

Walfront WALFRONTnvmfsr1ioe

Upoty 4-in-1 Fiber OTDR & Power Meter User Manual

Model: WALFRONTnvmfsr1ioe

Brand: Walfront

1. INTRODUCTION

This manual provides comprehensive instructions for the Upoty 4-in-1 Fiber OTDR & Power Meter, a portable fiber optic testing device. This versatile instrument integrates an Optical Time Domain Reflectometer (OTDR), Visual Fault Locator (VFL), Optical Power Meter (OPM), and Optical Light Source (OLS) into a single unit, designed for efficient fiber network construction, fault identification, length measurement, and power loss calculation.

Key features include:

- Wide application for network construction, optical fiber breakpoint identification, optical cable length measurement, and relative optical power loss calculation.
- Durable ABS plastic housing for various environments.
- Optical power meter with 800-1650nm wavelength range, supporting 6 calibration wavelengths and a measurement range of -50~+26dBm.
- Equipped with a USB data interface, built-in 4400mAh lithium battery, and a 3.97-inch 800x480 IPS color touchable screen for easy operation.
- Portable design for practical multiple usages.

2. SETUP AND INITIAL USE

2.1 Unboxing and Components

Carefully unpack all components from the box. Verify that all items listed below are present:

- Upoty 4-in-1 Fiber OTDR & Power Meter Mainframe
- Charger
- Instrument Bag
- Back Strap
- OTDR SC Adapter
- OPM SC Adapter
- Instruction Manual (this document)
- CD-ROM
- USB Data Cable
- Cleaning Cotton Swabs



Figure 2.1: Overview of the Upty 4-in-1 Fiber OTDR & Power Meter and its included accessories.

For a visual guide on unboxing and initial setup, please refer to the video below:

Your browser does not support the video tag.

Video 2.1: Unboxing and overview of the Upty 4-in-1 Fiber OTDR & Power Meter components. This segment demonstrates the contents of the product packaging, including the main unit, charger, and various accessories.

2.2 Charging the Device

The device is equipped with a built-in 4400mAh lithium battery. Before first use, ensure the device is fully charged. Connect the provided charger to the device's charging port and plug it into a 100-240V AC power outlet. The charging indicator will illuminate during charging and turn off when fully charged.



Figure 2.2: The device's battery compartment, highlighting the 4400mAh lithium battery.

2.3 Connecting Adapters

The OTDR and OPM ports support SC/FC adapters. Ensure the correct adapter is securely connected for accurate measurements. The VFL port is compatible with a 2.5mm interface.

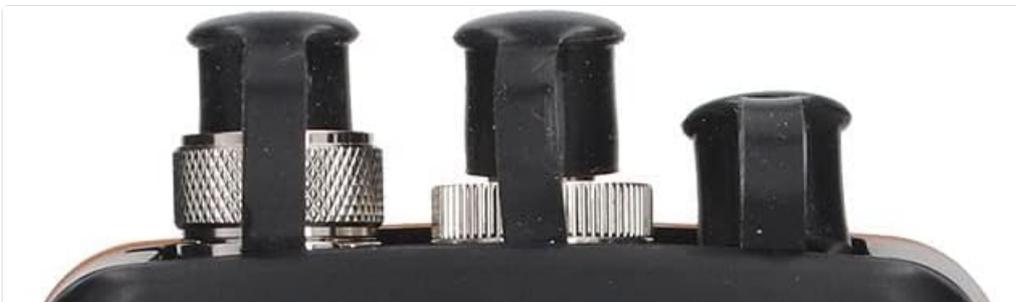


Figure 2.3: Standard interface adapters for the OTDR and OPM ports, showing SC/UPC and FC/UPC types.

3. OPERATING INSTRUCTIONS

3.1 Device Overview and Navigation

The device features a 3.97-inch 800x480 IPS color touchable screen and a physical keypad for navigation. You can interact with the device using either the touch screen or the physical buttons.



Screen: Touching
Connector: APC
OPM: -50~+26dBm

Optical Time Domain Reflectometer

Model: AUA280A
S/N.: 221203060A

 EXCIMER LASER AVOID EYE EXPOSURE
CLASS III LASER PRODUCT



INSTRUCTIONS

CHARGER:

Output: DC8.4V, 0.5-1A
Positive Inside; Negative Outside



Please use the charger in strict accordance with the regulations

CLEANING:

Be sure to turn off the OTDR and VFL functions during the cleaning of connectors
After use, please cover the dust cap

LASER SAFETY:

Invisible Laser Radiation. Avoid exposure to beam

Class III laser product
IEC: 60825-1: 2014-05



MADE IN CHINA

Figure 3.1: Detailed view of the device's interface and ports.

3.2 OTDR Function

The OTDR (Optical Time Domain Reflectometer) function is used to characterize optical fibers, measure fiber length, and locate faults. To use the OTDR function, select "OTDR" from the main menu. Ensure the fiber is properly connected to the OTDR port. The device will display a trace of the fiber, showing events like splices, connectors, and breaks.



Wavelength test 1550nm

Test distance 60km

High definition touch screen

Optical power meter/light source/red lighting/OTDR multi functions in one

Data saving Sor format

Support user upgrade

Keyboard input, can edit and save file name and line number

4 inch IPS large screen, 800x480P, clear and readable in the sunlight outdoors

Quickly start the machine and test in 2 seconds

Figure 3.2: Main menu of the device, showing access to various functions.

Watch the video below for a demonstration of the OTDR function:

Your browser does not support the video tag.

Video 3.1: Demonstration of the OTDR test function, showing how to initiate a test and interpret the fiber trace.

3.3 Visual Fault Locator (VFL) Function

The VFL function emits a visible red laser light into the fiber, allowing for quick identification of breaks, bends, or poor connections over short distances. Select "VFL" from the main menu and connect the fiber to the VFL port. The red light will be visible at the fault location.

Multi in one

OTDR, optical power meter, red lighting source, stable lighting source

OTDR: 0-60km

Red Light: 10mw

Optical Power:
Support 6 wavelengths

Light Source: 1550nm

High definition touch screen

Printable test report



Figure 3.3: Multi-function display highlighting the VFL (Red Light) capability.

See the VFL function in action:

Your browser does not support the video tag.

Video 3.2: Demonstration of the Visual Fault Locator (VFL) function, showing how the red light helps identify fiber faults.

3.4 Optical Power Meter (OPM) Function

The OPM measures the optical power of a fiber optic signal. Select "OPM" from the main menu. The device supports 6 calibration wavelengths (850nm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm) and has a measurement range of -50~+26dBm. Ensure the correct wavelength is selected for accurate readings.

Observe the OPM function demonstration:

Your browser does not support the video tag.

Video 3.3: Demonstration of the Optical Power Meter (OPM) function, showing how to select wavelengths and read power measurements.

3.5 Optical Light Source (OLS) Function

The OLS provides a stable light source for testing fiber optic cables, often used in conjunction with an OPM for attenuation measurements. Select "OLS" from the main menu. The light source offers optional 1550nm wavelength.

See the OLS function in operation:

Your browser does not support the video tag.

Video 3.4: Demonstration of the Stable Light Source (OLS) function, showing wavelength selection.

3.6 Data Management

The device supports data saving in SOR format and allows for keyboard input to edit file names and line numbers. You can access saved data through the "File" menu. The USB data interface allows for data transmission to a computer.



Figure 3.4: Top view of the device showing the various ports for fiber connections.

4. MAINTENANCE

4.1 Cleaning

Regular cleaning of the optical ports and connectors is crucial for accurate measurements and device longevity. Use the

provided cleaning cotton swabs or other approved fiber optic cleaning tools. Always turn off the OTDR and VFL functions before cleaning to prevent eye exposure to laser radiation. After cleaning, ensure to cover the dust caps on all ports.



Figure 4.1: Back panel of the device with important instructions, including cleaning guidelines.

4.2 Battery Care

To maximize battery life, avoid fully discharging the battery frequently. Recharge the device when the battery level is low. If the device will not be used for an extended period, charge it to approximately 50% and store it in a cool, dry place.

4.3 General Care

Store the device in its instrument bag when not in use to protect it from dust and physical damage. Avoid exposing the device to extreme temperatures or humidity.

5. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your Upoty 4-in-1 Fiber OTDR & Power Meter.

Problem	Possible Cause	Solution
Device does not power on.	Low battery; Power button not pressed correctly.	Charge the device fully. Press and hold the power button for a few seconds.
Inaccurate OPM/OTDR readings.	Dirty optical connectors; Incorrect wavelength selected; Damaged fiber.	Clean all optical connectors. Ensure the correct wavelength is selected for OPM. Inspect the fiber for damage.
VFL light is dim or not visible.	Dirty VFL port; Fiber not properly connected; VFL function not activated.	Clean the VFL port. Ensure the fiber is securely connected. Activate the VFL function from the menu.
Touch screen unresponsive.	Temporary software glitch; Screen protector interference.	Restart the device. If a screen protector is installed, ensure it is properly applied or try removing it temporarily. Use physical buttons if touch is completely unresponsive.

If the problem persists after attempting these solutions, please contact customer support for further assistance.

6. SPECIFICATIONS

Feature	Detail
Model Number	WALFRONTnvmfsr1ioe
Power Source	Battery Powered (Built-in 4400mAh Lithium Battery)
Min. Operating Voltage	100 Volts (AC)
Upper Temperature Rating	85 Degrees Celsius
Measurement Type	Optical Power Meter, OTDR, VFL, OLS
Screen	3.97-inch 800x480 IPS Color Touchable Screen
Wavelength Range (OPM)	800-1650nm
Measurement Range (OPM)	-50~+26dBm
OTDR Test Distance	Up to 60km (as per product images)
VFL Output Power	10mW (as per product images)
Light Source Wavelength	1550nm (optional)
Product Dimensions	8.62 x 7.36 x 3.9 inches (Package Dimensions)
Item Weight	1.85 pounds
Country of Origin	China



Figure 6.1: Device dimensions.

7. WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or service, please refer to the official Walfront website or contact their customer service directly. Contact details are typically provided on the product packaging or the manufacturer's official online channels.