

ORIENTEK TPN-35

Orientek TPN-35 UPC Connector PON Optical Power Meter Tester User Manual

Model: TPN-35

1. INTRODUCTION

The Orientek TPN-35 is a specialized optical power meter designed for Passive Optical Network (PON) testing. It is capable of simultaneously measuring optical power at 1310nm, 1490nm, and 1550nm wavelengths, which are standard in EPON networks. This device is essential for technicians to verify and troubleshoot fiber optic installations, ensuring optimal network performance. This manual provides detailed instructions for the proper use, maintenance, and troubleshooting of your TPN-35 device.

2. SAFETY INFORMATION

Please read and understand all safety instructions before operating the TPN-35. Failure to follow these instructions may result in injury or damage to the device.

- **Eye Safety:** Never look directly into the optical output of any fiber optic cable or device. Invisible laser radiation can cause severe eye damage. Always use appropriate eye protection.
- **Power Source:** Use only the specified power adapter or USB cable for charging. Incorrect power sources can damage the device or pose a fire hazard.
- **Handling:** Handle the device with care. Avoid dropping or subjecting it to strong impacts.
- **Environment:** Do not expose the device to extreme temperatures, humidity, or corrosive environments. Keep it away from water and other liquids.
- **Cleaning:** Use only approved cleaning methods and materials for optical connectors. Improper cleaning can damage the fiber end-face and affect measurement accuracy.

3. PACKAGE CONTENTS

Verify that all items are present in the package upon unboxing:

- Orientek TPN-35 Main Unit
- USB Charging Cable
- User Guide (this manual)
- SC Connectors (adapters)

- Cleaning Swabs
- Carry Bag
- Warranty Card



Figure 3.1: The TPN-35 device, its protective carry bag, and original packaging box.

4. PRODUCT OVERVIEW

The Orientek TPN-35 is a compact and robust PON optical power meter designed for field use. It features a clear display and intuitive controls for efficient operation.



Figure 4.1: Front view of the TPN-35 device and its protective silicone cover.

4.1 Key Features

- **UPC Connector:** Equipped with Universal Polished Connector (UPC) interfaces for reliable connections.
- **Multi-Wavelength Testing:** Capable of testing 1310nm (upstream), 1490nm (downstream data), and 1550nm (downstream video) wavelengths simultaneously in PON networks.
- **Simultaneous Display:** Measures and displays power levels for different PON architectures, data, and video signals concurrently.
- **Automatic Shutdown:** Features an automatic shutdown function to conserve battery life, which can be enabled or disabled by the user.
- **Data Storage:** Internal memory for storing up to 500 measurement records.



Figure 4.2: Detail of the UPC fiber optic input ports on the TPN-35.



Figure 4.3: Side view of the TPN-35, highlighting the USB charging port and the foldable kickstand for desktop use.

5. SETUP

5.1 Charging the Battery

Before first use, ensure the device is fully charged. Connect the provided USB cable to the TPN-35's USB port (refer to Figure 4.3) and to a standard USB power adapter (not included) or a computer's USB port. The charging indicator on the display will show the charging status.

5.2 Attaching the Protective Cover

Slide the blue silicone protective cover onto the TPN-35 unit. This cover provides enhanced durability and grip during field operations.

5.3 Initial Power On

Press and hold the **Power** button (usually marked with a circle and vertical line) for a few seconds until the display illuminates. The

device will perform a self-test and then enter the measurement interface.

6. OPERATING INSTRUCTIONS

6.1 Connecting to a Fiber Optic Network

1. Ensure the fiber optic cable end-face is clean using the provided cleaning swabs.
2. Carefully insert the UPC connector of the fiber optic cable into the corresponding input port on the TPN-35. Ensure a secure connection.



Figure 6.1: The TPN-35 with a fiber optic cable connected to its input port.

6.2 Taking Measurements

Once connected, the TPN-35 will automatically detect and display the optical power levels for 1310nm, 1490nm, and 1550nm wavelengths. The display shows the power in dBm for each wavelength.



Figure 6.2: The TPN-35 display showing simultaneous power measurements for multiple wavelengths.

6.3 Button Functions

- **P/F (Pass/Fail) Button:** Used to set or check Pass/Fail thresholds for measurements.
- **TH (Threshold) Button:** Allows adjustment of the threshold values for Pass/Fail criteria.
- **REF/dB Button:** Sets the current power reading as a reference (REF) value or switches between absolute (dBm) and relative (dB) power measurements.
- **OK Button:** Confirms selections or enters menu options.
- **Arrow Buttons (Up/Down/Left/Right):** Navigate through menus and adjust settings.
- **Save Button (Disk Icon):** Saves the current measurement data to internal memory.
- **Power Button:** Turns the device on/off (long press) or backlight on/off (short press).

6.4 Automatic Shutdown

The TPN-35 is equipped with an automatic shutdown feature to conserve battery. If no operation is performed for a set period (configurable in settings), the device will power off automatically. This feature can be enabled or disabled via the device's menu.



Figure 6.3: The TPN-35 in a typical application scenario, testing fiber optic connections within a network infrastructure.

7. MAINTENANCE

7.1 Cleaning Optical Connectors

Cleanliness of optical connectors is crucial for accurate measurements. Always use the provided cleaning swabs or other approved fiber optic cleaning tools. Never use abrasive materials or solvents that are not specifically designed for fiber optics.

- Gently insert a cleaning swab into the TPN-35's input port and rotate it to clean the internal ferrule.
- For fiber patch cords, use a one-click cleaner or lint-free wipes with isopropyl alcohol to clean the connector end-face before connecting to the TPN-35.

7.2 Device Cleaning

Wipe the exterior of the device with a soft, dry, lint-free cloth. Do not use harsh chemicals or abrasive cleaners. Ensure no liquids enter the device.

7.3 Storage

When not in use, store the TPN-35 in its carry bag in a cool, dry place, away from direct sunlight and extreme temperatures. Ensure the optical ports are covered with dust caps to prevent contamination.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power/Device won't turn on	Low battery; Device malfunction	Charge the battery fully. If the problem persists, contact support.
Inaccurate or unstable readings	Dirty optical connectors; Damaged fiber cable; Incorrect measurement mode	Clean all optical connectors thoroughly. Inspect the fiber cable for damage. Ensure the correct wavelength and measurement mode are selected.
Display is blank or frozen	Software glitch; Low battery	Perform a soft reset by holding the Power button for 10 seconds. Charge the device.
Automatic shutdown occurs too quickly/not at all	Auto-shutdown settings configured incorrectly	Adjust the auto-shutdown timer in the device settings menu.

9. SPECIFICATIONS

Parameter	Value
Brand	ORIENTEK
Model	TPN-35
Measurement Type	Optical Power Meter (PON)
Wavelengths Tested	1310nm, 1490nm, 1550nm
Connector Type	UPC
Power Source	Battery Powered
Item Weight	386 g
Package Dimensions	22.1 x 11.94 x 6.1 cm
Memory Storage	500 records

10. WARRANTY AND SUPPORT

The Orientek TPN-35 comes with a manufacturer's warranty. Please refer to the included warranty card for specific terms and conditions, including warranty period and coverage details. For technical support, service, or inquiries regarding your device, please contact your local distributor or the official Orientek customer service channels. Keep your purchase receipt and warranty card in a safe place as proof of purchase may be required for warranty claims.

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

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