

OptiSplice® M90e Fusion Splicer

An Evolant® Solutions Product

Application

- Long-haul, CATV, telco and LAN applications
- Accurately splices current, legacy, dissimilar and specialty fiber types
- Splices 900 µm pigtails utilizing three-dimensional core alignment technology – the core detection system (CDS) mode

Description

The next generation of the proven M90 Fusion Splicer is available today with the Corning Cable Systems OptiSplice® M90e Fusion Splicer.

The latest addition to the OptiSplice Fusion Splicer product family, the M90e Fusion Splicer is the ideal machine for networks where low-loss performance and high-end accuracy are imperative. The M90e Fusion Splicer offers the active core alignment accuracy of Corning Cable Systems LID-SYSTEM™ Unit, along with the speed and versatility of a passive core-alignment technology known as the CDS.

The M90e provides the most advanced set of features available, yielding top notch performance, while reducing training and maintenance costs, all in a compact, user-friendly fusion splicer.

Features / Benefits

- Graphical user interface for easy menu navigation
- On-board, interactive training videos
 - Reduces training time and costs
 - Includes operational and maintenance sections
- High contrast 5.7-in color touch screen with ambient light sensor for automatic adjustment of different lighting conditions, including direct sunlight
- Two-in-one alignment unit offering direct active core-alignment with lid-system unit technology and fast 3-axis camera-based passive core-alignment with CDS
- Fastest total splice cycle time on the market for a core-alignment fusion splicer (13s splice time in CDS mode + 20s oven = 35s total cycle time typical)
- Utilizes automatic fusion time to optimize each splice (LID-SYSTEM Unit)



OptiSplice M90e Fusion Splicer | Photo STE003



OptiSplice M90e Fusion Splicer | Photo STE002



M90e Fusion Splicer Carry-On Case | Photo NS81

- Real splice loss measurement with LID-system or splice loss estimation with CDS
- Auto-Start feature begins the splice process when the fiber flaps close
- Integrated Global Positioning System (GPS) for automatically adjusting for altitude changes, as well as storing splice location coordinates (GPS functionality can be disabled)



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Features / Benefits (continued)

- Includes an external AC power adapter and a high-capacity Li-Ion battery with external charger
- Rugged, watertight “carry-on” style carrying case
- Maintenance-free precise and durable (P&D) electrodes
- Ultra-fast heat-shrink oven (20 seconds heating time on 60 mm heat-shrinks)
- Easy data output and software upgrades via two USB ports
- Advanced statistical data analysis features allow for the operator to graphically view the performance of things such as the cleave quality over a period of time. This enables the operator to make informed maintenance decisions based on data analysis, such as when to replace a cleaver blade.

LID-SYSTEM™ Unit Technology

The accuracy of the LID-SYSTEM™ Unit and its power through splice loss measurement method eliminates the time consuming task of evaluating splices with an Optical Time Domain Reflectometer (OTDR). The single-mode LID-SYSTEM Unit first optimizes core alignment in each of the X, Y and Z axes. When the fusion process begins, the M90e Fusion Splicer's unique auto fusion time control monitors the power level through the splice and completes the fusing process when splice loss is at a minimum – ensuring the best splice possible. Finally, the LID-SYSTEM Unit measures splice loss by comparing power levels before and after the fusion process.

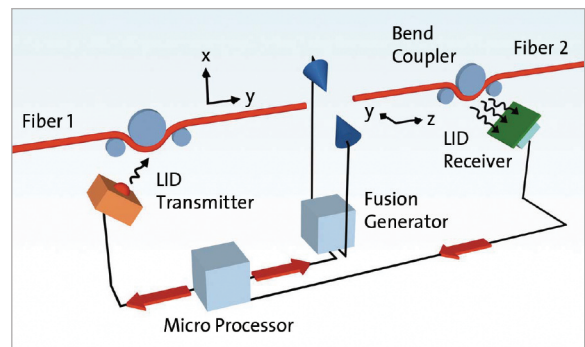
Core Detection System (CDS)

The M90e Fusion Splicer is equipped with a secondary method for core alignment CDS based on cameras. This technology, although not as accurate as the LID-SYSTEM, allows for fast core alignment (13s) even on 900 μm single-mode fibers. The M90e Fusion Splicer is also capable of automatically choosing the best alignment method for the application at hand.

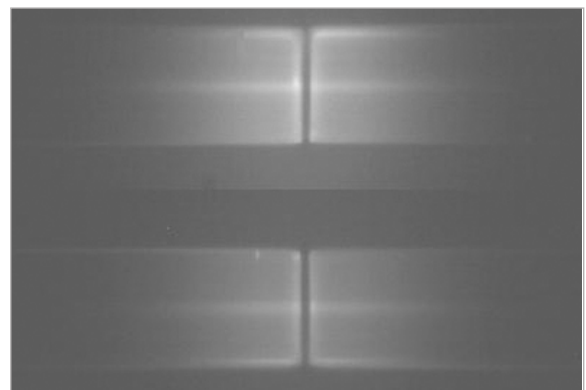
Precise and Durable Electrodes (P&D)

P&D electrodes are absolutely maintenance-free, worry-free and can reduce the average splice loss up to 50 percent. Permanently attached arc-stabilizers guarantee both high-precision and long-life durability. An electrode cleaning arc, which is applied by the fusion splicer automatically, is sufficient to ensure continued low-loss splicing for approximately 7,000 arcs.

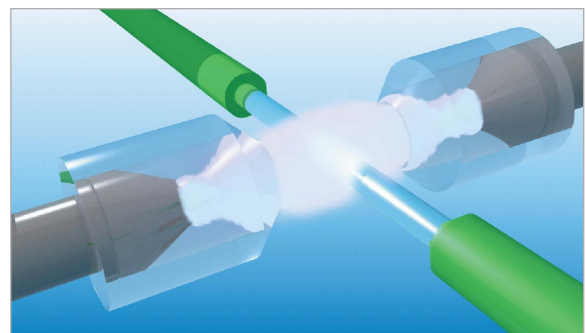
- USB work lamp
- Capable of building attenuators by using programmable splice loss program (up to 10 dB)
- Automatic fiber type detection with LID-System
- Slot for multimedia card (MMC); 1 GB MMC included
- Tilt base allows the splicer to face the operator, allowing for ergonomic operation
- RDUP (formerly RUS) listed



LID-SYSTEM Unit Technology | Drawing ZA-2736



Core Detection System Technology (CDS) | Photo NS135



Precise and Durable Electrodes (P&D) | Drawing ZA-2737

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Specifications

Parameter	Specification
Principle Operation	Direct Core Alignment LID-SYSTEM™ Unit, 3-axis alignment, 1300 nm LED
Secondary Operation	Passive 3-axis core alignment by core detection system technology (CDS)
Fiber Coatings	Single-mode and multimode optical fibers with cladding diameter of 125 µm and coating diameters of 250 µm to 900 µm
Fiber Types	Standard single-mode, specialty single-mode (ClearCurve™, NZDS, DS, LS, Er), multimode (50 µm and 62.5 µm); 39 factory-optimized programs for various fiber types including attenuation splice programs (1310 nm and 1550 adjustable in 0.1 dB increments from 0.1 to 10 dB), storage for up to 150 custom, user-defined programs
Typical Splice Loss*	Standard single-mode < 0.02 dB (similar fibers), < 0.05 dB (dissimilar fibers) NZDS < 0.03 dB (similar fibers), < 0.06 dB (dissimilar fibers) Multimode < 0.01 dB
Splice Analysis	Splice loss measurement (LID-System), splice loss estimation (CDS/Video); automatic tensile test with adjustable force between 0.1 N and 4.5 N
Estimator Accuracy	Typically ± 0.02 dB for standard single-mode splices when using the LID-SYSTEM Unit Technology mode, typically ±0.03 dB when using CDS mode
Monitor	Color QVGA LCD Touch Screen with sensor for automatic adjustment for ambient lighting, 120x magnification, 5.7-in diagonal screen
Splice Protection	Heat-shrink, Splice Pak™ Splice Protector or Crimp & Go® Crimping Device
Interface Ports	VGA monitor output, 2 USB ports, GPS antenna port, external LID transmitter (pigtail adapter) 3.5 mm socket, MMC Memory Card Slot (Located under the battery)
Splice Loss Storage	Splice data memory for 10,000 data sets, including GPS data
Heat-Shrink Oven	20 seconds on 60 mm heat-shrinks (fastest in the industry); energy efficient design increases battery life of the fusion splicer
Precise and Durable Electrodes	Maintenance-free to the operator (lasts approximately 7,000 splices)
Operating Temperature	-15 to +50°C
Storage Temperature	-40 to +80°C
Relative Humidity	< 95%, non-condensing
Altitude Compensation	-2000 m up to +4,500 m above sea level manually, or automatically by built-in GPS system
Power	External 12 VDC/80 W desktop power supply, input voltage 100 V AC to 240 V AC, 47 Hz to 63 Hz Internal 7.2 Ah lithium ion battery, exchangeable without tools, for approximately eight hours continuous working time (if fully charged) with typically 200 splice operations without shrink oven and typically 130 splice operations with fast heat-shrink oven working
Dimensions (L x W x H)	240 x 200 x 110 mm (9.4 x 7.8 x 4.3 in)
Weight	2.2 kg (4.8 lb) without battery, 2.7 kg (5.9 lb) with battery

*Under common field conditions

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Ordering Information

Part Number	Description
M90e-0SM-T-H	OptiSplice® M90e Fusion Splicer with FBC-006 cleaver, carrying case with wheels, fast heat-shrink oven, splice tray holder, AC power supply w/ US cord, Li-Ion battery with external charger, 1-year limited warranty, operators manual on CD, USB worklight, maintenance tool kit
M90e-XSM-T-H	OptiSplice M90e Fusion Splicer with carrying case with wheels, fast heat-shrink oven, splice tray holder, AC power supply with US cord, Li-Ion battery with external charger, 1-year limited warranty, operators manual on CD, USB worklight, maintenance tool kit
M90e-0SM-T-C	OptiSplice M90e Fusion Splicer with FBC-006 cleaver, carrying case with wheels, Crimp & Go® Splice Protection Crimping Device, splice tray holder, AC power supply with US cord, Li-Ion battery with external charger, 1-year limited warranty, operators manual on CD, USB worklight, maintenance tool kit
M90e-0SM-T-P	OptiSplice M90e Fusion Splicer with FBC-006 cleaver, carrying case with wheels, Splice Pak™ Splice Crimp Device with fiber guides, splice tray holder, AC power supply with US cord, Li-Ion battery with external charger, 1-year limited warranty, operators manual on CD, USB worklight, maintenance tool kit
M90e-XSM-T-P	OptiSplice M90e Fusion Splicer with carrying case with wheels, Splice Pak Splice Crimp Device with fiber guides, splice tray holder, AC power supply with US cord, Li-Ion battery with external charger, 1-year limited warranty, operators manual on CD, USB worklight, maintenance tool kit

Accessories

Part Number	Description
FBC-006	High-Performance Cleaver, one-step operation, diamond blade (typically < 0.7°)
FSA-022	Spare Precise and Durable (P&D) Electrodes
2820013-01	M90e / OptiSplice LID / M90i / X77i USB worklight
2806031-01	Heat-Shrink Splice Protection Parts (package of 50, 60 mm long)
2806032-01	Heat-Shrink Splice Protection Parts (package of 50, 40 mm long)
FSA-012	Crimp & Go Splice Protection Crimping Device parts (150/pack)
OSLID-SPLICEPAK	Splice Pak Splice Protector crimp adapter with fiber guides
A0276859	Splice Pak Splice Protector, yellow, 250/250 µm (25/pack)
A0295149	Splice Pak Splice Protector, blue, 250/900 µm (25/pack)
A0295150	Splice Pak Splice Protector, green, 900/900 µm (25/pack)
M67-003	Fusion Splicing Tool Kit
TKT-SPLICE	Basic Fusion Splicing Tool Kit
OFT-000	Optical Fiber Access Tool for midspan access
TKT-FIBERTECH-PRO	Advanced Fiber Optic Cable Prep and Splicing Tool Kit

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