



WKFD-M

Fiber End-Face Inspector

User Manual

Read this manual before use.

Keep this manual in a safe place for future reference after reading it.

Version: 20261010

Before using the instrument, please read the following license agreement and statements carefully. Use of the instrument described in this manual is permitted only upon agreement with the following terms.

License Agreement

Any information provided by our company in this manual does not constitute authorization for its use. While our company strives to ensure the accuracy and applicability of the information in this manual, we assume no liability for its use, nor any consequential liability. Our company reserves the right to modify all or part of the manual's content without prior notice.

Important Statements

- (1) Please read the manual carefully to gain a comprehensive understanding of the instrument before operation. Pay utmost attention, as improper operation may damage the instrument.
- (2) Unauthorized modification of the instrument is prohibited. Our company assumes no responsibility for damages resulting from such modifications.
- (3) This manual should be used by the actual operator of the instrument. After reading, please store it in a place easily accessible to the user.
- (4) Unauthorized reproduction of part or all of this manual's content is prohibited.
- (5) Modifications to the content described in this manual due to instrument improvements may be made without separate notice.
- (6) For information on instrument updates, please contact our company's business representative directly.

Safety Instructions

This instrument is designed for stable and reliable performance within its specified operating range. However, avoid improper manual use to prevent unnecessary damage. Observe the following precautions during use.

- (1) instrument must be moved gently, No extrusion;
- (2) The instrument supports a wide voltage range of 12–24 VDC. Only the original manufacturer's power adapter may be used; replacing it is strictly prohibited;
- (3) Do NOT disassemble instrument so as to avoid unnecessary loss;
- (4) Keep instrument away from sharps so as to avoid scratches on the screen.

Maintenance about the product

- (1) Keep the instrument clean, away from grease and dust.
- (2) It would be better kept in the instrument container if the inspector will not be used for a long time.

CONTENTS

1. Product Introduction	1
1.1. Overview	1
1.2. Device	1
1.2.1. Front	1
1.2.2. Side View	2
1.2.3. Back	3
1.2.4. Focusing System	4
1.2.5. Fixture Showcase	5
2. Hardware Basic Operation	5
2.1. Features	5
2.2. Application	8
2.3. Specification	8
2.4. Hardware operation	8
2.4.1. Powering On	8
2.4.2. Installing the Fixture	8
2.4.3. Port Configuration	9
2.4.4. Adjustment	9
3. Adjust the Monitor	9

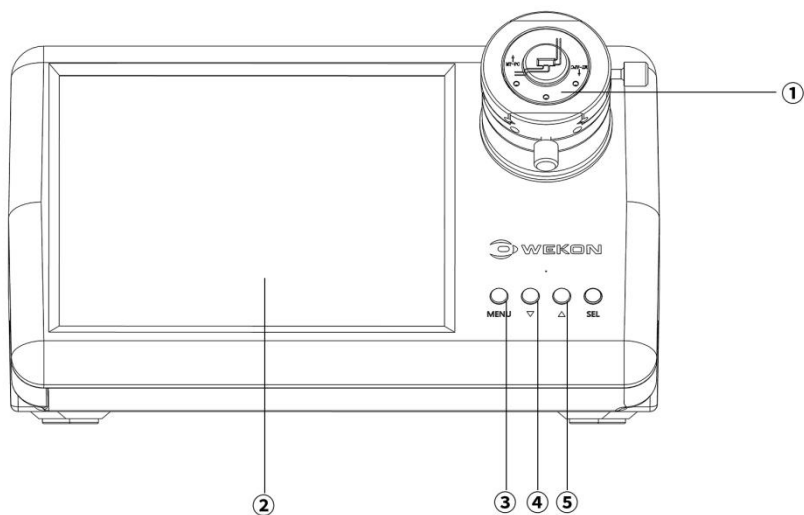
1. Product Introduction

1.1. Overview

This instrument is an all-in-one fiber end-face inspector that utilizes a coaxial optical magnification system and an 8-inch black-and-white LCD display, combined with a high-resolution image sensor, it is used for detecting defects on fiber end-faces. The instrument integrates the optical inspection unit and the display unit into a single unit and comes with a variety of fixtures to support end-face inspection of various fiber products. It is used in optical communications manufacturing.

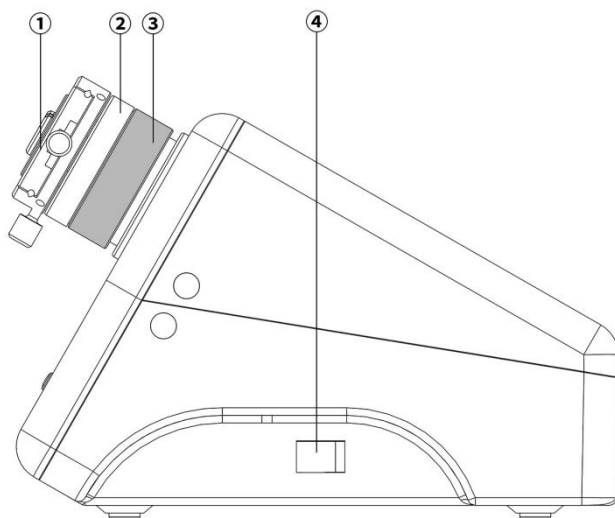
1.2. Device

1.2.1. Front



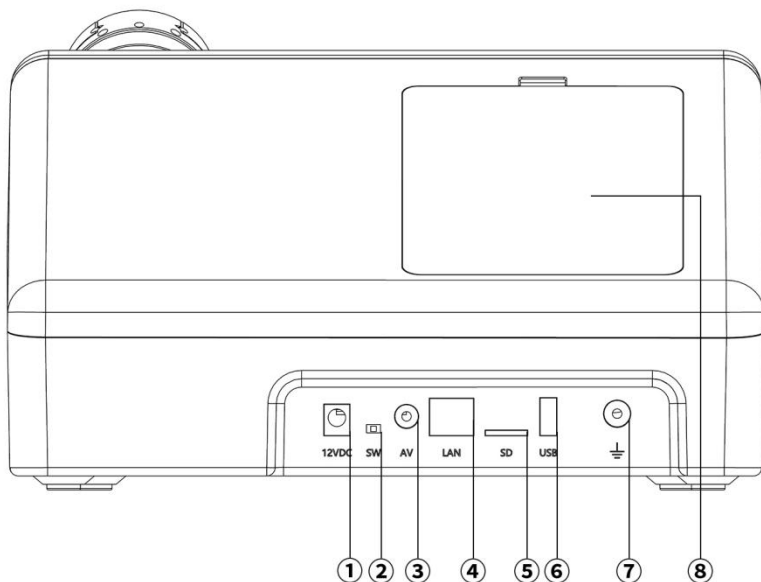
- ① Focusing system
- ② Screen
- ③ Menu button (Down arrow key)
- ④ ▼ decrease button
- ⑤ ▲ increase button

1.2.2. Side View



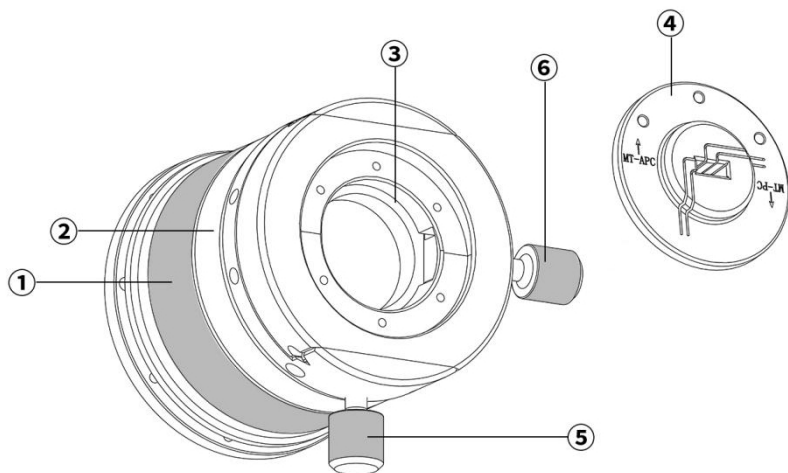
- ① Fixture
- ② Dust covers
- ③ Focus ring
- ④ Power

1.2.3. Back



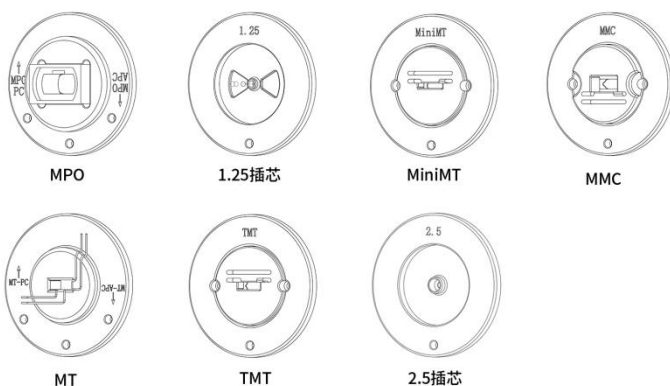
- ① 12~24VDC power interface
- ② SW (customer)
- ③ AV (customer)
- ④ LAN (customer)
- ⑤ SD (customer)
- ⑥ USB (customer)
- ⑦ Ground wire port
- ⑧ Storage Compartment

1.2.4. Focusing System



- ① **Focus Ring:** Rotate to adjust focus and obtain a clear image.
- ② **Dust Cover:** Protects the internal precision adjustment mechanism from dust, ensuring consistent adjustment damping.
- ③ **Mounting Chamber:** Used to secure the fixture.
- ④ **Fixture:** Holds the fiber optic connector; replacing the fixture allows for testing of various fiber optic connectors.
- ⑤ **Y-Axis Adjustment Screw:** Used to adjust the vertical position of the image, with a vertical travel of 4.5 mm.
- ⑥ **X-Axis Adjustment Screw:** Used to adjust the image's horizontal position, with a travel range of 6.5 mm.

1.2.5. Fixture Showcase



2. Hardware Basic Operation

2.1. Features

(1) Integrated Design Concept

The instrument integrates inspection and display functions, setting it apart from the separate microscope and monitor configuration of traditional fiber end-face inspection systems. Simply unpack the instrument, connect it to a power source, and it's ready to use—no additional monitor is required. This eliminates the need for cabling between devices and reduces the space occupied on the production floor.

(2) Clear Image Quality

Equipped with a coaxial illumination optical magnification system, a high-resolution image sensor, and an 8-inch pure black-and-white digital TFT display, the instrument can detect minute defects on fiber connector end faces and faithfully reproduce the finest details of the fiber end face.

(3) Ease of Use

The wrap-around focusing system makes focusing adjustments effortless and smooth.

(4) Dust-proof Design

The wrap-around focusing system also incorporates dust-proofing measures. Even after prolonged use in dusty environments, dust will not be drawn into the focusing system, preventing the adjustment ring from becoming stiff and unresponsive.

(5) Image Centering Design

Precision optical-mechanical structures and mounting fixtures ensure consistent image centering during long-term use. The image remains centered throughout the focus adjustment process, eliminating image jitter during focusing.

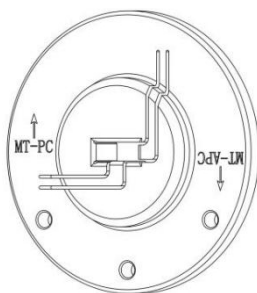
(6) Precision Ceramic Fixtures

The instrument is equipped with 2.5 mm and 1.25 mm fixtures featuring embedded ceramic sleeves to meet a wide range of connector testing needs. High concentricity ensures ideal image centering whenever you switch between interfaces.

(7) Safe and User-Friendly Design

The instrument features an 8-inch TFT monochrome display capable of revealing even the slightest scratches and defects on fiber end faces. Compared to traditional CRT monitors, it produces no screen flicker and emits no radiation, protecting the user's eyes and body from harm. All edges and corners have been rounded to prevent injury, in compliance with the ISO 12100 design standard.

(8) PC/APC Universal Fixture

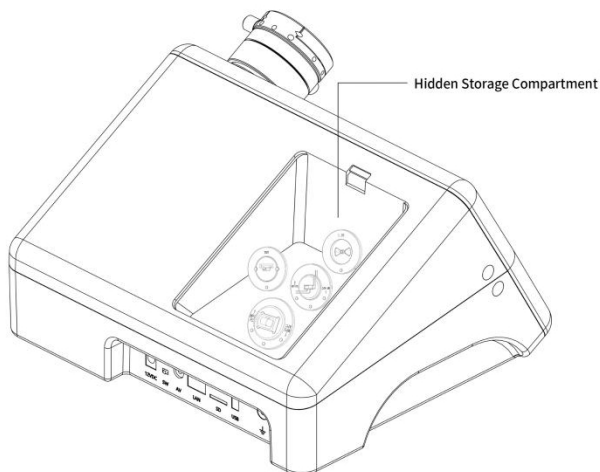


A single fixture supports the inspection of both PC and APC fiber optic connectors, simplifying the operation process and improving inspection efficiency.

↑MT-PC: When the fixture is installed with the arrow pointing up, it can inspect PC-face connectors.

↓MT-APC: When the fixture is installed with the arrow pointing down, it can inspect APC-face connectors.

(9) Hidden Storage Compartment



A concealed storage compartment is located above the instrument, providing space for various fixtures, cleaning supplies, and other accessories. This allows for centralized storage of accessories, reduces the risk of losing parts, and keeps the work surface tidier.

2.2. Application

- ◇ Fiber Optic Connector End-Face Inspection
- ◇ Microscopic zoom on an object's surface

2.3. Specification

Parameters	Indicators
Magnification	200X、400X
Discernment	0.75μm、0.5μm
Image Dimensions	40mm、80mm
Facing Inspection Products	SC、LC、FC、MPO、MMC、MiniMT、TMT etc.
Screen	8Inch (4:3), 1024*768px
Power	12~24VDC

2.4. Hardware operation

2.4.1. Powering On

Unpack the instrument, connect the power adapter and power cord, and after confirming that the power connection is secure, turn on the power switch on the right side.

2.4.2. Installing the Fixture

Select a fixture that fits the fiber connector under test, insert it into the alignment chamber, and tighten the screws. Then insert the fiber connector under test into the fixture to complete the assembly. To replace the fixture, loosen the screws to remove the original fixture, insert the new fixture into the alignment chamber, and tighten the screws.

2.4.3. Port Configuration

Rotate the wrap-around focus ring clockwise to move the connector away from the body; rotate it counterclockwise to move the connector toward the body. Rotate the wrap-around focus ring until the image is clear and bright, and check the end face of the observation fiber for damage or contamination.

2.4.4. Adjustment

Rotate the X-axis adjustment screw clockwise to move the connector to the right; rotate it counterclockwise to move the connector to the left. Rotate the Y-axis adjustment screw clockwise to move the connector upward; rotate it counterclockwise to move the connector downward.

By adjusting the X- and Y-axis screws in conjunction, you can fully observe the surface condition of the fiber end face.

3. Adjust the Monitor

Press the down arrow key (MENU) to enter the display settings screen, as shown below:

```

MAIN MENU

Brightness    70
Contrast      50
Color         50
Sharpness     50
Exit
```

Scrolling down reveals the Brightness, Contrast, Color, Sharpness, and Exit options; when selected, the text appears in blue with a gray bar.

▲ is the “Increase” button, which increases the value of the currently selected option,

▼ is the “Decrease” button, which decreases the value of the currently selected option.



Wekon Precision Instrument Co.,Ltd.

Mobile: 86-181 5712 1257

Tel: 86-571-89987795

Email: sales@wekontech.com

Tech.email: support@wekontech.com

Website: www.wekontech.com

Head office: D3533, Haichuang Base, No.368 Liuhe Rd, Binjiang District, Hangzhou, China