AMPBANK M256 Blue

AMPBANK M256 Thermal Camera User Manual

Model: M256 Blue

1. Introduction

This user manual provides detailed instructions for the safe and effective operation of the AMPBANK M256 Thermal Camera. Please read this manual thoroughly before using the device to ensure proper functionality and to prevent damage.

2. Safety Information

Always adhere to the following safety guidelines to ensure safe operation and to prevent damage to the device or injury to yourself:

- Do not expose the camera to extreme temperatures, direct sunlight for prolonged periods, or high humidity.
- Avoid dropping the device or subjecting it to strong impacts.
- Do not attempt to disassemble or modify the camera. This will void the warranty and may cause damage.
- Keep the lens clean using only a soft, lint-free cloth. Avoid abrasive materials or harsh chemicals.
- Ensure proper ventilation when operating the device, especially if connected to a smartphone for extended periods.

3. Product Overview

3.1. What's in the Box

Image: The package contents include the M256 Thermal Imaging Camera, a Quick User Guide, a Cleaning Cloth, a Multifunctional Adapter Cable, a Carrying Bag, and the Packing Box.

Upon opening the package, verify that all components are present:

- AMPBANK M256 Thermal Imaging Camera
- Multifunctional Adapter Cable
- Quick User Guide
- Cleaning Cloth
- Carrying Bag

3.2. Key Features

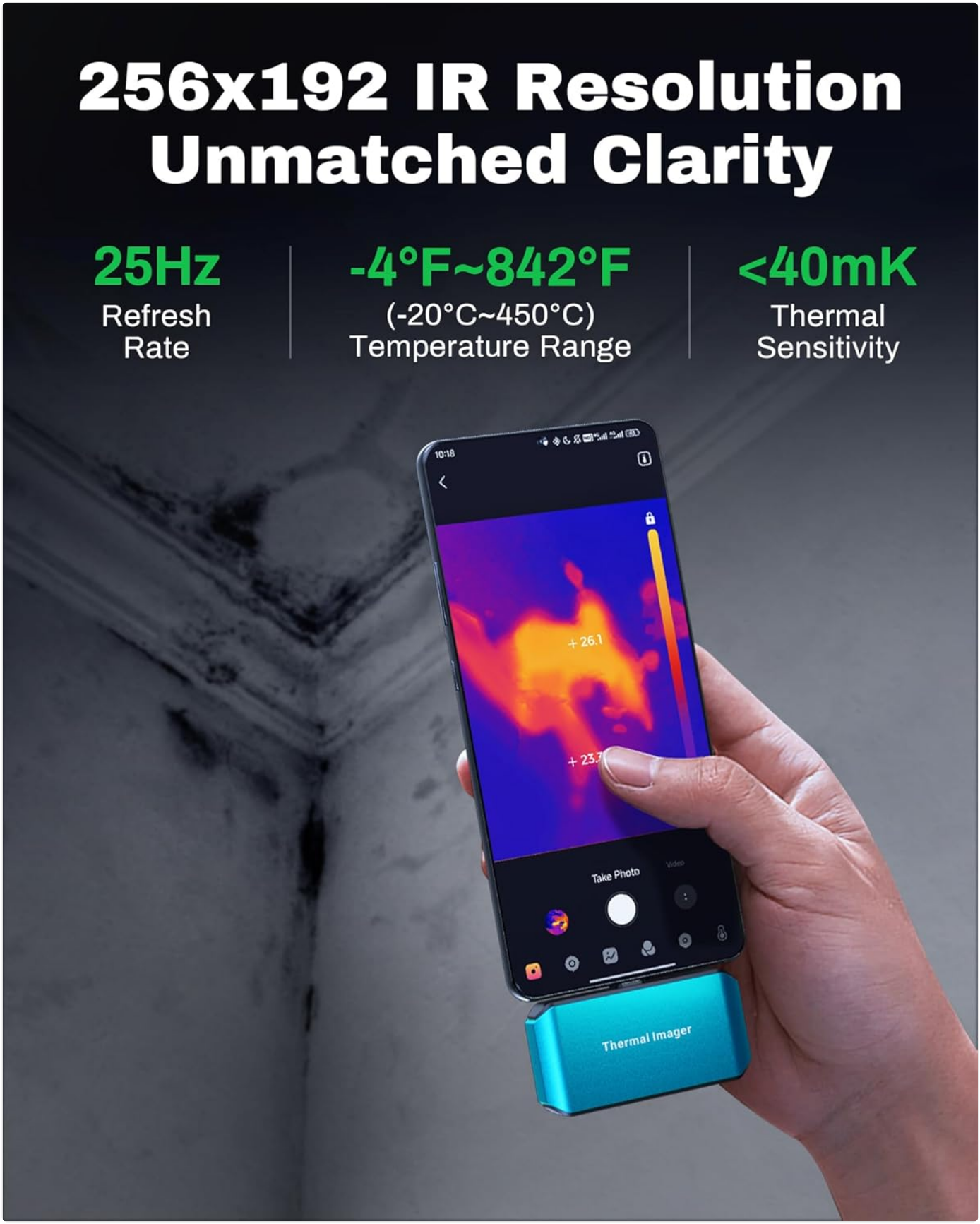


Image: The M256 camera connected to a smartphone, displaying a thermal image. Key specifications like 256x192 IR resolution, 25Hz refresh rate, -4°F~842°F temperature range, and less than 40mK thermal sensitivity are highlighted.

The AMPBANK M256 Thermal Camera offers advanced thermal imaging capabilities:

- **High Resolution:** 256x192 infrared resolution for clear and detailed thermal images.
- **Wide Temperature Range:** Measures temperatures from -4°F to 842°F (-20°C to 450°C).
- **Fast Refresh Rate:** 25Hz refresh rate for smooth thermal video and real-time temperature monitoring.
- **High Accuracy:** Temperature accuracy of ±3.6°F (±2°C) or ±2%.

- **Low Power Consumption:** Operates with just 0.35W, allowing for extended use with smartphone batteries.
- **Compact and Portable:** Weighs approximately 30g (0.07lb), making it easy to carry and use on the go.

3.3. Physical Description

Image: A close-up view of the M256 thermal camera, showcasing its compact blue design, central thermal lens, and integrated USB-C connector at the top.

The M256 camera features a durable, compact design with a USB-C connector for direct attachment to compatible Android smartphones and tablets. Its lightweight construction ensures portability and ease of use in various inspection scenarios.

4. Setup

4.1. Connecting the Camera

Image: The M256 thermal camera shown connected directly to a smartphone and also to a tablet and laptop using the included extension cable, demonstrating its versatile connectivity with Android devices and PCs.

The M256 Thermal Camera is designed for plug-and-play operation with Android devices and PCs.

1. **For Smartphones/Tablets:** Directly plug the USB-C connector of the M256 camera into your Android smartphone or tablet's USB-C port. If the port is obstructed or for more flexible positioning, use the provided multifunctional adapter cable.
2. **For PC:** Connect the camera to your PC using the multifunctional adapter cable.

4.2. App Installation (ThermCam App)

To utilize the full functionality of the M256 camera, you need to install the dedicated 'ThermCam' application on your Android device.

1. **Download:** Search for 'ThermCam' on the Google Play Store.
2. **Install:** Follow the on-screen instructions to install the application.
3. **Permissions:** Grant necessary permissions when prompted by the app for proper operation (e.g., camera, storage).

5. Operating Instructions

5.1. Basic Operation

Once the camera is connected and the ThermCam app is installed and launched, the app will automatically detect the camera and display the thermal image feed.

- **Live View:** The main screen of the app will show the real-time thermal image.
- **Power:** The camera draws power directly from the connected device, so no separate power source is needed.

5.2. Capturing Images and Videos

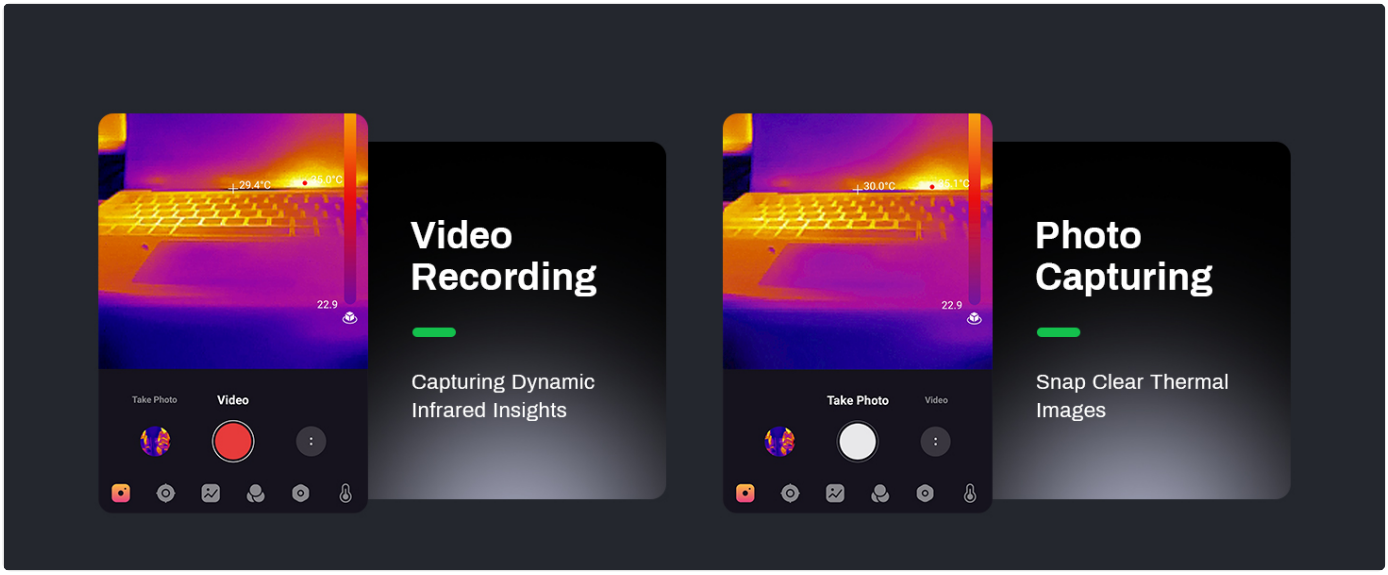


Image: Screenshots of the ThermCam app interface, illustrating the dedicated buttons for initiating video recording to capture dynamic infrared insights and photo capturing for snapping clear thermal images.

The ThermCam app allows you to capture both still thermal images and thermal videos.

- **Photo Capturing:** Tap the camera icon on the app interface to take a still thermal image.
- **Video Recording:** Tap the video camera icon to start recording thermal video. Tap again to stop.
- All captured media will be saved to your device's gallery or a designated folder within the app.

5.3. Temperature Measurement and Analysis

Image: A smartphone connected to the M256 camera, showing a thermal image of industrial equipment with temperature readings and a 'Smart Alerts' notification, indicating the camera's ability to accurately spot anomalies.

The ThermCam app provides various tools for temperature analysis:

- **Spot Temperature:** Tap on any point in the thermal image to display its temperature.
- **Area Measurement:** Define an area to measure average, maximum, and minimum temperatures within that region.
- **Smart Alerts:** Set temperature thresholds to receive alerts when temperatures exceed or fall below specified limits.

5.4. Advanced App Features

Image: A collage of smartphone screens displaying the ThermCam app, highlighting its diverse functionalities such as 3D analysis, various viewing modes, and calibration options, demonstrating how to get more from the app.

The ThermCam app includes advanced features for comprehensive analysis and reporting:

- **3D Analysis:** Visualize thermal data in a 3D representation for deeper insights.
- **Color Palettes:** Choose from multiple color palettes to optimize thermal image visualization based on your application (e.g., Iron, Rainbow, Grayscale).
- **Picture-in-Picture Mode:** Overlay a visible light image with the thermal image for better context.

- **Professional Reports:** Generate detailed reports with captured images, data, and customizable information for sharing.

5.5. PC Software (TCView 2.0)

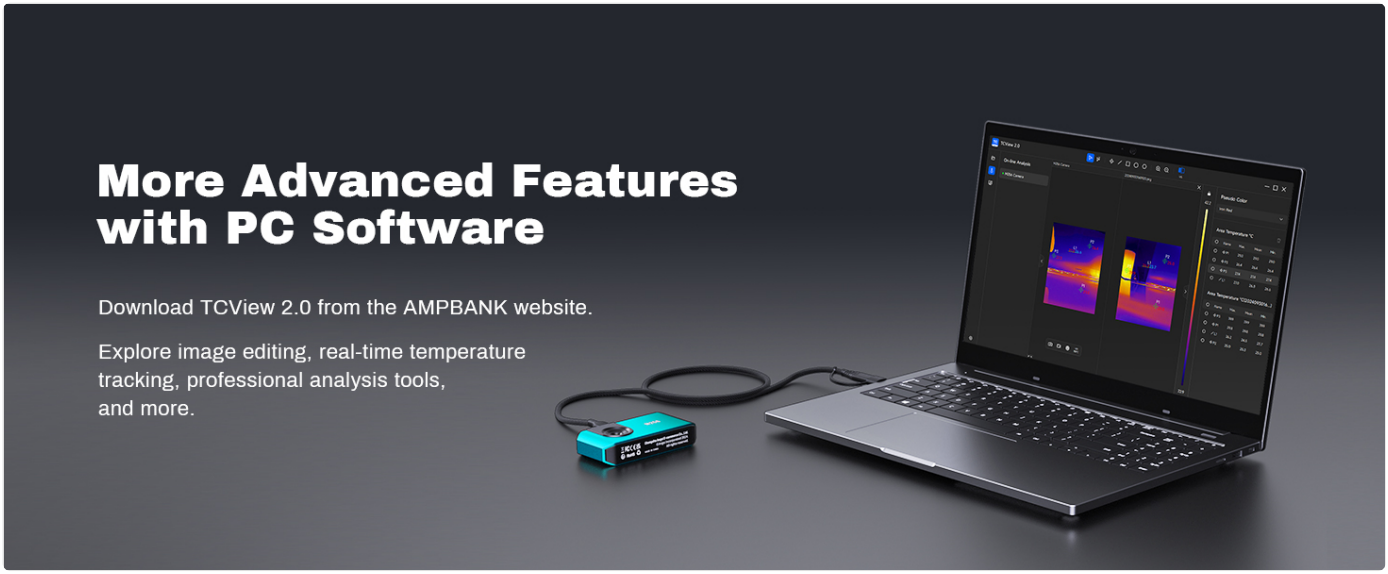


Image: A laptop displaying the TCView 2.0 software, showing thermal images and analysis tools, with the M256 camera connected via its cable. This illustrates the advanced features available with the PC software.

For more advanced image editing, real-time temperature tracking, and professional analysis, download the TCView 2.0 software from the official AMPBANK website. This software provides a robust platform for in-depth thermal data processing.

5.6. Typical Applications

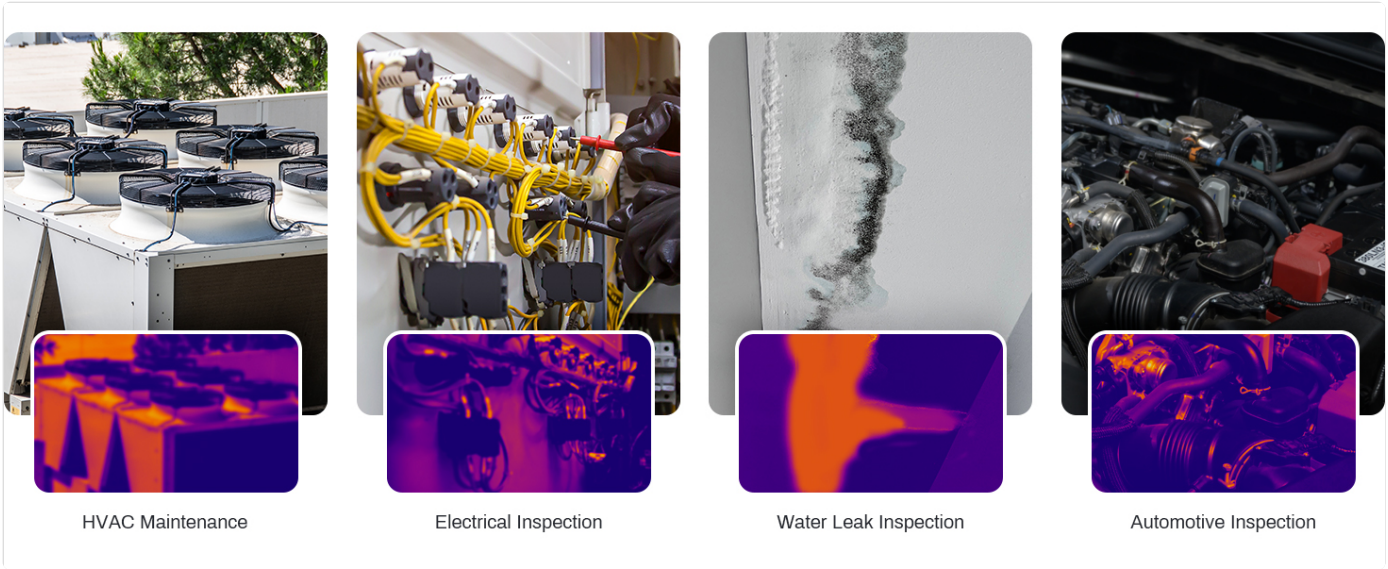


Image: Four distinct panels showing the M256 thermal camera being used for various applications: HVAC maintenance on a rooftop unit, electrical inspection of a circuit board, water leak inspection on a wall, and automotive inspection under a car hood, demonstrating its versatility.

The AMPBANK M256 Thermal Camera is suitable for a wide range of applications, including but not limited to:

- HVAC system inspection and maintenance
- Electrical system troubleshooting and inspection
- Water leak detection in residential and commercial buildings
- Automotive diagnostics and inspection
- Building insulation and energy efficiency audits

6. Maintenance

Proper maintenance ensures the longevity and optimal performance of your M256 Thermal Camera.

- **Cleaning the Lens:** Use the provided cleaning cloth or a soft, lint-free cloth to gently wipe the thermal lens. Do not use harsh chemicals or abrasive materials, as they can damage the lens coating.
- **Cleaning the Body:** Wipe the camera body with a soft, damp cloth. Avoid getting moisture into the USB-C port.
- **Storage:** When not in use, store the camera in its carrying bag in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

If you encounter issues with your M256 Thermal Camera, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Camera not detected by phone/app.	Loose connection, app permissions, incompatible device.	Ensure the camera is securely plugged in. Check app permissions in your phone settings. Verify your smartphone/tablet is compatible with USB-C OTG functionality. Try restarting the app or phone.
Thermal image is blurry or unclear.	Dirty lens, out of focus (if applicable), environmental factors.	Clean the thermal lens with the provided cloth. Ensure the target is within the camera's optimal measurement distance. Avoid extreme temperature gradients or reflective surfaces that can distort readings.
App crashes or freezes.	Software glitch, insufficient device resources.	Close and restart the ThermCam app. Ensure your device has sufficient free RAM. Check for app updates on Google Play.
Inaccurate temperature readings.	Incorrect emissivity setting, environmental interference.	Adjust the emissivity setting in the app to match the material being measured. Ensure there are no strong heat sources or reflections interfering with the measurement.

If the problem persists after trying these solutions, please contact AMPBANK customer support.

8. Specifications

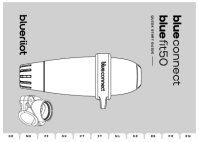
Feature	Specification
Infrared Resolution	256x192 pixels
Temperature Range	-4°F to 842°F (-20°C to 450°C)
Temperature Accuracy	±3.6°F (±2°C) or ±2%
Refresh Rate	25Hz
Thermal Sensitivity (NETD)	<40mK
Power Consumption	0.35W
Interface	USB-C
Operating System Compatibility	Android Smartphones/Tablets, PC

Feature	Specification
Dimensions	Approximately 4.33 x 3.54 x 1.97 inches (Package)
Weight	Approximately 30g (0.07lb)

9. Warranty and Support

AMPBANK provides a standard warranty for the M256 Thermal Camera against defects in materials and workmanship under normal use. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official AMPBANK website.
For technical support, troubleshooting assistance, or service inquiries, please contact AMPBANK customer support through the contact information provided on the official AMPBANK website or in your product documentation.

Related Documents - M256 Blue

	AMPBANK M256 Thermal Imaging Camera: Quick Start User Guide Quick user guide for the AMPBANK M256 Thermal Imaging Camera, covering basic setup and operation. Includes instructions for downloading the ThermCam app and connecting the device via USB. Details manufacturer information and FCC compliance.
	AMPBANK H128 Handheld Thermal Imaging Camera User Manual Comprehensive user manual for the AMPBANK H128 Handheld Thermal Imaging Camera, detailing product overview, specifications, FAQs, and warranty information. Learn how to use this device for equipment inspection, maintenance, home heating, water leak detection, and agricultural protection.
	KOORUI 25E3A Gaming Monitor User Manual - Setup, Features, Troubleshooting Comprehensive user manual for the KOORUI 25E3A gaming monitor. Learn about setup, product accessories, VESA mounting, OSD functions, display settings, and troubleshooting common issues. Includes detailed specifications and safety guidelines.
	Blue Connect & Blue Fit50 Quick Start Guide A quick start guide for the Blue Connect pool and spa water analysis device and the Blue Fit50 hose clamp accessory. Learn about setup, app installation, and basic usage.

[ELA Innovation BLE Range User Guide]

This user guide provides comprehensive information on ELA Innovation's BLE Range products, covering setup, configuration, operation, data visualization, and technical specifications for Bluetooth Low Energy tags.