

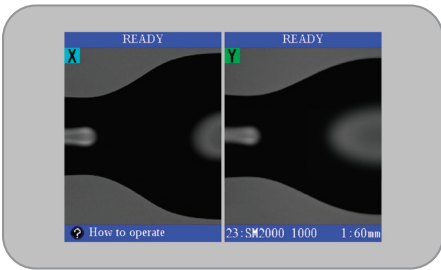


LZM-110V2-M +/110V2-P+

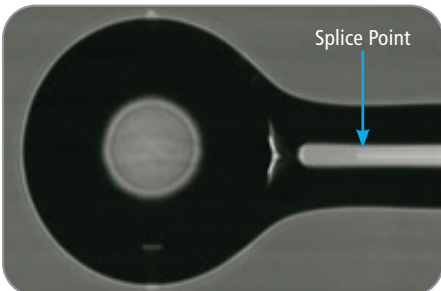
## LAZERMasteR<sup>®</sup> LZM-110V2-M / 110V2-P Splicing Systems

The LZM-110-V2-M / 110-V2-P LAZERMasteR is a splicing and glass processing system that uses a CO<sub>2</sub> laser heat source to perform splicing, tapering (to create MFAs), lensing, or other glass shaping operations with glass diameters of up to 2.3 mm. The high resolution optical analysis system works in conjunction with on-board firmware for fully automatic splicing, tapering and other glass shaping processes.

High precision glass processing is enabled by the intuitive and user-friendly on-board firmware (virtually identical to that of the Fujikura FSM-100 splicers). Operations may also be performed manually and by PC control. The FPS PC control GUI is supplied with the LZM-110-V2-M / 110-V2-P at no charge to provide additional features, greater flexibility and finer control. The FPS GUI may be used on a PC chosen by the customer. Customers can also create proprietary PC control algorithms using a complete set of PC control commands.



1 mm to 2 mm X-LDF Splice



Coreless Ball Lens to Collimate SMF Fiber Output



Tapered Probe with Small Ball End

### Features

- Splicing and glass processing of fibers with 80 μm up to 2.3 mm diameter
- High resolution motion for precise control during splicing and glass processing operations
- Extensive library of applications for the LZM family
- FPS PC GUI provides additional measurement capabilities & glass shaping control
- Very clean heat source: Absolutely no deposits on fiber surface from the heat source as might occur with filaments or electrodes
- Provides extremely stable & repeatable operation
- Substantially reduces maintenance & calibration requirements
- Proprietary feedback system ensures heating power stability
- No need for process gas (as required with filament systems) or Vacuum systems
- Class 1 System with redundant automated laser safety features

### Ordering Information

DESCRIPTION	ITEM NO.
<b>LAZERMasteR LZM-110V2-M Glass Processing and Splicing System</b> (Standard baseline LZM-110V2 system. Includes AC adapters and cords and FPS PC software)	S017501
<b>LAZERMasteR LZM-110V2-P Glass Processing and Splicing System</b> (Standard baseline LZM-110V2 system. Includes AC adapters and cords and FPS PC software)	S017502
Optional Tablet PC (includes FPS software pre-installed) (recommended)	S015241

## LZM-110V2-M / 110V2-P Splicing Systems

### Specifications

Fiber Heating and Splicing Method	CO <sub>2</sub> Laser
CO <sub>2</sub> Laser Power	30 W standard (Lasers with other power levels may be selected to meet customer requirements.)
Laser Safety Features	Metal cover with interlock, class 1 enclosure Automatic actuation of safety shutter Automatic laser power cutoff Double redundancy
Laser Beam Control	Proprietary feedback system assures laser beam power stability Laser beam size and shape may be customized to meet specific user requirements
Typical Splice Loss	0.02 dB for SMF (ITU-T G.652)
Typical Splice Strength	250+ kpsi for SMF (ITU-T G.652) using appropriate fiber preparation equipment
Camera Field of View	2.3 mm
Fiber Observation Methods	<ul style="list-style-type: none"> <li>• PAS (Profile Alignment System) via transverse fiber observation.</li> <li>• WSI (Warm Splice Image) and WTI (Warm Taper Image)</li> <li>• End-view observation (Optional)</li> </ul>
Applicable Fiber Diameter	80 μm to 2300 μm for automatic alignment by PAS Larger diameter fibers may be aligned manually or by power meter feedback
V-Groove Clamping System	Infinitely variable from 80 μm up to 2300 μm Clamping bare fiber or fiber coating Patented "split V-groove" system
Fiber Handling	Fujikura FSM-100, FSM-45, and FSM-40 splicer fiber holders
Endless Theta Rotation	360° endless rotation, angle resolution 0.1°
X/Y Alignment Resolution	0.1 μm
Maximum Z Travel Length	10 mm (both left and right Z units) as well as 10 mm of sweep
Z Travel Resolution	0.125 μm theoretical
Maximum Taper Length	8 mm
Maximum Taper Ratio	10:1 standard (For uniform direction, one-pass tapering)
Maximum Taper Speed	1 mm/sec standard
Splicing Control	Internal firmware or operation by PC
Fiber Tapering and Glass Shaping Control	Internal firmware or operation by PC
PC Control	FPS software will be provided Complete command set for PC control
PC Option	A notebook PC is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-110V2 internal firmware.
Interface Ports	USB 2.0 (For PC communications, data and image download, etc.) GPIB & USB (Optional, for power meter feedback)
Electrical Power	100-240 VAC
Operating Conditions / Storage (shipping) Conditions	15-40°C
Rotation Motors	P & P+ Models (Provides theta rotational motion for PM fiber alignment. Available for both left & right fibers)
PM Fiber Alignment Methods	<ul style="list-style-type: none"> <li>• PAS (For PANDA and other PM fibers)</li> <li>• IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.)</li> <li>• Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface)</li> <li>• Manual</li> <li>• Other methods by PC control</li> </ul>
End-View Observation & Alignment	M+ and P+ offer internal end-view system
Flexibility for Customer Design Input	Customizable platform