

User Manual

Industrial Borescope

COANTEC M40



Important Notice: Please read the user manual carefully before using this device.

Product Overview

The M40 Series is an upgraded version of the C40, featuring a high-definition modular handheld industrial borescope. Building on a portable design, it is equipped with a larger industrial-grade touchscreen and a more versatile modular probe system, significantly improving inspection adaptability and operational efficiency. It is suitable for visual inspection and diagnosis of complex internal structures.

Copyright Notice

This manual applies to the M40 Series industrial borescope. All copyrights belong to Coantec Automation Technology Co., Ltd. (Coantec Ltd.). The content is protected under applicable copyright laws and regulations. Without prior written consent from the Company, no one can copy, translate, or distribute this manual or any of its contents in any form. Any violation will be subject to legal liability.

Important Notice

The Company is committed to continuously improving product functionality and service quality. Therefore, it reserves the right to modify any product, software program, or content described herein without prior notice. Although this manual has been carefully reviewed and thoroughly proofread, errors or omissions may still exist. This manual is intended solely as a user guide to help you operate Coantec products correctly and does not constitute any specification of product hardware or software configuration. For any inquiries, please contact our after-sales service team. Tel: +86 755 8972 8626

1. User Instructions

1) Intended Use and Scope

This product is designed for inspecting narrow, curved, or otherwise visually inaccessible areas. It can be used to detect internal surface defects without disassembling or damaging equipment. It provides real-time clear imaging and supports photo and video recording, with simple and convenient operation.

2) Repair and Modification

This product contains no user-serviceable parts. Do not attempt to disassemble, modify, or repair the device. The Company assumes no responsibility for any injury or damage resulting from such actions. Maintenance services are provided only by the Company or authorized distributors.

3) Safety Precautions

- (1) Do not use this device to inspect internal body structures of humans or animals.
- (2) Do not operate the device on energized equipment to avoid the risk of electric shock.
- (3) Do not directly touch the probe tip during use. Contact after use in high-temperature environments may cause burns.
- (4) Do not look directly into the high-intensity LED light at close range, as it may damage eyesight.
- (5) Do not excessively bend, stretch, twist, or crush the insertion tube to avoid damage to the device.
- (6) Dirt on the lens may cause blurred images. Clean it with a lint-free cloth dampened with a small amount of alcohol.
- (7) Avoid contact between the probe and corrosive liquids or oils during use. (except for oil-resistant models).
- (8) After use, gently clean the probe at the tip of the insertion tube, then store the device and accessories properly in the carrying case and secure the locks.
- (9) During operation, move the joystick slowly. If any abnormal condition occurs, stop immediately, return the joystick to the center position, carefully withdraw the insertion tube, power off the device, and contact the manufacturer or distributor.

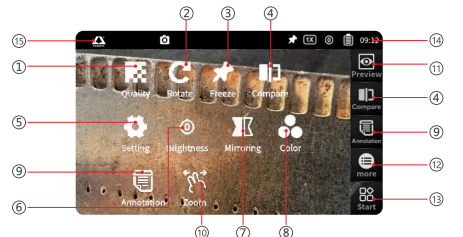
2. Operating Procedure

- 1) Remove the device: Open the carrying case and carefully take out the equipment. Avoid impact to the insertion tube and probe.
- 2) Power-on preparation: Inspect the device to ensure all components are in good condition, then press and hold the power button to turn it on.
- 3) Inspection operation: Insert the insertion tube into the target object. Use the joystick to control the bending direction and angle of the probe. Alternatively, rotate clockwise and tighten the knob beneath the joystick to lock the probe position.
- 4) Brightness adjustment: Adjust the illumination intensity to achieve optimal lighting and ensure a clear image.
- 5) Photo & video capture: Press the photo/video button to record inspection results for documentation purposes.
- 6) Retracting the insertion tube: Return the joystick to the center position and ensure the tube is approximately straight before slowly withdrawing it. (Note: If the joystick brake function was used during operation, be sure to rotate the brake knob counterclockwise to release tension before performing the above step.)
- 7) Storage: Turn off the power switch, place the device back into the carrying case, neatly organize the insertion tube, close the lid, and secure all latches.



Button and Interface Diagram

- ① Power On/Off Button / Freeze Frame Button
- ② Back Button
- ③ Brightness Adjustment Button
- ④ OK Button / Menu Button
- ⑤ Up Button / Photo & Video Mode Switch Button
- ⑥ Down Button
- ⑦ Control Joystick
- ⑧ Joystick Brake
- ⑨ Photo/Video Button
- ⑩ Headphone Jack
- ⑪ TF Card Slot
- ⑫ Type-C Port
- ⑬ Mini HDMI Port
- ⑭ Insertion Tube Locking Ring
- ⑮ Battery Cover



Simulation of the operating interface

- ① Image Quality: Adjust image brightness, contrast, hue, saturation, sharpness, and gamma, or restore default settings.
- ② Rotate: Each tap rotates the live image 90° clockwise.
- ③ Freeze: Freeze the live inspection image.
- ④ Compare: Compare the live image with a saved image.
- ⑤ Settings: Enter the settings menu to perform the following operations:
 - WLAN: Turn Wi-Fi connection on or off.
 - User Management: Manage access levels including Administrator, Guest, and Standard User.
 - About Device: View device information and update the system to the latest version.
 - Display: Adjust screen brightness, language, date, and time settings.
 - Custom Settings: Enable watermark and ruler functions, and configure image format settings.
 - Help: Provides system usage guidance and support documentation.
- ⑥ Brightness: Adjust the probe LED brightness.
- ⑦ Mirror: Adjust image mirroring settings as needed.
- ⑧ Color Mode: Original color, black & white, or negative.
- ⑨ Annotation: Add notes or set preset annotations.
- ⑩ Zoom: 1×–5× digital zoom.
- ⑪ Preview: Enter the file browsing interface.
- ⑫ More: Access additional function options.
- ⑬ Start: Begin inspection operation.
- ⑭ Status bar: displays icons for photo mode, freeze/unfreeze, image zoom level, LED brightness level, main unit battery level, system time, and other status indicators.
- ⑮ Brand Logo: Displays the current device brand logo.

3. Operating Guide

1) Power On

Press and hold the power button for about 3 seconds to turn on the main unit. The system will boot and display the startup screen. Once initialization is complete, it enters the live inspection interface. Insert the probe into the target object to begin inspection. Tap Start to access the main menu and available functions.

2) Settings

Tap the Settings icon on the main interface to access system settings, including Wi-Fi, user management, device information, display settings, custom functions, and help (see Figure 1).

1. Enable Wi-Fi, search for available networks, and connect by entering the correct password.
2. Supports Administrator, Guest, and Standard User modes (Standard users are added by the administrator). In Administrator mode (default password: 123456), users can be created, deleted, and passwords can be changed.
3. Displays device information and enables system upgrade to the latest version via TF card.
4. Allows adjustment of screen brightness, language, date, and time settings (see Figure 2).
5. Supports watermark settings (time/location), ruler display options (none, crosshair, circular, reference lines), and image format selection (JPG/BMP).
6. Access the Help section to view the user manual and operating instructions.



(Figure 1)



(Figure 2)

3) Image Quality

In the Image Quality menu, users can adjust brightness, contrast, hue, saturation, sharpness, gamma, and restore default settings.

4) Rotate

Enter the Rotate function to rotate the live inspection image clockwise. Each tap rotates the image 90° clockwise.

5) Freeze

Tap Freeze to freeze the live inspection image for easier observation.

6) Compare

Enter Compare mode to display the current live image alongside previously saved images in the gallery, making it easier to identify defects.

7) Mirror

Tap Mirror to horizontally flip the live inspection image.

8) Brightness

In live inspection mode, tap the brightness icon to adjust probe LED brightness using the on-screen slider, or use the brightness button (+/-) on the device panel.

The probe LED supports 0-9 levels, where 0 is off and 9 is maximum. Default startup level is 0. Current level is shown in the top-right status bar.

9) Color Mode

Enter Color Mode to select Original Color, Black & White, or Negative mode.

10) Annotation

Tap Annotation to add notes or configure preset annotations.

11) Zoom

Use pinch gestures to zoom in or out of the image. The current zoom level is displayed in the top-right status bar.

12) Start / More

Tap Start to display function icons vertically on the right side. Tap More to display all function icons centered on the screen.

13) Photo & Video Recording

Switch between photo and video modes via touchscreen or handle button. Tap or press to start recording; press again to stop and save. Recording time is displayed during video recording.

polarity. Do not use non-original batteries. Always power off the device before removing the battery and never remove the battery while the device is turned on.



(Figure 3) Battery Installation



(Figure 4) Battery Removal

4) Tube Installation and Removal

Tube Installation

Align the joystick end of the insertion tube with the circular port at the rear of the device. Gently insert it until it reaches the bottom. Then rotate the tube locking ring clockwise until position 1 aligns with position 2. Once a "click" sound is heard, the tube is securely locked and installation is complete.

Tube Removal

Hold the handle with one hand and press the joystick control valve with your thumb. With the other hand, rotate the cable locking ring counterclockwise until the 1 mark aligns with 2 to unlock it. After unlocking, gently push the joystick outward, and then remove the cable assembly with your hand.

Users may replace different types of insertion tubes according to the above procedures.

Note:

Before removing the insertion tube, if the joystick brake is engaged, be sure to rotate the brake knob beneath the joystick counterclockwise to release the tube tension. Then return the joystick to the center position to ensure the probe is in a straight state before proceeding with tube removal.

14) Preview

Enter File Preview to browse images, videos, and reports, and search files by keywords.

15) File Storage

Set storage paths for images, videos, and reports. Supports folder creation and renaming in multiple languages, and allows setting default storage paths.

16) File Management

Supports multi-select, move, share, select all/none, and delete functions.

Move Files: Move or paste files into a designated folder.

Share Files: Share files via TF card or local network.

17) Image Editing

Open images to view details, navigate between images, and perform editing such as annotation, renaming, rotation, and deletion.

Details: Shows file name, type, size, and creation time.

Rotate: Rotates image 90° clockwise per tap.

Delete: Deletes the image directly.

Rename: Supports text input in Chinese, English, and 10+ other languages.

Annotation Drawing: Used for image annotation.

Zoom & Move: Use pinch gestures to zoom and move for detailed viewing.

18) Report Generation

Enter File Preview and open the Report function to create and edit inspection reports.

To create a report, enter title, model/specification, inspection data, and content, then select images to generate the report.

19) File Access

Export stored images or videos to a TF card for reading on a computer, or connect the device to a computer or other terminal via a Type-C cable for file transfer.

20) Video Output

Connect via HDMI to an external display and select HDMI input to view live inspection video output.



(Figure 5) Insertion Tube Installation



(Figure 6) Insertion Tube Removal

5) Base Installation and Removal

Base Installation

Hold the handle with one hand. With the thumb and middle finger of the other hand, pinch the locking tabs on both sides of the base. Align the protrusion on the underside of the base with the recessed slot at the end of the handle, insert the protrusion into the groove, and then slide it toward the rear of the main unit until it is fully seated. Release the right hand to complete the installation.

Base Removal

Hold the handle with one hand. With the thumb and middle finger of the other hand, pinch the locking tabs on both sides of the rear base, then pull backward to separate the base from the main unit and complete the removal.



(Figure 7) Base Installation



(Figure 8) Base Removal

4. Storage and Maintenance

1) Power Off

Move the joystick to adjust the probe to a straight position, then slowly withdraw the insertion tube from the inspected object. (Avoid any impact to the probe tip.)

Press and hold the power button. The system will begin saving settings and files, and a shutdown screen will be displayed. Once the screen turns blank after the shutdown process, the device is fully powered off.

2) Charging

Method

Connect the supplied dedicated charger to the Type-C port on the top of the main unit.

Battery level display

The current battery level is indicated by an icon in the upper right corner of the screen.

Low battery alerts

When the icon turns red, charge the battery or replace it promptly. When the battery is nearly depleted, the system will display a low-battery warning and automatically power off.

Charging status

A blue icon indicates charging; a green icon indicates a full charge.

Note

Do not use any battery or charger other than those supplied with the device.

3) Battery Removal and Installation

Install the battery:

Insert the battery into the handle battery compartment according to the positive and negative polarity. Then align the battery cover with the compartment opening and snap it into place. (See Figure 3)

Remove the battery:

The device must be powered off before removing the battery. After powering off, hold the neck of the handle with your left hand, push down the battery compartment latch with your right hand, open the cover, and pull the strap exposed beneath the battery to remove it. (See Figure 4)

Note:

Install the battery in the correct direction and do not reverse the

5. Instrument Storage

- Please store the instrument in a clean, dry, and stable environment in a horizontal position under normal room temperature.
- Do not store the device in environments with high temperature, high humidity, strong light, strong vibration, heavy dust, pollution, or corrosive substances.
- Avoid collisions or rough handling during storage.
- If the product is not used for a long period, remove the battery and regularly check the device's functions.

6. Configuration

- M40 Videoscope x1, instrument case x1, base x1, rechargeable lithium battery x2, charger x1, 8G TF card x1, Card reader x1, user manual x1, usage precaution x1.

7. FAQ Guide

Problem	Reason	Solution
Boot without reaction	No battery or power shortage	Charge or install battery
Auto shutdown	Battery power shortage	Charge or change battery
Boot screen freezing	System boot failure or battery power shortage	Remove the battery to restart and restart or charge
The image cannot be recorded or found	The capacity of TF card is not enough	Replace TF card or delete useless files

COANTEC LTD

Add: 4/F, Building 5B, Hengming One Chuanghui Center, Longcheng Subdistrict, Longgang District, Shenzhen, Guangdong, China
Postal Code: 518172
Tel: +86-755-89728626
Email: coantec@126.com
Website: www.coantecndt.com www.chinavideoscope.com