KARVINGER

Optical Power Meter

INSTRUCTION MANUAL



Model: KPMOY9

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BEFORE USE

To ensure optimal performance and long-term reliability of your KPMOY9 Optical Power Meter, please review the following precautions before operating the device:

1. Charging Guidelines

- Use only the provided USB cable or a compatible charger rated at 3~5V.
- Avoid using adapters with higher voltage or current, as this may damage the device and void your warranty.

2. Safe Fiber Handling

- Always ensure that fiber connectors are clean and properly aligned before insertion.
- Avoid inserting damaged or unpolished fibers into the port to prevent sensor damage.
- Never look directly into the red light (VFL) output.

3. Environmental Conditions

- Operating temperature: –10°C to +60°C (14°F to 140°F)
- Storage temperature: –25°C to +70°C (–13°F to 158°F)
- Store the device in a dry, dust-free environment when not in use.

4. General Precautions

- Do not expose the device to moisture, shock, or extreme temperatures.
- Replace the dust cap immediately after use to avoid contamination.
- Use only standard SC, FC, or ST connectors for accurate readings.

OVERVIEW

The Karvinger KPMOY9 is a compact and rugged handheld device that integrates an Optical Power Meter, a RJ45 tester and a Visual Fault Locator (VFL) in a single unit.

Engineered for precision and ease of use, it is designed for measuring optical signal power and performing basic fiber continuity and fault testing.
Its ergonomic, cold-molded design ensures durability in demanding field conditions, while its versatile feature set makes it ideal for use in:

- Fiber optic installation and maintenance
- Telecom and data center environments
- CATV networks
- Fiber sensing systems

The KPMOY9 features automatic wavelength recognition, memory function, manual calibration, and dual red light modes — all powered by a long-lasting battery and USB charging.

BUTTON FUNCTIONS & OPERATIONS

SYMBOL	NAME	INSTRUCTIONS
⏻	Power Button	**1. Press & Hold (2 seconds)**: Power ON/OFF **2. Short Press (after power ON)**: Toggle Auto Power-Off (10 min timer) • A timer icon (e.g., 10:00) will display when active

	Wavelength Button	**1. Short Press:** Cycle through available test wavelengths: 850 nm → 980 nm →1270 → nm → 1300 nm → 1310 nm → 1490 nm → 1550 nm → 1577 nm → 1625 nm **2. The last selected wavelength is automatically saved when the device is powered off**
DB	Unit Button (nW / dB)	**1. Short Press:** Switch display between •nW •dB **2. Long Press:** Enter or exit the Stored Data View mode. While in Stored Data View: • Press the VFL button to scroll up through saved records. • Press the RJ45 button to scroll down through saved records. • Press VFL + RJ45 simultaneously to enter the Clear Stored Data page. On the Clear Stored Data page: • Press the Power button briefly to confirm clearing all stored records and return to the main screen. (Please note that if you don't want to delete the stored records anymore you can turn off the device by pressing 2 seconds on the Power button).
REF	REF Button (Reference Calibration)	**1. Short Press:** Sets current optical power reading to 0 dB (relative measurement) **2. Long Press:** Enters User Calibration Mode
VFL	VFL Button (Visual Fault Locator)	**1. Short Press:** Toggle between: Continuous Mode ➤ Flashing Mode ➤ OFF **2. Long Press (1.5 sec):** Toggle LED Lighting ON/OFF
RJ45	RJ45 Button	**1. Short Press:** Enter the RJ45 testing mode, press again to refresh the display. Press any key to exit this screen. **2. Long Press:** Saves real-time OPM data to memory
RJ45 + REF	Key Press Sound Control	Press both keys simultaneously to toggle the Key Press Sound ON/OFF. An icon at the top of the screen will indicate the current status.

DISPLAY GUIDE

The LCD screen of the KPMOY9 provides clear, real-time feedback during operation. Below are the main display elements:



COMMON TROUBLESHOOTING SOLUTIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Cannot turn on the device	The battery is fully discharged	Charge the device to restore power
Device doesn't charge	Incompatible charger, adapter, or cable	Verify that you are using the correct charger and cable compatible with the device
Identification error	Incompatible fiber or incorrect placement	Ensure you are using a compatible fiber type and reposition it correctly

OPERATING INSTRUCTIONS

Follow these steps for measuring optical power and using other functions:

1. Power ON
- Press and hold the Power button for 2 seconds.

2. Select Wavelength
- Use the Wavelength button to cycle to your desired test wavelength.

3. Connect the Fiber
- Insert the SC/FC/ST connector into the optical port.
- The device will automatically begin measuring and display the power level.

4. Switch Units (dBm ⟷ nW)
- Press the Unit button to toggle between linear power and relative loss display.

5. Set Reference (Relative Mode)
- With the signal connected, press the REF button once to set the current value as a 0 dB reference.

6. Unlock the RJ 45 Tester
- Press the button on the back of the device to release the RJ45 interface

6. Use the VFL (Visual Fault Locator)
- Press the VFL button once to activate the red light.
- Press again to switch to flashing mode.
- Press a third time to turn it OFF.

7. Activate LED Light (Flashlight)
- Press and hold the VFL button for 1.5 seconds to toggle LED light ON/OFF.

FREQUENCY DETECTION

The KPMOY9 can automatically recognize modulated optical signals used in communication testing.

➤ Supported Frequencies:
- CW
- 270 Hz
- 1 kHz (1000 Hz)
- 2 kHz (2000 Hz)

When a compatible frequency is detected in the incoming signal, the frequency will appear in the top-right corner of the display.

USER CALIBRATION

You may manually calibrate the power meter to improve accuracy or match a known reference source.

➤ **To Enter Calibration Mode:**
Press and hold the REF button to enter calibration mode.

➤ **Calibration Controls:**
- VFL Button ⟶ Increase reading by +0.05 dBm
- RJ45 Button ⟶ Decrease reading by −0.05 dBm
- Wavelength Button ⟶ Switch to the next wavelength
- Power Button ⟶ Save calibration and exit

➤ **RESTORE TO FACTORY SETTINGS**
If you need to reset the device to its original configuration:
1. While in the calibration settings press and hold VFL + RJ45 to enter the factory reset page
2. Short press Power to confirm reset and return to main screen

POWER SUPPLY & CHARGING

The KPMOY9 is powered by a rechargeable lithium battery, and supports multiple charging methods for flexibility in the field.

➤ **CHARGING OPTIONS**
- USB Charging Port (3~5V)
  Compatible with:
  1. Power banks
  2. Computers/laptops
  3. Standard USB wall adapters
- Charging Indicators
  1. While charging: Power icon will animate (running light effect)
  2. When fully charged: Power icon remains solid

⚠ ***The device can be charged even when powered off.***

➤ **BATTERY LIFE**
- Optical Power Meter Use: Up to 20 hours
- LED Light Use: Approx. 24 hours
- VFL Mode: Approx. 2 hours

➤ **POWER SETTINGS**
- Auto Shutdown: Enabled by default after 10 minutes of inactivity
- Toggle ON/OFF using the Power button (short press)

TECHNICAL SPECIFICATIONS

OPTICAL PARAMETERS

Wavelength Range (nm) :	800 – 1700
Standard Test Wavelengths (nm) :	850, 980, 1270, 1300, 1310, 1490, 1550, 1577, 1625
Detector Type :	inGaAs
Measurement Range (dBm) :	-50 to +26
Measurement Uncertainity :	±5%
Device Precision (dBm) :	
• Linear Mode :	0,1%
• Logarithmic Mode :	0.01

VISUAL FAULT LOCATOR (VFL)

Wavelength (nm) :	650
Output Power (mW) :	10
Modes :	Continuous / Flashing

SMART FUNCTIONS

Wavelength Memory :	✓
Auto Shutdown Timer :	10 minutes
User Calibration Mode :	✓
Frequency Detection (Hz) :	CW, 270, 1000, 2000
Reference Measurement Support :	Relative (0dB) & Absolute (dBm) modes

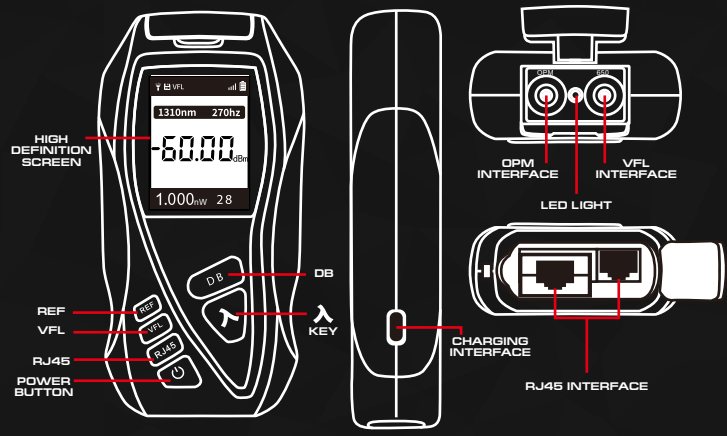
POWER & CHARGING

Input Voltage (V) :	3~5
Power Supply :	Rechageable lithium battery (USB-C)

PHYSICAL SPECIFICATIONS

Dimensions (mm) :	142 x 73 x 31
Weight (g) :	200
Display :	Backlit LCD

FUNCTIONS GUIDE



WHAT'S INCLUDED

Your KPMOY9 Optical Power Meter package contains the following items:

1. 
Optical Power Meter (KPMOY9)

2. 
Portable Carbon Fiber Case

3. 
Handstrap

4. 
USB Charging Cable

5. 

Instruction Manual

CARE & MAINTENANCE

To ensure accuracy and extend the lifespan of your device, follow these care tips:

1. Sensor Maintenance
- Always keep the optical port clean and free of dust, oil, or debris.
- Use only properly polished connectors — avoid scratched or dirty end faces.
- When not in use, immediately place the dust cap to protect the input port.

2. Cleaning Tips
- Gently clean the optical port with specialized fiber cleaning swabs.
- Wipe in a circular motion — do not scratch or press hard.
- Avoid using cotton swabs, tissues, or any non-fiber-safe material.

3. Handling Precautions
- Do not insert non-fiber objects into the port.
- Avoid dropping or exposing the unit to water or extreme humidity.
- Store in a clean, dry place when not in use.

QUALITY ASSURANCE & WARRANTY

At Karvinger, we take pride in the quality and reliability of our tools. Your KPMOY9 Optical Power Meter is covered by a 12-month warranty from the date of receipt.

1. WARRANTY COVERAGE
- Covers manufacturing defects and workmanship issues under normal use
- Includes repair or replacement of defective units, free of charge
- Our liability is limited to the purchase value of the product

2. EXCLUSIONS

This warranty does not cover:
- Damage from misuse, impact, or unauthorized modifications
- Failure caused by using incorrect power supplies or incompatible connectors
- Tampering, disassembly, or attempted repairs without authorization

3. NEED HELP?

If troubleshooting steps don't resolve your issue:
- Do not open the device casing
- Contact our support team for assistance and service



Simplify Networks, Amplify Results

support@karvinger.com