KOMSHINE KPN-35

KOMSHINE KPN-35 Live PON Optical Power Meter User Manual

Model: KPN-35

1. INTRODUCTION

The KOMSHINE KPN-35 is a compact and precise Live PON Optical Power Meter designed for testing Passive Optical Networks (PON). It is capable of simultaneously measuring and displaying optical power levels at three key wavelengths: 1310nm (for ONT upstream), 1490nm (for OLT downstream), and 1550nm (for video signals). This device is essential for installation, maintenance, and troubleshooting of EPON, GPON, and APON networks, providing clear pass/warning/fail indications based on user-defined thresholds.

2. SAFETY INFORMATION

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

- **Eye Safety:** Never look directly into the optical output port of the device or any fiber optic cable connected to it. Invisible laser radiation can cause severe eye damage. Always use appropriate eye protection when working with fiber optics.

- **Battery Safety:** Use only the specified battery type. Do not attempt to open, crush, or expose batteries to extreme temperatures. Dispose of batteries according to local regulations.

- **Environmental Conditions:** Operate the device within the specified temperature and humidity ranges. Avoid exposure to water, dust, and corrosive substances.

- **Cleaning:** Ensure the device is powered off before cleaning. Use a soft, dry cloth. Do not use abrasive cleaners or solvents.

3. PRODUCT FEATURES

- Simultaneous measurement of 1310nm, 1490nm, and 1550nm wavelengths in PON networks.

- Displays data and video signals for different PON architectures.

- Five selectable threshold sets with Pass, Warning, and Fail modes for easy interpretation.

- Thresholds can be customized via management software.

- Equipped with SC APC connector.

- Large-capacity data storage for measurement results.

- Automatic shutdown feature (can be disabled).

- Durable design with rubber armor protection and anti-slip silicone jacket.

- LED backlit display for improved visibility in various lighting conditions.

- Compact and portable design.

Figure 3.1: Key features of the KPN-35, highlighting its versatility, long standby time, and measurement stability.

4. SETUP

4.1 Unpacking and Inspection

Carefully unpack the KOMSHINE KPN-35 and inspect it for any signs of damage. Ensure all components are present. The standard package includes the KPN-35 unit and a user manual. Please note that batteries are not included and must be purchased separately.

4.2 Battery Installation

The KPN-35 operates on batteries. Locate the battery compartment on the device, typically on the rear. Open the compartment cover, insert the required batteries (refer to the device label for battery type and polarity), and securely close the cover.

4.3 Attaching the Protective Jacket

The KPN-35 comes with a rubber armor protection and an anti-slip silicone jacket. Carefully fit the silicone jacket around the device to provide enhanced durability and protection against drops and impacts.

Figure 4.1: The KPN-35 unit alongside its protective rubber armor.

Figure 4.2: The KPN-35 with its anti-wrestling silicone jacket, demonstrating impact resistance.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

Press and hold the **Power** button (usually marked with a power symbol) to turn the device on or off.

5.2 Connecting to Fiber

The KPN-35 features an SC APC connector. Before connecting, ensure the fiber end-face and the meter's input port are clean. Remove the dust plug from the meter's input port and carefully insert the SC APC connector of the fiber optic cable.

This compact test equipment is able to measure all three EPON wavelengths simultaneously , with user defined pass / fail thresholds to simplify interpretation.

1310nm

1490nm

1550nm

SC DEDICATED INTERFACE

Figure 5.1: The KPN-35 showing simultaneous measurements for 1310nm, 1490nm, and 1550nm, highlighting its SC dedicated interface.

Figure 5.2: Detail of the KPN-35's connectors, featuring dust plugs, ceramic core, metal chain, and an antiskid clip for secure and clean connections.

5.3 Taking Measurements

Once powered on and connected, the KPN-35 will automatically detect and display the optical power levels for 1310nm, 1490nm, and 1550nm wavelengths. The display will show the measured power in dBm for each wavelength, along with a corresponding status (Pass, Warning, or Fail) based on the currently selected threshold settings.

Figure 5.3: The KPN-35's LED backlit display, clearly indicating Pass, Warn, and Fail statuses for different wavelengths.

5.4 Setting Thresholds

The KPN-35 provides five sets of pre-defined thresholds. Use the**TH** button to cycle through these threshold sets. The active threshold set number will be indicated on the display. For custom threshold settings, connect the device to a computer and use the provided management software.

5.5 Interpreting Results

- **Pass:** Indicates the measured power level is within the acceptable range defined by the current threshold.
- **Warning:** Indicates the measured power level is close to the acceptable limit, suggesting potential issues or degradation.
- **Fail:** Indicates the measured power level is outside the acceptable range, requiring immediate attention or troubleshooting.

5.6 Data Storage

The device has large-capacity data storage. Press the**OK** button to save the current measurement data. Refer to the full manual or management software for instructions on retrieving and analyzing stored data.

6. Maintenance

6.1 Cleaning the Optical Port

Regularly clean the optical input port of the KPN-35 to ensure accurate measurements. Use a specialized fiber optic cleaning tool or lint-free wipes with isopropyl alcohol. Always power off the device before cleaning.

6.2 Battery Replacement

When the battery indicator shows low power, replace the batteries promptly to avoid interruption of operation. Ensure correct battery type and polarity during replacement.

6.3 Storage

When not in use, store the KPN-35 in a clean, dry environment, away from direct sunlight and extreme temperatures. Always replace the dust caps on the optical ports to prevent contamination.

7. Troubleshooting

- **Device does not power on:** Check battery installation and ensure batteries have sufficient charge. Replace batteries if necessary.

- **Inaccurate readings:** Ensure the optical port and fiber connector are clean. Dirty connectors are a common cause of inaccurate measurements. Verify the fiber type and wavelength settings are appropriate for the test.

- **Screen difficult to read in daylight:** While the device has an LED backlight, direct sunlight can still affect visibility. Try to operate in shaded areas or adjust your viewing angle.

- **Only one wavelength shows readings:** Ensure the fiber connection is stable and clean. If the issue persists, it may indicate a fault with the device or the fiber being tested. Contact support if the problem continues across multiple tests and fibers.

- **Device freezes or behaves erratically:** Try powering off the device and restarting it. If the issue persists, remove and reinsert batteries.

8. Specifications

Specification	Value
Brand	KOMSHINE
Model Number	KPN-35
Measurement Type	Optical Power Meter

Wavelengths	1310nm, 1490nm, 1550nm
Resolution	0.1dB
Connector Type	SC APC
Power Source	Battery Powered (Batteries not included)
Data Storage	100 records
Item Weight	381 g
Package Dimensions	22.1 x 11.71 x 6.2 cm
Color	Green
Specification Met	CE, FCC

9. WARRANTY AND SUPPORT

The KOMSHINE KPN-35 comes with a 10-day replacement policy. For any issues encountered within this period, please contact your retailer or point of purchase for assistance. Additionally, extended warranty options may be available from third-party providers like Onsitego. For technical support, product inquiries, or further assistance, please refer to the contact information provided by your seller or visit the official KOMSHINE website.