



ofs

A Furukawa Company

Fusion Splicers

Cleaver

Stripper

Other Tools



FITEL® Fusion Splicers & Tools Catalog



FUSION SPLICERS FOR OPTICAL FIBER

Optical fiber plays a critical role in today's communication networks – from telecommunications to CATV to data. Furukawa is a major manufacturer and provider of high quality optical fiber and fiber optic products. This includes a complete line of fusion splicers that produce highly accurate, reliable splices with minimal loss. Furukawa's fusion splicers are designed using state-of-the-art technology, decades of manufacturing experience and feedback from countless customers. You'll find that FITEL splicers are simple yet precise and reliable tools that can support your full range of fiber manufacturing, R&D, installation, and maintenance applications.



**S122A/S122M4/
S122M8/S122M12**
...page 4-7

With its super low profile and new user interface, the FITEL S122 series fusion splicer offers next generation workability for every splicing field. Combining the portability, power flexibility and field ruggedness of FITEL's previous generation of hand-held splicers with the proven quality and performance of our ribbon splicers, the S122 delivers fast and consistent splicing with outstanding mobility and extreme ease-of-use.



S177A/S177LDF
...page 8-11

The new hand-held FITEL S177A Fusion Splicer incorporates an improved heating design that cuts splice-to-heat time by 40 percent, achieving a 9-second splice time and 37-second heat time. The unit's T-shaped body design is also 40 percent lighter, weighing only 4.85 pounds including battery. Ideal for fast field use, the S177A reduces the fiber length required for splicing by 30 percent. In addition, fiber magnification power is 608X, making this the industry's most powerful core alignment splicer.



S183PM

...page 12-13

The S183 Full Function Fusion Splicer series provides you the ultimate splicing solution. Designed primarily to address production and research splicing needs. This is the most advanced series in FITEC's extensive line of high performance machines. The S183PM Splicer offers a total solution for precision polarization maintaining fiber splicing. This model offers high strength splicing, specialty fiber splicing and attenuation splicing - all essential processes when using Special Fibers.

CONTENTS

Fusion Splicers

- Types of Fusion Splicers in the industry 4
- S122 SERIES Hand-Held Fusion Splicer 5
- S177A Hand-Held Core-Alignment Fusion Splicer 8
- S177 Large Diameter Fusion Splicer 10
- S183PM Advanced Fusion Splicer Series 12
- Connector Termination System 14

Cleaver

- Cleaver 15

Stripper

- S218R Thermal Stripper 16

Other tools

- Fusion Splicer Accessories and Consumables 17
- ID-H/R Fiber Identifier 20
- ID-L Light Source 21
- LBT-101 Short Range Optical Tester 22
- CS201 Cable Sheath Strippers 24

OPTICAL FIBER SPLICING PROCESS

STRIPPING

16

Using a fiber stripper to remove the coating material from the fiber.

CLEANING

17

Using alcohol and a specially designed wiper to clean the bare fiber.

CLEAVING

15

Using a precise cleaver to cut the fiber.

SPLICING

4 - 14

Using a fusion splicer to align fibers & discharge the arc to connect the fibers. In addition, the unit will inspect the quality of the splice after the process.

PROTECTION

19

Using a heat-shrinking sleeve to protect spliced fiber.

Types of Fusion Splicers in the Industry

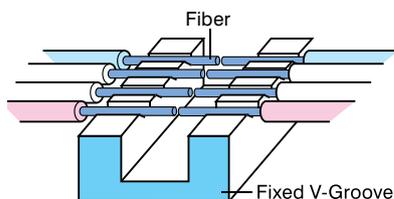
There are a number of ways to categorize splicers. Here we categorize them based on the fiber alignment type: Fixed V-Groove alignment type and Core-Alignment type. The Fixed V-Groove is typically used for ribbon fiber splicing. The Core-Alignment type is used for single fiber splicing with more precise requirements, such as optical components manufacturing. With both types, the arc discharge is the same.

Type	 S122A/S122M4	 S122M8/S122M12	 S177A/S177LDF	 S183PM
Alignment Type	Fixed V-Groove (Clad Alignment)		Core Alignment	
Fiber Observation	2 CCD Cameras			
Applicable Fiber	SMF, MMF, DSF, NZDSF		SMF, MMF, DSF, NZDSF, EDF, DCF	SMF, MMF, PMF,* NZDSF, EDF, DCF
Fiber Count	S122A: Single Fiber S122M4: 1 ~ 4 Fibers	S122M8: 1 ~ 8 Fibers S122M12: 1 ~ 12 Fibers	Single Fiber	
Cladding Diameter	125 μ m		S177A: 80 ~ 200 μ m S177LDF: 125 ~ 400 μ m	80 ~ 200 μ m
Coating Diameter	Single: 250 μ m, 900 μ m Ribbon: 280 μ m ~ 400 μ m		Single: 160 ~ 900 μ m	
Cleave Length	S122A, S122M4, S122M8, S122M12: 10 mm		250 μ m: 5 ~ 16 mm 900 μ m: 16 mm (10 mm option)	Normal strength: 9 ~ 11 mm High strength: 3 ~ 5 mm
Dissimilar Splicing	No		Yes	
Specialty Splicing	No		Yes	
High Strength Splicing	No		Yes	
Polarization Maintaining Splicing	No		Yes	
Applicable Sleeves	S122A, S122M4, S122M8, S122M12: 40 ~ 60 mm		20 ~ 60mm	
Battery	Available		S177A: Available S177LDF: No.	No

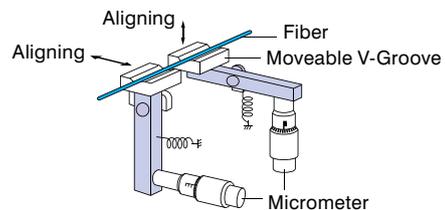
* : S183PM only

ALIGNMENT TYPE

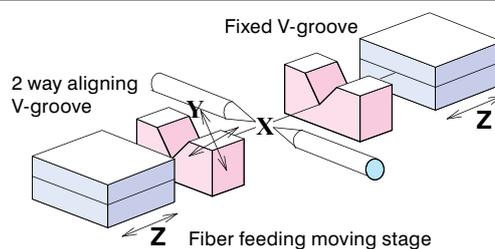
FIXED V-GROOVE (S122)



CORE ALIGNMENT (S183)



CORE ALIGNMENT (S177)



S122 SERIES Hand-Held Fusion Splicer



With its super low profile and new user interface, the FITEL S122 series fusion splicer offers next generation workability for every splicing field, FTTX, LAN, backbone, or long-haul installations. Combining the portability, power flexibility and field ruggedness of FITEL's previous generation of hand-held splicers with the proven quality and performance of our ribbon splicers, the S122 delivers fast and consistent splicing with outstanding mobility and extreme ease-of-use.



Fusion Splicers

Key Features:

Superb Mobility and Workability

Super low profile design, with only 4.7cm height at the keypad, the S122 provides a stable working environment both on the work bench and palmtop. Attaching the S122 to the Work Table (optional) enables hands-free operation, as well as easy access to various work fields by folding the splicer upward.

Rugged Body

The top body and windshield are made of magnesium die-cast. The bottom body is protected with rubber corner pads. With its simple and flat shape, the S122 can survive during harsh conditions.

New GUI & LCD Screen

Featuring a new GUI (graphical user interface) and transreflective LCD screen technology, the S122 operation is a snap! Function keys are simple and information displays are crisp and clear even in direct sunlight.

Multi-Window Fiber Display

The LCD display shows the splicing process with simultaneous X and Y camera views, as well as status icons monitoring the machine conditions.

Fast and Accurate

The fast 13-second splice time and 37-second heat time creates a highly efficient work environment. The S122 observes the fiber from 2 directions just as all high-end splicers, promising high quality splice from trunk to FTTX.

Enhanced Ease of Use

Memory for fiber image, counters for cleaver and stripper blade replacement and visual maintenance instructions are provided for your ease of use.

Real Time Arc Control

Patented process which increases consistency and reduces splice loss. Also, virtually eliminates the need for traditional arc checks by actively calibrating the arc during each splicing cycle.

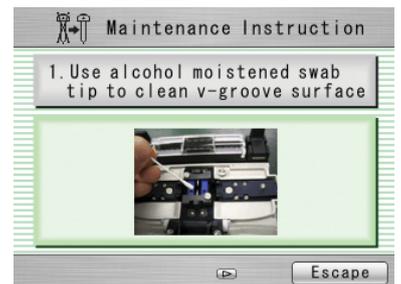
Fiber Clamp Vibration System (S122M8 and S122M12 only)

New fiber clamp vibration system allows for easy fiber placement. System inspects axis offset before each splice and makes necessary adjustment for ideal splicing.

Automatic Fiber Count Identification

Unit automatically identifies fiber ribbon count and selects the proper program for splicing. There is no need to manually change the program when operators want to splice different fiber counts.

RoHS and Telcordia (GR-765-CORE for S122A, GR-1095-CORE for S122M4 / M8 / M12) Compliant





Product Line-Up:

Model	Application
S122A	Splicing for single fiber using Fiber Holder System / Splice-On Connector Ready
S122M4	Splicing for single fiber to 4-fiber ribbon using Fiber Holder System
S122M8	Splicing for single fiber to 8-fiber ribbon using Fiber Holder System
S122M12	Splicing for single fiber to 12-fiber ribbon using Fiber Holder System

Specifications:

Fiber Types	SMF, MMF, DSF, NZDSF
Cladding Diameter	125 μm
Coating Diameter	250 μm to 900 μm for single fiber 280 μm to 400 μm for ribbon (thickness) [S122M4. S122M8. S122M12]
Average Splice Loss	SMF: 0.05 dB, MMF: 0.03 dB, DSF: 0.08 dB, NZDSF: 0.08 dB
Splice Time	13 sec. (S122A), 15 sec. (S122M4. S122M8. S122M12)
Heat Time	Single Fiber: 37 sec. (40 mm), 51 sec. (60 mm), Ribbon Fiber: 45 sec. (40 mm)
Tension Test	1.96 N
Applicable Sleeve Length	40/60 mm
Program Memory	Splice Programs: Max. 150, Heat Programs: Max. 12
Splice Memory	Max. 1,500 (S122A. S122M4), Max. 1,000 (S122M8. S122M12)
Fiber Image Display	Simultaneous two-axis display Magnification 120X (S122A), 48X (S122M4), 28X (S122M8), 20X (S122M12)
Dimensions	140W \times 189L \times 73H mm (S122A. S122M4), 140W \times 189L \times 86H mm (S122M8. S122M12)
Weight	800g / 1.8lb. (S122A. S122M4), 960g / 2.1lb. (S122M8. S122M12), 170g / 0.4lb. (battery)
AC Input	100 to 240 VAC
DC Input	10.6 ~ 12.6 V
Battery Capacity	50 splices with heat shrink protection (S122A. S122M4) 40 splices with heat shrink protection (S122M8. S122M12)
Operating Temp.	-10° C to + 50° C
Storage Temp.	-40° C to + 60° C

Packages

P/N	Description						
		S122A	S122A-KIT-1	S122A-KIT-2	S122M4	S122M4-KIT-1	S122M4-KIT-2
S122-A-A-0001	S122A Splice Body	•	•	•			
S122-M-A-0001	S122M4 Splice Body				•	•	•
S122-X-A-0002	Soft Carrying Case	•	•		•	•	
S122-X-A-0003	Strap	•	•	•	•	•	•
S122-X-A-0005	Hard Carrying Case			•			•
S211B	Fiber Stripper		•	•			•
S218R	Thermal Fiber Stripper				•	•	
S325A	One-Action Precision Cleaver		•	•			•
S709A-004	4-Ribbon Fiber Holders (pair)				•	•	•
S709S-250	250mm Fiber Holders (pair)	•	•	•	•	•	•
S709S-900	900mm Fiber Holders (pair)			•			
S943	Li-ion Battery	•	•	•	•	•	•
S943	Extra Li-ion Battery			•			•
S957B	AC Adapter	•	•	•	•	•	•
S958B	Battery Recharger	•	•	•	•	•	•
S959U	DC Adapter			•			•
S966	Electrodes (pair)	•	•	•	•	•	•
D5111	Electrode Cleaning Disk	•	•	•	•	•	•
FPF-01	Fiber Preparation Fluid		•	•			•
FW-01	Fiber Wipes		•	•			•
FTS-B291	Manual	•	•	•	•	•	•



Optional Accessories

P/N	Description
S122-X-A-0004	Working Table
S709A-002	2-Ribbon Fiber holders (pair)
S945	High Capacity Battery
CS202	Sheath Stripper
SS-01	Splicer Scissors



S177A Hand-Held Core-Alignment Fusion Splicer



Seamless Splicing from Trunk to FTTX

Key Features:

- Most compact, lightweight core-alignment splicer in the industry!
- New graphical user interface (GUI) to enhance ease-of-use.
- Transreflective LCD allows clear view even in direct sunlight.
- Best-in-industry fiber magnification-680X.
- Built-in battery automatically charges when plugged into AC-even when splicing!
- RoHS and Telcordia (GR-765-CORE) compliant



Specifications:

Splicing Method	Core-Alignment
Applicable Single Fiber	SMF, MMF, DSF, NZDSF, EDF
Average Insertion Loss	SMF: 0.02 dB, MMF: 0.01 dB, DSF: 0.04 dB, NZDSF: 0.03 dB
Splice Time	9 sec
Heat Time	37 sec (40 mm), 51 sec (60 mm)
Splice/Heat Programs	150 available / 12 available
Cleave Length	5-16 mm (250 μ m), 10 or 16 mm (900 μ m)
Dimension/Weight	130 W×260 D×137 H mm / 2.20 kg (4.85 lbs) [weight including battery]
Splice Memory	2000 splices
Operating Environment	0~4,000 m, -10 to +50° C and 90% at 38° C
Data Output	USB 1.1
Battery Life	Internal - 70 splice / heat cycles
Power	AC Input : 85 to 264 V (50/60 Hz), DC Input : 11 to 17 V, Battery : Li-ion

Seamless Splicing from Trunk to FTTX

The FITEL S177A ushers in a whole new range of applications for core-alignment splicing : It delivers the same precision, accuracy, and automated functionality of a conventional core-alignment unit, but with the speed, portability, and convenience of a hand-held splicer. The S177A becomes your versatile best choice for FTTX, LAN, backbone, or long-haul installations.



Compact, Lightweight Body

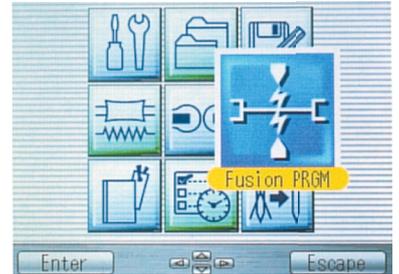
At nearly half the weight and size of FITEL's standard core-alignment unit, the S177A weighs only 2.2 kgs (4.85 lbs) – making it the first hand-held and most compact, lightweight core-aligning splicer in the industry. The T-shaped body design, measuring just 5 inches across, easily accommodates short fiber lengths. The magnesium alloy canopy and top base provide the rugged strength required for field operations. Highly accurate, it easily handles diverse applications—from trunk splicing to FTTX.



Fusion Splicers

New GUI & LCD Screen

Featuring a new GUI (graphical user interface) and transreflective LCD screen technology, the S177A operation is a snap! Function keys are simple and information displays are crisp and clear even in direct sunlight. The LCD display shows the splicing process with simultaneous X and Y views, Fiber magnification is the highest available in the industry - 608X, and over 200 percent stronger than FITEL's previous model, the S176.



Standard Package:

P/N	Description
S177-X-A-0001	Splicer Body
S177-X-S-0002	Spare Electrodes
S177-X-A-0003	Carrying Case
S943	Internal Battery
S957	AC Adapter
D5111	Electrode Cleaning Disk
S177-X-S-0004	Manual

Optional Accessories:

P/N	Description
S177-X-S-0005	Cooling Tray
S177-X-S-0006	USB Cord
S177-X-S-0007	Fiber Holder Mount
S707S-080	80µm Fiber Holder
S707S-250	250µm Fiber Holder
S707S-900	900µm Fiber Holder
S707S-400	400µm Fiber Holder
S210	Furukawa Fiber Stripper
S211	Miller Stripper
S325A	Hand-Held High Precision Cleaver

ORDERING NUMBER FORM:

S177A-○

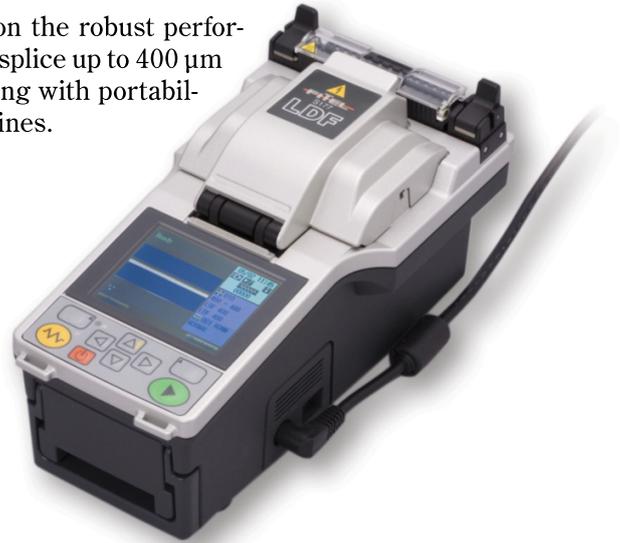
Fiber Holder Type	Cleave Length
0: 16mm Tight Holder	125 / 250 µm: 5 ~ 16 mm; 125 / 900 µm: 16 mm
1: 10mm Tight Holder	80 / 150 ~ 200 µm: 5 mm; 125 / 250 µm: 5~10 mm; 125 / 900 µm: 10 mm
2: Fiber Holder System SOC Applicable	80 / 150~200 µm: 5 mm; 125 / 250 ~ 900 µm: 10 mm
3: Loose-Tube-Holder	125 / 250 µm: 5 ~ 10 mm



S177 Large Diameter Fusion Splicer



The FITEL S177LDF Large Diameter Fusion Splicer builds upon the robust performance of the proven S177A Splicer and expands its capabilities to splice up to 400 μm cladding fiber. The unique design effectively blends fusion splicing with portability, speed, and the ease of operation of FITEL's S177 series machines.

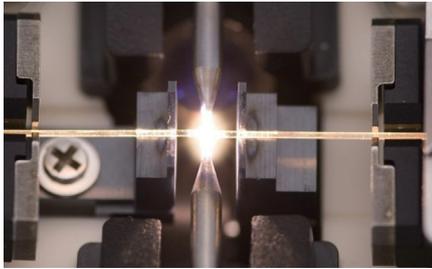


Specifications:

Splicing Method	Active Clad-Alignment
Applicable Optical Fiber	SMF
Fiber Cladding Diameter	125 ~ 400 μm
Fiber Coating Diameter	250 ~ 900 μm
Cleave Length	10 mm
Splice Loss (Typical)	0.04 dB (Furukawa identical 125 μm -SMF)
Splice Time	16-second for 125 μm SM fiber 26-second for 400 μm LDF
Heat Time	37-second for 40mm protection sleeve 51-second for 60mm protection sleeve
Dimensions	130 W \times 260 D \times 137 H mm
Weight	2.0 kg
AC Power	AC Input : 100 to 250 V (50/60 Hz)

Key Features:

The S177LDF Splicer is able to splice from 125 μm to 400 μm cladding fiber as well as to splice different diameter fibers for 400 μm and 125 μm . These high-end splices are provided with small, light and fast, easy to use and low cost S177 series fusion splicer.



An upgraded high voltage Arc Discharge Unit provides the power necessary for LDF splicing. A wide field of view camera and advanced optical design expands the viewing range of the proven S177A design. These two capabilities allow for automated active LDF alignment while maintaining the precision of conventional 125 μm splicing.

Like other Furukawa fusion splicers, featuring GUI (graphical user interface), the S177LDF operation is a snap! Function keys are simple and information displays are crisp and clear.

Standard Package:

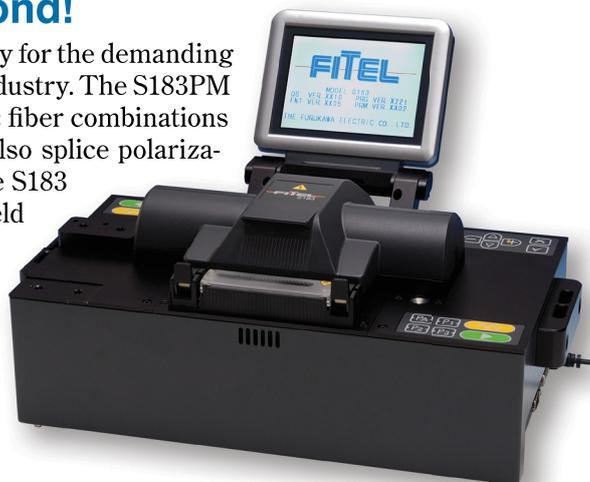
P/N	Description	Qty	Note
S177L-A-X-0001	S177LDF Main Body	1	
S707T-600	Fiber Holders	1 set	Applicable Coating Diameter: 250 ~ 900 μm
S968	Spare Electrode	1 pair	
S177-X-A-0003	Hard Carrying Case	1	
S971	AC Adapter	1	
D5111	Electrodes Cleaning Disk	1	
	Operation Manual	1	Manual



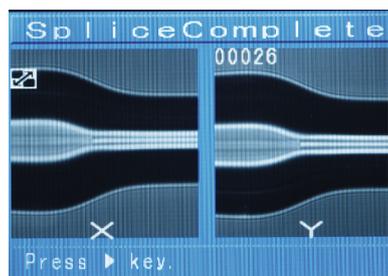
S183PM Advanced Fusion Splicer Series

Take Splicing to the Next Level & Beyond!

The S183 Advanced Fusion Splicer series was designed specifically for the demanding production and research applications of the optical components industry. The S183PM Advanced Fusion Splicer offers programs for specialty and exotic fiber combinations as well as high-strength splicing applications. This splicer can also splice polarization maintaining fiber faster than any other unit in the world. The S183 Advanced Fusion Splicer series is setting a new standard in the field for high-end fusion splicing applications.



Features & Applications:

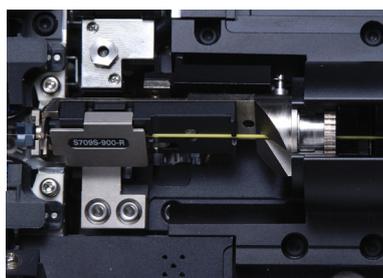
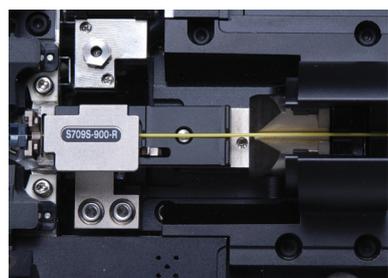
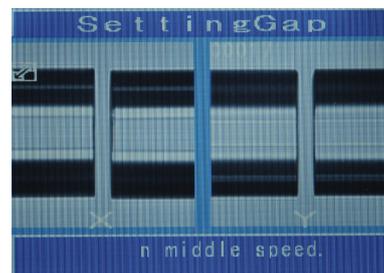


Specialty Splicing Made Easy

The advanced features of the S183 allow you to splice today's and tomorrow's most exotic fiber types. Whether performing high-strength splices, splicing small cladding fibers (80 μm), large cladding fibers (200 μm), high MFD Δ splicing combinations, PM fibers, or erbium doped fiber, the S183 is the splicer for your high-end application.

Fast Splice Time!!

The splice time is lightning fast at 42 seconds for PANDA and 20 seconds for SM. The S183 is the fastest in the industry for most fiber applications, allowing you to increase efficiency on your production line.



Safe PM Fiber Rotation

The new rotation mechanism on the S183PM Splicer allows PM fiber to rotate while keeping straight and stable. This minimizes fiber twist, which can be detrimental to sensitive splicing applications.

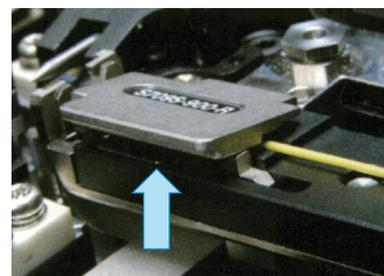


Quick Loading & Automatic Machine Adjustment

The S183 Splicer automatically adjusts for different fiber coating and cladding sizes. There is no need to exchange electrodes, v-grooves, or fiber clamps. In addition, the S183 Splicer has been designed so that the user simply loads the fiber and closes the lid to begin the fusion process. There is no need to lower or set fiber clamps before beginning your splice.

Automatic Fiber Holder Release

The S183 automatically performs a tensile proof test on the fiber and releases the holder lid to avoid twisting the fiber after the splice. This automation eliminates the need for the user to manually open and reset the splicer after each fusion splice.



Specifications:

Applicable Fibers	SMF, MMF, DSF, NZDSF, CSF, DCF, EDF, PMF
Fibers Cleave Length	3 to 5 mm with coating clamping / 9 to 11 mm with bare Fiber clamping
Cladding Diameter	80 ~ 200 μm
Coating Diameter	160 ~ 900 μm
Typical Insertion Loss (Similar Fiber Splicing)	0.02 dB for identical SMF / 0.01 dB for identical MMF 0.04 dB for identical DSF / 0.05 dB for identical PM Fibers
Typical Insertion Loss (Dissimilar Fiber Splicing)	0.05 dB for SMF to PANDA Fiber / 0.10 dB for SMF to TIGER Fiber 0.15 dB for SMF to BOW-TIE Fiber / 0.10 dB for PANDA Fiber to TIGER Fiber
Typical Extinction Ratio (Cross Talk) (Similar Fiber Splicing)	-40 dB (0.6 degree) for identical PANDA Fibers -32 dB (1.4 degree) for identical TIGER Fibers -32 dB (1.4 degree) for identical BOW-TIE Fibers
Typical Extinction Ratio (Cross Talk) (Dissimilar Fiber Splicing)	-32 dB (1.4 degree) for PANDA Fiber to TIGER Fiber -30 dB (1.8 degree) for PANDA Fiber to BOW-TIE Fiber
Loss Estimation Parameters	Cleave angle, Fiber Offset, Tilt, Micro-bending, Fiber end gap, Bubbling at splice point
Dimensions / Weight	350 W \times 197 D \times 154 H mm / 8.7 kg
Splice Time	20 seconds for identical Single-Mode Fibers 42 seconds for identical PM Fibers (cladding clamping) 60 seconds for identical PM Fibers (coating clamping)
Heating Time	90 seconds for 60 mm sleeves 95 seconds for 40 mm sleeves 40 seconds for 25 mm sleeves
Return Loss	> 60 dB
Tensile Strength	Typical 300 kpsi (25 N) with High strength splice
Magnification	133X & 266X
Monitor	5" 8-color LCD monitor.
Video Output	PIN
Data Interface	Serial, USB ver1.1, and Ethernet
Splice Programs	55 Default / 150 Available
Splice Memory	Maximim 2000 splices
Operating Temperature	0 to +40° C (without excessive humidity)
Storage Temperature	-40 to +60° C (without excessive humidity)
Power Source	AC 100 to 240V (50 / 60 Hz)with AC adaptor

S183 Standard Package:

P/N	Description	Qty
S183-P-A-0001	S183PM Main Body	1
S710S-080	160 μm Coating Fiber Holders	1 pair
S710S-250	250 μm Coating Fiber Holders	1 pair
S710S-400	400 μm Coating Fiber Holders	1 pair
S710S-900	900 μm Coating Fiber Holders	1 pair
S183-X-A-0002	Fiber Transporter	1
S183-X-S-0003	AC Adaptor	1
S183-X-S-0004	AC Power Cord	1
S183-X-S-0005	Spare Electrodes	1 pair
	Electrode Sharpener	1
	User's Manual	1

S183 Optional Accessories:

P/N	Description	Qty
S325A	High Precision Cleaver	1
S325S80	High Precision 80 μm Cleaver	1

Splice-On Connector Termination System

Description:

FITEL's new connector termination system allows for unsurpassed performance and flexibility in the field. This new "splice-on" connector eliminates the need for field polishing and significantly improves the quality of the termination and installation time required. FITEL's factory polished ferrules with pre-cleaved fiber stubs are spliced onto the field fiber utilizing FITEL's proprietary ferrule holder and fusion splicer. The connector is easily assembled by using a process that requires minimal skill or training.

- Both single-mode and multimode versions are available.



Technical Information - Splicer:

Type	S122A	S177A
Splicing Method	Clad-Alignment	Core-Alignment
Fiber Type	SMF, MMF, DSF, NZDSF	SMF, MMF, DSF, NZDSF, EDF, etc.
Insertion Loss	Typical 0.05 dB (SMF)	Typical 0.02 dB (SMF)
Battery Capacity	50 splice cycles	70 splice cycles
Applicable Sleeves	20 - 60mm	20 - 60mm

Technical Information - Connector:

Type	SC/Ultra PC; FC/Ultra PC	SC/Angled PC; FC/Angled PC
Insertion Loss	Typical 0.30dB	
Reflectance	< - 55 dB	< -65 dB
Fiber Type	SMF	
Jacket Type	900 μ m, 2 mm, 3 mm	
Ferrule Type	Zirconia ceramic ferrule with pre-polished fiber stub	

Features & Applications:

• Simple, Fast, & Consistent Field Termination

Allows for easy field repair of pre-terminated splitters, fan outs, and drop terminals.

• No Polishing or Epoxy

FITEL's connector termination process requires no polishing or epoxy increasing the quality and consistency of field connector termination. Total installation time is greatly reduced compared to traditional methods.

• Fiber Management

The most difficult task for splicer operators has always been managing the fiber upon completion of splicing. The connector termination feature on the S177A eliminates the need for splice trays resulting in easier fiber management, reduced storage requirements, and faster installation times.

900 μ m CONSTRUCTION



2 & 3 mm CONSTRUCTION



SEIKOH GIKEN
CONNECTORS

Ordering Information

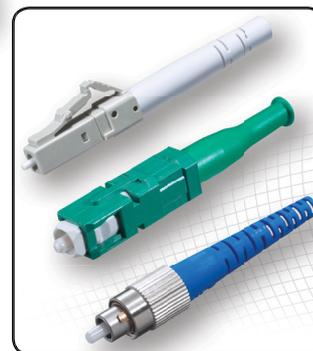
P/N	Description
S707C	SOC Fiber Holder for S177A-02
S325A	S325A Hand-Held High Precision Cleaver
S240A	S240A Slitter Snapper
SS-01	SS-01 Splicer Scissors
S211B	S211B 3-Hole Fiber Stripper
CRP-01	CRP-01 SOC Crimp Tool
SSCS-PN1	SC/APC Splice-On-Connector, 900 μ m
SSCS-PN2	SC/APC Splice-On-Connector, 2 mm
SSCS-PN3	SC/APC Splice-On-Connector, 3 mm
SSCS-P1	SC/UPC Splice-On-Connector, 900 μ m
SSCS-P2	SC/UPC Splice-On-Connector, 2 mm
SSCS-P3	SC/UPC Splice-On-Connector, 3 mm
SAPS-388	FC/APC Splice-On-Connector, 900 μ m
SAPS-386	FC/APC Splice-On-Connector, 2 mm
SAPS-387	FC/APC Splice-On-Connector, 3 mm
SAPS-358	FC/UPC Splice-On-Connector, 900 μ m
SAPS-356	FC/UPC Splice-On-Connector, 2 mm
SAPS-357	FC/UPC Splice-On-Connector, 3 mm



S122A



S177A-02



SOC CONNECTORS

Cleaver

One-Step Cleaving... In the Palm of your Hands

S325A Hand-Held High Precision Cleaver

Key Features:

- One-Step Action
- Cleave Anywhere! - In Your Palm or on Your Desktop
- Easy Fiber Loading
- Simple Operation
- High Capacity Waste Fiber Collection
- Durable Design
- Easy Maintenance on-Site



Specifications:

Fiber Types	All fiber types, single to 12-fiber ribbons
Clad Diameter	0.125 mm
Coating Diameter	0.25 mm and 0.9 mm for single fiber; 0.3 mm to 0.4 mm thickness for ribbons
Cleave Length	Single Fiber: Fixed Length - 10 & 16 mm Variable Length - 3 to 20 mm Ribbon Fiber: 10 mm Fixed Length
Dimensions/Weight	93 W × 68 D × 52 H mm, 330 g

* S325S80 High precision cleave for 80 μm cleaving is also available.

Standard Components:

P/N	Description	Qty
S325X-01	Main Body	1
S325X-02	Soft Carrying Case	1
S325X-03	Normal Fiber Waste Bin	2
S325X-04	Single Fiber Adapter	1
S325X-05	Large Capacity Fiber Waste Bin	1
FTS-B277	User's Manual	1



S310 and S315 Single Fiber Cleavers

The FITEL S310 and S315 Single Fiber Field Cleavers are designed for cleaving fiber in the field quickly and easily. The S310 and S315 Field Cleavers can accommodate 0.25 mm and 0.9 mm coating diameters and their small lightweight size makes them the perfect addition to any field splicing system. The S310 and S315 Field Cleavers require some skill to achieve the desired cleave angle and may not be appropriate for some splicing applications. The S310 is specifically designed to cleave fiber in the field accurately to a 16 mm length. The S315 Cleaver has a graduated scale, which allows for cleave lengths of 5 to 20 mm.

Applicable Optical Fiber:

Silica glass-based optical fibers, single fiber, 0.25 mm and 0.9 mm coating diameter, 0.125 clad diameter.

Models:

S310 : For cleaving to 16 mm length

S315 : For cleaving 5 to 20 mm length adjusting with scale

Dimensions 20 W × 125 D × 42 H mm

Weight 65 g



S218R Thermal Stripper



New & Improved !! Cordless, Light, & Quick

Key Features:

- Exceptional stripping for single and ribbon fiber
- Simple Operation via built-in battery or AC power
- Built-in battery recharger-battery always charging when AC power is connected
- Durable Design
- Easy Maintenance on-Site
- RoHS Compliant



Specifications:

Fiber Types	All fiber types, single to 12-fiber ribbons		
Clad Diameter	0.125 mm		
Coating Diameter	0.25 mm to 0.4 mm for single fiber; 0.3 mm to 0.4 mm thickness for ribbons		
Power Source	DC 11 ~ 14V	AC 85~264 V	*using S952 AC Adapter
Battery Running Time	Approximately 10 hrs.		
Charge Time	Approximately 2.5 hrs.		*when unit is in off position
Operating Environmet	Temperature: 0 ~ 40° C Humidity: Below 95%		*non-condensing
Dimensions/Weight	125 W × 48 D × 41 H mm, 260 g		*weight including battery

Package & Accessories:

Model	P/N	Description	Qty	Note
S218R	S218R-01	Main Body	1	
	S944	Battery	1	
	S952	AC Adapter	1	
	—	Hexagon Wrench	1	For replacing blade
	—	Screwdriver	1	For battery cover
	—	User's Manual	1	
S218R Optional Parts	S218X-02	Power Cord A	1	Cord used to connect S218R to splicer
	S218X-03	Single Fiber Adapter	1	Used when stripping single fiber without a fiber holder
	S218X-06	Spare Blade	1	



S210 Single Fiber Stripper

The FITEL S210 Single Fiber Stripper is designed to strip 0.25 mm as well as 0.9 mm diameter fiber. This easy to use stripper has a 20 mm wide base with the blade located in the center to ensure safe longitudinal stripping.



Applicable Optical Fiber:

Silica glass-based optical fibers, single fiber, 0.25mm and 0.9mm coating diameter, 0.125 clad diameter.

Dimensions 20 W × 80 D × 26 H mm

Weight 70 g

Fusion Splicer Accessories and Consumables

S42X Fusion Splicer Tool Kits

The S42X Series Fusion Splicer Tool Kit contains all of the necessary tools required for optical fusion splicing in a rugged carrying case. The durable carrying case features separate compartments for organizing tools and consumables.



Description	Model			Qty
	S422	S423	S424	
S210 Single Fiber Stripper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Carrying case	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
250 cc Polyethylene bottle with siphon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Cleaning cotton for optical fiber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Cotton stick for cleaning V-groove, lens, mirror	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Blower brush for cleaning V-groove, lens, mirror	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Precision screw driver set and hexagonal wrench set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Electrode sharpener	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
S310 Single Fiber Cleaver	<input type="checkbox"/>			1
S325A High Precision Cleaver		<input type="checkbox"/>	<input type="checkbox"/>	1
S218R Thermal Stripper			<input type="checkbox"/>	1

S220A Optical Ribbon Fiber Separator

Designed to initiate separating 2 to 12-fiber ribbons into single fibers.

After shaving with S220A Separator, the ribbon fiber can be easily separated by fingers into single fibers. Compact carrying case included as standard.



Applicable Optical Fiber:

2 to 12 fiber ribbons with the thickness of 0.30 ~ 0.40 mm

Dimensions	55 W × 30 D × 42 H mm
Weight	100 g

Caution

Do not use the S220A Separator on live fiber or for a mid-span strip. Discard the section of the fibers to which the S220A Separator was applied before splicing or reconnecting the exposed fibers.

Model	Description	Qty
S220A	Fiber Separator	1
FTS-B013	User's Manual	1

Fusion Splicer Accessories and Consumables

S233 Optical Ribbon Fiber Splitter

FITEL S233 Ribbon Splitter splits 4, 8, 12, and 24-fiber ribbons more easily, quickly, and accurately than ever before! Another great FITEL fusion splicing accessory from OFS!

Key Features:

- **Small, simple, and compact design for field use.**
- **All-metal body for maximum durability.**
- **Interchangeable fiber guides for different ribbon sizes.**
- **No tools required to change fiber guides!**

Applicable Optical Fiber:

125 μm cladding diameter; 4/8/12/24-fiber ribbons; 0.25 mm pitch; 0.30 to 0.40 mm thickness; UV-cured acrylic resin coating*

* S233 may not work satisfactorily with some ribbon fiber coating materials.

Dimensions 115 W × 20 D × 20 H mm

Weight 95g



Models : (see below for Fiber Guide descriptions)

S233A : Fiber Guide A is included as standard

S233B : Fiber Guide B is included as standard

S233C : Fiber Guide C is included as standard

Caution:

Do not use the S233 on live fiber or for a mid-span strip. Discard the section of the fibers to which the S233 was applied before splicing or reconnecting the exposed fibers.

Standard Package:

Description	P/N	Qty	Note	Model		
				S233A	S233B	S233C
Main Body**	S233X-01	1	All-metal base body for all fiber guides	○	○	○
Cleaning Brush	S233X-02	1	Tool to remove fiber jacket waste	○	○	○
Carrying Case	S233X-03	1	Clear; holds all standard components	○	○	○
Fiber Guide A	S233X-11	1	Obverse: 4-fiber ribbon > 2 x 2-fiber ribbons Reverse: 4-fiber ribbon > 3-fiber ribbon & single-fiber	○	—	—
Fiber Guide B	S233X-12	1	Obverse: 4-fiber ribbon > 2 x 2-fiber ribbons Reverse: 8-fiber ribbon > 2 x 4-fiber ribbons	—	○	—
Fiber Guide C	S233X-13	1	Obverse: 12-fiber ribbon > 2 x 6-fiber ribbons Reverse: 24-fiber ribbon > 2 x 12-fiber ribbons	—	—	○
User's Manual	S233X-82	1	User's Manual	○	○	○

** Not sold individually

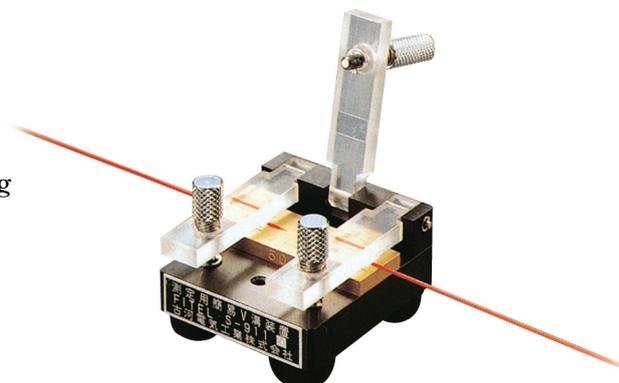
S91X Temporary Fiber Aligner

Designed as a jig for temporary jointing the fibers for measuring transmission loss or for experimental purposes. A simple procedure to strip, clean, cleave and load the fiber makes a temporary jointing with a typical average loss of 0.25 dB for SM fiber (when using matching oil).

Item	P/N	Qty
Main Body	S91X	1
User's Manual	—	1

Specifications:

Fiber Type	SMF, MMF (Single Fiber)
Insertion	0.25 dB (with matching gel)
Dimensions	50 W × 55 D × 33 H mm
Weight	350 g



Model	Dia. of Applicable Fibers	Qty
S911	0.90 × 0.90	1
S912	0.90 × 0.40	1
S913	0.40 × 0.40	1
S914	0.40 × 0.25	1
S915	0.25 × 0.25	1
S916	0.25 × 0.90	1

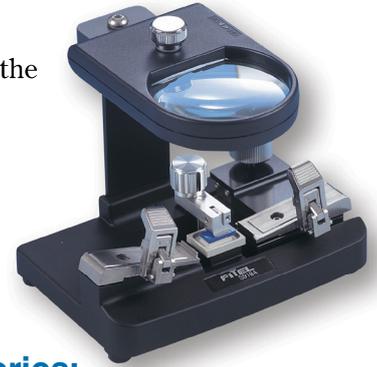
S918A Temporary Fiber Aligner

Designed to make the time-consuming job of testing ribbon fiber quicker and easier, the S918A allows the user to create a temporary connection of single to 12-ribbon fibers.

Specifications:

Fiber Type	Silica glass-based optical fiber
Ribbon Count	2-12 Fiber Ribbon
Coating	250 μm-900 μm Single Fiber 300 μm-400 μm Ribbon Fiber (250 mm pitch)
Cleave Length	100 mm
Typical Loss	0.2 dB (using matching gel)
Pushing Mechanism	Manual dial wheel
Light	Switch turns light on in magnification area
Dimensions	Body : 131 W × 90 D × 58 H mm Case : 385 W × 270 D × 95 H mm
Weight	Body : 540 g

P/N	Applicable Fibers (Number of fibers/Diameter or Ribbon Thickness)
S706S-025	Single/0.25 mm
S706S-090	Single/0.9 mm
S706A-002	2-fiber ribbon/0.4 mm
S706A-004	4-fiber ribbon/0.4 mm
S706A-008	8-fiber ribbon/0.4 mm
S706A-012	12-fiber ribbon/0.4 mm



Optional Accessories:

Fiber Holders :

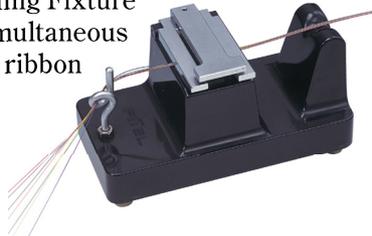
The fiber holders to meet your fiber type are required from the following selections.

Standard Components:

Description	Model No.	Qty
Main Body	S918A-01	1
Light	S918A-02	1
Matching Gel	S918X-31	1
Bamboo Pick	S918X-32	5
Case	S918X-33	1
User's Manual	—	1

S612 Ribbon Forming Fixture

Designed to form a ribbon-like fiber with 2 to 12 single fibers. S612 Ribbon Forming Fixture offers a high efficient simultaneous fiber splice with FITEL ribbon fusion splicers.



- Easy to operate.
- Smallest fixture in the industry.
- Consumables are adhesive only.

Specifications:

Applicable optical fiber	2 to 12 fiber ribbons
Dimensions	120W×60D×58H mm
Weight	400g

Standard Components:

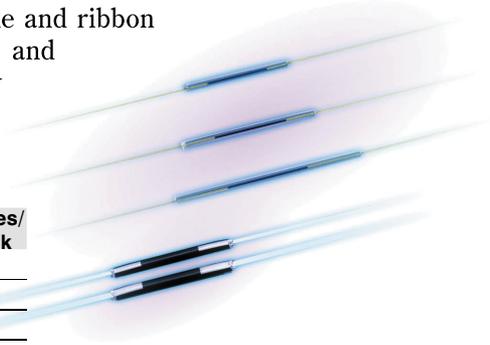
Description	Model No.	Qty
Ribbon forming fixture	S612	1
Adhesive	S611-04	50 ml x 2 bottles
User's Manual	FTS-B010	1

Protection Sleeves

FITEL offers a wide variety of protection sleeves to accommodate single and ribbon fiber. FITEL's protection sleeves come in ribbon, standard, slim, mini, and macro sizes. They are composed of an outer an inner sleeve reinforced by an internal member made of stainless steel or ceramics.

Model, Specification & Applicable Fiber:

Model	Applicable fiber	Length	Material of strength member	Pieces/pack
S921	Single fiber, 0.25-0.9 mm coating diameter	60 mm	Stainless steel	25
S922	Single fiber, 0.25-0.9 mm coating diameter	40 mm	Stainless steel	25
S924	Single fiber and up to 8-fiber ribbon	40 mm	Quartz	25
S927A	Single fiber and up to 8-fiber ribbon	40 mm	Ceramic	100
S927B	Single fiber and up to 12-fiber ribbon	40 mm	Ceramic	100
S928A20		20 mm	Stainless steel	100
S928A25	Single fiber 0.25-0.4 mm coating diameter	25 mm	Stainless steel	100
S928A35		35 mm	Stainless steel	100



ID-H/R Fiber Identifier



The FITEL ID-H/R is a rugged, user-friendly tool which identifies optical fibers by detecting the optical signals passing through the fiber utilizing local detection technology.

The feature and benefits are:

Features:

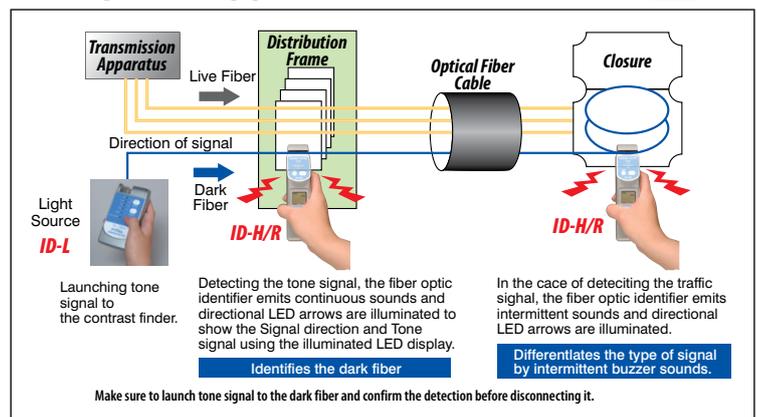
- **Wide dynamic range**
- **No Head changing or adjustments**
- **LCD screen adoption**
(Detection Light Level, Modulation Light Frequency, Machinery Information)
- **Detects the signal without disrupting traffic**
- **Detects the tone signal and traffic signal**
- **Lighted LED displays for clear identification**
- **Lightweight design for easy handling**
- **Super low insertion loss**
- **RoHS Compliant.**



Standard Components:

Item	Code	Note
Main Unit	AI02H	Battery and Strap and Instruction manual are included
Carrying Case	AI02H-001	Easily to belt or tool pouch

Example of Application:



Specifications:

Applicable Fiber		Up to SM 12-fiber ribbon SM 250 μm single fiber	Up to 3 mm Cordage (built-in only SM 250 μm single fiber)	SM 900 μm tight buffer (Reference value)
Applicable Wavelength		900~1700 nm		
Frequency for Tone Signal		270Hz and 1kHz and 2kHz (Duty ratio 50±10%) Modulation Light No Modulation Light Communication Light that Continued		
Measurement Range of Optical Power *1		0 ~ -80 dBm		
Maximum Level of Insertion Loss (Typical)	1310 nm	0.1 dB		0.5 dB
	1550 nm	1.0 dB		2.0 dB
	1650 nm	2.5 dB		3.0 dB
Average Minimum Detection Level *2 (Typical)	1310 nm	-40 dBm	-30 dBm	-15 dBm
	1550 nm	-50 dBm	-40 dBm	
	1650 nm			
Indication for Traffic Signal or Tone Signal		[Traffic Signal *3] Direction LED illuminates + Intermittent buzzer sound + Displayed an Optical power measurement range by LCD [Tone Signal] Direction LED illuminates + Tone LED illuminates + Continuous buzzer sound + Displayed an Optical power measurement range by LCD + Displayed Frequency by LCD		
Operating Time		8 hours (Using alkaline battery)		
Dimensions		40 W×65 D×153 H mm		
Weight		160 g (Including battery)		

*1: Duty ratio 50% *2: This specification is based on our optical fiber with our test method. *3: DO NOT disconnect or rewire based only on the traffic signal detection. Make sure to launch the tone signal before disconnecting or rewiring the fiber.

ID-L Hand-Held Light Source



Features:

- **4 Wavelength Lineup**
1310 nm/1490 nm/1550 nm/1610 nm
- **Boost Function**
Activating the BOOST function increases the output signal by 10dB
- **Selection of 4 frequencies**
CW/270 Hz/1 kHz/2 kHz
- **Lightweight design for easy handling**
- **Operate more than 60 hours on battery**
With Alkaline battery at 23° C / Without using boost function
- **Removable Adapter For Easy Cleaning**
- **RoHS Compliant**

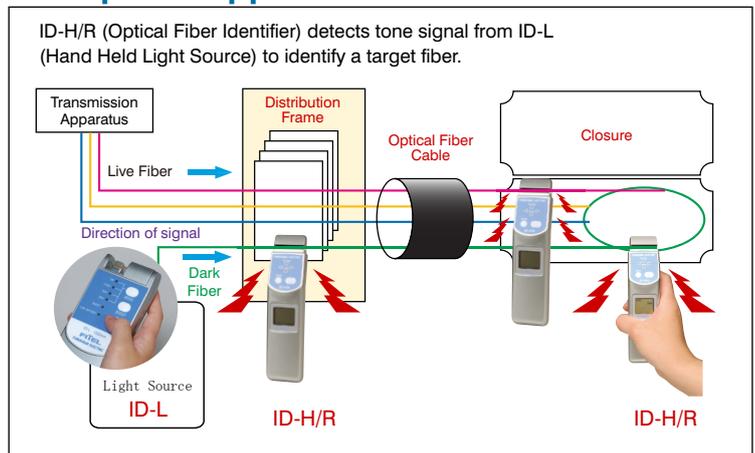


CLASS1 LASER PRODUCT

Optional Accessories:

Item	Code	Note
Carrying Case	AT03H-001	—
SC Adapter	AT03H-002	Standard Accessory
FC Adapter	AT03H-003	—

Example of Application:



Specifications:

Product name	ID-L Handy Light Source 1310nm	ID-L Handy Light Source 1490nm	ID-L Handy Light Source 1550nm	ID-L Handy Light Source 1610nm
Code	AT03H31	AT03H49	AT03H55	AT03H61
Wavelength	1310±10 nm	1490±10 nm	1550±10 nm	1610±10 nm
Fiber type	Single Mode Fiber			
Spectrum width	Less than 1nm (-20 dB from peak power)			
Modulation	CW / 270Hz / 1 kHz / 2 kHz			
Output power	Normal: -2.5±2 dBm Boost: +7.5±2 dBm (3 dB down at 270 Hz, 1 kHz, 2 kHz mode)			
Stability	±0.05 dB (1 hour / Constant temperature)*			
Optical connector	SC Adapter (FC adapter is option)			
Battery type	AA Battery (Alkaline / Zinc-carbon / NiMH)			
Battery life	Over 60 hours (Alkaline battery at 23° C)			
Auto shutdown	10 minutes without any operation			
Operating temp.	0 to 40° C			
Operating humidity	20 to 90% RH (non-condensing)			
Dimensions	70 W×22.5 D×128 H mm			
Weight	160 g (Including batteries)			
Accessories	Strap: 1 AA alkaline batteries: 2 SC adapter: 1 Instruction manual: 1			

LBT-101 Short Range Optical Tester

Measurement Tool for Live Fiber testing of FTTH. 1610 nm OTDR for short Distance testing with Built-in Optical Filter.

Live Fiber Testing

1610 nm light source and built-in Optical Filter realized the test of live fiber of PON system! First in the industry!

Key Features:

Live Fiber Testing ^{*1}

Enabled live fiber testing by launching 1610 nm wavelength, (1310 nm/1490 nm/1550 nm).

Portable

LBT-101 is a lightweight, handheld, user-friendly tool. Easily held in one hand.

Easy Operation

Just pressing "START" button and it will start. Easy to operate for less experienced user.

High Resolution

5 cm distance resolution. 2m dead zone.

Built-in Fiber

Measurable from the first connector.

Real Time Sweeping

Real time sweeping to identify target fiber.

Data Storage

Internal data storage is 40 MB (up to 800 traces). Also supported by external USB memory.

*1 : The confirmation that there is no influence on the actual communication system is necessary.



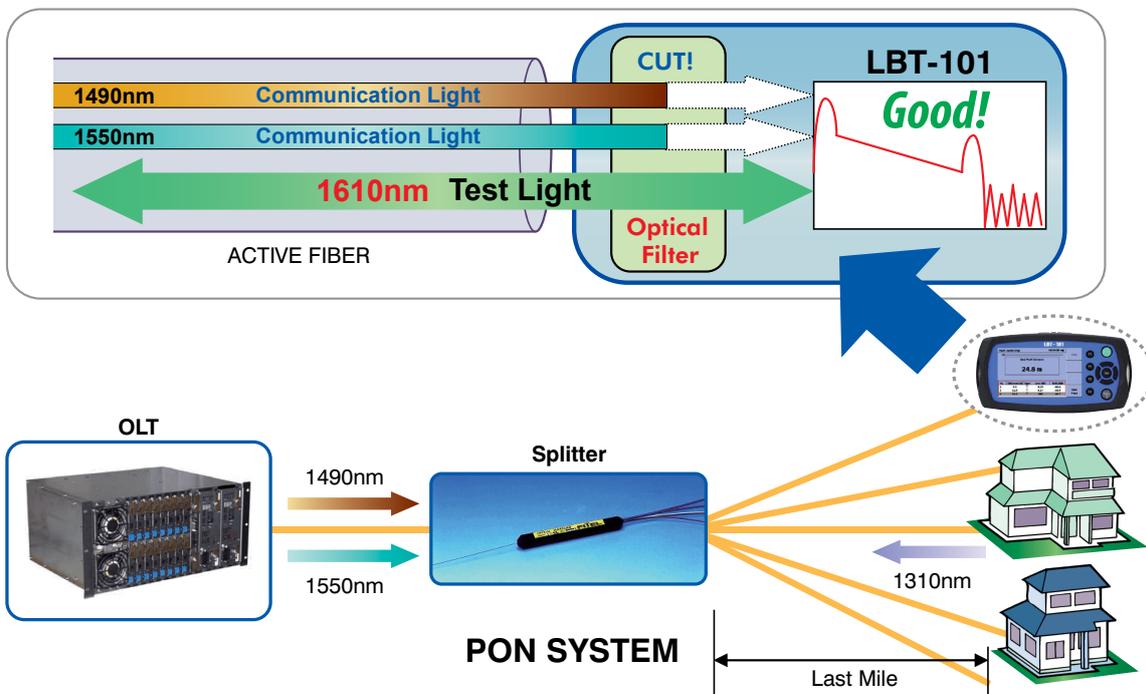
Wide Screen

Full color 4.3" wide screen, which provides high visibility, both indoor and outdoor.

Long Battery Life

Typically 3.5 hours by single charge.

RoHS compliant



Specifications:

Wavelength^{*1}	1610 ± 5 nm
Fiber Type	10/125 μm SMF (ITU-T G.652)
Built-in Fiber	10m
Distance Range^{*2}	1.0 km (3,000 ft) or 2.5 km (8,000 ft) set automatically
Pulse width	15 ± 3ns
Dynamic Range	> 6dB
Deadzone	Fresnel: <2 m ^{*3} , Backscatter: < 7 m ^{*4}
Data Storage	Internal memory: 40 MB (up to 800 traces), External (USB): up to 20,000 traces with 1 GB
Dimensions	190 W × 96 H × 48 D mm (7.5" × 3.8" × 1.9")
Weight	< 800 g (< 2 lbs)
Display	4.3 inch TFT-LCD (480 × 272, with backlight, transparent type)
Interface	USB 1.1, Type A × 1 (memory), Type Mini-B × 1 (USB mass storage)
Power Supply	9 VDC, 100 to 240 VAC, Allowable input voltage: 80 to 264 V, 50/60 Hz
Battery	NiMH, Operating Time: 3.5 hours (typical) ^{*5} , Recharge Time: < 3 hours ^{*6}
Environmental Conditions	Operation: 0° to +50° C, < 80% (non-condensing) ^{*7} , Storage: -20° to +60° C
EMC	Vibration: MIL-T28800E Class 3, Dust and Drip proof: IP 51
EMC	EN61326
Laser Safety	IEC Pub 60825-1: 2001 Class 1

*1: @25° C

*2: Averaging: 10 seconds, SNR=1, 25° C

*3: Return loss 45 dB, Deviation ±0.5 dB, 25° C

*4: Return loss: 45 dB, 25° C (1.5 dB down from the peak of Fresnel)

*5: back light low, sweeping halted at 25° C

*6: 10 to +30° C, Power OFF

*7: 10 to +30° C (During Recharging battery, Power OFF)

IEC 60825-1 2001
CLASS 1 LASER PRODUCT

This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser notice NO. 50 DATED JULY 26 2001

Standard Package:

P/N	Code	Note
Main Unit	LBT-101	
AC Adapter	—	Standard Accessory
Battery Pack	—	Standard Accessory

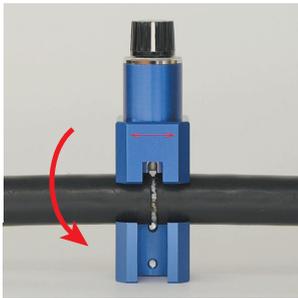
CS201 Cable Sheath Strippers

The need for fast Mid-Span Access to the fiber cable core is very important for the rapid growing FTTX market. The CS201 is a tool which can perform mid span sheath stripping reliably, easily, and safely.

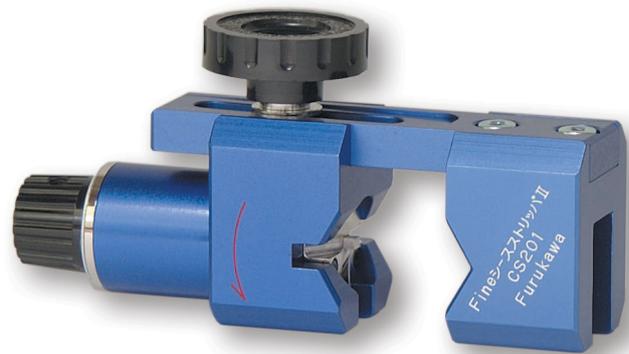
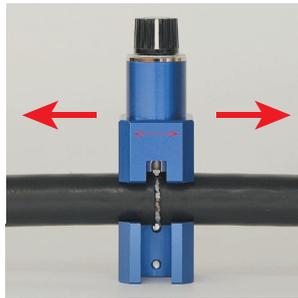
Features:

- Accurately removes the sheath of a cable without damaging the fiber
- Can be used for making circular and lateral cuts in the cable
- Blade is designed for safety
- Small and lightweight design

Circular cut in cable



Lateral cut along the cable



CS201

Specifications:

Applicable cable diameter	Ø10~32mm
Applicable cable jacket type	Polyethylene Jacket, Laminated Aluminum Polyethylene Jacket. (Jacket Thickness : Less than 4mm)
Weight	Approx. 200g
Dimensions	Approx. 90W×38D×52H mm
Change blade (Option)	Specify as CS202

Sheath Removing Instructions:

STEP 1 : Use PVC tape to mark the section of Jacket be removed



STEP 2 : Attach the CS201 to the cable.



STEP 3 : Cut the cable laterally between the marked position.



STEP 4 : Cut around the cable at the both ends (Circular)



STEP 5 : Strip the sheath off



STEP 6 : Pull the fiber out



FITEL[®]

FUSION SPLICERS

Contact Us:

Fusion Splicer Customer Service, Training and Service Center

417 Dividend Drive
Peachtree City, GA 30269, USA
Toll Free: 866-452-9516
Phone: 678-783-1090
Fax: 678-783-1093
Email: splicers@ofsoptics.com

OFS Corporate Headquarters

2000 Northeast Expressway
Norcross, Georgia 30071, USA
Toll Free: 888-Fiber-Help
Intl. Phone: 770-798-5555
Email: ofs@ofsoptics.com

For additional information please contact your sales representative. You can also visit our website at:

<http://www.ofsoptics.com>.

FITEL is a registered trademark of Furukawa Electric North America, Inc.

OFS reserves the right to make changes to the prices and product(s) described in this document in the interest of improving internal design, operational function, and/or reliability. OFS does not assume any liability that may occur due to the use or application of the product(s) and/or circuit layout(s) described herein.

This document is for informational purposes only and is not intended to modify or supplement any OFS warranties or specifications relating to any of its products or services.

Copyright © 2009 OFS FITEL, LLC.
All rights reserved, printed in USA.

OFS
Marketing Communications
Fusion Splicers and Tools-0709

Use electronic files, available at:
www.ofsoptics.com - Use less paper



A Furukawa Company

