FIXCHIGO TI-02

FIXCHIGO TI-02 2-in-1 Thermal Imaging Multimeter User Manual

Model: TI-02

1. Product Overview

The FIXCHIGO TI-02 is a versatile 2-in-1 device combining a thermal imaging camera with a 20000-count digital multimeter. Designed for comprehensive troubleshooting and analysis, it is suitable for electrical, mechanical, construction, automotive, and industrial applications. Its portable design allows for convenient use in various environments.

Figure 1: FIXCHIGO TI-02 device displaying both thermal imaging and multimeter functions.

Key Features:

- **Thermal Imaging:** 256x192 IR pixels, 427x320 display resolution, 25Hz image capture frequency, -20°C to 550°C temperature range, 15 color palettes, adjustable emissivity (0.1-0.99).
- **Multimeter:** 20000 counts, measures AC/DC voltage, resistance, capacitance, diode, on-off test, frequency, and duty cycle. Max DC input 1000V, AC input 750V.
- **Display:** Intuitive 3.5-inch IPS high-definition LCD.
- **User Interface:** One-button function access, supports 11 languages (Chinese, English, German, Russian, French, Spanish, Portuguese, Korean, Japanese, Italian, Polish).
- **Portability:** Built-in Li-ion battery, USB Type-C charging and data transfer.

2. Safety Information

Please read and understand all safety information before operating the device. Failure to follow these instructions may result in electric shock, fire, or personal injury.

- Always inspect the device and test leads for damage before use. Do not use if damaged.

- Do not apply voltage or current that exceeds the maximum specified limits for the device.
- Exercise extreme caution when working with live electrical circuits.
- Ensure the correct function and range are selected before making measurements.
- Do not operate the device in explosive atmospheres or in the presence of flammable gases or dust.
- Keep the device dry. Do not expose it to moisture or extreme temperatures.
- Refer to local and national safety codes for proper installation and operation procedures.

3. Product Components

The FIXCHIGO TI-02 package includes the following items:

- 1x FIXCHIGO TI-02 2-in-1 Thermal Imaging Multimeter
- 1x Multimeter Probe Set
- 1x USB Type-C Cable
- 1x Instruction Manual
- 1x Storage Bag

Figure 2: Included components in the FIXCHIGO TI-02 package.

4. Setup

4.1 Charging the Device

Before first use, fully charge the device's built-in Li-ion battery. Connect the supplied USB Type-C cable to the device's USB-C port and to a standard USB power adapter (not included) or a computer's USB port. The charging indicator will show the charging status.

4.2 Powering On/Off

Press and hold the power button (usually located on the side or top) for approximately 3 seconds to turn the device on or off.

4.3 Language Selection

Upon initial startup or via the settings menu, you can select your preferred language. The device supports 11 languages including English, Chinese, German, Russian, French, Spanish, Portuguese, Korean, Japanese, Italian, and Polish.

5. Operating Instructions

5.1 Thermal Imaging Mode

The thermal imaging mode allows for non-contact temperature measurement and visualization of heat distribution.

1. **Activate Thermal Mode:** From the main screen, select the thermal imaging function. Refer to the control diagram for specific button functions.
2. **Temperature Measurement:** The device displays real-time temperature readings, including minimum, maximum, and center point temperatures.
3. **Color Palettes:** Choose from 15 different color palettes to visualize thermal images. This can enhance contrast and highlight specific temperature ranges.

Figure 3: The 15 color palette options available in thermal imaging mode.

4. **Emissivity Adjustment:** For accurate temperature readings, adjust the emissivity setting (default 0.95) to match the material being measured. This setting can typically be found in the thermal imaging menu.
5. **Automatic Temperature Capture:** The device can automatically identify and display the highest, lowest, and center point temperatures within the field of view.

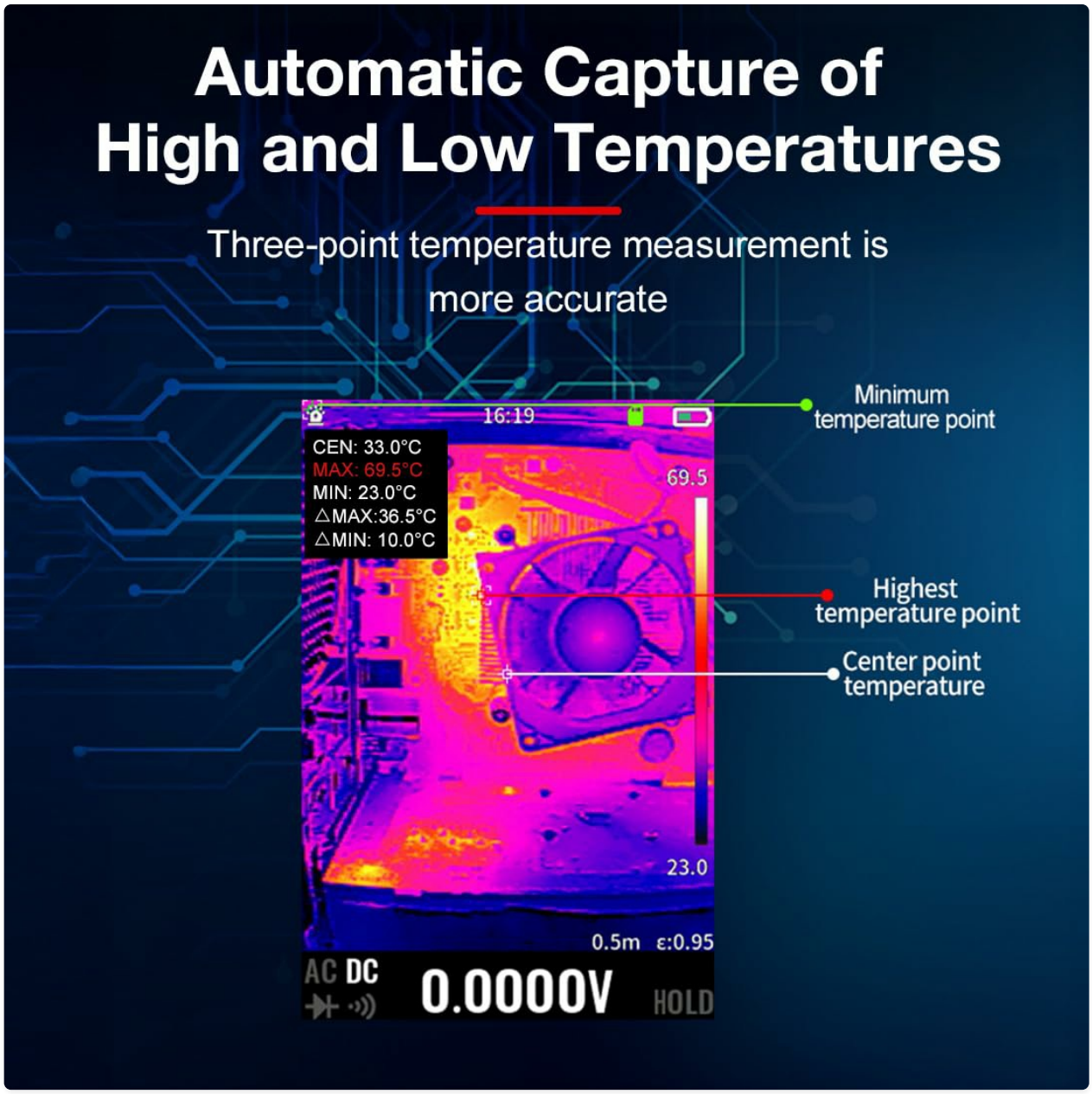

Figure 4: Automatic capture of high, low, and center temperatures.

6. **Saving Images:** Press the designated button (refer to control diagram) to save thermal images to the device's internal storage. Saved images can be viewed locally on the device.

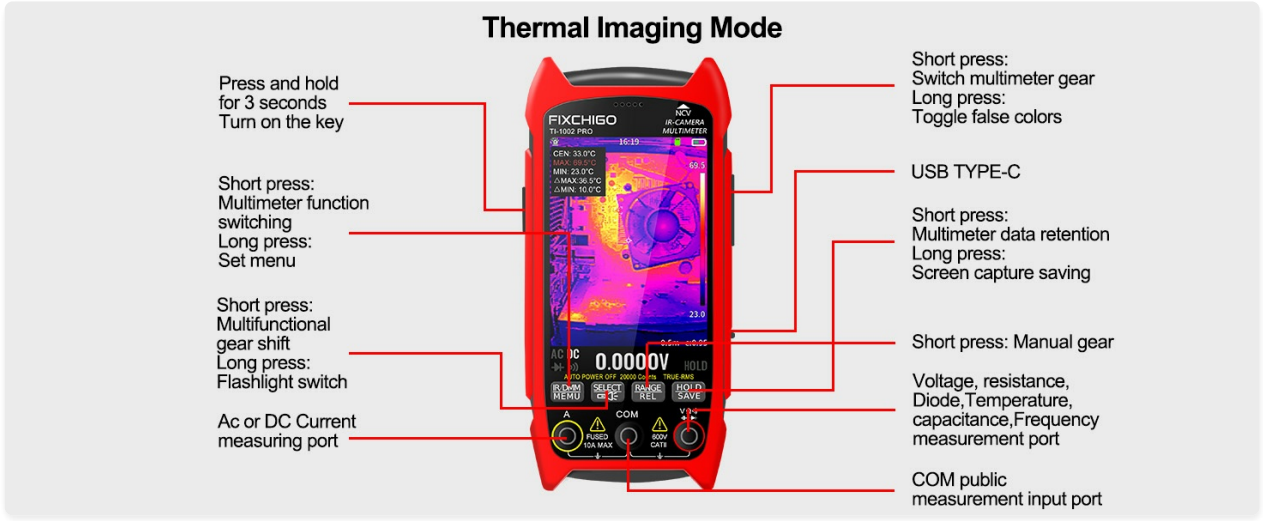

Figure 5: Thermal Imaging Mode control diagram.

5.2 Multimeter Mode

The multimeter function provides precise electrical measurements.

1. **Activate Multimeter Mode:** Switch to multimeter mode using the designated button.
2. **Connect Probes:** Insert the multimeter probes into the appropriate input jacks (COM, VΩmA, 10A MAX) on the device.
3. **Select Measurement Function:** Use the function selection buttons to choose between AC/DC voltage, resistance, capacitance, diode, continuity, frequency, or duty cycle measurements.
4. **Take Measurements:** Apply the probes to the circuit or component to be measured. The 20000-count display will show the reading.
5. **Hold and Range:** Use the 'HOLD' button to freeze the current reading on the display. The 'RANGE' button allows for manual range selection if auto-ranging is not desired.

Figure 6: Multimeter Mode control diagram.

5.3 Data Transfer

Connect the device to a computer using the supplied USB Type-C cable to transfer saved thermal images and multimeter data for further analysis and sharing.

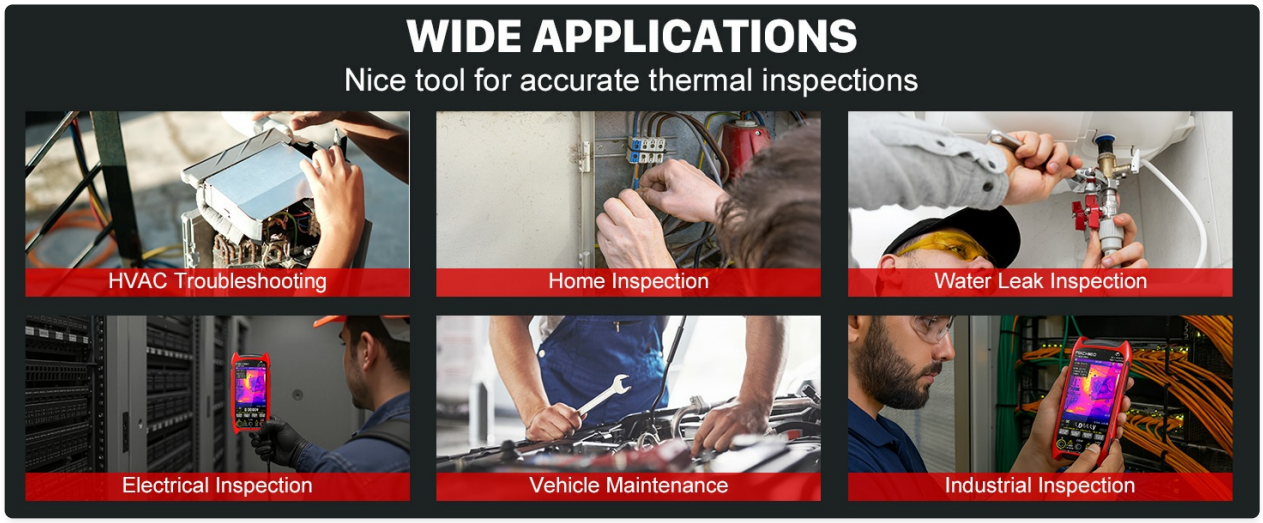

Figure 7: Data transfer from the device to a computer.

6. Applications

The FIXCHIGO TI-02 is suitable for a wide range of professional and diagnostic applications:

- Power Industry inspections
- Water Pipe and underfloor heating diagnostics
- Automobile Maintenance and engine diagnostics
- Inspection of distribution cabinets and electrical panels
- PCB board repair and component analysis
- Petrochemical Industry monitoring
- HVAC Troubleshooting
- Home Inspection for insulation and drafts
- Water Leak Inspection

- General Electrical Inspection
- Industrial Equipment Maintenance

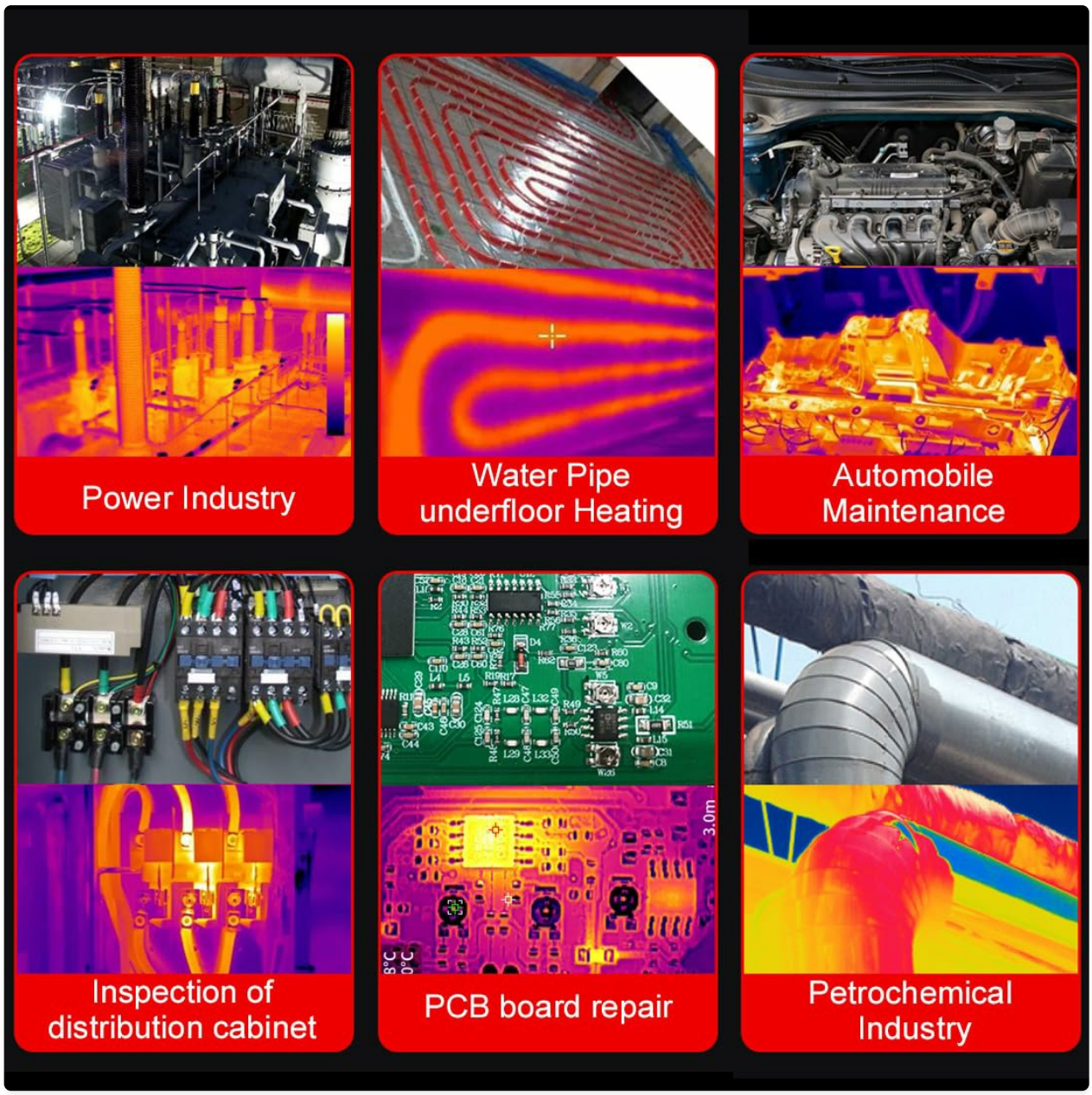

Figure 8: Examples of thermal imaging applications.

Example: Floor Heating Detection Method

To detect issues in underfloor heating systems:

1. Pressurize the various branches of the underfloor heating system.
2. Inject hot water into the leaking branch of the underfloor heating system.
3. Check the condition of the underfloor heating system after 20 minutes.
4. Use the thermal imaging instrument with emissivity set at 0.9-0.95.
5. Identify temperature anomalies or leaks along the route.
6. After finding the leakage point, open the floor tile for repair.

Figure 9: Floor heating detection method.

7. Maintenance

7.1 Cleaning

To clean the device, use a soft, damp cloth. Do not use abrasive cleaners, solvents, or harsh chemicals. Ensure the device is powered off and disconnected from any power source before cleaning. Clean the thermal lens and display screen gently with a lens cleaning cloth.

7.2 Battery Care

To prolong battery life, avoid fully discharging the battery frequently. If storing the device for an extended period, charge it to approximately 50% and store it in a cool, dry place. Recharge every few months to prevent deep discharge.

7.3 Storage

When not in use, store the device in its protective storage bag in a clean, dry environment, away from direct sunlight, extreme temperatures, and high humidity.

8. Troubleshooting

If you encounter issues with your FIXCHIGO TI-02, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on	Low or depleted battery	Charge the device using the USB Type-C cable.
Inaccurate temperature readings	Incorrect emissivity setting; dirty lens; object too far	Adjust emissivity for the target material. Clean the thermal lens. Ensure proper measurement distance.
Multimeter readings are unstable or incorrect	Poor probe connection; incorrect function/range selected; damaged probes	Ensure probes are securely connected. Verify the correct measurement function and range. Inspect probes for damage.

Problem	Possible Cause	Solution
Display is blank or frozen	Software glitch; low battery	Restart the device. Charge the battery. If the issue persists, contact support.
Cannot transfer data to PC	Faulty USB cable; incorrect PC connection mode; driver issue	Try a different USB Type-C cable. Ensure the device is in data transfer mode. Check PC for necessary drivers.

9. Specifications

Feature	Specification
Thermal Imaging Resolution	256x192 pixels (IR)
Display Image Resolution	427x320 pixels
Image Capture Frequency	25Hz
Temperature Measurement Range	-20°C to +550°C (-4°F to +1022°F)
Temperature Emissivity	Adjustable 0.1-0.99 (0.95 default)
Color Palettes	15 modes
Multimeter Counts	20000 counts
DC Voltage Input	Max 1000V
AC Voltage Input	Max 750V
Display	3.5-inch IPS High-definition LCD
Battery	Built-in Li-ion battery
Charging/Data Interface	USB Type-C
Supported Languages	11 (Chinese, English, German, Russian, French, Spanish, Portuguese, Korean, Japanese, Italian, Polish)
Item Weight	3.52 ounces
Manufacturer	FIXCHIGO

10. Warranty Information

FIXCHIGO products are designed and manufactured to the highest quality standards. This product is covered by a standard manufacturer's warranty against defects in materials and workmanship. Please refer to the warranty card included in your package or contact FIXCHIGO customer support for specific warranty terms

and conditions.

11. Customer Support

For technical assistance, troubleshooting, or service inquiries, please contact FIXCHIGO customer support. Contact details can typically be found on the product packaging, the official FIXCHIGO website, or the warranty card.
When contacting support, please have your product model (TI-02) and purchase information readily available.