Splicing and Glass Processing System



LAZERMaster®

LZM-125 Series

Tremendous Capability for Production:

- Splices and glass processing of fibers with 80 μm up to 2.0 mm diameter
- High resolution motion for precise control during splicing and glass processing operations
- Extensive library of applications which are transferable between the LZM and FSM family
- FPS PC GUI provides additional measurement capabilities and glass shaping control

CO₂ Laser Heat Source for Splicing and Glass Shaping:

 Clean modular laser heat source: Absolutely no deposits on fiber surface as might occur with filaments or electrodes.

Substantially reduces maintenance and calibration requirements

Proprietary feedback system ensures heating power stability

 No need for external process gas (as required with filament systems) or Vacuum systems

 Class 1 System with redundant automated laser safety features

 Motorized mirrors to automatically adjust the beam path

Models (see specs on following pages)

- L7M-125M/125P
 - 10 mm Maximum Z Travel Length
 - 8 mm Maximum Taper Length
- LZM-125M+/125P+
 - 36 mm Maximum Z Travel Length
 - 32 mm Maximum Taper Length
- LZM-125A+
 - 36 mm Maximum Z Travel Length
 - 32 mm Maximum Taper Length



LAZER Master®

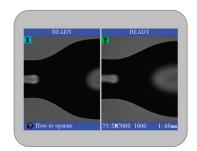
LZM-125 Series

The LAZERMaster LZM-125 Series is a splicing and glass processing system that uses a CO2 laser heat source to perform splicing, tapering (to create MFAs), lensing, or other glass shaping operations with glass diameters of 2.0 mm or less. The high resolution optical analysis system works in conjunction with onboard firmware for fully automatic splicing, tapering and other glass shaping processes.

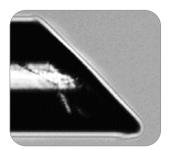
High precision glass processing is enabled by the intuitive and user-friendly on-board firmware (virtually identical to that of the Fujikura FSM-100 splicers). Operations may also be performed manually and by PC control. The FPS PC control GUI is supplied with the LZM-125 Series to provide additional features, greater flexibility, and finer control. The FSP 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.

LZM-125 models include LZM-125M/125P, LZM-125M+/125P+ and LZM-125A+. Refer to specifications on following pages.

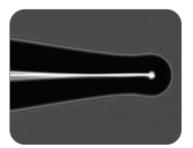




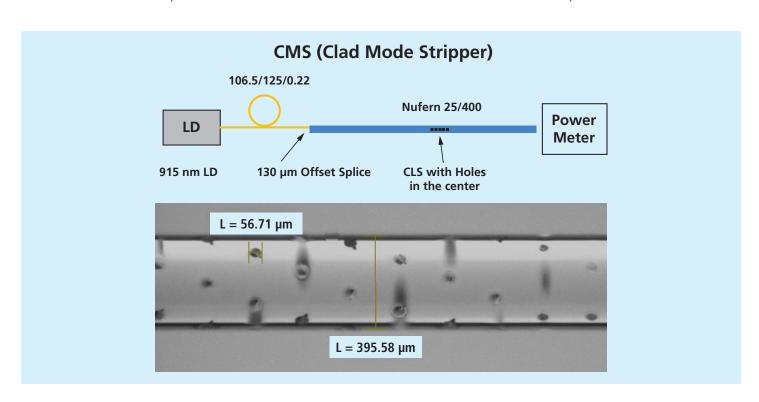
1 mm to 2 mm X-LDF Splice



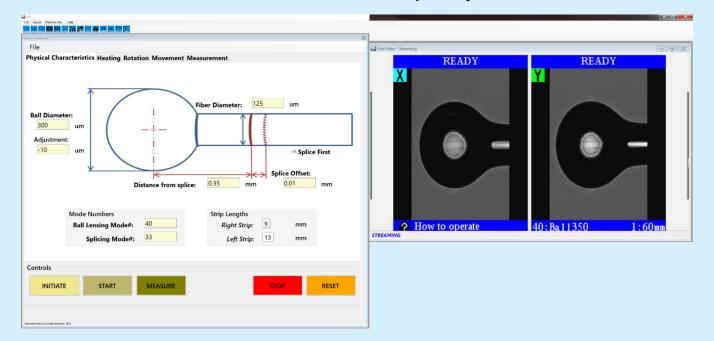
Ablated Fiber Surface



Tapered Probe with Small Ball End



User-Friendly Graphical User Interface Advanced Ball Lens Capability



Advanced Taper Capability





ORDERING INFORMATION	
DESCRIPTION	ITEM NO.
LAZERMaster LZM-125M Glass Processing and Splicing System (Standard baseline LZM-125 system. Includes AC adapters, cords and FPS PC software)	S016410
LAZERMaster LZM-125P Glass Processing and Splicing System (Standard baseline LZM-125 system. Includes AC adapters, cords and FPS PC software)	
Optional Tablet PC (includes FPS software pre-installed) (recommended)	S016772

CDL Laser Power 30W Standard Laser Saeur Power 30W Standard Laser Saeur Fortures Metal cover with multiple interiocks, class 1 enclosure, automatic actuation of safety shutter, automatic laser power cutoff Popical Splice Loss 0.02 de for SMF (TU-T G.652) Typical Splice Sereigh 250- kys to SMF (TU-T G.652) Typical Splice Sereigh 250- kys to SMF (TU-T G.652) Typical Splice Sereigh 250- kys to SMF (TU-T G.652) Typical Splice Sereigh 250- kys to SMF (TU-T G.652) Typical Splice Sereigh 250- kys to SMF (TU-T G.652) Typical Splice Sereigh 250- kys to SMF (TU-T G.652) Applicable Fiber Observation Methods PAS (Profile Alignment System) via transverse fiber observation Will Warm Splice Image) and Will (Warm Sper Image) Applicable Fiber Diameter Applicable Fiber Diameter Boy mit to 2000 up for automatic alignment by PAS Larger diameter endcaps may be aligned manually friminedly variable from 80 µm up to 2000 um Clamping System Clamping System Infinitedy variable from 80 µm up to 2000 um Clamping System Splice Image in the for infer coding Parented Systi V-groover System Splice Image in the for Splice Indianally Fiber Handling	SPECIFICATIONS	
Laser Seam Control Proprietary feedback system assures laser beam power stability Typical Spice Loss 0.02 db for SMF (TIU-T G.652) Typical Spice Loss 0.02 db for SMF (TIU-T G.652) Typical Spice Strength 2.50 k kps for SMF (TIU-T G.652) using appropriate fiber preparation equipment Camera Field of View 2.3 mm Fiber Observation Methods PAS (Profile Alignment System) via transverse fiber observation WSI (Warm Spice Image) and WTI (Warm Taper Image) Applicable Fiber Diameter 8.00 mm 2.00 mm for automatic alignment by PAS Larger Glameter endcaps may be aligned manually V-growe Clamping System Infinitely variable from 80 gm up to 2000 ym Clamping base fiber or fiber coating Patented "Spill V-groove" system Fiber Handling Fiber Spill V-groove system Fiber Handling Fiber Spill V-groove" system Fiber Handling Fiber Spill V-groove system Fiber Baper Spill V-groove system Fiber Baper Spill V-groove system Data Spill V-groove system Spill V-groove system Assimum Taper Length Smill V-groove system Maximum Taper Ratio O.1 ym Maximum Taper Ratio O.1 pm Maximum Taper Ratio D.1 standard (For uniform direction, one-pass tapering) Data direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. Maximum Taper Speed Immediate Spill V-groove system will be provided complete command set for PC control FPS Software will be provided complete command set for PC control FPS Software will be provided complete command set for PC control FPS Software will be provided complete command se	Fiber Heating and Splicing Method	CO ₂ Laser
Laser Beam Control Proprietary feedback system assures laser beam power stability Pspical Splice Loss O.02 dB for SMF (TIUT-G.652) using appropriate fiber preparation equipment 250- kgs for SMF (TIUT-G.652) using appropriate fiber preparation equipment Camera Field of View 2,3 mm Fiber Observation Methods PAS (Profile Alignment System) via transverse fiber observation WSI (Warm Splice Image) and WTI (Warm Taper Image) Applicable Fiber Dameter 8,0 ym to 2000 µm for automatic alignment by PAS Larger diameter enclaps may be aligned manually V-groove Clamping System Infinitely variable from 80 µm up to 2000 µm Clamping bare fiber or Discover Conting Patented "split V-groove" system Clamping base fiber or Discover" system Fiber Handling Alignment Methods PAS (Profile Alignment System), and FSM-40 splicer liber holders Alignment Methods PAS (Profile Alignment System), and FSM-40 splicer liber holders Alignment Resolution Power meter feedback via GPIB Enclies Theta Rotation 30° encliess rotation for 125P model, angle resolution 0.1° XY/ Alignment Resolution 0.1 µm Maximum Torve Length 5 mm booth left and right 2 units) as well as sweep with a total of 10 mm 0.125µm theretical Maximum Taper Length 8 mm Maximum Taper Length 8 mm Maximum Taper Ratio 0.125 sandard (for uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. Maximum Taper Speed 1 mm/sec standard 5 mm/sec standard 7 mm/sec standard 7 mm/sec standard 7 mm/sec standard 8 place for PC Control PC Control PC Sortion 1 methods Immovare or operation by PC Fiber Tapering and Glass Shaping Control Internal firmware or operation by PC Fiber Tapering and Glass Shaping Control Internal firmware or operation by PC Fiber Tapering and Glass Shaping Control Internal firmware or Operation by PC Fiber Tapering and Glass Shaping Control Internal firmware or Operation by PC Fiber Tapering and Glass Shaping Control Internal firmware or Operation by PC Fiber Tapering and Glass Shaping	CO ₂ Laser Power	30 W standard
Typical Splice Storegth Typical Splice	Laser Safety Features	
Typical Splice Strength 250+ kpsi for SMF (TU-T G.652) using appropriate fiber preparation equipment Camera Field of View 2.2 mm Fiber Observation Methods PAS (Profile Alignment System) via transverse fiber observation WSI (Warm Splice Image) and WTI (Warm Taper Image) Applicable Fiber Diameter 80 µm to 2000 µm for automatic alignment by PAS Larger diameter endcaps may be aligned manually V-groove Clamping System Infinitely variable from 80 µm up to 2000 µm Clamping bare fiber of the recording Patented *Split V-groove* System Clamping bare fiber of the recording PAS (Profile Alignment System, automatic alignment by PAS Alignment Methods 3 methods for PM alignment: - PAS (Profile Alignment System, automatic alignment by camera observation) Manual - Other methods by PC control - Power meter feedback via GPIB Fiber Alagement Resolution 0.1 µm Maximum Tiravel Length 5 mm (both left and right Z units) as well as sweep with a total of 10 mm Ziravel Resolution 0.125 µm theoretical Maximum Taper Length 8 mm Maximum Taper Length 10:1 standard (for uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. Maximum Taper Speed 1 mm/sec standard Splicing Control FPC Software will be provided complete command set for PC control FPC Control FPS software will be provided complete command set for PC control Internal firmware or operation by PC Interface Ports Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware or poeration by PC FPS software will be provided complete command set for PC control FPS software will be provided complete command set for PC control FPS software will be provided	Laser Beam Control	Proprietary feedback system assures laser beam power stability
Fiber Observation Methods PAS (Profile Alignment System) via transverse fiber observation WSI (Warm Splice Image) and WTI (Warm Taper Image) Applicable Fiber Diameter Spstem argument by PAS (Larger diameter endcaps may be aligned manually V-groove Clamping System argument by PAS (Larger diameter endcaps may be aligned manually V-groove Clamping System argument by PAS (Larger diameter endcaps may be aligned manually V-groove Clamping System argument by PAS (Larger diameter endcaps may be aligned manually V-groove Clamping System argument System Standard Split V-groove System Patented Split V-groove Split Patented Split Patente	Typical Splice Loss	0.02 dB for SMF (ITU-T G.652)
PAS (Profile Alignment System) via transverse fiber observation PAS (Profile Alignment System) via transverse fiber observation PAS (Profile Alignment System) via transverse fiber observation PAS (Profile Palimeter and Capp and WTI (Warm Taper Image)	Typical Splice Strength	250+ kpsi for SMF (ITU-T G.652) using appropriate fiber preparation equipment
WSI (Warm Spife Image) and WTI (Warm Taper Image)	Camera Field of View	2.3 mm
V-groove Clamping System	Fiber Observation Methods	
Clamping bare fiber or fiber coating Patented "split V-groove" system	Applicable Fiber Diameter	
Alignment Methods shalignment:	V-groove Clamping System	Clamping bare fiber or fiber coating
PAS (Profile Alignment System, automatic alignment by camera observation) Manual Other methods by PC control Power metr feedback via GPIB Enclless Theta Rotation 360° enclless rotation for 125P model, angle resolution 0.1° X/Y Alignment Resolution 0.1 µm Maximum Z Travel Length 5 mm (both left and right Z units) as well as sweep with a total of 10 mm Z Travel Resolution 0.125µm theoretical Maximum Taper Length 8 mm Maximum Taper Ratio 10:1 standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. 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 PFS software will be provided complete command set for PC control PC Option 1 Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Interface Ports USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) - PAS (For PANDA and other PM fibers) - IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) - Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) - Nanual - Other methods by PC control	Fiber Handling	Fujikura FSM-100, FSM-45, and FSM-40 splicer fiber holders
X/Y Alignment Resolution 0.1 μm Maximum Z Travel Length 5 mm (both left and right Z units) as well as sweep with a total of 10 mm Z Travel Resolution 0.125μm theoretical Maximum Taper Length 8 mm Maximum Taper Ratio 10:1 standard (For uniform direction, one-pass tapering)	Alignment Methods	 PAS (Profile Alignment System, automatic alignment by camera observation) Manual Other methods by PC control
Maximum Z Travel Length 5 mm (both left and right Z units) as well as sweep with a total of 10 mm Z Travel Resolution 0.125µm theoretical Maximum Taper Length 8 mm Maximum Taper Ratio 1.01: standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. 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 Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Interface Ports USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) • IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) • Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) • Manual • Other methods by PC control	Endless Theta Rotation	360° endless rotation for 125P model, angle resolution 0.1°
Z Travel Resolution O.125µm theoretical Maximum Taper Length 8 mm Maximum Taper Ratio 10:1 standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. 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 PC Option Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Interface Ports USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125 model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) PPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Maximum Taper Length 10:1 standard (For uniform direction, one-pass tapering polarizer and analyzer, as well as GPIB interface) PRAS (For PANDA and other PM fibers) PNAS (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface)	X/Y Alignment Resolution	0.1 μm
Maximum Taper Length Maximum Taper Ratio 10:1 standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. 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 PPS software will be provided complete command set for PC control PC Option Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Interface Ports USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) PAS (For PANDA and other PM fibers) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control	Maximum Z Travel Length	5 mm (both left and right Z units) as well as sweep with a total of 10 mm
Maximum Taper Ratio 10:1 standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. Maximum Taper Speed 1 mm/sec standard Splicing Control Internal firmware or operation by PC Fiber Tapering and Glass Shaping Control PC Control PS software will be provided complete command set for PC control PC Option Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Interface Ports USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PAS (For PANDA and other PM fibers) PAS (For PANDA and other PM fibers) PAS (For PANDA and other PM fibers) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control	Z Travel Resolution	0.125μm theoretical
Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass. 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 Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Interface Ports USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) • PAS (For PANDA and other PM fibers) • IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) • Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) • Manual • Other methods by PC control	Maximum Taper Length	8 mm
Splicing Control Internal firmware or operation by PC Fiber Tapering and Glass Shaping Control PC Control PC Control PC Option Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) • IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) • Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) • Manual • Other methods by PC control	Maximum Taper Ratio	
Fiber Tapering and Glass Shaping Control PC Control PC Option Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PAS (For PANDA and other PM fibers) • PAS (For PANDA and other PM fibers) • POwer meter feedback (Requires polarizer and analyzer, as well as GPIB interface) • Manual • Other methods by PC control	Maximum Taper Speed	1 mm/sec standard
PC Control PC Option Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control	Splicing Control	Internal firmware or operation by PC
PC Option Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) • IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) • Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) • Manual • Other methods by PC control	Fiber Tapering and Glass Shaping Control	Internal firmware or operation by PC
Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware. Interface Ports USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control	PC Control	FPS software will be provided complete command set for PC control
GPIB (for power meter feedback) Electrical Power 100-240 VAC Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) • IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) • Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) • Manual • Other methods by PC control	PC Option	· ·
Operating/Storage Conditions 15 to 30°C / 15 to 40°C Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control	Interface Ports	
Rotation Motors Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model) PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control	Electrical Power	100-240 VAC
PM Fiber Alignment Methods PAS (For PANDA and other PM fibers) IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control	Operating/Storage Conditions	15 to 30°C / 15 to 40°C
 IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control 	Rotation Motors	Optional (Provides theta rotational motion for PM fiber alignment in the LZM-125P model)
Flexibility for Customer Design Input Customizable platform	PM Fiber Alignment Methods	 IPA (Înterrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual
	Flexibility for Customer Design Input	Customizable platform



Optional Tablet PC (includes FPS software pre-installed) (recommended)

ORDERING INFORMATION	
DESCRIPTION	ITEM NO.
LAZERMaster LZM-125M+ Glass Processing and Splicing System (Standard baseline LZM-125 system. Includes AC adapters, cords and FPS PC software)	S016411
LAZERMaster LZM-125P+ Glass Processing and Splicing System (Standard baseline LZM-125 system, Includes AC adapters, cords and FPS PC software)	5016413

S016772

SPECIFICATIONS	
Fiber Heating and Splicing Method	CO ₂ Laser
CO ₂ Laser Power	30 W standard
Laser Safety Features	Metal cover with multiple interlocks, class 1 enclosure, automatic actuation of shutter, automatic laser power cutoff
Laser Beam Control	Proprietary feedback system assures laser beam power stability
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	PAS (Profile Alignment System) via transverse fiber observation WSI (Warm Splice Image) and WTI (Warm Taper Image) End-view observation
Applicable Fiber Diameter	80 µm to 2000 µm for automatic alignment by PAS Larger diameter endcaps may be aligned manually
V-groove Clamping System	Infinitely variable from 80 µm up to 2000 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
Alignment Methods	 4 methods for PM alignment: PAS (Profile Alignment System, automatic alignment by camera observation) Manual Other methods by PC control Power meter feedback via GPIB End-view
Endless Theta Rotation	360° endless rotation for 125P+ model, angle resolution 0.1° (LZM-125P+ only)
X/Y Alignment Resolution	0.1 µm
Maximum Z Travel Length	18 mm (both left and right Z units) as well as sweep with a total of 36 mm
Z Travel Resolution	0.125 μm theoretical
Maximum Taper Length	32 mm
Maximum Taper Ratio	10:1 standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass
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	Tablet computer is available as an option. Use of the FPS software on a PC provides finer control and additional features compared to the LZM-125 internal firmware.
Interface Ports	USB 2.0 (For PC communications, data and image download, etc.) GPIB (for power meter feedback)
Electrical Power	100-240 VAC
Operating/Storage Conditions	15 to 30°C / 15 to 40°C
Rotation Motors	Optional (Provides theta rotational motion for PM fiber alignment Available for both left and right fibers, or one side only depending upon customer requirements)
PM Fiber Alignment Methods	 PAS (For PANDA and other PM fibers) IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) End-view Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control
End-View Observation and Alignment	Internal end-view system
Flexibility for Customer Design Input	Customizable platform



LZM-125A+

ORDERING INFORMATION	
DESCRIPTION	ITEM NO.
LAZERMaster LZM-125A+ Glass Processing and Splicing System (Standard baseline LZM-125 system. Includes AC adapters and cords and FPS PC software.)	S017140
Optional Tablet PC (includes FPS software pre-installed) (recommended)	
LZM Training (Optional US based at customer locations)	
LZM Training (Optional International)	S015868
Splicer V-Groove Cleaning Kit	S014397

SPECIFICATIONS		
Fiber Heating and Splicing Method	CO ₂ Laser	
CO ₂ Laser Power	30 W standard	
Laser Safety Features	Metal cover with multiple interlocks, class 1 enclosure, automatic actuation of shutter, automatic laser power cutoff	
Laser Beam Control	Proprietary feedback system assures laser beam power stability Standard beam size is 4.5 mm X 2 mm and a minimum spot of 30 µm for ablations)	
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	PAS (Profile Alignment System) via transverse fiber observation; WSI (Warm Splice Image) and WTI (Warm Taper Image); End-view observation	
Applicable Fiber Diameter	80 µm to 2000 µm for automatic alignment by PAS Larger diameter endcaps may be aligned manually	
V-Groove Clamping System	Infinitely variable from 80 µm up to 2000 µm; Clamping bare fiber or fiber coating in the "split V-groove" system	
Fiber Handling	Fujikura FSM-100, FSM-45, and FSM-40 splicer fiber holders; Custom fixtures to meet specific customer requirements	
Alignment Methods	 PAS (Profile Alignment System, automatic alignment by camera observation) Manual PC control with Power Meter feedback via GPIB/USB End-view 	
Endless Theta Rotation	360° endless rotation, angle resolution 0.1°	
X/Y Alignment Resolution	Sub-micron	
Maximum Z Travel Length	18 mm (both left and right Z units) as well as sweep with a total of 36mm	
Z Travel Resolution	0.125 µm theoretical	
Maximum Taper Length	32 mm	
Maximum Taper Ratio	10:1 standard (For uniform direction, one-pass tapering) Dual direction tapering offers greatly increased taper ratios, as does tapering with more than one tapering pass.	
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	Optional Tablet PC (includes FPS software pre-installed). Use of the FPS software on a PC provides finer control and additional features compared to the LZM-110 internal firmware	
Interface Ports	USB 2.0 (For PC communications, data and image download, etc.) GPIB/USB (for power meter feedback)	
Electrical Power	100-240 VAC	
Operating Conditions / Storage Conditions	5 to 40°C / -10 to 60°C	
Rotation Motors	For LZM-125A+, theta rotational motion is available for PM fiber alignment.	
PM Fiber Alignment Methods	 PAS (For PANDA and other PM fibers) IPA (Interrelation Profile Alignment, applicable to almost all PM fibers. Three distinct IPA methods available.) End-view Power meter feedback (Requires polarizer and analyzer, as well as GPIB interface) Manual Other methods by PC control 	
End-View Observation and Alignment	Internal end-view system	
Flexibility for Customer Design Input	Customizable platform	

Fujikura Ltd.
Phone: +81-3-5606-1164
www.fujikura.co.jp

Fujikura Asia Ltd. Phone: +65-6-271-1312 www.fujikura.co.sq Fujikura Europe Ltd. Phone: +44-20+8240-2000 www.fujikura.co.uk AFL (North America) Phone: +1-864-433-0333 www.AFLglobal.com Fujikura (China) Co., Ltd Phone: +86-21-6841-3636 www.fujikura.com.cn