



TFN RM7 High-Precision, High-Dynamic Optical Time Domain Reflectometer (OTDR)



Product Overview

The TFN RM7 is a high-precision, high-dynamic optical time domain reflectometer (OTDR) designed for high-end fiber optic testing scenarios. It integrates multiple functions, including an OTDR, optical power meter (OPM), visual fault locator (VFL), fiber end-face inspection, optical loss testing, intelligent optical link analysis, laser ranging, and network testing. Equipped with a 10.1-inch multi-touch capacitive screen and a modular plug-in design, it is suitable for installation and maintenance in complex network environments, including core, metropolitan area, and access networks.

Key Selling Points (Solving Customer Pain Points)

1. Ultra-Large Dynamic Range, Accurate Testing over Ultra-Long Distances

With a dynamic range of up to 50/48 dB, it easily handles long-distance, high-loss link testing, covering the full range of scenarios from access to backbone networks.

2. Modular Design, Flexible Function Configuration

Modules such as the OPM, VFL, and laser ranging are hot-swappable and can be used independently or integrated into the main unit, providing flexible adaptation to changing field requirements.

3. High Precision and Minimum Blind Spots, Capture Every Detail

Event blind spots as low as 0.6m, with ranging resolution up to 0.05m, accurately locate short-range events and minor faults.

Supports multi-wavelength simultaneous testing and online testing, enabling link diagnosis without interrupting service.

4. Large Screen, Intelligent Operation, Comprehensively Upgraded Experience

The 10.1-inch high-brightness touchscreen features multi-touch support and a smooth graphical interface.

Built-in intelligent diagnosis and optical eye (Intelligent Optical Link Analysis (IOLA)) functions improve test efficiency and result reliability.

5. Fully Connected Design, Supports Remote and Mobile Working

Equipped with wireless functions such as a Nano SIM card slot, WiFi, Bluetooth, and GPS,



it supports remote data transmission and real-time positioning.

Optional PC management software enables data archiving, report generation, and team collaboration.

Product Parameters

1. Fiber Optic Test Section

1.1 Wavelength $1310 \pm 20 \text{ nm} / 1550 \pm 20 \text{ nm}$

1.2 Dynamic Range 42/40 dB

1.3 Test Range (km): 0.1, 0.5, 1.25, 2.5, 5, 10, 20, 40, 60, 80, 100, 150, 200, 330, customizable

1.4 Pulse Width (ns): 3, 5, 10, 25, 50, 100, 250, 500, 1000, 2500, 5000, 10000, 20000

1.5 Event Dead Zone $\leq 0.6 \text{ m}$ ★

1.6 Attenuation Dead Zone $\leq 2.5 \text{ m}$ ★

1.7 Equipped with an optical power meter, light source, laser rangefinder, and infrared light module ★

2. Optical Power Meter (OPM) Section

2.1 Response wavelength: 800-1700nm

2.2 Calibrated wavelengths: 850, 980, 1270, 1300, 1310, 1490, 1550, 1577, 1625, 1650nm

2.3 Power range: -50dBm-+30dBm

2.4 Plug-in function, can be used standalone or plugged into a device

3. Red Light VFL Unit:

3.1 Wavelength: $650 \pm 20 \text{ nm}$

3.2 Modulation mode: CW, flashing (approximately 2Hz)

3.3 Output power: $\geq 10 \text{ mW}$

3.4 Plug-in function, can be used standalone or plugged into a device

4. Laser ranging unit

4.1 Measuring range: 0.03-40m

4.2 Resolution: 0.01m

4.3 Accuracy: 0.02m

4.4 Unit of measurement: m/ft

4.5 Plug-in function available, allowing for standalone use or plugging into a device.

5. Physical:

5.1 10.1-inch 1280*800 high-brightness color TFT screen ★

5.2 ≥ 2 customizable PCI-Express 1 ports ★

5.3 2 USB Type-A ports, 1 USB Type-C port

5.4 Nano SIM card slot ★

5.5 3.5mm headphone jack ★

5.6 2 USB Type-C module ports

5.7 Internal storage $\geq 16 \text{ GB}$ ★

5.8 Infinitely adjustable backlight

5.9 Supports exporting .SOR/.TOR/.PDF files ★

5.10 Browser functionality and web access, allowing users to access the internal web management interface via a browser

5.11 Supports simultaneous opening of 30 curves for comparison

5.12 Power-on time $\geq 15 \text{ hours}$ ★



5.13 Operating temperature: -10 ° C to 50 ° C

5.14 Storage temperature: -20 °C to 70 °C

Main Functions

- OTDR Testing: Supports multiple wavelengths (up to four wavelengths), online testing, real-time curve analysis, and event map display.
- Optical Power Meter (OPM): Wavelength range 800-1700nm, power range 50dBm-+30dBm.
- Vibration Fault Location (VFL): 650nm visible red light, supports CW/flickering modes.
- Fiber End-face Inspection: Visually inspects connection end-face quality (optional probe).
- Optical Loss Test: Integrated light source and optical power meter for link insertion loss testing.
- Laser Ranging: Measurement range 0.03-40m, accuracy 0.02m, supports meter/foot unit switching.
- Network Testing: Supports PING, IP scanning, and line finder.
- Data Management and Remote Control: Supports USB, TF card, and cloud transfer. Optional remote operation module available.

Applicable Scenarios

1. Core/Metropolitan Area Network (MAN) fiber optic cable acceptance and maintenance
2. High-quality fiber-to-the-home (FTTH) deployment and troubleshooting
3. Data center optical link performance evaluation and diagnosis
4. Long-distance trunk cable monitoring and repair
5. Communications engineering education and advanced skills training

Summary

The TFN RM7, with its high dynamic range, modular and flexible configuration, and intelligent operation experience as its core competitive advantages, combines a fully interconnected design with multi-functional integration to provide a one-stop testing platform for high-end fiber optic network construction and operation and maintenance. Whether it's ultra-long-distance trunk line testing or high-precision access network debugging, the RM7 provides reliable and efficient solutions, helping users improve network quality and operation and maintenance efficiency.