

# S123M Series ver.2

**NEW**

## Hand-Held Ribbon Fiber Fusion Splicer

### S123M ver.2 NEW Features

The S123M Series Hand-Held Ribbon Fiber Fusion Splicers have been enhanced and updated to version 2. The battery is automatically charged internally when connected to AC mains power even during operation. The new illumination lamp lights up a wide area around the V-grooves and helps operation in low light environment. The redesigned and strengthened heater simplifies the protection sleeve loading process.



### Features and Applications

With their low profile design and light weight bodies the S123M series offer not only ribbon fiber splicing but also single fiber splicing with outstanding mobility and extreme ease-of-use. In addition, the rugged body is designed to endure harsh operating conditions by improving shock/impact resistance with rubber pads embedded on 4 corners of the splicer body. It achieves water resistance compliant IPX2 and dust resistance compliant IP5X.

The fast splice time and protection sleeve shrink time offers a highly efficient work environment. Large battery capacity makes it possible to perform 70 cycles of splicing and heating for S123M4 and 160 cycles for S123M8 and S123M12 with two batteries, while it offers SOC solution as well. By combining portability, ease-of-use, improved speed and durability, the S123M series become an excellent option for use in the conventional telecommunications industry.



### PRODUCT LINE UP

| Model    | Application                               |
|----------|---|
| S123M4-A | Single to 4 ribbon fiber (with Soft Case) |
| S123M4-B | Single to 4 ribbon fiber (with Hard Case) |
| S123M8   | Single to 8 ribbon fiber                  |
| S123M12  | Single to 12 ribbon fiber                 |

## Key Features

**NEW** Internal battery charging

**NEW** Illumination lamp lights up a wide area around V-grooves

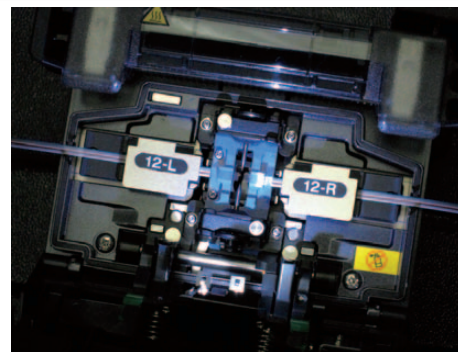
- **IP-52 - Rugged and compact hand held design** for demanding environmental conditions
- **Fast splice (15 sec) at low loss and Fast heating (36 sec) for ribbon fiber** <sup>\*1</sup>
- **Simple operation** with Fixed V-groove
- **Splicer is compatible with the Seikoh Giken Splice-on-connector** (9mm bare fiber SOC)
- **70 cycles (Splicing & heating) for S123M4 and 160 cycles for S123M8 and S123M12 with two batteries** <sup>\*2</sup>
- **Available for All METRO/LAN/FTTx fibers** including ultra bend-insensitive fibers (e.g. EZ-Bend)
- **Easy maintenance** - Toolless electrode replacement/mirror free alignment system
- **Up-and-down fiber clamp system** allows automatic fiber re-positioning.
- **Easy software upgrade** via the Internet
- **PC interface software** to allow user manage splicing programs and results
- **Auto-start** shrink sleeve oven feature

**NEW** Improved GUI to further enhance ease-of-use

- **RoHS compliant**

<sup>\*1</sup> By using semi-auto mode for splicing and pre-heating mode for heating.

<sup>\*2</sup> By using semi-auto mode for splicing and regular mode for heating.



**FITEL Splicer SOC partners**



## Under Tough Environment

S123M series passed criteria as below <sup>\*3</sup>

### Drop Resistance

76 cm drops from 5 different angles



### Water Resistance

IPX2 rating drip proof <sup>\*4</sup>



### Dust Resistance

IP5X rating dust proof <sup>\*5</sup>



<sup>\*3</sup> Above tests were performed at Furukawa Electric Labs, and do not guarantee that the machine will be undamaged under these conditions.

<sup>\*4</sup> IPX2 rating drip proof means that the machine can be exposed to 3 mm/min drip from 4 different angles with 15° tilt for 2.5 min each and still functions.

<sup>\*5</sup> IP5X rating dust proof means that the machine can be exposed to dust particles with a diameter of 0.1 to 25 µm for 8 hours and still functions.



## SPECIFICATIONS

|                                  |   |  |
|----------------------------------|---|--|
| <b>Applicable Fibers</b>         | SM (ITU-T G.652), MM (ITU-T G.651), DSF (ITU-T G.653), NZD (ITU-T G.655), BIF/UBIF (Bend Insensitive Fiber ITU-T G.657) |  |
| <b>Cladding Diameter</b>         | 125μm   |  |
| <b>Coating Diameter</b>          | Single fiber: 250 to 900μm, Ribbon fiber: 280 to 400μm (thickness)  |  |
| <b>Fibers Cleave Length</b>      | 10 mm   |  |
| <b>Average Splice Loss</b>       | SM: 0.05 dB, MM: 0.02 dB, DSF 0.08 dB, NZD 0.08 dB  |  |
| <b>Splice Time</b>               | Single fiber: 15 seconds, Ribbon fiber: 15 seconds  |  |
| <b>Heat Time</b>                 | Ribbon fiber: 36 seconds* <sup>6</sup> (S924: 40mm sleeve) (Pre-heat mode)  |  |
| <b>Splice Programs</b>           | Max. 150  |  |
| <b>Heat Programs</b>             | Max. 18   |  |
| <b>Automatic Heating Start</b>   | Available   |  |
| <b>Applicable Sleeves</b>        | 40/60 mm  |  |
| <b>Fiber Holding</b>             | Fiber holder System   |  |
| <b>Tension Test</b>              | 1.96 N  |  |
| <b>Return Loss of Splice</b>     | 60 dB or more   |  |
| <b>Fiber Image Magnification</b> | 48X [S123M4], 28X [S123M8], 20X [S123M12]   |  |
| <b>Splice Memory</b>             | Max.1500 [S123M4], Max.1000 [S123M8, S123M12]   |  |
| <b>Image Capture Capacity</b>    | Last 100 images to be automatically captured + Up to 24 images to be stored permanently                                 |  |
| <b>Dimension</b>                 | S123M4  | 127W×199D×81H mm (not including shock absorber)<br>159W×231D×104H mm (including shock absorber)  |
|                                  | S123M8, S123M12   | 127W×199D×105H mm (not including shock absorber)<br>159W×231D×130H mm (including shock absorber) |
| <b>Weight</b>                    | S123M4  | 1.4 kg (without battery), 1.6 kg (with battery)  |
|                                  | S123M8, S123M12   | 1.6 kg (without battery), 2.0 kg (with two batteries)  |
| <b>Monitor</b>                   | 3.5" color LCD monitor  |  |
| <b>Data Output</b>               | USB ver. 2.0 mini   |  |
| <b>Battery Capacity**</b>        | Typical 70 splice/heat cycles with S943B battery (S123M4)   |  |
|                                  | Typical 160 splice/heat cycles with two S943B batteries (S123M8, S123M12)   |  |
| <b>Wind Protection</b>           | Max. wind velocity of 15 m/s.   |  |
| <b>Operating Temperature</b>     | -10 to 50°C (without excessive humidity)  |  |
| <b>Storage Temperature</b>       | -40 to 60°C (without excessive humidity)  |  |
| <b>Humidity</b>                  | 0 to 95% RH (non-condensing)  |  |
| <b>Power Source</b>              | AC input 100 to 240 V (50/60 Hz), DC Input 11 to 17 V without any change of hardware                                    |  |

\*<sup>6</sup> The first heating after turning on the power can be longer than usual heating time.

\*<sup>7</sup> The number of the splicing and heating the machine can produce using a full charged battery at room temperature of 20°C, semi-auto mode for splicing and regular mode for heating. Depending on the condition of the battery and the operation environment, the number can vary.

## STANDARD PACKAGE

| Item                            | P/N             | Quantity |          |                 |                 |
|---------------------------------|-----------------|----------|----------|-----------------|-----------------|
|                                 |                 | S123M4-A | S123M4-B | S123M8          | S123M12         |
| ❶ S123M4 Main Body              | S123-M4-A-0001  | 1        | 1        | —               | —               |
| ❷ S123M8 Main Body              | S123-M8-A-0001  | —        | —        | 1               | —               |
| ❸ S123M12 Main Body             | S123-M12-A-0001 | —        | —        | —               | 1               |
| ❹ Soft Carrying Case            | SCC-01          | 1        | —        | —               | —               |
| ❺ Hard Carrying Case            | HCC-01          | —        | —        | 1               | 1               |
| ❻ Hard Carrying Case            | HCC-02          | —        | 1        | —               | —               |
| ❼ Battery Pack                  | S943B           | 1        | 1        | 1* <sup>8</sup> | 1* <sup>8</sup> |
| ❽ Spare Electrodes              | S969            | 1pair    | 1pair    | 1pair           | 1pair           |
| ❾ AC Adapter for S123 and S958C | S976A           | 1        | 1        | 1               | 1               |
| ❿ AC Cable Cord                 | —               | 1        | 1        | 1               | 1               |
| ⓫ Electrode Sharpener           | D5111           | 1        | 1        | 1               | 1               |
| ⓬ Cleaning Brush                | VGC-01          | 1        | 1        | 1               | 1               |
| ⓭ Tool Case                     | TCC-01          | 1        | 1        | 1               | 1               |
| ⓮ Fiber Reformer (4)            | S122-X-A-0007   | 1pair    | 1pair    | —               | —               |
| ⓯ Fiber Reformer (8/12)         | S122-X-A-0008   | —        | —        | 1pair           | 1pair           |
| User Manual                     | —               | 1        | 1        | 1               | 1               |

\*<sup>8</sup> 2nd battery can be purchased as an optional item.



## OPTIONAL COMPONENTS

| Item   | P/N          | Quantity |
|--|--------------|----------|
| ① Soft Carrying Case                             | SCC-01       | 1        |
| ② Battery Charger                                | S958C        | 1        |
| ③ AC Adaptor for S958C                           | S977A        | 1        |
| ④ Cooling Tray                                   | CTX-01       | 1        |
| ⑤ Angled Stand                                   | AGS-01       | 1        |
| ⑥ Working Belt                                   | WBT-01       | 1        |
| ⑦ USB Cable                                      | USB-01       | 1        |
| ⑧ Car Cigarette Cable                            | CDC-01       | 1        |
| ⑨ Tripod Adaptor                                 | TPA-01       | 1        |
| ⑩ Fiber Holder                                   |              |          |
| 250 $\mu$ m coating diameter fiber               | S712S-250    | 1pair    |
| 500 $\mu$ m coating diameter fiber <sup>*9</sup> | S712S-500    | 1pair    |
| 900 $\mu$ m coating diameter fiber               | S712S-900    | 1pair    |
| 2 Ribbon Fiber Holder                            | S712A-002    | 1pair    |
| 4 Ribbon Fiber Holder                            | S712A-004    | 1pair    |
| 6 Ribbon Fiber Holder                            | S712A-006    | 1pair    |
| 8 Ribbon Fiber Holder                            | S712A-008    | 1pair    |
| 10 Ribbon Fiber Holder                           | S712A-010    | 1pair    |
| 12 Ribbon Fiber Holder                           | S712A-012    | 1pair    |
| 12 Ribbon Fiber Holder Wide                      | S712A-012W   | 1pair    |
| Loose Tube Fiber (Left side)                     | S712S-LT-L   | 1        |
| Loose Tube Fiber (Right side)                    | S712S-LT-R   | 1        |
| ⑪ SOC Holders                                    |              |          |
| <For Ferrule>                                    |              |          |
| Seikoh Giken FC/SC connector (9 mm)              | S712C-SGS9-L | 1        |
| Seikoh Giken LC connector (9 mm)                 | S712C-SGL9-L | 1        |
| <For Cordage>                                    |              |          |
| Seikoh Giken Cordage (9 mm)                      | S712C-SGC9-R | 1        |
| ⑫ Fiber Transporter                              |              |          |
| For S123M4                                       | TRP-03       | 1        |
| For S123M8, S123M12                              | TRP-04       | 1        |
| ⑬ Fiber Transporter Holders                      | TRH-01       | 1        |
| Smart Fuse                                       | SF-01        | 1        |
| Software Interface for Machine                   |              |          |

<sup>\*9</sup> Used for 400 to 500  $\mu$ m coating diameter fiber.



⑤ Angled Stand in Action



⑫ Fiber Transporter in Action



⑥ -1 Working Belt in Action



⑥ -2 Working Belt in Action

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