D YEDEMC YD-3000-UPC

D YEDEMC Mini-Pro YD-3000-UPC OTDR Multi-Function Fiber Optic Tester User Manual

Model: YD-3000-UPC

1. Introduction

The D YEDEMC Mini-Pro YD-3000-UPC is a compact, multi-functional Optical Time Domain Reflectometer (OTDR) designed for comprehensive fiber optic network testing and maintenance. This device integrates several key functions including OTDR, Optical Power Meter (OPM), Optical Light Source (OLS), Visual Fault Locator (VFL), Event Map, Cable Length Measurement, Cable Tracker, and RJ45 Sequencer. It is suitable for evaluating FTTx and access network construction, identifying fiber breakpoints, measuring cable length, and calculating relative optical power losses.

This manual provides detailed instructions for the proper setup, operation, maintenance, and troubleshooting of your D YEDEMC Mini-Pro YD-3000-UPC tester to ensure accurate and reliable performance.



Figure 1: D YEDEMC Mini-Pro YD-3000-UPC OTDR with included FC/UPC, SC/UPC, and ST/UPC adapters.

2. Setup

2.1 Unpacking and Inspection

Upon receiving your D YEDEMC Mini-Pro YD-3000-UPC, carefully unpack all components and inspect for any signs of damage. Retain the packaging for future storage or transport.



Figure 2: Package contents of the D YEDEMC Mini-Pro YD-3000-UPC.

2.2 Charging the Device

The device is powered by an internal Lithium Polymer battery. Before first use, fully charge the device using the provided power adapter and Micro USB cable. The charging indicator on the device will show the charging status.

2.3 Installing TF Card (Optional)

For extended data storage, insert a TF card into the designated slot. The device supports internal storage for at least 600 records, but a TF card allows for greater capacity and easier data transfer.

2.4 Attaching Fiber Optic Connectors

The device comes with an FC/UPC connector. Interchangeable SC and ST adapters are typically included or can be acquired separately to match various fiber optic cable types. Ensure the connector is clean before attachment.

3. Operating Instructions

The D YEDEMC Mini-Pro YD-3000-UPC features a 3.5-inch color display and a button interface for navigation and function selection. The main menu provides access to all integrated functions.



Figure 3: Main menu displaying the 9 integrated functions.

3.1 OTDR (Optical Time Domain Reflectometer) Function

The OTDR function is used to characterize optical fibers, locate faults, and measure fiber length and loss. It operates at 1310nm and 1550nm wavelengths with a dynamic range of 24dB/22dB and a test range of 5m to 60km.

1. From the main menu, select **OTDR**.
2. Connect the fiber optic cable to the OTDR port using the appropriate connector (FC/UPC, SC/UPC, or ST/UPC).

Ensure the fiber end-face is clean.

3. Configure test parameters such as wavelength, pulse width, and test range as needed.
4. Initiate the test. The device will display a trace graph showing events like splices, connectors, and fiber breaks.
5. Analyze the trace for event locations, loss, and reflectance. The event blind zone is 3m, and the attenuation blind zone is 8m.
6. Save the test results in SOR standard file format to internal memory or a TF card.



Figure 4: OTDR trace display with key parameters.

Note: This OTDR model (24dB/22dB dynamic range) is not designed for testing splitters. For splitter testing, a dynamic range greater than 42dB is typically required.

3.2 OPM (Optical Power Meter) Function

The OPM measures the absolute or relative optical power in a fiber optic link. It supports a wave range of 800nm to 1700nm and a test range of -50dBm to +26dBm.

1. Select **OPM** from the main menu.
2. Connect the fiber to be measured to the OPM port.
3. Select the appropriate calibration wavelength (e.g., 850/980/1300/1310/1490/1550/1625/1650nm).
4. Read the optical power displayed on the screen.



Figure 5: OPM interface with FC and SC adapter options.

3.3 OLS (Optical Light Source) Function

The OLS provides a stable light source for fiber optic testing, typically used in conjunction with an OPM for loss measurements. The built-in OLS operates at 1310nm/1550nm.

1. Select **OLS** from the main menu.
2. Connect the fiber to the OLS port.
3. Select the desired output wavelength (1310nm or 1550nm).
4. The OLS will emit a continuous wave (CW) or modulated signal for testing.

3.4 VFL (Visual Fault Locator) Function

The VFL emits a visible red laser light (10KM range) into the fiber to quickly locate breaks, bends, or faulty connectors within short distances.

1. Select **VFL** from the main menu.
2. Connect the fiber to the VFL port.
3. Activate the VFL. Observe the fiber for any visible light leakage, indicating a fault.

3.5 RJ45 Test Functions (Cable Length, Tracker, Sequencer)

The device includes functions for testing RJ45 Ethernet cables, including length measurement, cable tracking, and sequence testing.

1. Select **Length & Tracker** or **RJ45 Sequence** from the main menu.
2. For length and sequence testing, connect one end of the RJ45 cable to the device's RJ45 port and the other end to the provided remote unit.
3. For cable tracking, connect the RJ45 cable to the device and use the separate wire tracker receiver to locate the cable.
4. Follow the on-screen instructions to perform the test and view results for cable length, wire map, or to trace the cable.



Figure 6: RJ45 cable length and tracker function.



Figure 7: RJ45 line finding function using the wire tracker.

4. Maintenance

4.1 Cleaning Fiber Optic Connectors

Regularly clean all fiber optic connectors and adapters using lint-free wipes and optical-grade alcohol. Contaminated connectors are a primary cause of inaccurate test results and can damage the device's optical ports.

4.2 Battery Care

To prolong battery life, avoid fully discharging the device frequently. Store the device in a cool, dry place when not in use

for extended periods, and recharge it periodically (e.g., every 3-6 months) to maintain battery health.

4.3 Software and Data Management

The device includes analysis software for further data processing. This software needs to be installed on a PC. Use it to open and print test results from the SOR files saved on the device or TF card.

5. Troubleshooting

- **Inaccurate Test Results:** Ensure all fiber optic connectors are clean. Dirty connectors are a common cause of measurement errors.
- **Device Not Powering On:** Check the battery charge level. Connect the device to the charger and allow it to charge for at least 30 minutes before attempting to power it on again.
- **OTDR Trace Issues:** Verify that the correct wavelength and pulse width settings are selected for the fiber type and test distance. Ensure the fiber is properly connected and not excessively bent.
- **RJ45 Test Failure:** Confirm that the RJ45 cable is correctly connected to both the main unit and the remote unit (if applicable). Check for visible damage to the cable or connectors.
- **Device Freezing/Unresponsive:** Perform a soft reset by holding down the power button for an extended period (e.g., 10-15 seconds) until the device restarts.

If you encounter persistent issues that cannot be resolved using these steps, please contact D YEDEMC customer support for assistance. Our products undergo strict testing before leaving the factory.

6. Specifications

Feature	Specification
Model Number	YD-3000-UPC
Wavelength	1310nm/1550nm ±20nm
Fiber Type	G.652
Dynamic Range	24dB/22dB
Event Blind Zone	3m
ATT Blind Zone	8m
Test Range	5m~60km
Pulse Width	3ns~10us
Ranging Accuracy	±(1m + Sampling interval + 0.005% × Test distance)
Loss Accuracy	±0.05dB/dB
Sampling Points	16k~128k
Sampling Resolution	0.05m~8m
Reflection Accuracy	±3dB
Data Storage	Internal: ≥600; External: TF Card

Feature	Specification
File Format	SOR Standard
Connector	FC/UPC (Interchangeable SC, ST)
OPM Wave Range	800nm~1700nm
OPM Test Range	-50dBm~+26dBm
OPM Uncertainty	±5%
OPM Calibration Wavelengths	850/980/1300/1310/1490/1550/1625/1650nm
Display	3.5 inch Color Display (non-touch)
Power Source	1 Lithium Polymer battery (included)
Item Weight	1 Kilogram
Package Dimensions	9.37 x 5.12 x 4.09 inches

7. Warranty and Support

D YEDEMC products are manufactured under strict quality control standards. For warranty information or technical support, please refer to the documentation provided with your purchase or contact D YEDEMC customer service directly. When contacting support, please have your product model number (YD-3000-UPC) and purchase details available.

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Example: How do I reset this device or fix this error?

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