

OTDR 1000

Multifunctional test platform



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VFL (Visual Fault Locator)	
Wavelength	650 nm
Output power	≥ -3 dBm
Laser class	2
Frequencies	continuous, 1 Hz
Max. distance	ca. 5 km

OPM (Optical Power Meter)	
Calibrated wavelengths	850, 1300, 1310, 1490, 1550, 1625, 1650 nm
Dynamic range	ca. -70 dBm +6 dBm (-60 dBm - +6 dBm @ 850nm)
Resolution	0,01 dB / 0,1 nW
Accuracy	± 5% ± 0,01 nW (± 0,5 dB @ 850nm)
Detector	InGaAs

SLS (Stabilized Laser Source)	
Wavelengths	850, 1300, 1310, 1550 nm
Output power	≥ -7dBm
Laser class	1 M
Frequencies	continuous; 1, 2 KHz; 1, 2 KHz + Flash

OCI (Optical Digital Microscope)	
Compatible video microscope	NetPeppers WFM-100 Wifi/USB fiber video microscope (Art.No.: NP-FIBER 40)
Magnification	400 x
Saving of results	yes

Ordering Information	Article-No.
OTDR 1000 Multifunctional platform with QUAD OTDR for tier 2 certification of fiber links.	NP-FIBER1000
WFM100 - WLAN/USB Fiber Video Microscope Digital microscope for quick and easy inspection of fiber optic connections for contamination and damage.	NP-FIBER40
FUTURA Launch Fibers FUTURA Launch fibers powered by NetPeppers available with 7 different fiber types and lengths from 150 to 1000 m. More information visit https://www.netpeppers.com/	NP-FIBER TYPE-LENGTH
OTDR measurement port connector FC	NP-FIBER 1000_ OPTCON_FC
OTDR measurement port connector SC	NP-FIBER 1000_ OPTCON_SC
OTDR measurement port connector ST	NP-FIBER 1000_OPT- CON_ST
OTDR measurement port adapter LC	NP-FIBER 1000_ ADAPT_LC
Power adapter & cord (EU)	NP-FIBER 1000_PWRKIT
Active touch pen	NP-FIBER 1000_PEN

SCOPE OF DELIVERY

- 1 OTDR 1000 main unit
- 1 Li-Ion battery
- 1 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

Modern platform concept with a focus on the user

The concept of the OTDR 1000 is based on a powerful platform. Only 28 seconds start time and lightning-fast response of the 8" capacitive touch display ensure frustration-free and time-saving operation, without getting loud by active cooling. The simple structure of the user interface, in which every function of the OTDR 1000 is only a click away, ensures intuitive operation without mechanical buttons. The large battery guarantees a runtime of a whole working day and the memory for recording hundreds of measurement results avoids the continuous transfer of reports for reasons of space. Measures such as the rubber protection surrounding the housing and the lowered display as well as the cover caps on all connections of the device ensure the use even under rough environment. An integrated on-screen help provides the user with immediate support.

Integrated Quad OTDR for Tier 2 network certification

At the heart of the OTDR 1000 is the integrated Quad-OTDR, which with its high, dynamic range (up to 38 dB in singlemode) offers enough reserves for applications in the FTTX, LAN and WAN range. Whether for the initial installation of private and enterprise fiber optic connections, campus cabling, in the backbone or for the maintenance of fiber optic networks, with the most common wavelengths for single (1310 and 1550 nm) and multimode (850 and 1300 nm), the user is prepared for anything; even splitters with a ratio up to 1:16 can be measured. Due to the low attenuation dead zone of only 4 m (SM) and event dead zone of 1 m, the OTDR 1000 is particularly suitable for short fiber optic links in the in-house area and access installation. The OTDR measurement trace is displayed almost the entire width of the large screen to allow the user optimal viewing and editing of the markers.

KEY BENEFITS

- ★ Multifunctional test platform with QUAD-OTDR, power meter, light source, video microscope support and VFL
- ★ Measure all common wavelengths for singlemode (1310/1550 nm) and multimode (850 and 1300 nm)
- ★ Automatic analysis and interpretation of measurement results and PASS/FAIL evaluation
- ★ LinkImage technology for simplified view of the measured fiber run: Perfect for beginners!
- ★ Easy operation thanks to powerful processor, 8" capacitive screen and intuitive user interface
- ★ High dynamic range and short dead zones for the use in FTTX and building cabling
- ★ Fiber end face inspection and documentation via connected video microscope (optionally available)
- ★ Report generation on the device in numerous file formats, evaluation on the PC using OTDR Trace Manager software



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Further advantages of the OTDR:

- Automatic selection of measuring range and pulse width
- Automatic detection and analysis of reflective and non-reflective events as well as beginning and end of the measuring section and macro bends
- Clear presentation of events with all relevant parameters (distance, insertion loss, return loss, etc.) in simple table form
- PASS/FAIL statement according to stored limit values, which can be stored by the user individually for each wavelength
- Display of up to four measurements simultaneously in tabs and overlay for easy comparison of different measurement curves
- Storage of results in universal format for OTDR measurement curves (.sor), as well as directly on the device as PDF or as image (.jpg). View all file types directly on the device
- View and edit results on PC with the free OTDR Trace Manager software

LinkImage – for an easy entry into optical time domain reflectometry

In order to give installers without previous experience in dealing with OTDRs an easy introduction to the matter, the OTDR 1000 has a simplified representation of the measured fiber run. The events do not appear in the form of a measurement curve, but are automatically interpreted correctly as plug, fusion splice, etc. and displayed in the right order as a virtual fiber run with its components. This visualization makes errors immediately apparent, because faulty components are displayed immediately – without any interpretation of the raw data by the user. This representation can also be displayed in the PDF test report for the customer.



All features for fiber optic measurement combined in one device

In addition to the OTDR, the device has numerous other functions for measuring and troubleshooting fiber optic networks, making it the installer's Swiss army knife. The built-in optical power meter supports PON wavelengths 1625 and 1650 nm in order to troubleshoot active networks. Of course, the results can also be saved. The OTDR measuring sockets can also serve as a light source with wavelengths 850/1300/1310/1550 in loopback or together with another attenuation meter. The VFL (Visual Fault Locator) is used for optical troubleshooting. Its visible red laser light helps up to a distance of 5 km to identify breaks, as well as microbendings in fiber optic cables or faulty connectors. Using the optional NetPeppers video microscope, connectors can be checked for damage and dirt before measurement. Documentation of the cleanliness of the components is now also required in standards such as ISO/IEC 14763-3 (Annex B) and therefore, the results can also be stored as .html and .pdf files.

SPECIFICATIONS	
Display	8.0" (20.32 cm) color LCD (touch capacitive)
Resolution	800 x 480 Pixel
Connections	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 (exchangeable) 1 x OTDR SM SC/PC (exchangeable with FC, ST, LC) 1 x OTDR MM SC/PC (exchangeable with FC, ST, LC) 1 x 16V DC Power
Memory	8 GB (6 GB free for result storage)
Battery	Li-Ion 7,4 V DC, 37 Wh, 5000 mAh
Battery runtime	10 hours continuous operation, operation during charging possible
A/C Adapter	Input: AC 100 – 240 V, 50/60 Hz, max. 1,5 A Output: 16 V DC, max. 3,75 A
Operating temperature	- 20°C - + 50°C
Storage	- 40°C - + 60°C
Humidity	≤ 95% (non-condensing)
Size	235 x 159 x 75 mm (W x B x H)
Weight	1.59 kg (with battery)
Manual (DE, EN)	included
Supported languages	English, German
Result transmission	USB stick, FTP access
Boot Time	ca. 28 s
Operating system	Linux
Remote control by PC	Yes (VNC)

OTDR (OPTICAL TIME DOMAIN REFLECTOMETER)			
Wavelengths	Dynamic Range ¹	EDZ (Event Dead Zone) ²	ADZ (Attenuation Dead Zone) ³
850 nm	23 dB	1 m	4,5 m
1300 nm	28 dB		4,5 m
1310 nm	38 dB		4 m
1550 nm	36 dB		4 m
Measurement accuracy	Distance ± (1m + 10-5x distance + sampling step)	Attenuation ± 0.05 dB/dB	Reflection ±4 dB
Distance measurement	automatically or by two markers		
Units	kilometers, feet and miles		
Selectable measuring ranges	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 widths	SM: 5ns, 10ns, 30ns, 100ns, 300ns, 1µs, 2,5µs, 10µs, 20µs MM: 5ns, 10ns, 30ns, 1µs, 2,5µs		
Averaging time	quick, 15s, 30s, 45s, 60s, 90s, 120s, 180s		
Measurement methods	automatic, manual, 2-point, 5-point, LSA		
Laser / Laser class	LD-Laser / 1 M		

(1) Dynamic range measured with 20 µs pulse width und 180 s averaging time
(2) EDZ measured on 0,6 km and with reflection < -45 dB, pulse width 5 ns
(3) ADZ measured on 0,6 km and with reflection < -45 dB, pulse width 10 ns

Connectivity of the OTDR 1000

2 x USB 2.0
1 x RJ45 LAN (10/100 Mbit/s)

1 x 16V DC Power

1 x OTDR SM SC/PC (exchangeable FC, ST, LC)

1 x OTDR MM SC/PC (exchangeable FC, ST, LC)

1 x OPM SC (exchangeable)

1 x VFL 2,5 mm Ferrule UPP (universal push pull), adapter available

