

# Fusion Splicer X77

## Description



Fusion Splicer X77 with mounted accessories

## Application

- The fusion splicer X77 is suitable for splicing all common single- and multimode silica glass fibers as well as special fiber types (titan-coated, lambda-shifted, DS- and NZDS-fibers, e.g. TrueWave and LEAF) in all telecommunication and data networks
- For networks where extremely low splice loss is required: splice loss typically less than 0.03 dB for identical standard single-mode fibers and less than 0.01 dB for multimode fibers
- Ideal for applications with limited space and a demand for low weight, e.g. taut-sheath or aerial splicing application

## Features

The fusion splicer X77 of Series 7000 is the high-end model of series X7... . Outstanding features of this fusion splicer are the 5.5-inch color monitor and the attachment power supply 100 VA with battery accommodation. Due to its compact design, to the wide range of accessories and power options the fusion splicer can be adapted to all common requirements.

Outstanding features of the X77 are the compact design unique in this class and a high degree of user-friendliness.

- Precise **core-to-core positioning** with the 1300 nm **LID-System**<sup>®</sup>
- **Optimization** of each individual **splice process** to achieve the lowest possible splice loss with **Automatic Fusion-time Control AFC**<sup>®</sup>
- High-resolution video image evaluation **L-PAS**<sup>®</sup> for **fast fiber pre-alignment, endface evaluation** and **contamination detection** as well as simultaneous fiber display in two views
- Precise **splice loss estimation**
- High-contrast **5,5-inch color monitor**
- **Fully automatic splice process** with one button operation
- **Splice process modes** for "fast", "standard" and "precise"
- **Tensile test capability**
- **Attenuation splice function** for producing high-precision, zero-reflexion in-line attenuators from 0.1 to 10 dB for wavelengths 1300 nm and 1550 nm
- **External LID source (pigtail adapter)** optionally available for applying the LID-System<sup>®</sup> to splicing tight-buffered pigtails
- **Splice data memory** for 250 splice results
- **Altitude compensation** up to 4000 m above sea level
- **Easy maintenance** of electrodes and optic system

**Scope of delivery and order numbers of the X77 and accessories see page 33**

# Fusion Splicer X77

## Technical Data

### Fusion Splicer X77

Fiber types	Single and multimode silica glass fibers with cladding diameter of 125 µm and coating diameters of 250 µm to 900 µm	Dimensions (L x W x H)	Basic unit: 230 x 185 x 100 mm Fusion splicer case 2: 500 x 420 x 200 mm
Fiber clamping	On 125 µm cladding	Weight	Basic unit: 2 kg; Fully equipped fusion splicer case: about 9 kg
Splice loss (with identical fibers)	<ul style="list-style-type: none"> <li>• Multimode fibers: typically &lt; 0.01 dB</li> <li>• Standard single mode fibers: typically &lt; 0.03 dB</li> <li>• Dispersion-shifted fibers: typically &lt; 0.05 dB</li> </ul>	Power supply options	12 V nominal, max. 13.8 V Possible power supplies: <ul style="list-style-type: none"> <li>• External 12 V DC from car battery or generator</li> <li>• Internal 12 V DC from 2.3 Ah battery in 100 VA attachment power supply</li> <li>• AC supply 90 to 260 V AC, 50 / 60 Hz, by 100 VA attachment power supply</li> </ul>
Splicing operation	Fully automatic or manual	Interfaces	RS 232 / V.24, via D-Sub 9-pin jack, Baud rate selectable for up to 9600; video signal (CCIR) via Cinch jack (75 Ohm)
Splice process control	Core-to-core alignment and Automatic Fusion-time Control AFC® with LID-System®. Alignment and fusion process by video image evaluation L-PAS®	Additional software functions	<ul style="list-style-type: none"> <li>• 9 fixed preset programs</li> <li>• 10 user-defined programs</li> <li>• Automatic selection of best suitable splice process control</li> <li>• Selectable fusion process mode in user-defined programs</li> <li>• Attenuation splices 0.1-10 dB</li> <li>• Automatic compensation of bad cleave angles up to 2.5°</li> <li>• Altitude compensation up to 4000 m above sea level</li> <li>• Selectable power save time in battery operation</li> <li>• Splice data memory for up to 250 splice results</li> <li>• Initial self test and status report</li> <li>• Operating hours and total splice counter</li> <li>• Electrode maintenance indication at selectable intervals</li> <li>• Internal heat-shrink oven control</li> </ul>
Fiber alignment	Pre-alignment in z-axis with stage motors and in all three axes with piezoceramic actuators		
Splice analysis	Splice loss estimation; tensile test with 2.5 N (controlled by piezo)		
Endface evaluation	Cleave angle detection, endface quality evaluation, dirt detection		
Fiber display	Big high-contrast 5,5-inch LCD color monitor, brightness adjustable, magnification: about 100 x		
Splice cycle time	Mode "fast": 10 to 20 s Mode "standard": 20 to 40 s Mode "precise": 40 to 60 s incl. alignment, fusion and analysis		
Operating range	Operating temp.: -5 °C to +45 °C, Relative humidity: ≤ 93 %; Storage temp.: -40 °C to +70°C		

# Fusion Splicers Order Numbers

## X77 and Accessories

Designation	Description / Delivery Unit	Order Number
<b>Fusion Splicer X77</b>	The fusion splicer is supplied as a basic unit with maintenance tool set and operating instructions. Power supply, cleaver, case and other accessories are to be ordered separately.	<b>S46999-M7-A77</b>
<b>Accessories</b>		
Fiber Optic Cleaver A8	For cleaving single- and multimode fibers, cleave angle deviation typ. < 0.5°	<b>S46999-M9-A8</b>
Heat-shrink Oven	Heating time: 15 to 250 s, heating temperature: 90 to 140 °C	<b>S46999-M7-S385</b>
Crimping Device	With mounting plate for fusion splicer X77	<b>S46999-M7-S252</b>
Splice Tray Holder	Can be combined with heat-shrink oven and crimping device; for all common types of splice trays. Not combinable with the workstation!	<b>S46999-M7-S378</b>
Mounting Bracket	For mounting the splice tray holder and crimping device resp. heat-shrink oven directly to the X77 fusion splicer. Not combinable with the workstation!	<b>S46999-M7-S276</b>
Attachment Power Supply	100 VA, can be mounted directly under the X77	<b>S46999-M7-S630</b>
Battery 2.3 Ah	For attachment power supply	<b>S46999-M7-S601</b>
Fusion Splicer Case 2	Transport case for fusion splicer and accessories	<b>S46999-M7-V13</b>
Work Lamp	Halogen, can be operated by fusion splicer power supply	<b>S46999-M7-S284</b>
Pigtail Adapter for X77	External LID source with universal connector adapter	<b>S46999-M7-S336</b>
Transport Case	Aluminum, for easy transport of fusion splicer case 2	<b>S46999-M26-V2</b>
<b>Workstation</b>		
Fusion Splicer Case 5	Workstation for X77; for the workstation the splice tray holder S46999-M7-S378 can not be used.	<b>S46999-M7-S875</b>
Splice Tray Holder for Workstation	With holder for cleaver A8	<b>S46999-M7-S876</b>
Mounting Block for A8	For mounting the A8 onto the splice tray holder S46999-M7-S876	<b>S46999-M7-S877</b>
<b>Consumables and Spare Parts</b>		
Heat-shrink Splice Protector		
- for single fibers, 60 mm	Pack of 100	<b>S46999-A16-A4</b>
- for single fibers, 45 mm	Pack of 100	<b>S46999-A4-A29</b>
- for attenuation splices	Pack of 5	<b>S46999-A16-A8</b>
Crimp Splice Protector	Pack of 150	<b>S45057-Z1-H590</b>
Electrodes for X77	1 set: 2 pcs.	<b>S46999-M7-S256</b>
Spare Light Bulb	For work lamp, 12 V / 10 W, halogen	<b>S46999-M7-S291</b>
Replacement Diamond Cleave Blade	For cleaver A8, exchangeable in the field	<b>S46999-M9-S30</b>
Cleaning Strips	For cleaning of the clamping jaws of the A8; 1 set: 50 pcs.	<b>S46999-M9-S15</b>

For detailed descriptions of the accessories see pages 37 to 45.