

MiLESEEY TR20 Pro

MiLESEEY TR20 Pro Thermal Imaging Camera User Manual

Model: TR20 Pro

Brand: MiLESEEY

1. INTRODUCTION

The MiLESEEY TR20 Pro is a handheld thermal imaging camera designed for professional use, offering advanced features for accurate temperature measurement and detailed thermal analysis. This device integrates both an infrared sensor and a visible-light camera, providing versatile imaging capabilities for various inspection tasks. This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your TR20 Pro thermal imager.

2. IMPORTANT SAFETY INFORMATION

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in injury or damage to the device.

- Do not point the camera directly at intense heat sources, such as the sun or lasers, as this may damage the infrared sensor.
- Keep the device dry. Do not expose it to moisture or immerse it in water.
- Use only the specified charging accessories.
- Do not attempt to open or modify the device. Refer all servicing to qualified personnel.
- Operate the device within the specified temperature and humidity ranges.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- MiLESEEY TR20 Pro Thermal Imager
- USB Charging Cable
- User Manual (this document)
- Protective Case (if included with your specific model)

4. PRODUCT OVERVIEW

The MILESEEEY TR20 Pro is designed for comfortable handheld use, featuring a robust casing and intuitive controls.



Figure 4.1: Front and back view of the MILESEEEY TR20 Pro Thermal Imaging Camera, highlighting its ergonomic design and display screen.

The device incorporates a dual-lens system, combining an infrared sensor for thermal detection and a visible-light camera for contextual imaging. This allows for enhanced image clarity and easier identification of heat patterns.

Smarter imaging, Clearer results

TR20 series offers automatic temperature alarm with both visual and sound, and a snapshot of the problem



Figure 4.2: Detail of the camera's top, illustrating the integrated IR Camera and Visual Camera lenses for dual-spectrum imaging.

5. SETUP

5.1. Battery Installation and Charging

The TR20 Pro comes with a built-in Lithium Ion battery. Ensure the device is fully charged before first use.

1. Connect the provided USB charging cable to the camera's charging port.
2. Connect the other end of the USB cable to a compatible USB power adapter (not included) or a computer's

USB port.

3. The charging indicator on the device will show the charging status. A full charge typically takes several hours.

5.2. Powering On/Off

- **To Power On:** Press and hold the power button (usually marked with a red circle or power symbol) until the screen illuminates.
- **To Power Off:** Press and hold the power button until the shutdown prompt appears, then confirm or continue holding until the device powers down.

6. OPERATING INSTRUCTIONS

6.1. Understanding the Display and Navigation

The TR20 Pro features a 2.8-inch LCD with 480 x 640 resolution, displaying thermal images and critical data. The screen shows temperature readings, battery status, time, and selected imaging modes.

Navigate menus and settings using the directional buttons and the 'SET' button for confirmation. Refer to the on-screen prompts for specific menu options.

6.2. Dual-Lens Imaging and Multi-Mode View

The TR20 Pro offers five distinct image modes to suit various inspection needs:

- **Infrared Only:** Displays a pure thermal image.
- **Visible Only:** Displays a standard visual image from the optical camera.
- **Blending:** Overlays a semi-transparent thermal image onto the visible image.
- **Fusion:** Combines thermal and visible details for a clearer representation.
- **Outline Enhancement:** Highlights the edges of objects in the thermal image for better definition.

These modes allow users to easily match heat patterns with real-world visuals, enhancing inspection results.

320×240 Thermal Resolution

See Every Detail with Clarity offering crisp thermal clarity with vivid details



Figure 6.1: The camera's display demonstrating the crisp 320x240 thermal resolution, showing detailed temperature variations before and after a thermal event.

6.3. Accurate Temperature Measurement

The device provides accurate temperature readings across a range of -20 to 550 °C, with an accuracy of ± 2 °C. Its high sensitivity ($\text{NETD} \leq 40$ mK) allows for the detection of small temperature differences, crucial for precise diagnostics. The 50° wide-angle lens ensures a broad field of view, capturing more area in a single image.

6.4. Selecting Thermal Palettes

The TR20 Pro offers eight selectable color palettes to visualize temperature contrasts. Each palette highlights


different temperature ranges and gradients, allowing users to choose the most suitable display for their specific application and to better interpret thermal data.

Pro-Grade PC Analysis


Unlock Deeper Insights



Video Recording
Supported



Analyzing
Software



8G Built-in
Storage



The image shows a laptop screen displaying the MILESEEY software interface. The interface includes a menu bar with 'MILESEEY TECHNOLOGY', 'Gallery', 'Online Analysis (developing)', and 'Offline Analysis'. Below the menu is a toolbar with various icons. The main display area shows a thermal image of a mechanical part with temperature readings: 24.9°C, 29.6, 29.6, and 24.3. A cursor is positioned on the image. On the right side of the screen, there is a 'Signal Statistics' graph and a 'Signal Temp' table. The handheld MILESEEY TR20 Pro device is connected to the laptop via a cable. The device has a screen, buttons, and a red laser pointer.

Figure 6.2: A visual representation of the 8 distinct thermal palettes available on the TR20 Pro, each offering a unique way to interpret temperature data.

6.5. Smart Alerts and Quick Capture

The camera features customizable temperature alarms with both sound and light warnings. These alerts help in quickly identifying abnormal heat spots that exceed predefined thresholds. The quick-capture function allows for instant recording of images or video, ensuring that important findings are documented without delay.

7. DATA MANAGEMENT AND ANALYSIS

The TR20 Pro supports built-in video recording and includes 8GB of internal storage for capturing and saving thermal data.

For in-depth analysis, the device supports the MiLESEEY Analyzer PC software. This software simplifies data review, allows for detailed reporting, and provides tools for further examination of recorded thermal images and videos.

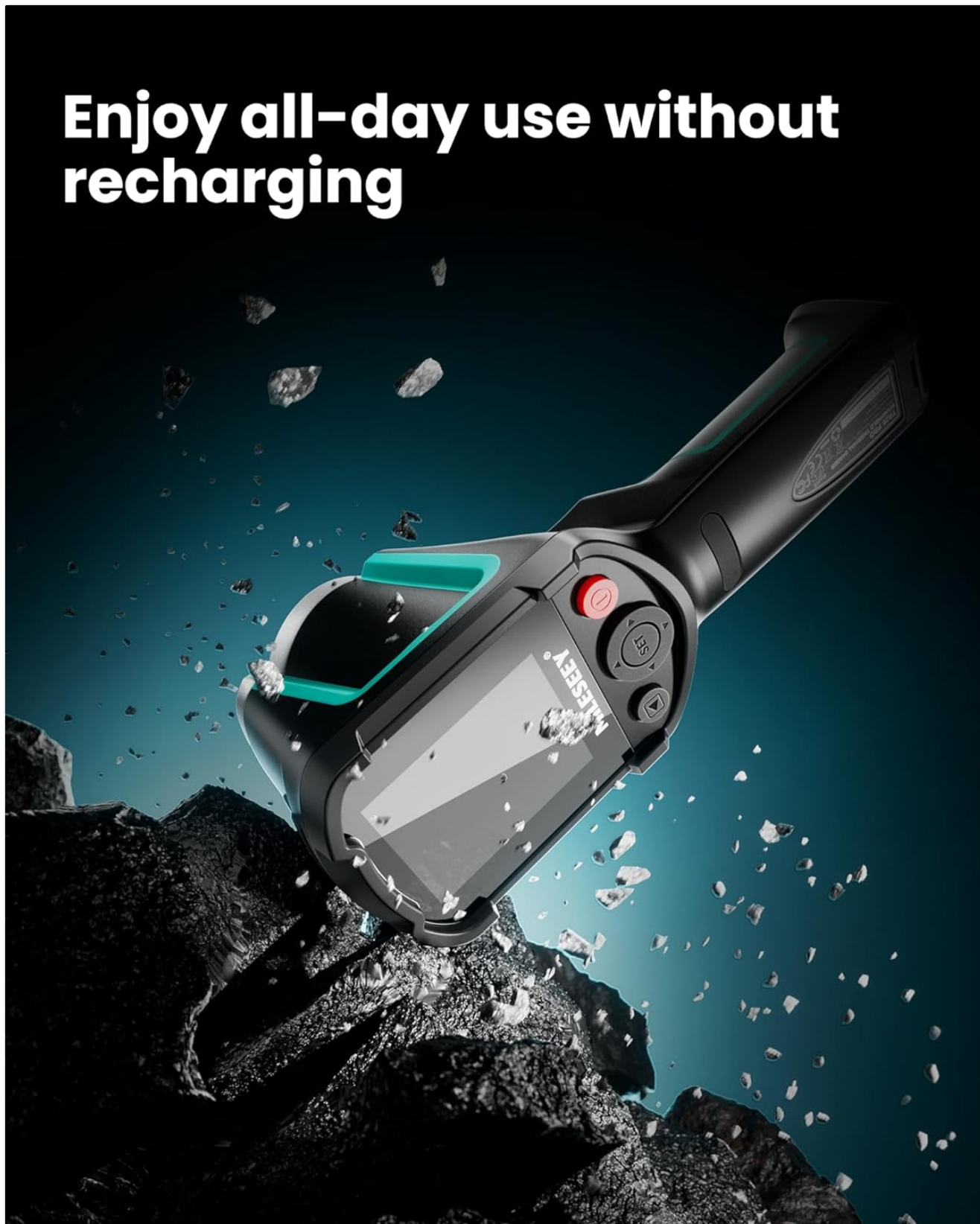


Figure 7.1: The MiLESEEY TR20 Pro connected to a laptop, demonstrating its compatibility with PC software for advanced thermal data analysis and reporting.

8. MAINTENANCE

8.1. Cleaning the Device

- Gently wipe the device body with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- For the lenses, use a specialized lens cleaning cloth and solution to avoid scratches.

8.2. Battery Care

To maximize battery life and performance:

- Avoid fully discharging the battery frequently.
- Store the device in a cool, dry place when not in use for extended periods.
- Charge the device regularly, even if not in active use, to maintain battery health.



Figure 8.1: The MILESEEEY TR20 Pro, designed for extended operation, allowing for all-day use without frequent recharging.

9. TROUBLESHOOTING

If you encounter issues with your TR20 Pro, consider the following common solutions:

- **Device not powering on:** Ensure the battery is charged. Connect to a power source and try again.
- **Image unclear or distorted:** Clean the camera lenses. Check focus settings if applicable. Ensure you are

within the optimal measurement distance.

- **Inaccurate temperature readings:** Verify the emissivity setting is correct for the material being measured. Ensure the measurement range is appropriate.
- **Device unresponsive:** Attempt a soft reset by holding the power button for an extended period (e.g., 10-15 seconds).

If problems persist, contact customer support for further assistance.

10. TECHNICAL SPECIFICATIONS

Feature	Specification
IR Resolution	320 x 240 pixels
Refresh Rate	50 Hz
Temperature Range	-20 to 550 °C
Accuracy	±2 °C
NETD	≤ 40 mK
Lens Angle	50°
Display	2.8-inch LCD, 480 x 640 resolution
Storage	8GB Built-in
Battery Type	1 Lithium Ion battery (included)
Package Dimensions	11.02 x 5.47 x 3.98 inches
Weight	2.49 Pounds

11. WARRANTY AND SUPPORT

11.1. Warranty Information


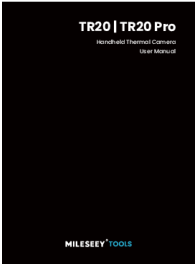




MiLESEEEY products are covered by a limited warranty against defects in materials and workmanship. Please refer to the warranty card included with your product or visit the official MiLESEEEY website for detailed warranty terms and conditions.

11.2. Customer Support

For technical assistance, troubleshooting, or service inquiries, please contact MiLESEEEY customer support. You can find contact information on the official MiLESEEEY website or through the retailer where you purchased the product.

Visit the [MiLESEEEY Store on Amazon](#) for more product information and support resources.

Related Documents - TR20 Pro

	<p>TR20 TR20 Pro Handheld Thermal Camera Quick Start Guide</p> <p>Quick start guide for the Mileseeey TR20 and TR20 Pro handheld thermal cameras, covering product overview, button functions, display icons, and settings. Includes manufacturer information and compliance details.</p>
	<p>MILESEEEY TR20 TR20 Pro Handheld Thermal Camera User Manual</p> <p>User manual for the MILESEEEY TR20 and TR20 Pro handheld thermal cameras. Provides product overview, specifications, operation instructions, and safety guidelines for thermal imaging applications.</p>
	<p>Manual de Usuario MILESEEEY TR10: Cámara Térmica Infrarroja Portátil</p> <p>Guía completa para el uso y configuración de la cámara térmica infrarroja portátil MILESEEEY TR10. Aprenda sobre sus características, instrucciones de seguridad y ajustes para mediciones precisas de temperatura.</p>
	<p>TR10 User Manual: Mileseeey Handheld Infrared Thermal Imager Guide</p> <p>Comprehensive user manual for the Mileseeey TR10 handheld infrared thermal imager. Details features, operation, safety, and maintenance for accurate thermal inspections.</p>
	<p>MILESEEEY TR256C Thermal Imaging Camera User Guide</p> <p>Comprehensive user guide for the MILESEEEY TR256C Thermal Imaging Camera with Laser Measure & GPS. Learn about product overview, safety instructions, appearance, display icons, settings, specifications, and warranty.</p>
	<p>MILESEEEY TR256i/TR1601 Mobile Phone Infrared Thermal Imager User Guide</p> <p>Comprehensive user guide for the MILESEEEY TR256i and TR1601 mobile phone infrared thermal imagers, detailing product overview, features, app functions, specifications, and precautions.</p>

