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Data Sheet

August 13, 2026

FUJIKURA

Fujikura 31S SM MM Active V-Groove Fiber Fusion Splicer

Fujikura 31S Active Cladding Alignment Fusion Splicer The Fujikura 31S is a fully ruggedized active cladding alignment (active V-groove) single-fiber fusion splicer. Dual CMOS cameras provide consistent cladding alignment and loss estimation. Typical SM splice time is about 6 seconds (SM FAST); typical tube heat is about 25 seconds with FP-60 (60 mm) sleeves. Typical average splice loss is 0.03 dB SM, 0.01 dB MM, 0.05 dB DS, and 0.05 dB NZDS (identical-fiber cut-back class). Extended-life BTR-11A battery supports about 200 splice/heat cycles; electrodes last about 5000 splices. Interchangeable sheath clamps or fiber holders support fusion-installable connectors. Software updates via network as new splice programs become available. The Fujikura 31S is a fully ruggedized active cladding alignment (active V-groove) single-fiber fusion splicer. Dual CMOS cameras provide consistent cladding alignment and loss estimation. Typical SM splice time is about 6 seconds (SM FAST); typical tube heat is about 25 seconds with FP-60 (60 mm) sleeves. Typical average splice loss is 0.03 dB SM, 0.01 dB MM, 0.05 dB DS, and 0.05 dB NZDS (identical-fiber cut-back class). Extended-life BTR-11A battery supports about 200 splice/heat cycles; electrodes last about 5000 splices. Interchangeable sheath clamps or fiber holders support fusion-installable connectors. Software updates via network as new splice programs become available.



MODEL

Fujikura 31S

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

31S

LISTING

<https://aumictechlabs.com/products/31s-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Fujikura 31S is a core alignment fusion splicer designed for single-mode and multimode fiber splicing in field environments. It employs active V-groove alignment combined with dual-camera observation to achieve consistent splice loss performance across SMF, MMF, DSF, and NZDSF fiber types. Active Fusion Control (AFC) technology minimizes re-splicing by optimizing splices on fibers with challenging cleave angles. The splicer operates at altitudes up to 5,000 m and wind speeds to 15 m/sec, with IP5X dust and IPX2 rain protection. A 5.0" color LCD touchscreen with 132X magnification (200X post-splice) provides intuitive control and clear fiber observation even in bright sunlight. Splice execution is rapid: 6 seconds in SM FAST mode and 9 seconds in SM AUTO mode. Tube heating for 250 μ m coated fiber completes in approximately 25 seconds.

Technical Specifications

Applicable Fiber Types: Single-mode (G.652, G.657), Multimode G.651, Dispersion-shifted G.653, Non-zero dispersion-shifted G.655

Cladding Diameter: 125 μ m; sheath diameter up to 3 mm with clamp

Cleave Length: 5 mm to 16 mm (with sheath clamp)

Splice Modes: 100 total modes

Heating Modes: 30 total modes

Typical Splice Loss: SMF 0.03 dB, MMF 0.01 dB, DSF 0.05 dB, NZDSF 0.05 dB

Return Loss: >60 dB

Typical Splice Time: SM FAST 6 seconds, SM AUTO 9 seconds

Typical Tube Heating Time: 25 seconds (250 μ m coating)

Splice Result Storage: Last 10,000 splices

Tension Test: 1.96 N to 2.25 N

Viewing System: Dual-axis 2CMOS camera with 132X/200X magnification

Battery: Rechargeable Li-ion (BTR-11); approximately 200 splice and heat cycles per charge

Electrodes: ~5,000 splice life; tool-less replacement

Dimensions: 131 mm W $\times$ 201 mm D $\times$ 79 mm H

Weight: 1,300 g (with battery)

Protection Sleeves: 60 mm, 40 mm, and Fujikura micro sleeves

Connectivity: USB 2.0 Mini-B for software upgrades

Key Features

Active V-groove alignment with dual-camera system ensures accurate fiber positioning

Portable design: 1,300 g total weight with integrated Li-ion battery

Field-rated construction: IP5X/IPX2 protection; operational to 5,000 m altitude

Fast splicing: 6-second FAST mode execution

Long electrode life: 5,000 splices with easy replacement

PC upgradeable via USB connectivity

Compatibility & Integration

The 31S accommodates standard 125 μ m cladding fibers and sheaths up to 3 mm diameter. Compatible with Fujikura 60 mm and 40 mm protection sleeves plus proprietary micro sleeves. Data logging supports 10,000 historical splice records.

Features & description

From manufacturer datasheet

Features

- Two-camera active cladding / active V-groove alignment

31S Characteristics / Specifications

PARAMETER	VALUE
Model	31S
Manufacturer	Fujikura / AFL
Instrument Type	Active cladding alignment fusion splicer
Applicable Fibers	SM (G.652 & G.657), MM (G.651), DSF (G.653), NZDS (G.655)
Fiber Count	Single
Cladding Diameter	125 um
Coating Diameter	250 um to 3 mm
Fiber Cleave Length	5 mm to 16 mm
Typical Average Splice Loss	0.03 dB SM; 0.01 dB MM; 0.05 dB DS; 0.05 dB NZDS
Return Loss	greater than 60 dB
Splicing Time	typical 6 s SM FAST; about 9 s SM AUTO (catalog class)
Arc Calibration	automatic real-time; previous-splice AUTO mode; manual available
Splicing Modes	100
Heating Modes	30
Splice Loss Estimate	two-camera active cladding alignment data
Storage of Splice Results	10000
Fiber Display	5 inch TFT color LCD; X, Y, or simultaneousXandY Magnification: 200X single-camera; 132X dual-camera
Viewing Method	2-axis CMOS camera
Operating Altitude	0 to 5000 m
Operating Temperature	-10 to +50 C
Operating Humidity	0 to 95% RH, non-dew
Wind Protection	maximum 15 m/s
Mechanical Proof Test	1.96 N (tension test class 1.96 to 2.25 N on some sheets)
Tube Heating Time	typical 25 s with FP-60 (60 mm) sleeve
Protection Sleeve Length	60 mm, 40 mm, and Fujikura micro sleeves

PARAMETER	VALUE
Battery Cycles	typical 200 splice/heat with BTR-11A
Electrode Life	5000 splices
Electrodes	ELCT2-16B
Power Supply	100-240 Vac auto-select with AC adapter; 14.8 V DC battery
AC Adapter	ADC-19A
Battery Pack	BTR-11A
Terminals	USB 2.0
Dimensions	131 × 201 × 79 mm
Weight	about 1300 g (1.3 kg) including battery Notes Specs from Fujikura/AFL 31S datasheets. Confirm installed sheath-clamp vs fiber-holder kit, FP-60 vs FP-03 heat programs, and BTR-11 vs BTR-11A labeling on the unit.
Humidity	0 to 95% RH, non-dew

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	10 to +50 C
Operating Temperature	10 to +50 C
Humidity	0 to 95% RH, non-dew
Operating Humidity	0 to 95% RH, non-dew
Wind Protection	maximum 15 m/s
Mechanical Proof Test	1.96 N (tension test class 1.96 to 2.25 N on some sheets)
Tube Heating Time	typical 25 s with FP-60 (60 mm) sleeve
Protection Sleeve Length	60 mm, 40 mm, and Fujikura micro sleeves
Battery Cycles	typical 200 splice/heat with BTR-11A
Electrode Life	5000 splices
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Power Supply	100-240 Vac auto-select with AC adapter; 14.8 V DC battery
AC Adapter	ADC-19A
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Dimensions	131 × 201 × 79 mm
Weight	about 1300 g (1.3 kg) including battery Notes Specs from Fujikura/AFL 31S datasheets. Confirm installed sheath-clamp vs fiber-holder kit, FP-60 vs FP-03 heat programs, and BTR-11 vs BTR-11A labeling on the unit.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Model	31S
Manufacturer	Fujikura / AFL
Instrument Type	Active cladding alignment fusion splicer
Specifications	
PARAMETER	VALUE
Applicable Fibers	SM (G.652 & G.657), MM (G.651), DSF (G.653), NZDS (G.655)
Fiber Count	Single
Cladding Diameter	125 um
Specifications	
PARAMETER	VALUE
Coating Diameter	250 um to 3 mm
Fiber Cleave Length	5 mm to 16 mm
Typical Average Splice Loss	0.03 dB SM; 0.01 dB MM; 0.05 dB DS; 0.05 dB NZDS
Specifications	
PARAMETER	VALUE
Return Loss	greater than 60 dB
Splicing Time	typical 6 s SM FAST; about 9 s SM AUTO (catalog class)
Arc Calibration	automatic real-time; previous-splice AUTO mode; manual available
Specifications	
PARAMETER	VALUE
Splicing Modes	100
Heating Modes	30
Splice Loss Estimate	two-camera active cladding alignment data

Specifications

PARAMETER	VALUE
Storage of Splice Results	10000
Fiber Display	5 inch TFT color LCD; X, Y, or simultaneousXandY Magnification: 200X single-camera; 132X dual-camera
Viewing Method	2-axis CMOS camera

Specifications

PARAMETER	VALUE
Operating Altitude	0 to 5000 m
Operating Temperature	-10 to +50 C
Operating Humidity	0 to 95% RH, non-dew

Specifications

PARAMETER	VALUE
Wind Protection	maximum 15 m/s
Mechanical Proof Test	1.96 N (tension test class 1.96 to 2.25 N on some sheets)
Tube Heating Time	typical 25 s with FP-60 (60 mm) sleeve

Specifications

PARAMETER	VALUE
Protection Sleeve Length	60 mm, 40 mm, and Fujikura micro sleeves
Battery Cycles	typical 200 splice/heat with BTR-11A
Electrode Life	5000 splices

Specifications

PARAMETER	VALUE
Electrodes	ELCT2-16B
Power Supply	100-240 Vac auto-select with AC adapter; 14.8 V DC battery
AC Adapter	ADC-19A

Specifications

PARAMETER	VALUE
Battery Pack	BTR-11A
Terminals	USB 2.0
Dimensions	131 x 201 x 79 mm

Weight: about 1300 g (1.3 kg) including battery

Notes

Specs from Fujikura/AFL 31S datasheets. Confirm installed sheath-clamp vs fiber-holder kit, FP-60 vs FP-03 heat programs, and BTR-11 vs BTR-11A labeling on the unit.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.