Model M90 Fusion Splicer

Corning
Cable Systems

Description

Corning Cable Systems' completely redesigned M90 offers the solution for all precision single-fiber splicing applications. With its new features and a user-friendly design, it is adapted to the requirements for a modern work environment, while still retaining the core design that has made it known as the premier unit for precise, reliable, and robust field fusion splicing.

The Model M90 Fusion Splicer is ideal for long-haul telephone and CATV single-mode fiber splicing where accuracy is imperative. The LID-SYSTEM® unit (Local Injection and Detection System) monitors light injected into the core of the fibers and provides the lowest splice loss possible with the most accurate loss readings in the industry.

The accuracy of the LID-SYSTEM unit and its power-through splice loss estimation method eliminates the time-consuming task of evaluating splices with an OTDR. The LID-SYSTEM unit first optimizes core alignment in each of the X, Y, and Z axes. When the fusion process begins, the M90's unique Auto Fusion Time Control monitors the power level through the splice and completes the fusing process when splice loss is a minimum – ensuring the best splice possible. The M90 software stores 50 programs with user-defined splicing parameters for different types of fibers. It also has thirteen fixed programs for standard, specialty single-mode fibers, and multimode fiber. Splice losses up to 10.0 dB can be programmed for an in-line attenuator with the characteristic non-reflectance of a fusion splice. A special program is also available for use with erbium-doped fiber.

Model M90 Fusion Splicer | Photo SEH110

Features / Benefits

- Proven excellence – over a decade of field use
- LID-SYSTEM unit and Lens Profile Alignment System (L-PAS) in one
- Auto Fusion Time Control ensures lowest splice loss possible under a variety of splicing conditions and environments
- Automatic cleaning, X, Y, and Z fiber positioning and fusing with one-button operation
- PCMCIA slots for future upgrades
- Wind protection for high cross winds
- New compact and ergonomic design
- The new Precise and Durable (PD) Electrodes are maintenance-free, worry-free, and will reduce the average splice loss up to 50%

Additional Features

- Sixteen language options
- Fully automatic operation
- Compact, portable package
- High-contrast, color, 5.5-inch LCD monitor with X and Y viewing axes simultaneously displayed
- Two rechargeable 12V batteries, auto-range selection 95 to 260V AC input, and 12V DC input
- Programmable automatic power-down of circuits when not in use to conserve battery charge
- Tools, accessories, and consumables conveniently stored with machine
- Splicing and measurement can be performed by one person, improving productivity and reducing labor costs
- Tensile test capability (0.5 pound)
- Splice loss data storage (over 1,000 splices) can be downloaded into computer
- Programmable attenuation splice loss (1 dB to 10 dB)
- Environmental compensation
- Altitude compensation to 13,000 ft
- Service counters (arcs, electrode use) for splicer maintenance

Integrated LID-SYSTEM® Unit

- 1300 nm wavelength LED
- Provides optimum core alignment of single-mode fiber
- Compatible fiber diameter (with primary coating) 250 µm; 900 µm pigtails may be spliced with new integrated pigtail adapter (SC, FC, and ST® compatible)

Model M90 Fusion Splicer in Standard Case | Photo SEH95

Model M90 Fusion Splicer with Accessories | Photo SEH96

Universal Splice Tray Holder

- Mounts easily to rear of the fusion splicer; compatible with all common splice trays or modules

High-Precision Fiber Cleaver (FBC-005)

- Designed to deliver fiber cleaves within 0.5° of perpendicularity 95% of the time
- One-stroke operation significantly improves productivity
- Diamond cutting blade has a service life of approximately 10,000 cleaves

Software Features for the New M90

- Automatic Fiber Detection – Detects standard and specialty single-mode 50 µm and 62.5 µm multimode fiber; suggests correct program to use
- Automatic Selection of Appropriate Splice Process – After determining the fiber type, the unit automatically selects between the LID-SYSTEM unit or L-PAS program for best results
- More Programs – Thirteen programs for standard fibers and special programs for erbium-doped fiber, attenuation splices, and variable fusion curve
- Automatic Selection of Fiber Feed – Feed distance is determined as a function of the cleave angles; compensates for poor cleaves
- Mode Field Diameter measurement
- Core eccentricity measurement (between fibers)
- Accurate cleave angle measurement (within 0.1°)
- Fiber axis tilt measurement

Heat-Shrink Oven/Crimp & Go® Crimping Device

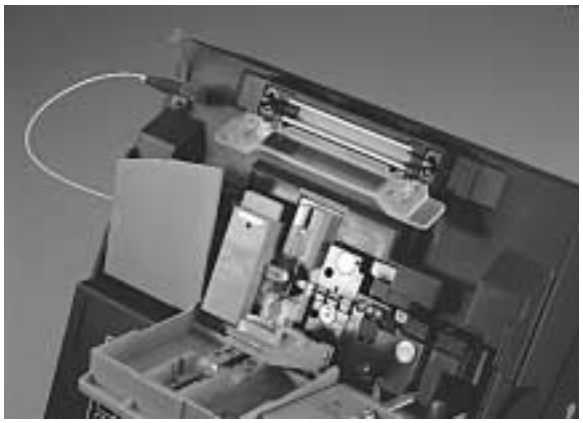
Depending on the version of the M90 ordered, the heat-shrink oven or crimp device for Crimp & Go® is integrated. The heat-shrink oven ensures accurate shrinking of all common heat-shrink splice protectors. The Crimp & Go device provides fast, fold-over style splice protection.

Pigtail Adapter

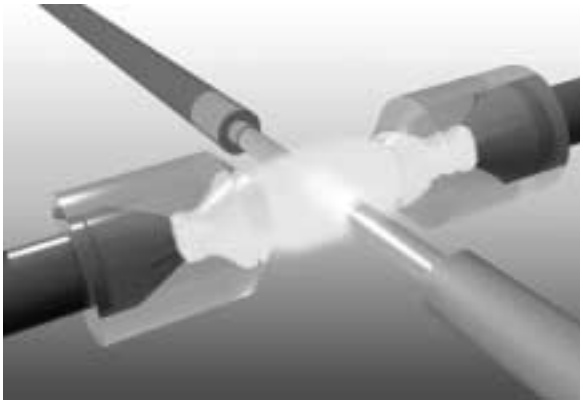
The new, built-in, flush-mounted Pigtail Adapter is conveniently accessible and is compatible with SC, ST® compatible, and FC connectors.

P&D-Electrodes

New P&D-Electrodes for fusion splicers are absolutely maintenance-free ,worry-free, and will reduce the average splice loss up to 50%. An arc-stabilizer for these P&D-Electrodes guarantees both high precision and long-life durability. A cleaning arc, which is applied by the splicing machine automatically, is sufficient to ensure continued low loss splicing for 7000 fusion arcs with standard settings.



Model 90 Splicer with new electrode flap design, heat-shrink oven, and pigtail adapter | Photo SEH97



PDP-Electrodes | Photo SEH142

Specifications

Principle Operation	Direct Core Alignment LID-SYSTEM® unit, 3-axis alignment
Fiber Coatings	250 µm to 900 µm
Fiber Types	Multimode (50 µm and 62.5 µm) Single-mode, Specialty Single-mode (DS, LS, LEAF®, TrueWave®, DS, CS, EDF, Titan)
Typical Splice Loss	Lab: 0.014 dB for identical single-mode fiber Field: < 0.05 dB for single-mode fiber < 0.02 dB for multimode fiber
Estimator Accuracy	± 0.05 dB for 100% of the single-mode splices
Monitor	Color LCD, 100X, 5.5-inch diagonal; external jack for PAL compatible monitor
Splice Protection	Heat-Shrink or Crimp & Go® Splice Protection Crimping Device
Power	AC: 95-260V AC, automatic voltage range selection; 50 to 60 Hz; 100 W maximum DC: 12V DC built-in rechargeable battery provides about 25 splices fully charged with heater. Recharge time: approximately 8 hours; external 12V DC supply
Operating Temperature	-5° to +45°C

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Ordering Information

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Note: T = Optional Heavy-Duty Transit case with wheels.

All Splicers are shipped with AC power cord, instruction manual, maintenance tool kit, splice tray holder, and worklight.

1 Select cleaver option.

OSM = With high-precision fiber cleaver
XSM = Without high-precision fiber cleaver

2 Select splice protection option.

C = With crimp device
H = With heat-shrink oven

Dimensions and Shipping Weight

Dimensions (H x W x D)	9.4 in x 10.2 in x 7.1 in (240 mm x 260 mm x 180 mm)
Shipping Weight (without batteries)	15.4 lb (7.0 kg)
Shipping Weight (with batteries)	18.7 lb (8.5 kg)

Accessories

Part Number	Description
M67-003	Fusion Splicing Tool Kit includes tools for jacket removal and splicing
TKT-SPLICE	Splice Kit with all basic splicing tools
A0398057	Rechargeable 12V Camcorder battery
OFT-000	Optical Fiber Access Tool for Midspan Access
FSA-004-03	Heat-Shrink Oven with adapter for M90 for Series 6000 and higher
FSA-010-03	Crimp Device for Crimp & Go® with Adapter for M90 for Series 6000 and higher
FSA-012	Crimp & Go Splice Protection Parts (package of 150)
2806031-01	Heat-Shrink Splice Protection Parts (package of 50)
FBC-005	High Precision Cleaver
ASP-001	Aerial Splicing Platform

Spare Parts

Part Number	Description
M67-023	Replacement Worklight Bulb
M90-006-01	Replacement Fusion Splicer Worklight (Serial number > 3000)
OFT-001	Replacement Blades for OFT-000 (package of 4)
FSA-005	Consumables for M90 Tool Kit
FSA-014	Spare Electrodes-Standard (one set) for Series < 6000
X75-026	Spare Electrodes-Standard (one set) for Series ≥ 6000
FSA-021	P&D Electrode Replacements

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