



Fiblit

PN: FL-TW3100

Optical Fiber Tools

TECHNICAL DATA SHEET

Techwin TW3100 Fiber Optic OTDR





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Product Description

The Techwin TW3100 Fiber Optic OTDR (Optical Time Domain Reflectometer) is a professional handheld fiber testing instrument designed for installation, maintenance, troubleshooting, and certification of optical fiber networks. It accurately measures fiber length, attenuation, splice loss, connector loss, reflectance, and fault locations in both Single Mode (SM) and Multimode (MM) optical fibers.



The TW3100 features automatic measurement, multi-wavelength testing, intelligent event analysis, trace comparison, and SOR file support. Integrated tools such as an Optical Power Meter (OPM), Light Source (LS), Visual Fault Locator (VFL), and RJ45 cable testing make it a complete solution for FTTH, FTTx, CATV, enterprise, and telecom network maintenance.

Features

- High-performance handheld OTDR
- Automatic and manual measurement modes
- Single Mode and Multimode versions available
- Intelligent event analysis
- Multi-wavelength testing
- Trace comparison function
- SOR standard file format
- Built-in Optical Power Meter (OPM)
- Built-in Optical Light Source (LS)



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- Built-in Visual Fault Locator (VFL)
- RJ45 cable length and wire map testing
- USB and SD card data storage
- Color LCD touch screen
- Rechargeable lithium battery
- Lightweight portable design

Applications

- FTTH Network Installation
- FTTx Deployment
- Optical Fiber Maintenance
- Telecommunications Networks
- CATV Networks
- Metro Networks
- Enterprise Networks
- Data Centers
- Optical Cable Acceptance Testing
- Fiber Fault Troubleshooting

**OTDR Specifications (Single Mode)**

Parameter	Specification
Wavelength	1310 / 1550 nm
Dynamic Range	32 / 30 dB (Model dependent)
Fiber Type	ITU-T G.652 Single Mode
Event Dead Zone	≤ 2 m
Attenuation Dead Zone	≤ 9 m
Measurement Range	0.3–180 km
Pulse Width	5 ns–20 μ s
Sampling Resolution	0.125–8 m
Sampling Points	32K
Distance Accuracy	$\pm(1 \text{ m} + 5 \times 10^{-5} \times \text{Distance} + \text{Sampling Resolution})$
Loss Resolution	0.01 dB
Linearity	± 0.05 dB/dB
Measurement Time	5 s, 10 s, 15 s, 30 s, 1 min, 2 min, 3 min



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Built-in Optical Power Meter (OPM)

Parameter	Specification
Wavelength Range	800–1700 nm
Measurement Range	-50 to +26 dBm
Calibration Wavelengths	850 / 980 / 1300 / 1310 / 1490 / 1550 / 1625 / 1650 nm
Connector	Universal FC/SC/ST

Built-in Optical Light Source (LS)

Parameter	Specification
Output Wavelength	1310 / 1550 nm
Output Power	≥ -5 dBm
Modulation	CW / 270 Hz / 330 Hz / 1 kHz / 2 kHz
Connector	FC/UPC



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Built-in Visual Fault Locator (VFL)

Parameter	Specification
Wavelength	650 nm
Output Power	>10 mW
Mode	CW / 1 Hz / 2 Hz
Connector	FC / SC / ST

RJ45 Testing Functions

Function	Specification
Wire Map	Yes
Cable Length	Up to 300 m
Cable Tracking	Optional Probe

Mechanical Specifications

Item	Specification
Housing	Industrial ABS + Rubber Protection
Display	Color Touch Screen
Protection	Portable Handheld Design
Interface	USB + SD Card



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General Specifications

Parameter	Specification
Display	5.6-inch Color Touch LCD (<i>varies by version</i>)
Data Storage	Internal Memory + SD Card
File Format	SOR
Data Interface	USB
Optical Connector	FC/UPC (SC/ST Optional)
Battery	Rechargeable Lithium Battery
Operating Time	≥8 Hours
Charging Adapter	AC Adapter
Operating Temperature	-10°C to +50°C
Storage Temperature	-40°C to +70°C
Humidity	0–95% RH (Non-condensing)
Dimensions	Approx. 150 × 235 × 66 mm
Weight	Approx. 1.5 kg