FiberWarrior™ Optical Time Domain Reflectometer (OTDR)

Applications

- Fiber-to-the-Home (FTTH)
- Local Area Networks (LAN) & Enterprise Systems
- Telco
- CATV
- Government/Military
- OEM
- Education

Key Features & Benefits

- Modular Design Supports Multiple Interchangeable Test Systems
- High Quality Sunlight Readable 8.4" Active TFT Color Touchscreen
- Advanced PWRScan™ Event Detection Algorithms for Accurate Reporting
- High Quality Aluminum Housing with Shock Resistant Bumpers
- Multimode & Single-mode (Quad) Testing in a Single Module
- Choice of Linux or Windows Operating Systems
- Real-Time, Averaging, and Auto-Test Modes
- Simple Report Generation
- USB and Ethernet Ports Allow Easy Access to the Outside World
- Small, Lightweight Package
- Kickstand for Optimum Viewing Angle
- AC and Rechargeable Battery Operation

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OptiConcepts FiberWarrior OTDR offers a state-of-the-art system for testing, troubleshooting, and documenting optical fiber networks. Combining a high performance processor, sophisticated signal processing, and an advanced software design, the FiberWarrior provides users with a high quality solution for analyzing optical fiber in both the field and lab. The small, lightweight design allows for easy portability, storage, and reduced bench-top space while the aluminum enclosure and specially engineered protective bumpers enhance field ruggedness.

The performance of the FiberWarrior OTDR will leave you amazed at the speed and accuracy in which optical fibers are fully analyzed and stored to an internal disk. By using high performance avalanche photodiodes, lasers, and sophisticated A/D circuitry, the FiberWarrior significantly reduces test times as compared to other OTDRs. Additionally, the proprietary PWRScan system is designed to quickly and accurately automate the process of trace interpretation to greatly assist the process of understanding the condition of the fiber network.

Through a simple graphical user interface, FiberWarrior becomes a window to viewing the health of your optical system by utilizing three modes of operation: Average Mode, Real-Time Mode, and Auto-Test Mode. Average Mode works by quickly and effectively increasing the signal to noise ratio so that anomalies and events within the system are accurately identified and measured. Using Average Mode, the OTDR confirms whether the physical fiber network is within the proper operational parameters or not by providing the user with a clean scan of the optical waveguide. Next, Real-Time Mode offers a unique way of assisting the user during the installation of optical components and troubleshooting by showing the immediate state of the fiber. In this mode, users can more readily identify faults that are intermittent and hard to find. Additionally, components, such as fusion splices and connectors can be optimized for lowest loss and minimal reflection by using the FiberWarrior in Real-Time Mode. Lastly, Auto-Test Mode is a great tool for commissioning and documenting newly deployed fiber systems by automating repetitive steps such as searching for system events and naming files in a logical manner, then provides an ultra easy system of documenting your fiber network.

The elegant design of the FiberWarrior Test Platform features a high-quality 8.4" TFT LCD touchscreen that allows the best possible user experience by providing an interface that is easy to view in both dark and bright environments. High contrast screen color allows easy identification of network elements and user controls. The centrally positioned screen fills the front of the unit while visually optimizing OTDR traces, graphs, tables, and other technical information through the carefully designed interface. The customizable touchscreen further enhances and simplifies usability by eliminating cumbersome buttons and controls.

Last, but certainly not least, is the expandability of the test platform to include other FiberWarrior testing modules, including power meters, optical sources, and visual fault locators. The scaleable design will significantly reduce the cost of future testing requirements as well as simplify and reduce additional training typical with other stand-alone optical test solutions. What's more, the USB and Ethernet ports instantly allows a virtually unlimited number of devices and connectivity methods to save traces, network, print, and email to assist and enhance your optical testing experience.

OptiConcepts FiberWarrior OTDR product line is conveniently divided into three packages to meet your testing needs. The FiberWarrior is best suited for budget constrained users and lab personnel who may not need extra features. The FiberWarrior Plus is well suited for field personnel by adding a carrying case and launch cord. The FiberWarrior Pro provides additional options for the test professional.

	FiberWarrior	FiberWarrior Plus	FiberWarrior Pro
FW Mainframe	✔	✔	✔
OTDR Module(s)	✔	✔	✔
PC Software	✔	✔	✔
Rechargeable Li-Ion Battery	✔	✔	✔
Launch Fiber		✔	✔
Soft Carrying Case		✔	✔
Optical Meter/Light Source (confirm availability on module)			✔

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FiberWarrior Test Platform Specifications

Processor	533MHz x86
Operating System	OptiLin™ Linux® or Windows®XP
On-Board Flash Memory	2Gb (up to 16Gb available)
RAM	256Mb (up to 512Mb available)
Ports	2-USB, Ethernet
Display	8.4" Color TFT LCD
User Input Device	Resistive Touchscreen
Power Supply	AC, 100-250VAC, 50-60Hz
Battery	Rechargeable Li-Ion
Size	10.0" x 7.0" x 2.5" (25.40 x 17.78 x 6.35cm)
Weight	3.9lbs. (1.8kg)
Operational Temperature	0° to 50°C
Storage Temperature	-20 to 60°C
Humidity	0 to 95%, non-condensing

FiberWarrior OTDR Specifications

Wavelengths	MM: 850/1300nm; SM: 1310/1490/1550/1625nm (all ±20nm)
Dynamic Range	MM: 25dB, SM: 30-45dB, typical, SNR=1
Pulsewidth Range	10ns to 20µs
Loss Resolution	0.001dB
Linearity	±0.05dB/dB
Distance Range:	
Single-mode 40dB+ (km)	5, 10, 20, 40, 80, 160, 240, 320, 500
Single-mode 30-38dB (km)	5, 10, 20, 40, 80, 160, 240, 320
Multimode Distance Range (km)	5, 10, 20, 40, 80
Event Deadzone	<2.5m
Attenuation Deadzone	<8 to <12m
Sample Points	16,000 to 64,000, depending on configuration
Minimum Trace Storage Capacity (Flash)	>30,000
Index of Refraction Range	1.4000 - 1.7000
Distance Measurement	Dual Cursor
Distance Accuracy	±1m, ± sampling resolution (excluding IoR uncertainties)
Loss Measurement	PWRScan, 2 – PT, LSA
Display Range	36 to 50dB (depending on model)
Reflectance Accuracy	±2dB
Display Resolution	0.01dB

FiberWarrior Power Meter and Light Source Specifications

Power Meter

Wavelength Range	800-1700nm
Calibrated Wavelengths	850,1300,1310,1550,1625nm
Detector Type	InGaAs
Resolution	0.01dB
Accuracy	±0.20dB
Frequency Detection	270, 1000, 2000Hz
Stability	±0.05dB
Linearity	±0.05dB

Source

Wavelengths	850/1300nm (MM), 1310/1550nm (SM)
Output Power	-10dBm (SM)
Stability	±0.05dB
Modulation:	CW, 270, 1000, 2000Hz

Visual Fault Location Specifications

Wavelength	650nm ±20nm
Output power level	<1 mW
Laser Safety	Class 2 laser

- All specifications are typical and subject to change without prior notification

FiberWarrior™ Optical Time Domain Reflectometer (OTDR)

Ordering Information

To order a FiberWarrior OTDR, simply select the mainframe, module(s), connector style, and module option(s).

1. Select Mainframe

FW-AQMB

2a. Select OTDR Module

Module Part Number	Center Wavelength (nm)	Dynamic Range	PW Range	Event Dead Zone	Attenuation Dead Zone
FWM-MM1-000-XX	MM 850/1310	25/25	10ns-1µs	<3m	<10m
FWM-SM1-000-XX	SM 1310/1550	32/30	10ns-20µs	<3m	<12m
FWM-SM2-000-XX	SM 1310/1550	35/35	10ns-10µs	<3m	<10m
FWM-SM3-000-XX	SM 1310/1550	40/38	10ns-20µs	<2.5m	<8m
FWM-SM5- 000-XX	SM 1310/1550	43/44	10ns-20µs	<3m	<12m
FWM-SM6-000-XX	SM 1310/1625	32/30	10ns-20µs	<3m	<12m
FWM-SM8-000-XX	SM 1310/1625	40/37	10ns-20µs	<2.5m	<8m
FWM-SM13-000-XX	SM 1490/1625	41/42	10ns-20µs	<3m	<12m
FWM-SM16-000-XX	SM 1550/1625	38/37	10ns-20µs	<2.5m	<8m
FWM-SM17-000-XX	SM 1550/1625	44/42	10ns-20µs	<3m	<12m
FWM-SM18-000-XX	SM 1310/1550/1625	32/30/30	10ns-20µs	<3m	<12m
FWM-SM20-000-XX	SM 1310/1550/1625	40/38/37	10ns-20µs	<2.5m	<8m
FWM-SM21-000-XX	SM 1310/1550/1625	43/44/42	10ns-20µs	<3m	<12m
FWM-SM26-000-XX	SM 1310	32	10ns-20µs	<3m	<12m
FWM-SM30-000-XX	SM 1490	30	10ns-10µs	<3m	<10m
FWM-SM34-000-XX	SM 1550	30	10ns-10µs	<3m	<10m
FWM-SM38-000-XX	SM 1625	30	10ns-10µs	<3m	<10m
FWM-SM45-000-XX	SM 1310/1550	45/43	10ns-20µs	<3m	<12m
FWM-QD1-000-XX	850/1300/ 1310/1550	25/25/ 32/32	10ns-1µs 10ns-20µs	<3m <3m	<10m <12m

[Note: all values are typical]

2b. Select Module Connector Style (XX)

FC SC ST AFC ASC

3. Select Module Option (as needed)

Power Meter and Light Source	FW-PL
Visual Fault Locator	FW-VFL

Accessories

A number of options and accessories are available for the FiberWarrior product line.

Accessories

Hard Shell Transit Case	FW-TCASE
Soft Carrying Case	FW-SCASE
Flexible US Style Keyboard	FW-KEY
Car Charger	FW-CHAR
Handheld VFL	VFL-500

Upgrades

4Gb Flash Upgrade	FW-4GF
8Gb Flash Upgrade	FW-8GF
16Gb Flash Upgrade	FW-16G

Launch Cords

100m 50µm MM	PLC-XX5-100M
100m 62.5µm MM	PLC-XX6-100M
305m Single-mode	PLC-XXS-305M

Extended Warranties

1yr Extended Warranty	FW-WAR1
2yr Extended Warranty	FW-WAR2

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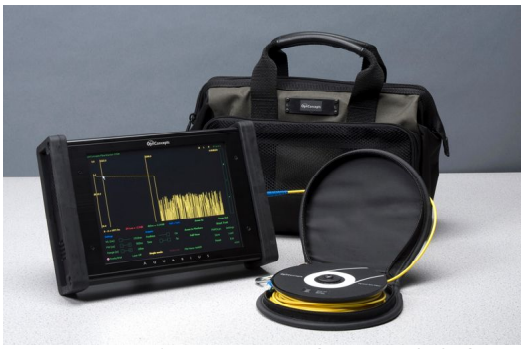
OTDR Kits

Choose an OTDR Kit for standard single-mode and multimode testing purposes. Plus Kits include the following: Modular FiberWarrior Mainframe with 533MHz processor, 256Mb RAM, 2Gb Industrial Flash (30000+ trace storage capability), 1 Ethernet port, 2 USB ports, FC Connector port, WindowsXP Embedded software, 8.4" TFT Touchscreen, Stylus, Rechargeable Li-Ion Battery, US Power Supply/Cord, PC Trace Software, OTDR module(s), OTDR launch cord(s), connector cleaning card, and a soft carrying case or hard shell transit case. Pro Kits include an optical meter, source, and meter connector adapters in addition to the items in Plus Kits.



FiberWarrior OTDR, Launch Cord, and Soft Case

Standard OTDR Kits	Part Number
Plus OTDR Single-mode 1310/1550nm 32dB, Launch Cord, Soft Carrying Case	FW2-SM1-FC
FiberWarrior Plus OTDR Single-mode 1310/1550nm 40dB, Launch Cord, Soft Carrying Case	FW2-SM3-FC
FiberWarrior Plus OTDR Multimode 850/1300nm 25dB, Launch Cord, Soft Carrying Case	FW2-MM1-FC
Fiber Warrior Plus OTDR Quad 850/1300nm MM 25dB & 1310/1550nm SM 32dB, 2 Launch Cords, Soft Carrying Case	FW2-QD1-FC
FiberWarrior Plus OTDR Quad 850/1300nm MM 25dB & 1310/1550nm SM 32dB, 2 Launch Cords, Handheld VFL, Hard Shell Transit Case	FW2-QD1-00V-FCVTC
FiberWarrior Pro OTDR Single-mode 1310/1550nm 32dB with Power Meter and Light Source, Launch Cord, Handheld VFL, Hard Shell Transit Case	FW3-SM1-PL0-FCVTC

Quality Statement

OptiConcepts is committed to providing high quality, easy to use test equipment by integrating customer needs into world class engineered products and systems.

CE

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