HIKMICRO E02

HIKMICRO E02 Thermal Camera User Manual

Model: E02

1. Introduction

The HIKMICRO E02 Thermal Camera is a versatile handheld device designed for thermal imaging and temperature measurement. It integrates a thermal camera with a visual camera, offering enhanced image quality and smart detection features for various inspection tasks. This manual provides essential information for safe and effective operation of your device.

2. Safety Information

Always operate the device in accordance with local electrical codes and safety regulations. Do not attempt to disassemble or modify the device. Keep the device away from water, moisture, and extreme temperatures. Use only the provided charging cable and power supply. Avoid direct eye exposure to the laser pointer.

3. Product Overview

The HIKMICRO E02 features a high-resolution thermal sensor, a visible light camera, and a laser pointer. It is equipped with a user-friendly interface and robust construction for reliable performance.

Key Features:

- **Enhanced Image Quality:** SuperIR image enhancement technology upscales thermal resolution from 96x96 to 240x240 pixels.
- **Accurate Temperature Reading:** Detects temperature differences as small as 0.05°C with ±2% accuracy.
- **Smart Scenes Detection:** Exclusive SuperScene technology identifies water leaks and insulation voids.
- **Wide Measurement Range:** -20°C to 400°C (-4°F to 752°F).
- **Multiple Palettes:** Four color palette options for clear thermal imaging.
- **Long Battery Life:** Up to 8 hours of continuous operation.
- **Ample Storage:** Built-in 4GB memory card stores up to 3,000 thermal images.

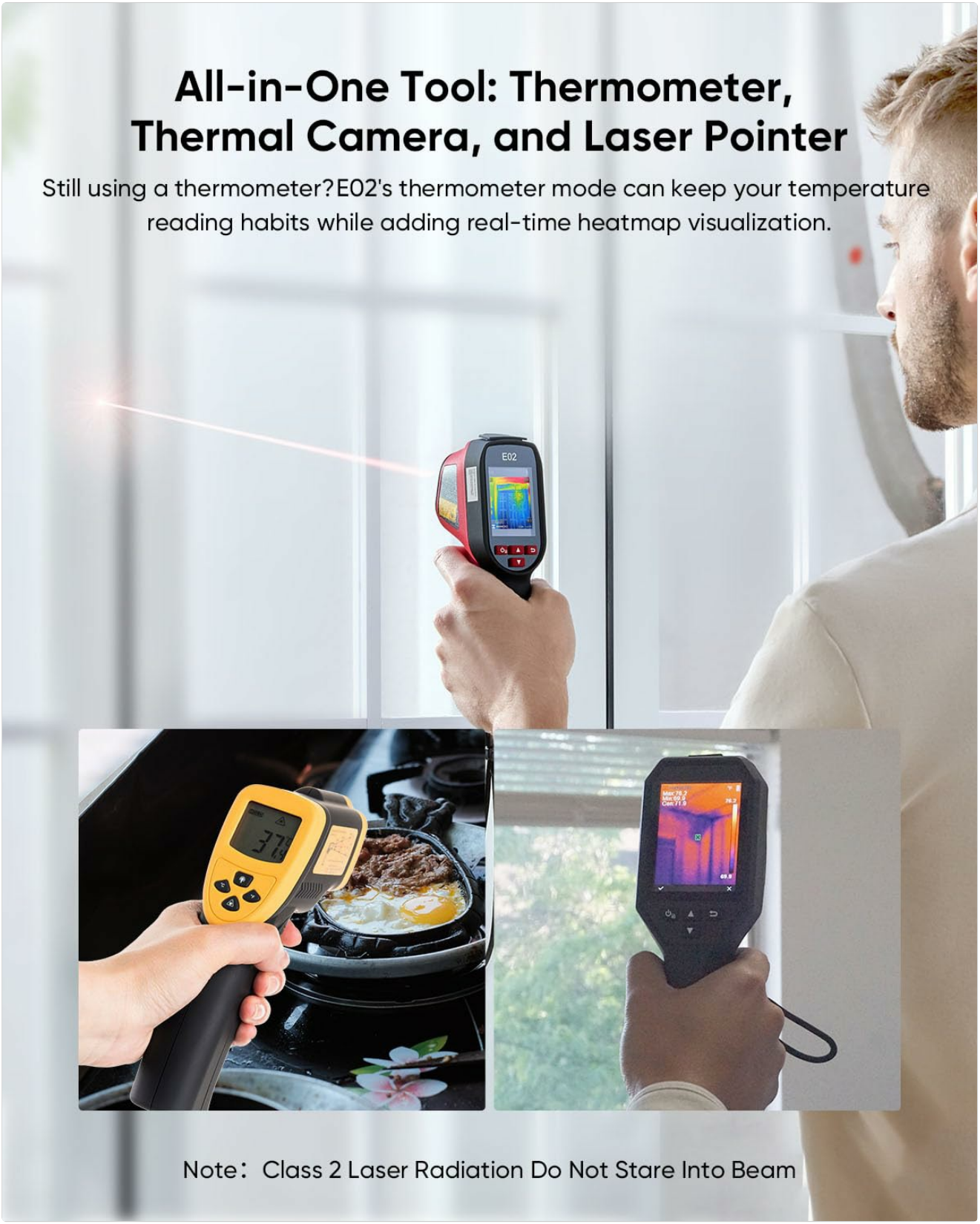

Figure 3.1: The HIKMICRO E02 Thermal Camera, showcasing its integrated laser pointer and ergonomic design.

4. Setup

4.1 Charging the Device

Before first use, fully charge the device using the provided USB A to USB C cable and a compatible power adapter. The charging indicator light will show the charging status.

4.2 Powering On/Off

To power on the device, press and hold the power button located on the side of the unit until the HIKMICRO logo appears on the screen. To power off, press and hold the power button until the shutdown prompt appears, then confirm.

5. Operating Instructions

5.1 Image Modes and Palettes

The E02 offers various image modes (e.g., Thermal, Visual, Fusion) and color palettes (e.g., Rainbow, Black Hot, White Hot, Ironbow) to visualize thermal data. Navigate through the on-screen menu using the directional buttons to select your preferred mode and palette.

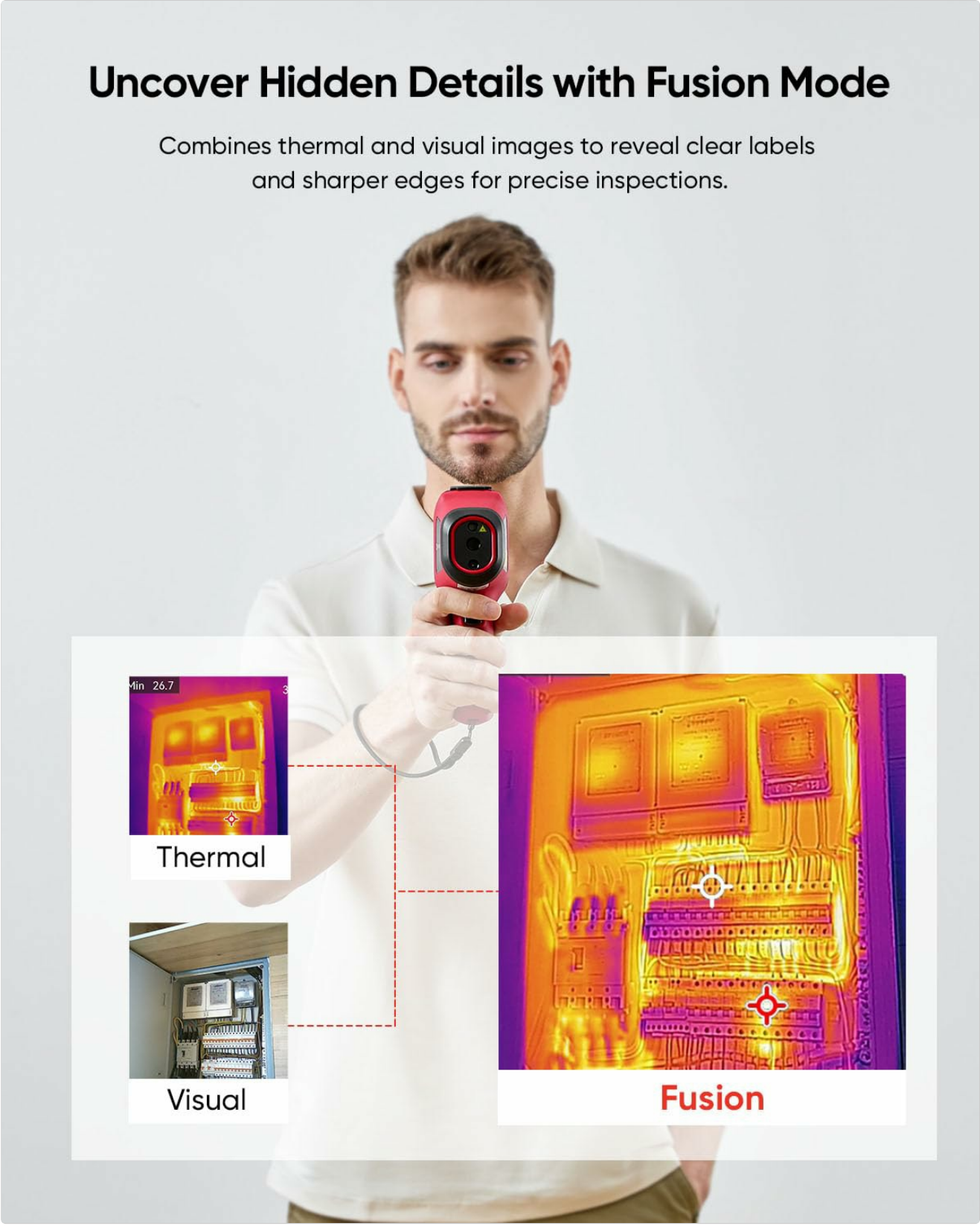

Figure 5.1: Fusion Mode combines thermal and visual images for detailed inspections.

5.2 SuperIR Image Enhancement

Activate HIKMICRO's SuperIR technology to enhance the thermal image resolution from 96x96 to 240x240 pixels, providing clearer and more detailed thermal insights. This feature is accessible through the device settings.

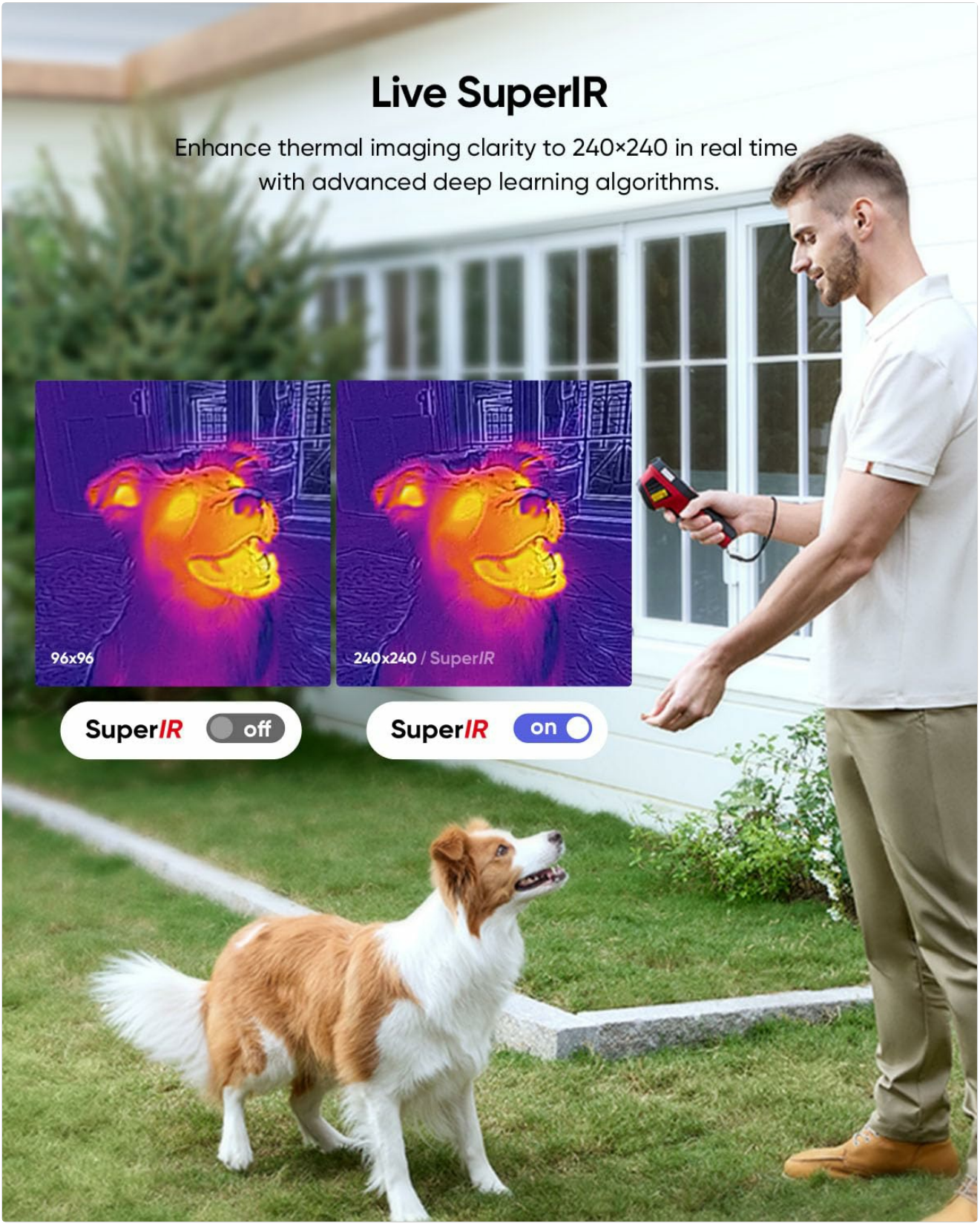

Figure 5.2: SuperIR technology enhances thermal image clarity in real-time.

5.3 Temperature Measurement Tools

The E02 provides three-point temperature measurement (center, hot spot, cold spot) to quickly display instant temperatures. A high-temperature alarm helps detect abnormal areas promptly. Adjust emissivity based on the material being tested and the distance to the object for precise measurements.

Figure 5.3: The 50° × 50° wide field of view captures more thermal details.

5.4 Image Capture and Video Recording

Press the capture button to take a thermal image. Hold the button down to record video. The device's 4GB internal memory can store approximately 3,000 thermal images or 15 hours of video recordings.

Figure 5.4: User-friendly button design for easy image capture and video recording.

6. Image Management

Images and videos captured by the HIKMICRO E02 can be viewed directly on the device. For detailed analysis and reporting, connect the camera to a Windows PC via the USB-C cable and use the HIKMICRO Analyzer software. This software allows for comprehensive image processing and report generation.

Figure 6.1: HIKMICRO Analyzer software for Windows laptops for detailed image analysis.

7. Applications

The HIKMICRO E02 is an ideal tool for identifying various thermal anomalies across multiple scenarios:

- **Home Inspection:** Detect missing insulation, air leaks, and water damage.
- **HVAC Thermal Anomalies:** Identify issues in heating, ventilation, and air conditioning systems.
- **Electrical Inspection:** Pinpoint overheating components in electrical panels.
- **Automotive and Mechanical Failures:** Diagnose heat-related problems in vehicles and machinery.
- **Smart Scenes Detection:** Quickly identify water leaks and insulation voids with advanced deep learning.

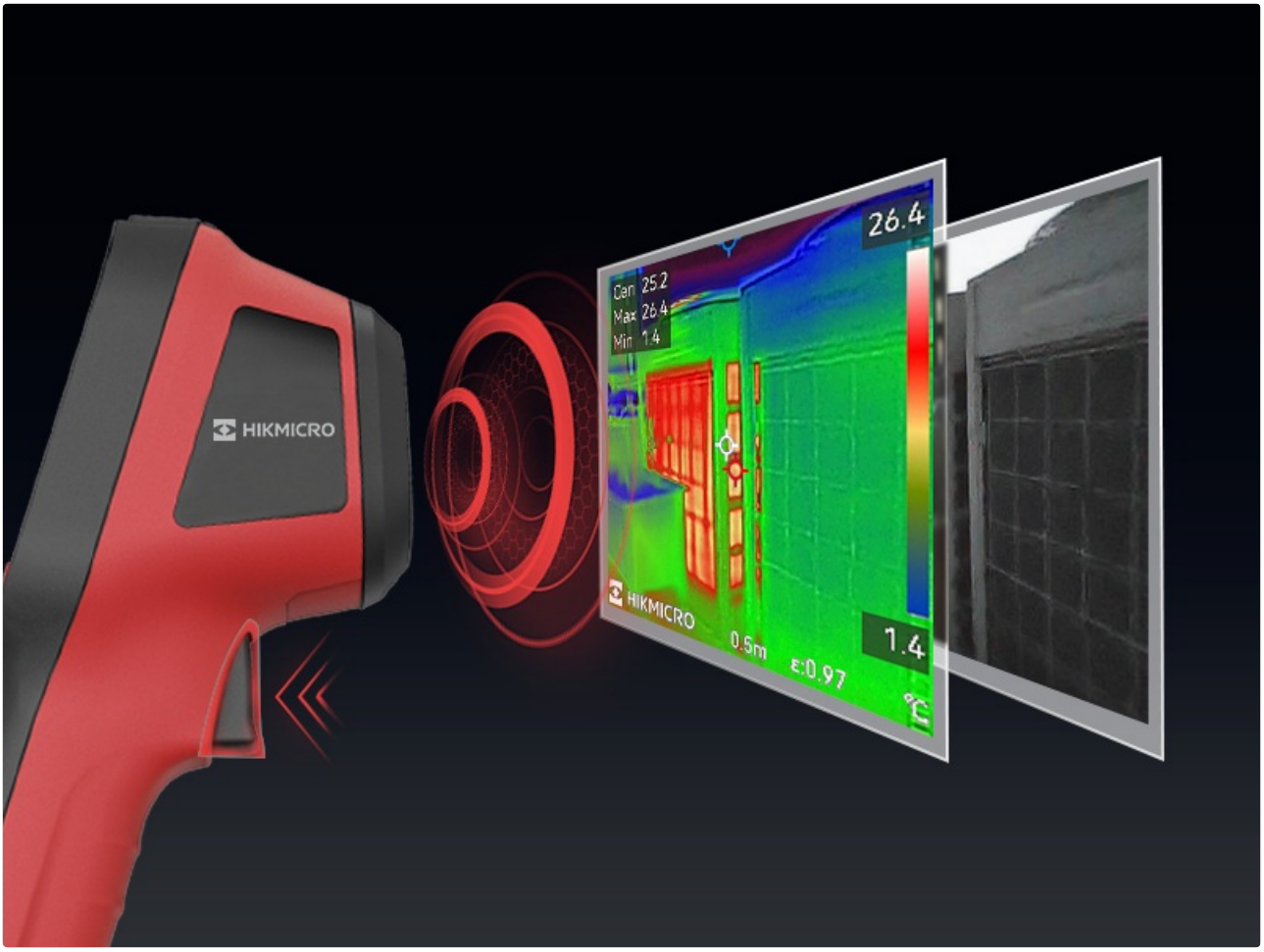

Figure 7.1: Smart Scenes Detection identifies suspected water leaks and insulation voids.

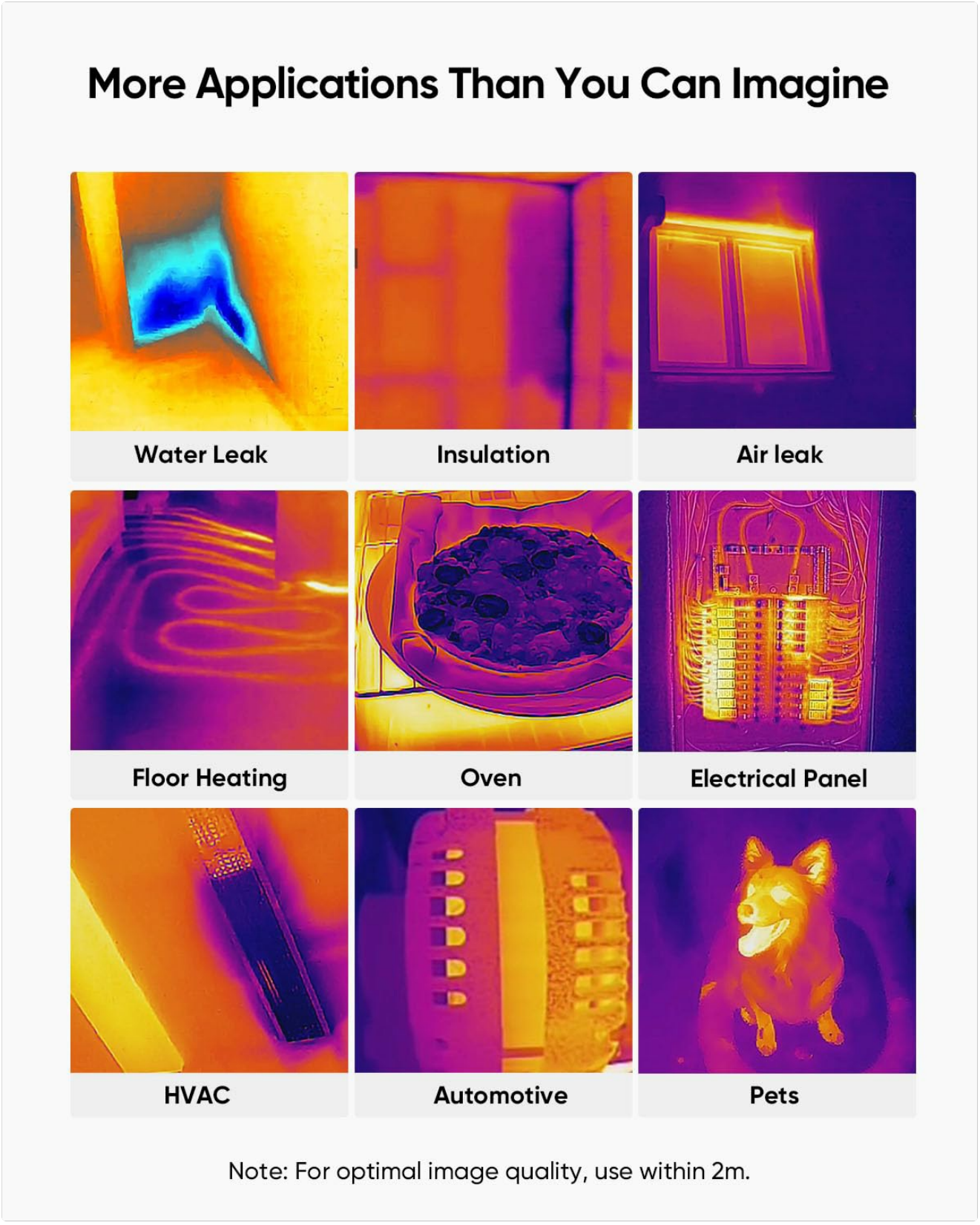

Figure 7.2: Examples of diverse applications including water leaks, insulation, HVAC, and electrical inspections.

8. Battery and Storage

The HIKMICRO E02 is equipped with a 3350mAh high-capacity battery, providing up to 8 hours of continuous runtime. The built-in 4GB memory card is sufficient to store 3,000 thermal imaging pictures or 15 hours of video recordings, supporting long-term detection and recording work.

Figure 8.1: The 3350mAh high-capacity battery provides extended operational time.

Figure 8.2: The 4GB internal storage allows for extensive photo and video recordings.

9. Maintenance

To ensure the longevity and optimal performance of your HIKMICRO E02 Thermal Camera, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the device body. For the lens, use a lens cleaning cloth and solution specifically designed for optical lenses.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.

- **Battery Care:** Avoid fully discharging the battery frequently. Charge the device regularly, even if not in use, to maintain battery health.
- **Firmware Updates:** Regularly check for and install firmware updates to ensure the device has the latest features and performance improvements.

10. Troubleshooting

If you encounter issues with your HIKMICRO E02, refer to the following common troubleshooting steps:

- **Device Not Powering On:** Ensure the battery is charged. Connect to a power source and try again.
- **Image Quality Issues:** Check the focus (if adjustable) and ensure the lens is clean. Try adjusting brightness, contrast, and SuperIR settings.
- **Inaccurate Temperature Readings:** Verify that the emissivity setting matches the material being measured. Ensure the distance to the object is correctly set.
- **Connectivity Problems:** For PC connection, ensure the USB cable is securely connected and the device is in the correct mode for data transfer.

For persistent issues, contact HIKMICRO customer support.

11. Specifications

Feature	Detail
Thermal Resolution	96 x 96 (up to 240 x 240 with SuperIR)
Visible Camera	0.3 MP
NETD	< 50mK
Refresh Rate	20Hz
Temperature Range	-20°C to 400°C (-4°F to 752°F)
Temperature Accuracy	±2%
Battery Life	Up to 8 hours
Internal Storage	4GB (approx. 3,000 images)
Product Dimensions	6 x 3 x 2 cm; 400 g

12. Warranty and Support

HIKMICRO provides comprehensive warranty coverage for the E02 Thermal Camera:

- **Battery:** 2 Years
- **Entire Device:** 3 Years
- **Sensor:** 10 Years

Enjoy lifetime firmware updates and technical support. Local recalibration services are also available for hassle-free post-purchase experience.

13. Relevant Videos

HIKMICRO B01S Promotion Video (Illustrates E02 features)

This video demonstrates key features applicable to the HIKMICRO E02, including air leakage detection, water leak inspection, HVAC inspection, electrical inspection, SuperIR image enhancement, high temperature alarm, full-screen temperature measurement, and real-time wireless transfer. It provides a visual overview of the camera's capabilities in various scenarios.

HIKMICRO E03 How-To Guide (Illustrates E02 operation)

This video provides a quick start guide for a similar HIKMICRO thermal camera model (E03), demonstrating basic operations such as charging, powering on, image mode settings, palette selection, measurement tools, image capture, video recording, and exporting images. These steps are generally applicable to the HIKMICRO E02.