 The direction may not be displayed for fiber type, coating material, color, environmental condition, etc.

*3 Using 270Hz modulated light at 25degreeC. Insertion loss and minimum detect level varies due to coating material, color, environmental condition, etc.

*4 ITU-T G.651 250μm : ITU-T G.651 with 250μm coated fiber
 ITU-T G.651 Fiber ribbon : ITU-T G.651 with 2 to 12 fiber ribbon
 ITU-T G.652 250μm : ITU-T G.652 with 250μm coated fiber
 ITU-T G.652 900μm : ITU-T G.652 with 900μm coated fiber
 ITU-T G.652 1.1 to 3mm : ITU-T G.652 with 1.1 to 3mm Jacketed cord
 ITU-T G.652 Fiber ribbon : ITU-T G.652 with 2 to 12 fiber ribbon
 ITU-T G.657.A1 250μm : ITU-T G.657.A1 with 250μm coated fiber
 ITU-T G.657.A1 500μm : ITU-T G.657.A1 with 500μm coated fiber

*5 Under the condition of temperature 25degreeC with input power at -20dBm.

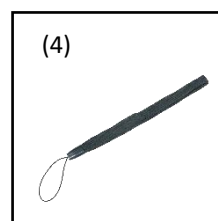
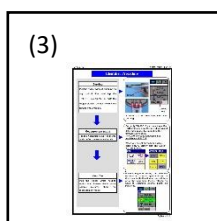
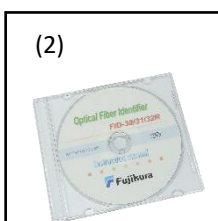
*6 It does not mean that all ONUs can be detected. If there is an ONU that is not detected, there is a possibility of analyzing and optimizing the waveform of ONU to detect.

*7 Test condition (1) Operation cycle : measuring operation for 5 seconds, and waiting for 5 seconds. (2) At room temperature (3) Using a not degraded alkaline batteries
 The battery life changes when testing with a different conditions from the above.

Standard Package

FID-30R/31R Standard package

Item	Model	Qty
Optical Fiber Identifier	FID-30R / FID-31R	1 pc
(1) Soft Case	FID-CASE-02	1 pc
(2) Instruction Manual	M-FID30R	1 pc
(3) Quick Reference Guide	QRG-07-E or J	1 pc
(4) Strap	ST-01	1 pc



Options

Item	Model	Remark
Optical Connector Head	OCH-02-FC	Optical connector head for FC type
	OCH-02-UC	Optical connector head for UC type
	OCH-02-LC	Optical connector head for LC type
	OCH-02-SC	Optical connector head for SC type
USB Cable	USB-01	USB(A)-USB(miniB)



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