



NETPEPPERS VLP 50 Testing of Fiber Optic Networks User Manual

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NETPEPPERS VLP 50 Testing of Fiber Optic Networks



Product Information: Installation and Testing of Fiber Optic Networks

Data networks are an important part of our modern communication

Without broadband access, no apps on smartphones would be able to push news in real time or streaming services would not be able to serve countless home cinemas. Fully automated production streets would not run and the logistics behind it would not work. That is why data networks have become irreplaceable for a modern society and crucial for the success of companies.

- No other technology achieves such high transmission rates as fiber optics.
- No other transmission medium can provide so much bandwidth and capacity for so many users.
- Fiber optics guarantees a very high level of interference safety and longevity.

With the construction of a fibre-optic network, municipalities and cities are enhancing the quality of life and the future of their region as a business location and securing jobs in the long term. Public bodies such as public authorities or schools benefit from the state-of-the-art technology as well as companies that depend on fast and stable Internet on a daily basis. Despite the numerous advantages of the fiber optic network, certain requirements must not be ignored during installation. It requires increased care and cleanliness in the assembly of the connectors as well as a check after installation for errors or consistency. Net Peppers provides suitable tools and measuring devices for installing and testing the components. Thanks to a perfectly coordinated product portfolio, you will have the right tools during installation to rule out errors. Because well-functioning networks are our passion! With our portfolio and our expertise, we would like to welcome you to the modern and future-proof age of fiber optics.

Specifications

- **Product Type:** Fiber Optic Network Installation and Testing Tools
- **Brand:** Net Peppers
- **Product Portfolio:** Various tools and measuring devices

Introduction

Data networks are crucial for modern communication and the success of companies. Fiber optic networks have become irreplaceable in our society, providing fast and stable internet access. However, installation and testing of fiber optic networks require careful handling and cleanliness to ensure optimal performance. NetPeppers offers a comprehensive product portfolio of tools and measuring devices specifically designed for installation and testing of fiber optic networks.

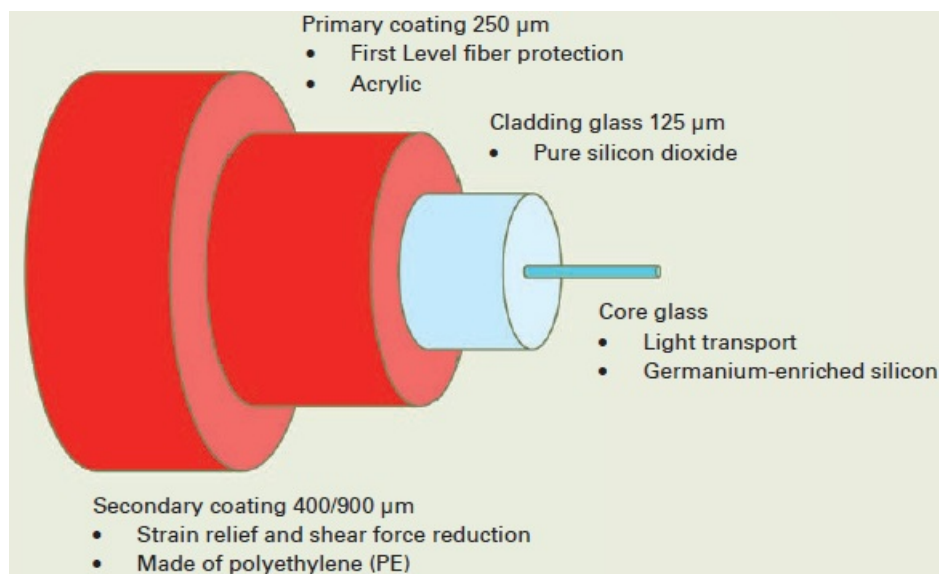
Product Usage Instructions

Fiber Optic Basics

Why Fiber Optic Installations?

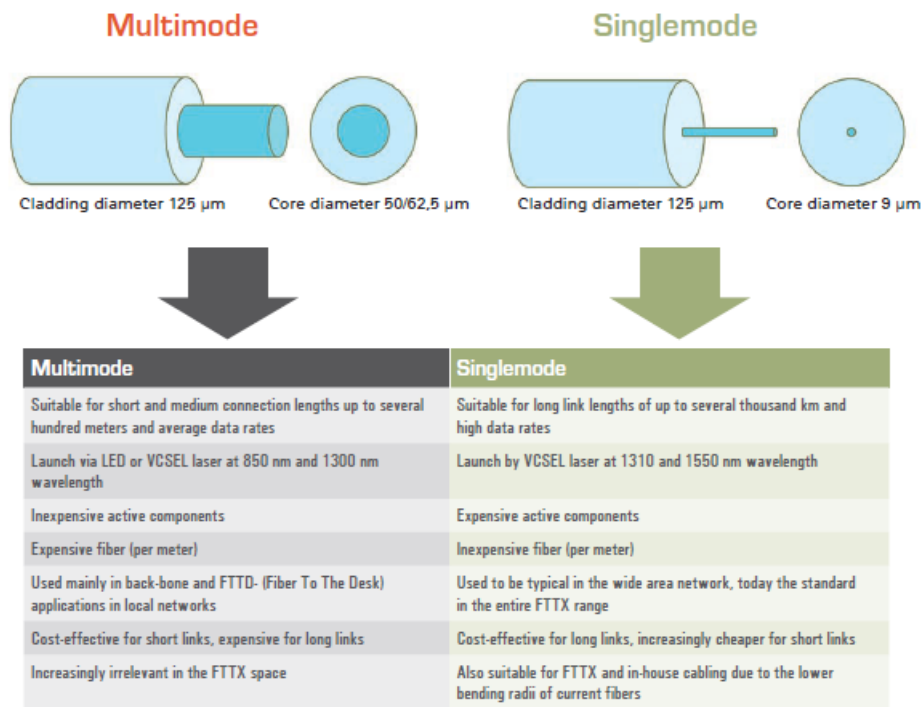
Increasingly higher data rates over long distances and decreasing costs for fiber optic installations are gradually displacing copper cabling, for example in the form of coax or twisted-pair cables. The use of glass as a transmission medium also has physical advantages: the transmission is much less susceptible to interference that can hinder the transmission. In the case of copper cabling, for example, parameters such as NEXT, FEXT, ACRF and other electrical parameters must also be considered in measurement technology. None of this exists with fiber optics. Only two factors limit the range: the attenuation and the modal bandwidth. While the latter is determined only by the cable manufacturer, in field measurement technology the installer is left with only one factor that must be tested: the attenuation. Falling costs for tools and materials are also making installation increasingly economical. The following applies: the installation of fiber optics is not necessarily more difficult than laying and assembling copper cabling. It's just different. Therefore: no reservations!

Fiber Optic in detail



In the world of fiber, two types are distinguished: The so-called „multimode“ fibers transport several light modes in the core, the „singlemode“ fibers only one. The different structure of the two fiber types makes their deployment useful in different applications.

Basic Fiber Optic



Common single-mode fiber optic types in the FTTX range

ITU-T G.652.D

- Minimal bending radius of 30 mm
- Standard fiber for access networks
- Now replaced by ITU-T G.657.A1

ITU-T G.657.A1

- Minimal bending radius of 10 mm
- Splicing with G.652 fibers possible
- Optimized access installation regarding macro bending

ITU-T G.657.A2 or G.657.B2

- Minimal bending radius of 7,5 mm
- Use in applications where the smallest bending radii are required

Basics of Fiber Optic Networks

Before starting the installation process, it is important to understand the basics of fiber optic networks. Familiarize yourself with the different components, such as connectors, optical light sources, optical power meters, and fusion splicers. This knowledge will help you in the proper installation and testing of the network.

Test & Measurement

Visual Fault Locator VLP 50

The Visual Fault Locator VLP 50 is a tool used to detect faults or breaks in fiber optic cables. It emits a visible red laser light that can be easily seen along the cable path, making it easier to identify the location of the fault.

Visual Fault Locator for a quick test of fiber links for breaks and bends

VLP50

The VLP50 is an essential tool for quick and easily testing and identifying problems in fiber cables. By revealing the exact location of fiber breaks and bends you can fast diagnose, troubleshoot, and fix faults on your fiber links.

Troubleshooting in seconds

Find faults in your fiber optic installation quickly and reliably. Identify breaking points on 2.5 and 1.25 mm connectors and jacks.

Strong endurance

Over fifty working hours with a set of common AA batteries and the robust aluminum housing make this laser source a long-term companion.

Which fiber is it?

The integrated flashing mode makes it easy to find the right fiber end up to a distance of five kilometers.

Technical Data	Visual Fault Locator VLP50
Output power	1 mW
Range	5 km
Laser type	FP-LD
Wavelength	650 nm \pm 10 nm
Operating mode	continuous or flashing
Output connector	2,5 mm universal adapter (SC/ST/FC/E2000), 1,25 mm adapter (LC/MU)
Modulation frequency	2 – 3 Hz
Scope of delivery	1 VLP50 Visual Fault Locator, 1,25 mm changeable adapter, 1 Lanyard, 1 Soft Case, 1 Quick Start Guide, 2 x 1.5V AA Alkaline Battery
Order no.	NP-FIBER50

Highly compatible



- The VLP50 is equipped with a 2.5 mm interface and is therefore compatible with SC, ST, FC and E2000 connectors.
- In addition, the kit includes a 1.25 mm adapter for LC and MU connectors.
- The robust aluminum housing protects against damage to the tester. The batteries of the device in the quick-

access battery tray can be replaced at any time and guarantee an operation of more than 50 working hours.

Features

EASY TO USE | FAST AND EASY LOCALIZATION OF ERRORS | DESIGNED TO OPERATE IN HARSH ENVIRONMENT | LONG BATTERY LIFE

Tier 1

Tier 1 testing involves measuring the power levels of transmitted signals and checking for any loss or inconsistencies. The Optical Light Source OLS 150 SM and OLS 150 MM are used to generate a stable optical signal, while the Optical Power Meter OPM 100 measures the power levels of the received signal. The Fiber Optical Test Kits (OLT100SM-Kit, OLT100MM-Kit, OLT100 Quad-Kit) provide a comprehensive set of tools for tier 1 testing.

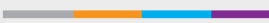



TIER1 certification

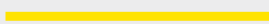
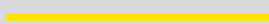
Overview of measurement methods

Level 1 certification is a measurement of the total insertion loss of a link from its beginning to end using a laser light source and a power meter. The losses of all connectors, splices and the fiber itself contained in the link are included in this attenuation value. A statement as to whether the fiber optic installation is good or bad is made by comparison with a calculated attenuation budget.

Attenuation Measurement

Maximum permissible attenuation for fiber optic components according to ISO/IEC 11801-1 and EN 50173-1:2018

Multimode	Fiber Category	Color codes
3.5 dB/km @ 850 nm	OM1 – OM4	
1.5 dB/km @ 1300 nm	OM1 – OM4	
3.0 dB/km @ 850 nm	OM5	
1,5 dB/km @ 1300 nm	OM5	

Singlemode	Fiber Category	Color codes
1.0 dB/km @ 1310 and 1550 nm	OS1	
0.4 dB/km @ 1310 and 1550 nm	OS2	

Connector loss (dB) = number of connector pairs * loss per connector pair (dB)

Maximum permissible loss per connector according to ISO/IEC 11801 = 0.75 dB (single mode/multimode)

Splice Loss (dB) = number of splices (S) * loss of splice (dB)

Maximum permissible attenuation per splice according to ISO/IEC 1180 = 0.3 dB

Example calculation with 1 jumper – reference method

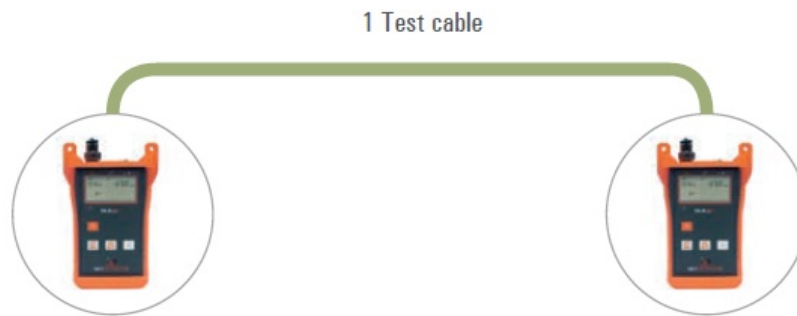
Attenuation budget

Attenuation of the link = fiber cable loss + connector loss + splice loss

- 0,1 km fiber length x 3.5 dB/km attenuation Coefficient at 850 nm and OM4 = 0,35 dB cable attenuation
- 2 connectors x 0,75 dB loss per connector = 1,5 dB connector loss
- 2 splices x 0,3 dB loss per splice = 0,6 dB splice loss
- Total attenuation: = 2,45 dB

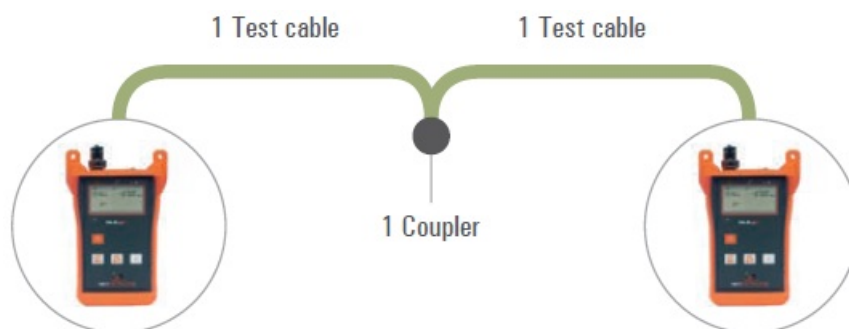
Referencing methods

„One Jumper“ Method



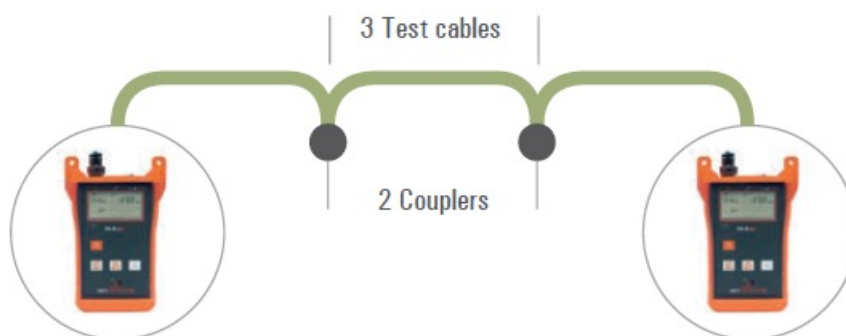
- One test cord for reference setting
- Disconnect after reference setting on power meter and insertion of a second test cable of known quality
- Preferred method for determining attenuation according to ISO/IEC 14763-3: 2019-05
- Measurement of both start and end connectors of the installation and cable attenuation

„Two Jumper“ Method



- Two test cords and a coupler for setting reference.
- Simple application, but only measurement of one connector during measurement process.
- Disconnect after reference setting at coupler.
- Most inaccurate of the three methods and no longer recommended by ISO/IEC

„Three Jumper“ Method



- Three test cords and two couplers for setting reference.
- Most complex method.

- Mainly used for special connector types such as MPO.

Optical Laser Source for Single mode Optical Fiber

OLS150SM

The OLS150SM laser light source guarantees fast measurement times without long warm-up for precise and reproducible results. The OLS150SM supports 1310/1550nm wavelengths and indicates the quality of fiber optic links together with the power meter OPM100.



High quality loss testing for everyone

Fiber optic measurement technology doesn't have to cost much. This singlemode light source generates stable, calibrated values immediately after switching on – without annoying waiting time.

Flexible adaptation to SM cabling

Thanks to its two FP-LD 1310 and 1550 nm laser diodes, the light source is used together with the power meter OPM100 to measure the insertion loss. SC/ST and FC connectors can be connected directly via interchangeable adapters.

Measuring does not have to be cumbersome

The self-explanatory operation and the easy-to-read display make loss testing child's play.

Technical Data	Optical Light Source OLS150SM
Calibrated Wavelength	1310nm/1550nm
Display	LCD
Output Power	≥ -7 dBm
Output Mode	CW, 270Hz, 1KHz, 2KHz
Emitter Type	FP-LD
Connector Type	FC/PC (interchangeable SC/PC and SC/ST)
Spectrum variation	≤ 5 nm
Stability	± 0.05 dB/15min, ± 0.15 dB/ 8hr@ 1310/1550nm
Battery life	≥ 13 hrs
Scope of delivery	1 OLS150SM Optical Laser Source, 1 Interchangeable Adapter SC /ST, 1 Quick start guide
Order no.	NP-FIBER150SM



Features

EASY TO USE | SM FIBER OPTIC INSTALLATIONS | BROAD APPLICATION | STABLE LIGHT SIGNAL STURDY HOUSING

Optical Laser Source for Multimode Optical Fiber

OLS150MM

The OLS150MM laser light source guarantees fast measurement times without long warm-up for precise and reproducible results. The OLS150MM supports 850/1300nm wavelengths and indicates the quality of fiber optic links together with the power meter OPM100.



High quality loss testing for everyone

Fiber optic measurement technology doesn't have to cost much. This multimode light source generates stable, calibrated values immediately after switching on – without annoying waiting time.

Flexible adaptation to MM cabling

Thanks to its two FP-LD 850 and 1300 nm laser diodes, the light source is used together with the power meter OPM100 to measure the insertion loss. SC/ST and FC connectors can be connected directly via interchangeable adapters.

Measuring does not have to be cumbersome

The self-explanatory operation and the easy-to-read display make loss testing child's play.

Technical Data	Optical Light Source OLS150MM
Calibrated Wavelength	850nm/1300nm
Display	LCD
Output Power	≥-7 dBm
Output Mode	CW, 270Hz, 1KHz, 2KHz
Emitter Type	FP-LD
Connector Type	FC/PC (interchangeable SC/PC and SC/ST)
Spectrum variation	≤ 5nm
Stability	±0.05dB/15min, ±0.15dB/ 8hr@ 1310/1550nm
Battery life	≥ 13 hrs
Scope of delivery	1 OLS150MM Optical Laser Source, 1 Interchangeable Adapter SC /ST, 1 Quick start guide
Order no.	NP-FIBER150MM



Features

EASY TO USE | MM FIBER OPTIC INSTALLATIONS | BROAD APPLICATION | STABLE LIGHT SIGNAL STURDY HOUSING

Optical Power Meter for Fiber Optic Cables

OPM100

The power meter is used to measure the optical power level (dBm) in telecommunications and CATV fiber optic networks. The power meter can also be used in conjunction with an optical laser source such as the OLS150MM or OLS150SM from NetPeppers to determine the insertion loss.



Simple determination of the optical power level

The determination of the optical power level enables fast trouble-shooting with high demands on accuracy.

All-in-One Power Meter

Thanks to its six supported wavelengths, the OPM100 is at home in any network.

Measuring does not have to be cumbersome

The self-explanatory operation and the easy-to-read display make loss testing child's play.



Technical Data	Power Meter OPM100
Calibrated Wavelength	850/1300/1310/1490/1550/1625 nm
Application Range	Single/Multimode fiber
Connector	FC (interchangeable SC, ST)
Battery life	≥ 25 hrs
Sensor type	InGaAs
Accuracy	(dB): ±5%±0.01nW(±0.5dB@850nm)
Scope of delivery	1 OPM100 Optical Power Meter, 1 Interchangeable Adapter SC/ST, 1 Quick start guide
Order no.	NP-FIBER100



Features

BEST PRICE TO PERFORMANCE RATIO | FAST AND ACCURATE | WIDE RANGE OF APPLICATION
ADAPTERS FOR SC/ST

Fiber Optical Test Kit

OLT100SM-KIT

Measuring fiber optic connection must be done after installation, before going live, as well as during operation in order to function error free. So far, corresponding measuring devices have often been very expensive. NetPeppers' new fiber optic loss test kit is a cost effective solution for highly accurate measurement results.



High quality loss testing

Fiber optic measurement technology doesn't have to cost much. This single mode light source generates stable, calibrated values immediately after switching on – without annoying waiting time.

Flexible adaptation to SM cabling

Thanks to its two FP-LD 1310 and 1550 nm laser diodes, the light source is used together with the power meter OPM100 to measure insertion loss. SC/ST and FC connectors can be connected directly via interchangeable adapters.

Measuring does not have to be cumbersome

The self-explanatory operation and the easy-to-read display make loss testing child's play.



Technical Data	Optical Light Source OLS150SM	Power Meter OPM100
Calibrated Wavelength	1310nm/1550nm 850/1300/1310/1490/1550/1625 nm	
Application Range	1310nm/1550nm	
Connector	FC/PC (interchangeable SC/PC and SC/ST)	
Signal type	CW, 270 Hz, 1 kHz, 2 kHz	
Stability	$\pm 0.05\text{dB}/15\text{min}$, $\pm 0.15\text{dB}/8\text{hr}$ @ 1310/1550 nm	
Battery life	≥ 13 hrs continuous use	≥ 25 hrs continuous use
Auto Off	after 5 min. inactivity	
Scope of delivery	1 OPM100 Optical Power Meter, 1 OLS150SM Optical Light Source, 2 Lanyards for carrying the devices, 1 Hard carrying case, 2 Interchangeable adapter SC/ST, 1 Quick start guide, 1 Calibration certificate	
Order no.	NP-OLT-SM	

Features

BEST PRICE TO PERFORMANCE RATIO | FAST & ACCURATE | WIDE RANGE OF APPLICATION
Fiber Optical Test Kit

OLT100MM-KIT

Measuring fiber optic connection must be done after installation, before going live, as well as during operation in order to function error free. So far, corresponding measuring devices have often been very expensive. NetPeppers' new fiber optic loss test kit is a cost effective solution for highly accurate measurement results.



High quality loss testing

Fiber optic measurement technology doesn't have to cost much. This multimode light source generates stable, calibrated values immediately after switching on – without annoying waiting time.

Flexible adaptation to MM cabling

Thanks to its two FP-LD 850 and 1300 nm laser diodes, the light source is used together with the power meter OPM100 to measure insertion loss. SC/ST and FC connectors can be connected directly via interchangeable adapters.

Measuring does not have to be cumbersome

The self-explanatory operation and the easy-to-read display make loss testing child's play.



Technical Data	Optical Light Source OLS150MM	Power Meter OPM100
Calibrated Wavelength	850nm/1300nm	850/1300/1310/1490/1550/1625 nm
Application Range	850nm/1300nm	
Connector	FC/PC (Interchangeable SC/PC and SC/ST)	
Signal type	CW, 270 Hz, 1 kHz, 2 kHz	
Stability	$\pm 0.05\text{dB}/15\text{min}$, $\pm 0.15\text{dB}/8\text{hr}$ @ 850/1300 nm	
Battery life	≥ 13 hrs continuous use	≥ 25 hrs continuous use
Auto Off	after 5 min. inactivity	
Scope of delivery	1 OPM100 Optical Power Meter, 1 OLS150MM Optical Laser Source, 2 Lanyards for carrying the devices, 1 Hard carrying case, 2 Interchangeable Adapter SC/ST, 1 Quick start guide, 1 Calibration certificate	
Order no.	NP-OLT-MM	

Features

BEST PRICE TO PERFORMANCE RATIO | FAST & ACCURATE | WIDE RANGE OF APPLICATION

Fiber Optical Test Kit

OLT100 QUAD-KIT

Measuring fiber optic connection must be done after installation, before going live, as well as during operation in order to function error free. So far, corresponding measuring devices have often been very expensive. NetPeppers' new fiber optic loss test kit is a cost effective solution for highly accurate measurement results.



High quality loss testing

Don't worry about compatibility in attenuation measurement: This kit covers multimode as well as single mode networks and various connectors.

Measuring does not have to be cumbersome

The self-explanatory operation and the easy-to-read display make loss testing child's play.

One Power Meter for everything

Thanks to the support of six common wavelengths (SM/MM), the power meter can be easily combined with the two high-performance light sources.



Technical Data	Optical Light Source OL S150SM	Optical Light Source OL S150MM	Power Meter OPM100
Calibrated Wavelength	1310nm/1550nm 850nm/1300nm 850/1300/1310/1490/1550/1625 nm		
Application Range	1310/1550/850/1300 nm		
Connector	FC/PC (interchangeable SC/PC and ST/PC)		
Signal type	CW, 270 Hz, 1 kHz, 2 kHz		
Stability	$\pm 0.05\text{dB}/15\text{min}$, $\pm 0.15\text{dB}/8\text{hr}$ @ 850/1300/1310/1550 nm		
Battery life	≥ 13 hrs continuous use ≥ 25 hrs continuous use		
Auto Off	after 5 min. inactivity		
Scope of delivery	1 OPM100 Optical Power Meter, 1 OLS150MM Optical Laser Source, 1 OLS150SM Optical Laser Source, 3 Lanyards for carrying the devices, 1 Hard carrying case, 3 Interchangeable adapters SC/ST, 1 Quick start guide, 1 Calibration certificate		
Order no.	NP-OLT-QUAD		

Features

BEST PRICE TO PERFORMANCE RATIO | FAST & ACCURATE | WIDE RANGE OF APPLICATION

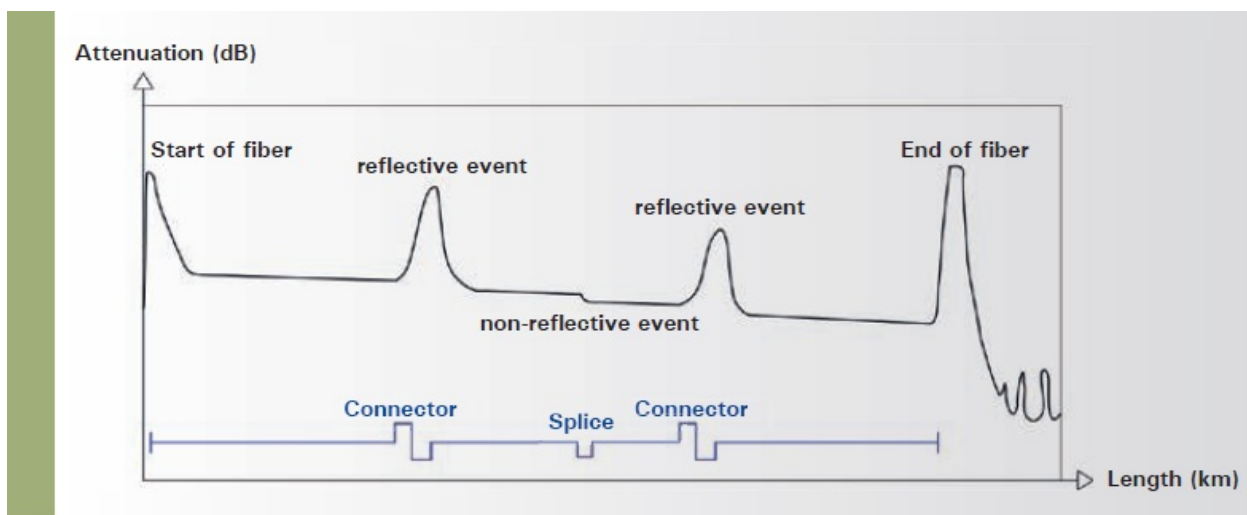
Tier 2

Tier 2 testing involves more advanced measurements, such as the use of an Optical Time-Domain Reflectometer (OTDR) 1000. This device sends a series of light pulses into the fiber optic cable and measures the reflected signals to detect any faults or inconsistencies. Fiber Launch Leads are used to connect the OTDR to the network for accurate measurements.

TIER 2 certification

Overview of measurement methods

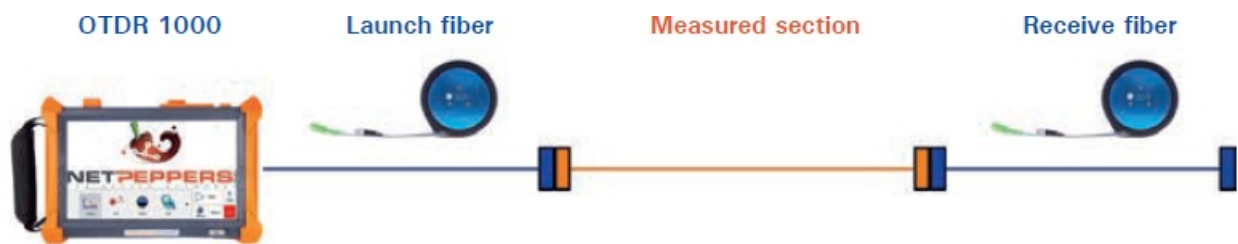
Level 2 certification measurements are complementary to Level 1 with the use of an optical time domain reflectometer, also called OTDR. In a graphical representation of the measurement section, individual connectors, splices, faults and the fibers themselves are shown with positional accuracy. The essential advantage compared to a measurement according to level 1 is that problem areas with high insertion or return loss can be localized this way. This means that the problem can be solved more quickly and efficiently.



An OTDR uses the principle of optical time domain reflectometry. A light pulse coupled into the fiber is either reflected or absorbed at various points in the fiber optic path. The backscattering of such „events“ is detected by the device and assigned a position in metres by the known transit time of the light.

Non-reflective event	Reflective event
Fiber breakage on single mode fiber	UPC/APC connectors (noise afterwards)
Macrobend	Open fiber end or last connector
Fusion splice	Mechanical splice
	Fiber breakage

Measurement setup



The typical measurement setup consists of a launch fiber (to correctly observe the first connector of the measured section), the actual measured section and a receive fiber (to correctly observe the last connector of the measured section).

Optical fiber – OTDR

OTDR1000

The OTDR1000 with its integrated Quad OTDR for fiber optic network certification, offers enough capabilities for applications in FTTX, LAN and WAN networks based on its high dynamic range (up to 38 dB single mode).



Extremely user-friendly

Modern platform concept focused on the user experience – easy to use.



Automatic Analysis

Analysis and interpretation of the measurement results as well as PASS/FAIL evaluation

Easy use with Linkimage

Shows a simplified representation of the measured fiber trace

User-friendly & modern platform

The OTDR 1000 concept is based on a powerful platform. Only 28 sec. start-up time and ultra fast response of the 8" capacitive touch display ensure frustration-free and time-saving operation, without getting noisy due to active cooling. The simple layout of the user interface, where every function of the OTDR 1000 is only one click away ensures intuitive operation and dispenses with mechanical buttons altogether. The large battery guarantees a full day's runtime, and the memory for storing hundreds of measurement results avoids the constant transfer of reports due to storage constraints.

Integrated Quad OTDR

At the heart of the system is the integrated Quad OTDR. Its high dynamic range (up to 38 dB single mode) offers enough reserves for applications FTTX, LAN and WAN networks. No matter whether for the initial installation of fiber optic connections, campus cabling, in the backbone or for the maintenance of fiber optic networks, with the most common wavelengths for single mode (1310/1550nm) and multimode (850/1300nm), the user is prepared for everything – even splitters up to a ratio of 1:16 can be measured. Due to the low attenuation dead zone of only 4 m (SM) and an event dead zone of 1 m the OTDR 1000 is especially suitable for short fiber links in the in-house area.

Features

FOR UNIVERSAL USE | FOR ALL COMMON WAVELENGTHS | EASY OPERATION | FOR FTTX AND IN-HOUSE CABLING | REPORTING

Technical Data	OTDR1000
Display	8,0" (20,32 cm) color touch LCD (capacitive)
Resolution	800 x 480 Pixel

Connectivity	2 x USB 2.0 1 x RJ45 LAN (10/100 Mbit/s) 1 x VFL 2,5 mm Ferrule UPP (universal push pull), adapter available 1 x OPM SC (interchangeable) 1 x OTDR SM SC/PC (interchangeable FC, ST, LC) 1 x OTDR MM SC/PC (interchangeable FC, ST, LC) 1 x 16V DC Power
Memory	8 GB (6 GB free to store results)
Battery	Li-Ion 7,4 V DC, 37 Wh, 5000 mAh
Battery life	10 hours continuous operation, operation possible during charging
A/C Adapter	Input: AC 100 – 240 V, 50/60 Hz, max. 1,5 A Output: 16 V DC, max. 3,75 A
Dimensions	235 x 159 x 75 mm (L x W x H)
Weight	1,59 kg (incl. battery)
Manual	(EN, DE) enclosed
Supported languages	English, German
Data transfer	USB-Stick, FTP access
Boot-Time	appx. 28 s
Operating system	Linux
Remote control by PC	Yes (VNC)
Dynamic range	23 db (850nm) 28 db (1300nm) 38 db (1310nm) 36 db (1550nm)
EDZ (Event Dead Zone)	1 m
ADZ (Attenuation Dead Zone)	4,5 m (850/1300nm) 4 m (1310/1550nm)
Distance measure accuracy	$\pm(1\text{m} + 10\text{-}5\text{x distance} + \text{sample spacing})$
Attenuation detect accuracy	$\pm 0.05 \text{ dB/dB}$
Reflex accuracy Distance measurement	$\pm 4 \text{ dB/dB}$
	Automatic or using two markers
Length units	Kilometers, feet and miles
Selectable range	SM: 1,3; 2,5; 5; 10; 20; 40; 80; 160; 240 km MM: 1,3; 2,5; 5; 10; 20; 40 km
Selectable pulse width	SM: 5ns, 10ns, 30ns, 100ns, 300ns, 1 μ s, 2,5 μ s, 10 μ s, 20 μ s MM: 5ns, 10ns, 30ns, 1 μ s, 2,5 μ s
Averaging time	Quick, 15s, 30s, 45s, 60s, 90s, 120s, 180s
Measurement methods	Automatic, manual, 2-point, 5-point, LSA
Laser class	1 M
Laser	LD-Laser

Scope of delivery	1 OTDR1000 main unit, 1 Li-Ion battery, 1 active touch pen, 1 charging cable for active touch pen, 1 USB flash drive incl. PC software, 1 power adapter incl. power cable, 1 carrying bag incl. shoulder strap, 1 manual, 1 Calibration certificate
Order no.	NP-FIBER1000



Futura powered by NetPeppers

Fiber Launch Leads for OTDR measurement

Fibernet's Futura launch fiber is a special fiber that is placed at the start of a measurement section in an OTDR measurement. The fiber is essential for a standard-compliant measurement and eliminates unwanted effects of the device on the measurement section. Using launch and receive fiber ensures measuring the first and last connector of a link correctly.



Customizable

Customer-configuration of different lengths and all common fiber optic connectors.

Ready for immediate use

Unique opening mechanism ensures fast readiness.

Armored patch cords

Special protection of the cable ends, to avoid high attenuation due to damage, is ensured.



Technical Data	Futura Launch Lead
Size	Ø = 110 mm X H 50 mm
Weight	0,4 kg
Operating temperature	-33 °C – +90 °C
Insertion loss	< 0,25 dB
Return loss	UPC < -50 dB / APC < -60 dB
Total length	Up to 1.000 m
Length of cable ends	approx. 1,20 m, strain-relieved
Material	ABS and aluminium
Fiber type	SM: G.652.D. – G.657A – G.655 MM: OM1 – OM2 – OM3 – OM4
Connector type	SC / LC / FC / ST / E2000
Connector finish	UPC / APC
Scope of delivery	1 FUTURA launch fiber, 1 Compact soft carrying bag, 1 Carrying strap for bag, 1 hanging strap for housing, 1 Screw-on magnet, Replacement dust caps for 1.25 and 2.5 mm ferrules, 1 OTDR certificate, 1 Quick start guide
Order no.	Configured depending on customer requirement

Features

SAFELY PACKED | EASY TO USE | FLEXIBLE MOUNTING | PROOF OF QUALITY

Fusion Splicing

Splice Protection

Splice protection is essential to ensure the durability and reliability of fusion splices. NetPeppers offers different types of splice protection, including shrink and crimp splice protection. Shrink splice protection involves using heat to shrink a protective sleeve around the fusion splice, while crimp splice protection involves using a crimping tool to secure a protective sleeve.

Professional solutions for the protection of fusion splices

Splice protection from NetPeppers

Crimp splice protectors for easy application and reliable splice protection

The crimp splice protection sleeves from NetPeppers are ideally suited for use with standard splice cassettes in 19" rack distribution panels, in-house connections and splice boxes and offer optimum protection of the splice site against external influences such as dirt, liquids or mechanical damage. During the crimping process with the original TELENT splice protection press, no unnecessary mechanical stress or insertion loss is applied to the fiber.

Shrink splice protection sleeves for inexpensive and optimum protection against all kinds of environmental influences

NetPepper's shrink splice protection sleeves offer the best protection against environmental influences, as the splice is completely encased in two layers of special plastic after thermal shrinking, making it impossible for dirt or liquids to penetrate. The NP-FS-PROTECT-S-12-30 micro-sleeves with a diameter of only 1.25 mm can be used with conventional splice protector holders for crimp splice protection and thus represent a cheaper and optimally protective alternative to crimp splice protection sleeves.

The splice protection press from TELENT for easy and controlled crimping of crimp splice protection sleeves

The splice protection press from TELENT has been the number 1 tool for pressing crimp splice protectors on the market for decades. This is not least due to its simple and safe application by thumb pressure without any external mechanical/electrical energy.

Decision guidance for splice protector types



Crimp splice protection	Shrink splice protection
+ very fast application	+ very good bend protection
+ press on after splicing process	+ cost effective
+ Telecom certified	+ can be used in integrated shrink oven of splicer, no additional equipment required
+ good protection against dirt/liquids and mechanical strain	+ optimal protection against dirt/liquids and mechanical strain
+ minimal stress on the splice during application	+ can be used with crimp splice protectors (NP-FS-PROTECT-S-12-30 only)
+ no additional load on splicer battery life due to the use of an integrated shrinking oven	+ splice inspection possible with the help of a visible laser light source (VFL)
+ EN 50411-3-3 compliant	+ EN 50411-3-3 compliant
+ suitable for diameters up to 250 μm	+ suitable for diameters up to 900 μm
+ Telekom TS 0338/96 compliant	

For protection against environmental influences

Shrink Splice Protection Sleeves

NetPepper's shrink splice protection sleeves offer the best protection against environmental influences, as the splice is completely enveloped by two layers of special filler plastic after thermal shrinkage. These shrink sleeves make it impossible for dirt or liquids to penetrate.



Safety

Protection against liquids, dirt, as well as mechanical stress

Compatible

To be used with fusion splicers (e.g. NetPeppers CFS-100) with integrated shrink oven

Flexible diameters

Can be used with fibers up to 900 μm secondary coating

Simple and Safe Application
Efficient and inexpensive bend protection

Technical Data	Shrink Splice Protection Sleeve
Suitable for	Bare fibre (125 µm) Primary coating (250 µm) Secondary coating (400/900 µm)
Storage temp.	– 40 up to +60 °C
Operating temp.	– 55 up to +105 °C
Humidity	0 up to 95 % RH
Color	orange-transparent
Suitable for crimp splice holder	Yes (NP-FS-PROTECT-S-12-30)
Order no.	See catalogue page 26



Features
STURDY STEEL PIN AS ANTI-BEND PROTECTION | ORANGE FOR EASIER INSERTION OF THE FIBER
TRANSPARENT FOR EASY CONTROL WITH VISIBLE LIGHT SOURCE | EN 50411-3-3 COMPLIANT

Protective sleeves for reliable splice protection

Crimp Splice Protection Sleeves

Crimp splice protection sleeves offer good all-round protection and high compatibility with common standard splice protectors. The sturdy aluminum sleeves are Telecom certified.



Good protection

Protection against liquids and dirt, as well as mechanical stress.

Compatibility

Use of crimp and shrink splice protection sleeves possible with the same splice holders.

Protection of the fiber

Suitable for fiber diameters up to 250 µm (primary coating), No increase in insertion loss.

Simple and safe application

Crimp splice protection sleeves have been designed for use with a splice protection press.

Technical Data	Crimp Splice Protection Sleeve
Suitable for	Bare fiber (125 µm) / Primary coating (250 µm)
Ø outside	1,2 (+/-0,1) mm, pressed
Height (H)	3,2 (+/-0,1) mm, pressed
Length (L)	30 (+/-0,5) mm, pressed
Storage temp.	– 40 up to +60 °C
Operating temp.	– 55 up to +105 °C
Humidity	0 up to 95 % RH
Color	metallic-silver
Suitable for crimp splice holder	Yes
Order no..	NP-FS-PROTECT-C-12-30 (150 pcs)



Features

TS 0338/96 CONFORM | EN 50411-3-3 CONFORM | MADE OF HIGH-QUALITY ALUMINIUM USABLE WITH ALL STANDARD SPLICE PROTECTION PRESSES

Controlled pressing of crimp splice protection sleeves

TELENT Splice Protection Press

The splice protection press from TELENT has been the number 1 tool for pressing crimp splice protection on the market for decades. This is not least due to their simple and safe use by thumb pressure without any additional mechanical/ electrical energy.



Simple operation

Insert, press, done!

Proven Concept

Proven system for gentle crimping of metal splice protection sleeves

Compatibility

Compatible to crimp splice protection sleeves up to 30 mm length.



Technical Data	Telent Splice Protection Press
Suitable for	30 mm crimp splice protection
Ø Fiber	max. 250 µm
Dimensions (hwxwd)	54 x 22 x 83 mm
Weight	126 g
Material	Plastic and aluminium
TS 0338/96 conformity	Yes
Scope of delivery	1 Telent Splice Protection Press
Order no.	NP-FS-PROTECT-PTOOL



Features

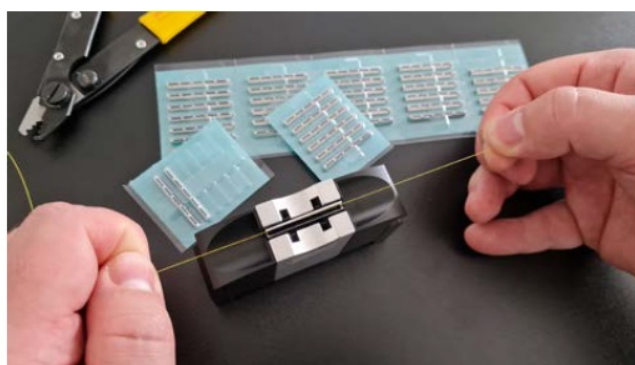
COMPATIBLE TO CURRENT FUSION SPLICERS | EASY TO USE FOR SPLICE PROTECTION SLEEVES UP TO 30 MM | GENTLE, UNIFORM CONTACT PRESSURE

Shrink/Crimp Splice Protection Sleeves

Order-No.	NP-FS- PROTECT- C-12-30	NP-FS- PROTECT- S-12-30	NP-FS- PROTECT- S-15-30	NP-FS- PROTECT- S-20-45	NP-FS- PROTECT- S-22-45	NP-FS- PROTECT- S-24-45	NP-FS- PROTECT- S-25-45
Type	Crimp	Shrink	Shrink	Shrink	Shrink	Shrink	Shrink
Quantity per Package	150 pcs	100 pcs	100 pcs	100 pcs	100 pcs	100 pcs	100 pcs
Bare fiber (125 µm)	●	●	●	●	●	●	●
Primary coating (250 µm)	●	●	●	●	●	●	●
Secondary coating (400 µm)	–	–	●	●	●	●	●
Secondary coating (900 µm)	–	–	–	●	●	●	●
Ø outside (D)* in mm	1,2 (+/-0,1) mm	1,2 (+/-0,5) mm	1,5 (+/-0,05) mm	2,0 (+/-0,2) mm	2,2 (+/-0,2) mm	2,4 (+/-0,2) mm	2,5 (+/-0,2) mm
Ø inside (d)* in mm	–	0,35 (+ 0,1) mm	0,5 (+ 0,1) mm	1,2 (+0,1) mm	1,2 (+0,1) mm	1,2 (+0,1) mm	1,2 (+0,1) mm
Height (H)* in mm	3,2 (+/-0,1) mm	1,25 (+/-0,05) mm	1,6 (+/-0,05) mm	2,75 mm	2,95 mm	3,4 mm	3,5 mm
Length (L)* in mm	30 (+/-0,5) mm	30 (+2/-1) mm	30 (+2/-1) mm	45 (+2/-1) mm	45 (+2/-1) mm	45 (+2/-1) mm	45 (+2/-1) mm
Max. shrink temp.	–	110 °C	110 °C	110 °C	110 °C	110 °C	110 °C
Storage temp.	-40 to +60 °C	-40 to +60 °C	-40 to +60 °C	-40 to +60 °C	-40 to +60 °C	-40 to +60 °C	-40 to +60 °C
Operating temp.	-55 to +105 °C	-55 to +105 °C	-55 to +105 °C	-55 to +105 °C	-55 to +105 °C	-55 to +105 °C	-55 to +105 °C
Humidity	0 to 95 % RH	0 to 95 % RH	0 to 95 % RH	0 to 95 % RH	0 to 95 % RH	0 to 95 % RH	0 to 95 % RH
Color	silver-metal	orange-transparent	orange-transparent	orange-transparent	orange-transparent	orange-transparent	orange-transparent
Suitable for crimp splice holder	Yes	Yes	No	No	No	No	No
EN 50411-3-3	F1-NA-30-P-00	S1-12-30-P-XX6	S1-16-40-PXX6	S1-20-45-A-XX6	S1-22-45-A-XX6	S1-24-45-A-XX6	–
TS 0338/96 conformity	Yes	–	–	–	–	–	–

Values apply to the pressed/shrunk state

Order No.	Description Splice Protectors	Quantity
NP-FS-PROTECT-S-12-30	Shrink splice protection, 1,2 mm Dm, 30 mm length	1 Pckg = 100 pcs
NP-FS-PROTECT-S-15-30	Shrink splice protection, 1,5 mm Dm, 30 mm length	1 Pckg = 100 pcs
NP-FS-PROTECT-S-20-45	Shrink splice protection, 2,0 mm Dm, 45 mm length	1 Pckg = 100 pcs
NP-FS-PROTECT-S-22-45	Shrink splice protection, 2,2 mm Dm, 45 mm length	1 Pckg = 100 pcs
NP-FS-PROTECT-S-24-45	Shrink splice protection, 2,4 mm Dm, 45 mm length	1 Pckg = 100 pcs
NP-FS-PROTECT-S-25-45	Shrink splice protection, 2,5 mm Dm, 45 mm length	1 Pckg = 100 pcs
NP-FS-PROTECT-C-12-30	Crimp splice to protect splice connections (Secure strain relief and protection of splice connection, installation with separately available crimp press).	1 Pckg = 150 pcs



Fusion Splicer CFS 100

The Fusion Splicer CFS 100 is a high-precision tool used for joining two fiber optic cables together through fusion splicing. It aligns and fuses the fibers to create a seamless connection. Use the Cleaver OFC 30 to precisely cleave the fibers before fusion splicing. The core alignment, 3-axis controlled fusion splicer is the perfect companion for splicing small and large projects. The lightweight and flexible splicer allows splicing of all common fibers in average of 9 seconds splicing time.



State-of-the-Art Splicing Technology

Thanks to the core centering and convenient automatic functions, the CFS-100 is extremely precise and very easy to use.

Compatibility that is second to none

Whether multimode or single mode fibers, pigtails, patch cables or SOCs: The CFS-100 splices all common fiber types

Workflow at the Splice Station

Set up your splice station according to your likes. Thanks to the foldable display, you can operate the device from the front and back.

Technical Data	Fusion Splicer CFS100
Alignment	Core alignment (3-axis-controlled)
Supported fiber categories	Single mode, multimode
Fiber types and loss values	ITU-T G.651 (MM) ≤ 0.01 dB (typical) ITU-T G.652 (SM) ≤ 0.02 dB (typical) ITU-T G.653 (SM DSF) ≤ 0.04 dB (typical) ITU-T G.655 (SM NZ-DSF) ≤ 0.04 dB (typical) ITU-T G.657 (SM BIF) ≤ 0.02 dB (typical) EDF ≤ 0.04 dB (typical)
Ø Cladding supported	~ 80 – 150 µm
Ø Coating supported	~ 100 – 1000 µm
Splice time	≤ 9 s (depending on mode and fiber orientation)
Splices per electrode	≥ 5000 splicing operations
Splice modes	Automatic or manual control
Heating time shrink oven	≤ 25 s, adjustable
Battery life	≥ 200 splice and shrink operations
Scope of delivery	1 Core Alignment Fusion Splicer, 1 Fiber Cleaver OFC-30, 1 Pair of electrodes (pre-installed), 1 Pair of universal fiber retention clamps (4 in 1), 1 SOC retention clamp, 1 SOC shrink oven retention clamp, 1 Li-Ion battery, 1 Cooling tray for shrink oven, 1 Power adapter + power cord, 1 Micro-USB cable, 1 Carrying case, 1 Carrying strap for carrying case, 1 Quick Start Guide, 1 Manual, Maintenance Tools
Order no.	NP-CFS100



For professional splicing of all common fiber types

- The lightweight and flexible precision splicer allows splicing of G.651 fibers with a splice loss below 0.01 dB and of G.652 fibers below 0.02 dB (typical).
- Equipped with detachable universal retention clamps, SOC clamps and internal thermometer and barometer, the CFS-100 can be used anywhere.
- Fast five seconds start up time and an average of nine seconds per splice as well as the automatic heating furnace for shrink sleeves speed up the workflow and lead to more splices per time.

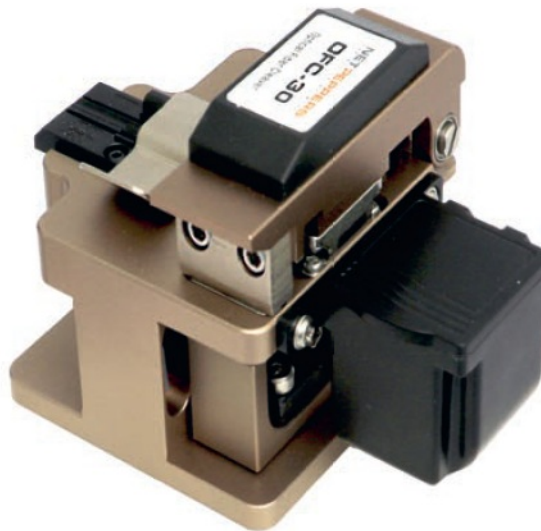
Features

PRECISE SPLICING RESULTS | UNIVERSALLY APPLICABLE | 4 IN 1 FIBER RETENTION CLAMPS FULLY AUTOMATIC | AUTOMATIC SHRINK OVEN | LED LIGHTING

Optical Fiber Cleaver

OFC30

OFC30 Optical Fiber Cleaver is a high precision preparation tool in a ruggedized case ready for field use. Prepare fibers up to 125 μm diameter with the OFC30 for fusion or mechanical splicing.



Precise tool

The OFC30 is a reliable companion at any splice place. The integrated scale makes it easier to find the right cutting length and the precision of $\pm 0.5^\circ$ avoids tedious reworking.

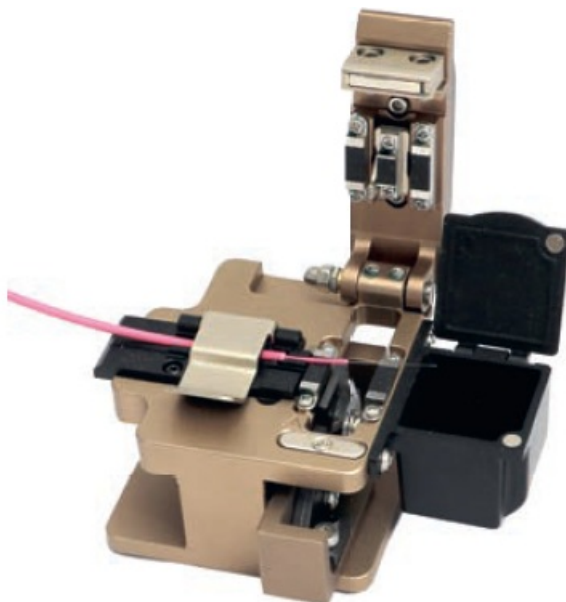
High-quality workmanship

CNC-machined carriage and the cover plate allow precise working and smooth sliding of the blade with the smallest tolerances.

Exchangeable blades

Simply turn the blade one position if the cleaving quality decreases. An exchange of the blades is only necessary after 48000 cleaves.





Technical Data	Optical Cleaver OFC30
Supported fiber categories	Single mode Multimode
Handling	Semiautomatic, auto-pushback
Ø Cladding supported	125 µm
Ø Coating supported	0,25 – 0,9 mm, 3 mm
Scale	10 – 16 mm
Fiber holder width	14 mm
Number of cleaves/blade	Approx. 48.000 cleaves
Cleave angle	Ø 90° +/-0.5°
Scrap container	Yes
Weight	310 g
Dimensions device	96 x 60 x 58 mm (L x W x H)
Dimensions transport box	125 x 89 x 65 mm (L x W x H)
Operating conditions	0 bis 95% humidity and 0 bis 50°C (non-condensing)
Storage conditions	0 bis 95% humidity and -40 bis 80°C (non-condensing)
Order no.	NP-FIBER30

Features

EASY AND PRECISE PREPARATION | LONG LASTING | EASY TO CARRY | SUSTAINED PERFORMANCE

Fiber Optic Stripper OFS31

The Fiber Optic Stripper OFS31 is used to remove the protective coating from fiber optic cables before fusion splicing. It ensures a clean and precise stripping process, preventing any damage to the fiber. The fiber optic stripper is a precisely manufactured tool for stripping fiber optic primary coatings up to 250 µm from bare fiber with

125 µm.

= The alternative operating principle to conventional stripping tools, in which the blades rest against on the coating with the pliers handles in a relaxed state, enables the primary coating to be gently stripped with a predefined force.



Fiber stripping with millimeter precision

The straight insertion of the fiber through the funnel-shaped opening on the front and the adjustable stop of 5 – 45 mm, kinking of the fiber is avoided and repeatable setting down is possible with millimeter precision.

Made in Germany

The blades are made in Solingen and are preset at the factory so that subsequent adjustment is not necessary. The NetPeppers fiber optic cable stripper „Made in Germany“ is a must-have for every fiber optic installer, no matter if in-house, FTTX or wide area network.

Ergonomic shape

The ergonomic shape, the low weight of only 45 g and the housing made of fiberglass-reinforced polyamide make handling child's play. The stripping tool is suitable for both right-handed and left-handed users.

Technical Data	Fiber Optic Stripper OFS 31
Application	Removal of 200 – 250 µm primary coating to 125 µm bare fiber
Blades	Fixed, not replacable
Scale	5 – 45 mm, stepless
Dimension (HxWxD)	112 x 56 x 18 mm
Weight	45 g
Scope of delivery	1 OFS31 Precision Fiber Optic Stripper
Order no.	NP-FIBER31



Features

MADE IN GERMANY | PRECISE WORKMANSHIP | LIGHT WEIGHT | DURABLE SINGLE- AND MULTIMODE FIBERS | ERGONOMIC

Fiber Optic Tool Kit

The Fiber Optic Tool Kit includes various tools necessary for installation and maintenance of fiber optic networks. It typically includes items such as cable cutters, tweezers, cleaning tools, and connectors. The NetPeppers fiber optic tool kit contains everything, you need for the installation of fiber optic cabling.

Whether FTTX, building, or campus cabling:

The carefully selected tools support you in preparing fiber optic cables for field-terminable connectors, fusion splices, mechanical splices or in repairing of already existing fiber optic lines. The components of the case are carefully selected and usefully assembled for the fiber optic installer.



More than the sum of its parts

This assortment includes tools for fiber preparation and – cleaning before splicing and for checking of the finished fiber optic lines.

Quality at a fair price

What good is a case with 100 tools and none of them you don't want to work with? The fiber optic tool box consists of high quality tools, so that every application is a pleasure.

Everything has its place

The case is equipped with a foam insert adapted to the tools. Find every part without time-consuming searching.















Decide on one of the options:

Content	Order no. NP-FIBER-KIT2 10	Order no. NP-FIBER-KIT21 1	Order no. NP-FIBER- KIT212	Order no. NP-FIBER-KIT2 13
VLP 50 Visual Fault Locator	1	1	1	1
OFC 30 Cleaver		1		1
OFS 31 Fiber Optic Stripper	1	1	1	1
100 ml Alcohol Dispenser	1	1	1	1
Fiber Optic Tweezer	1	1	1	1
Discard Container	1	1	1	1
Miller CFS-2 900 Stripping Plier	1	1	1	1
Miller MB06-7000 Micro Slit and Ring Tool	1	1	1	1
Klein Tools Kevlar Spring Action Shear	1	1	1	1
Chemtronics Dry Wipes	100	100	100	100
Telent Splice Protection Press			1	1
Carrying case with inlay	1	1	1	1

Features

UNIVERSAL AND MANUFACTURER-INDEPENDENT USE | EASY TO REORDER

Fiber Optic Tool Box – Items		Order no.
           	Visual Fault Locator for a quick test of fiber links for break and bends	NetPeppers VLP50 NP-FIBER50
	Spring Action Snip made of Kevlar	Klein Tools Spring Action Shear 24001
	Two-hole fiber optic stripping pliers	Miller CFS-2 900 Stripping Pliers 81281
	The compact tool to perform slit and ring cuts on fiber optic cables, buffer tubes, and jackets	Miller MB06-7000 Micro Slit and Ring Tool MB06-7000
	Fiber optic precision stripper for stripping primary coating	NetPeppers OFS 31 NP-FIBER31
	Optical Fiber Cleaver	NetPeppers OFC 30 NP-FIBER30
	Controlled pressing of crimp splice protection sleeves	Telent Splice Protection Press NP-FS-PROTECT-PTOOL
	Fiber optic tweezer for picking up fiber debris	NetPeppers Fiber Optic Tweezer NP-FIBER-TWEEZ
	Discard container for fiber optic residues	NetPeppers Discard Container NP-FIBER-DISCCONT
	Leak-proof 100 ml alcohol dispenser for fiber cleaning	NetPeppers Alcohol Dispenser NP-FIBER-DISPUMP100
	Coventry Econowipes for lint-free cleaning of electronics or optical components such as fiber optics	Chemtronics Dry Wipes 6704F
	Sortimo compatible carrying case*	NetPeppers Carrying Case I-BOXX72_CASE_NP

* Foam insert not included when reordering the case

QuickSplice Workstation

The QuickSplice Workstation provides a convenient and organized workspace for fusion splicing. It includes a fiber holder, cleaver, and various accessories to streamline the splicing process. QuickSplice is the practical solution for the fast assembly and disassembly of a splice workstation. The flexible, height-adjustable stand ensures ergonomic operation and the work platform ensures a high degree of compatibility with different splicers and tools.

**Full flexibility**

The included stand is steplessly adjustable from only 57 cm up to 215 cm, allowing for seated splicing, splicing while standing or on a ladder or just above floor level. The legs can be lowered flush to the floor and do not pose a tripping hazard.

Compact dimensions

The lightweight aluminum stand and the work platform made of durable synthetic weight only 2.8 kg and, with a maximum length of 59 cm, are easy to handle even in confined spaces.

Maximum compatibility

Various fittings allow the splicer and other tools to be freely fixed to the work platform. Strong magnets hold pliers and stripping tools in place.

Technical Data	QuickSplice Working Station
Dimension working platform	365 x 260 cm
Transport length tripod	59 cm
Weight platform + tripod	2,8 kg
Height adjustment	87 to 215 cm with raised leg position 57 to 188 cm with lowered leg position
Max. stand width of legs	1,02 m
Mounting	4 magnets, 2 magnetic screw mounts, 1 Hanging bag with tool slots
Worktop modes	Tripod or shoulder strap
Splicer mounting	3/8 and 1/4 inch threaded screw connection
Order no.	1 NP QuickSplice Workbench, 1 Belt hooking system, 1 shoulder strap, 1 tripod, 1 tool holster, 1 cleaver support, 2 Typ A screws, 1 Typ B screw, 1 Typ C screw
Order no.	NP-FIBER-QUICKSPLICE



Features

LIGHT AND COMPACT | UNIVERSAL AND MANUFACTURER-COMPATIBLE | QUICK ASSEMBLY DURABLE AND ERGONOMIC

ComfortSplice Workstation

The ComfortSplice Workstation offers an ergonomic and comfortable workspace for fusion splicing. It includes adjustable features to accommodate different user preferences and reduce fatigue during long splicing sessions. The Comfort Splice is an all-in-one solution for the convenient transport and quick setup of a full-fledged workstation. The robust case with extra large wheels has space for all the equipment needed for the installation and testing of fiber optic cabling. In just a few simple steps, the case becomes a mobile workstation with enough working space for all tasks related to fiber optic installations.

Maximum storage space

Two separate inner compartments with hard foam inserts to accommodate all tools and equipment.

All-in-One System

There are no additional suitcases and bags needed. System also functions as a mobile workstation.

Quick set up

Converts to 85 cm high work platform in seconds.



Technical Data	UN1CO ONE powered by NetPeppers
Workstation Dimensions	685 x 420 mm 1285 x 420 mm with extension shelves
Case Dimensions	Length: 800 mm Width: 525 mm Height: 850 mm Depth: 360 mm
Materials	ABS-ASA (shell and bench top) EPP (interior compartments, drawers) Carbon fiber (sliding handle, rods)
Weight	17,7 kg
IP Grade	IP54
Scope of delivery	1 UN1CO ONE case, 4 carbon fiber legs, 1 accessory bag with holders for rail system, 3 inlays, 2 additional storage plates, 1 multi socket plug with on/off switch and three slots
Order no.	NP-FIBER-COMFORTSPICE



Features

BEST PROTECTION OF THE EQUIPMENT | HIGH COMPATIBILITY | RIGID WORKPLACE | FLEXIBLE USE

Video microscope for inspection and testing of fiber optic connections

WFM-100

The NetPeppers WFM-100 is a portable video microscope with an integrated battery. It checks fiber optic lines and panels whether they are free of dirt or scratches or whether they are damaged. It is the ideal test instrument for technicians and installers who are involved in the installation of FTTX fiber optic networks and want to install them without any problems.



Play it safe

Make sure your fiber optic installations are clean and no dirt or damage restricts the availability of IT systems.

Everything according to standard

WFM-100 features automatic analysis for fiber end faces according to the latest standards.

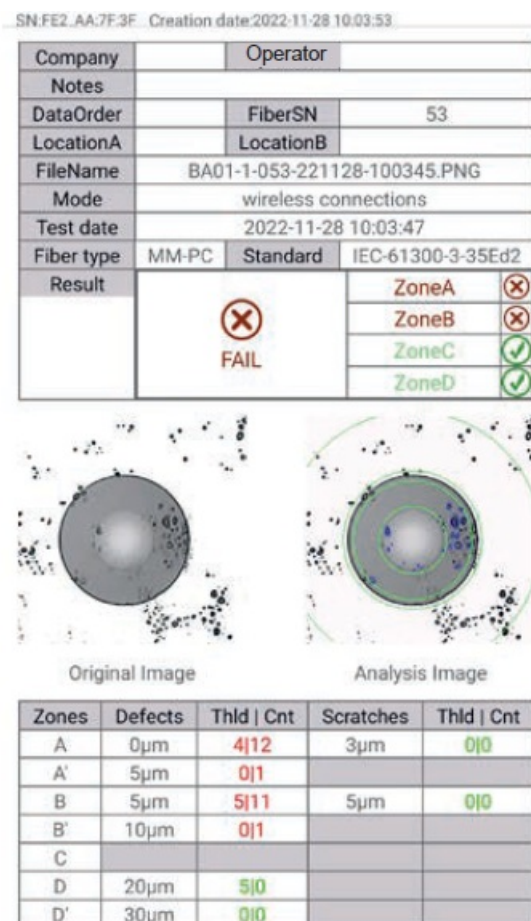
Wireless and flexible

Use any Android or Apple device* to view the microscope image and report.

- **Operating System:** Android 4.4 and higher, IOS 8.1 and higher

Technical Data	WFM-100 Fiber Microscope
Magnification	400 x
Resolution	< 1 µm
Light source	Blue LED
Field of view	X: 0,3487 mm – Y: 0,2632 mm
Power supply	Integrated battery, charging via Micro USB
Connection types	Wi-Fi 802.11 a/b/g/n und USB 2.0
Wifi frequency	2.4 GHz
Supported analysis standards	IEC 61300-3-35 and IPC-8497-1
Supported mobile operating systems	Android 4.4 and higher
Scope of delivery	1 WiFi video microscope, 1 set of probes LC/PC, SC/PC, 1.25 mm PC ferrules, 2.5 mm PC ferrules, 1 USB Type A to Micro-USB cable for charging or data transfer, 1 Adapter USB-A to USB-C, 1 P ocket for storing the video microscope and the associated tips, 1 C arrying strap (bag), 1 Carrying strap (microscope), 1 Quick Start G uide
Order no.	NP-FIBER40

Report



Features

Fiber microscope interchangeable tips

Order no.	Interchangeable Tips
SINGLE FERRULE INTERCHANGEABLE TIPS	
NP-FIBER40_TIPSET1	WFM-100 Tip Set 1 (Single ferrules) Contains all the probes listed below for single fiber connectors in a sorting box
NP-FIBER40_1.25APC-M	WFM-100 tip 1.25 mm (APC) male
NP-FIBER40_2.5APC-M	WFM-100 tip 2.5 mm (APC) male
NP-FIBER40_2.5PC-M	WFM-100 tip 2.5 mm (PC) male
NP-FIBER40_1.25PC-M	WFM-100 tip 1.25 mm (PC) male
NP-FIBER40_SC-PC-F	WFM-100 tip SC (PC) female
NP-FIBER40_LC-PC-F	WFM-100 tip LC (PC) female
NP-FIBER40_E2000-PC-F	WFM-100 tip E2000 (PC) female
NP-FIBER40_FC-APC-F	WFM-100 tip FC (APC) female
NP-FIBER40_FC-PC-F	WFM-100 tip FC (PC) female
NP-FIBER40_LC-APC-F	WFM-100 tip LC (APC) female
NP-FIBER40_ST-PC-F	WFM-100 tip ST (PC) female
NP-FIBER40_SC-APC-F	WFM-100 tip SC (APC) female
INTERCHANGEABLE TIPS MPO	
NP-FIBER40_MPO-APC-F	WFM-100 tip MPO (APC) female
NP-FIBER40_MPO-PC-F	WFM-100 tip MPO (PC) female



One-Click cleaning pens and wipers for cleaning fiber optic joints

NEOCLEAN cleaning pen and ChemPads wipes

The NEOCLEAN series has been developed for easy and reliable cleaning of fibre optic connectors. By extending the housing, exposed connectors as well as ports integrated in racks can be cleaned using the pressure principle.



With the ChemPads, you can reliably clean particles and liquids from your exposed fiber optics.

Common connector types

The Neoclean F-25 cleans all SC/ST/FC/E2000 connectors and 2.5 mm ferrules. The Neoclean F-12 covers LC/MU type connectors and 1.25 mm ferrules. With over 1000 cleaning cycles, the pens have a long service life.

Reliable and safe cleaning

Reliably clean any fiber end surface from grease, dust and other adhesions without leaving scratches or other damage on the surface.



No drying out

The individually packed wipes guarantee a long shelf life and are available immediately.

Technical Data	Neoclean F-25	Neoclean F-12
Cleaning cycles	> 1000	> 1000
Size	163 x 22 x 15 (L x H x B) mm without attachment plug	
Compatible connectors	SC / ST / FC / E2000 2,5 mm ferrule	LC / MU / 1,25 mm ferrule
Scope of delivery	1 NTT NEOCLEAN F25 fiber optic cleaning pen	1 NEOCLEAN F12 fiber optic cleaning pen
Order no.	NP-FIBER11 / NP-FIBER11_5 (Pack of 5 pcs)	NP-FIBER21 / NP-FIBER21_5 (Pack of 5 pcs)
Technical Data	Chemtronics CP 400 wipes	
Quantity	50 pieces	
Cleaning fluid	Isopropyl alcohol	
Scope of delivery	50 Chemtronics Chempad fiber optic cleaning wipes	
Order no.	CP400	

Features

RAPID CLEANING | PROTECTS FIBER OPTIC INSTALLATION | UNIVERSALLY APPLICABLE | LONG SERVICE LIFE

For cleaning fiber optic components

Fiber Optic Cleaning Kit

The NetPeppers fiber optic cleaning kit is the perfect companion for anyone installing, splicing, measuring or maintaining fiber. Dirty fiber optic connectors are the most common cause of transmission difficulties in fiber optic systems in FTTX, campus, building cabling or even wide area networks. The cleaning kit contains everything you need to quickly clean your fiber optic system at a low cost per cleaning. Both components for dry and wet cleaning guarantee that any kind of contamination, such as oil or dust, is reliably removed.



One for all Applications

Universally applicable for common connectors, jacks and fiber optics. Combination of wet and dry cleaning.



Quick Cleaning

Gentle cleaning of liquids and solids on fibers. Ideal for the initial equipment of the installer.

Everything has its place

The box is equipped with a foam insert adapted to the individual parts. All components can be reordered!

Content	Quantity
NTT NEOCLEAN-F25 Cleaning Pen	1 pc for SC/FC/ST/E2000 connections
NTT NEOCLEAN-F12 Cleaning Pen	1 pc for LC/MU LWL connections
Chemtronics QBE2 Cleaning Platform	1
Chemtronics FSA50 Wet Cleaning Wipes	50 pcs in a dispenser
NetPeppers Fiber Optic Cleaner 100 ml	1
Hard carrying case with inlay	1
Order no.	NP-FIBER-KIT100

Features

UNIVERSAL AND MANUFACTURER-INDEPENDENT USE | EASY TO REORDER

Fiber Optic Cleaning Kit – single items		Order no.
	for SC/FC/ST/E2000 connections with over 1000 cleaning cycles	NTT NEOCLEAN-F25 NP-FIBER11
	for LC/MU connections with over 1000 cleaning cycles	NTT NEOCLEAN-F12 NP-FIBER21
	Portable, efficient cleaning platform for cleaning fiberglass end surfaces	Chemtronics QBE2 Cleaning Platform QBE2
	Wet Cleaning Wipes FSA-50 (50 pcs/dispenser)	Chemtronics FSA50 Wet Cleaning Wipes FSA50
	For cleaning the fiber during connector assembly, splicing or for connector cleaning	NetPeppers LWL-Cleaner 100 ml NP-FIBER-FOCLEANER100
	Sortimo compatible carrying case*	Carrying Case I-BOXX72_CASE_NP
* Foam insert not included when reordering the case		

Rack for I-Boxx 72 (Sortimo compatible)

Convenient storage of NetPeppers Kits

NetPeppers Rack slide-in for the storage of the NetPeppers fiber optic kits in Sortimo vehicle installations. The NetPeppers Rack is the perfect addition for your NetPeppers fiber optic kit in the I-Boxx 72 box. The Rack system offers almost unlimited combination possibilities due to its flexible modular design and the plug-in units can be stacked on top of each other.

Snap-in clamps hold the individual rack inserts firmly together and thus enable the construction of a Sortimo-compatible rack system. The rack inserts are designed in such a way that the I-Boxx 72 cannot simply slip out to the front during transport.



Technical Data	
Weight	1,10 kg
Load capacity	5 kg
Size L x B x H	44,5 x 34,2 x 10,1 cm
Scope of Delivery	1 x NetPeppers Sortimo – compatible Rack for I-Boxx 72
Order no.	NP-FIBER-KIT_RACK1

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FAQ

1. **Q: What is the purpose of tier 1 testing?**

A: Tier 1 testing is performed to measure the power levels of transmitted signals and check for any loss or inconsistencies in the fiber optic network.

2. **Q: What is the difference between shrink and crimp splice protection?**

A: Shrink splice protection involves using heat to shrink a protective sleeve around the fusion splice, while crimp splice protection involves using a crimping tool to secure a protective sleeve.

3. **Q: How does an OTDR work?**

A: An OTDR sends a series of light pulses into the fiber optic cable and measures the reflected signals to detect any faults or inconsistencies in the network.

Documents / Resources



[NETPEPPERS VLP 50 Testing of Fiber Optic Networks](#) [pdf] User Manual
VLP 50 Testing of Fiber Optic Networks, VLP 50, Testing of Fiber Optic Networks, of Fiber Optic Networks, Optic Networks, Networks

References

- [User Manual](#)