

BTMETER PF210

Thermal Imaging Camera PF210 User Manual

Model: **PF210** | Brand: **BTMETER**

1. INTRODUCTION

The BTMETER PF210 Thermal Imaging Camera is a high-resolution infrared imager designed for accurate temperature measurement across various applications. It features a 256 x 192 IR resolution, a 5-megapixel visual camera, and a 3.5-inch LCD touch screen for detailed analysis. This manual provides essential information for the proper setup, operation, and maintenance of your device.

Key features include a wide temperature range of -200C to 5500C (-40F to 10220F), adjustable emissivity, multiple imaging modes (infrared, visible light, Picture-in-Picture, Multispectral Image Fusion), and data saving/sharing capabilities via built-in 16GB storage, WiFi hotspot, and cloud server support.



Figure 1.1: BTMETER PF210 Thermal Imaging Camera

2. WHAT'S IN THE BOX

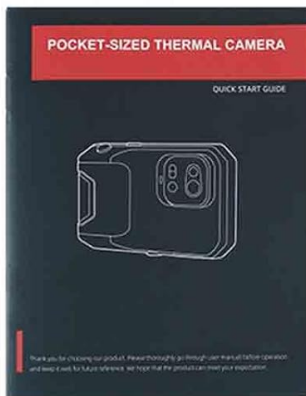
Please verify that all items are present and in good condition upon opening the package:

- 1 x Thermal Imaging Camera (PF210)
- 1 x User Manual
- 1 x EVA Hardshell Bag
- 1 x Type-C USB Cable
- 1 x Adapter Plug
- 1 x Power Adapter

Packing List



Pocket-sized Thermal Camera PF210



User Manual



EVA Hardshell Bag



Adapter Plug



Type-C USB Cable



Power Adapter

Figure 2.1: Packing List for PF210

3. SETUP

3.1 Device Overview and Dimensions

Familiarize yourself with the physical components and dimensions of the PF210 camera.



Figure 3.1: PF210 Device Overview and Dimensions

3.2 Powering On and Initial Boot

To power on the device, press and hold the power button located on the top side of the camera. The device will display the model number PF210 and a loading screen before entering the thermal imaging interface.

3.3 Charging the Device

Connect the provided Type-C USB cable to the camera's USB interface and the other end to the adapter plug. Plug the adapter into a power outlet to charge the device. Ensure the device is fully charged before extensive use for optimal performance.

3.4 Tripod Mounting

The PF210 is equipped with a 1/4" tripod connector on its bottom side, allowing for stable and hands-free operation. Simply screw a compatible tripod mount into this connector.

3.5 Setup and Basic Operations Video Guide

Watch this video for a visual guide on powering on, navigating the touch screen, and performing basic operations.

4. OPERATING THE CAMERA

4.1 High-Resolution Imaging and Display

The PF210 captures thermal radiation with a 256 x 192 IR resolution and a 5-megapixel visual camera. The 3.5-inch LCD touch screen allows for easy navigation and detailed viewing of thermal images, including maximum, minimum, and center temperature spots.

Pocket-sized Thermal Camera PF210

- Adjustable Emissivity
- Hotspot Transmit
- Picture Upload & Download
- Laser Distance Measuring
- 4 Imaging Modes
- Auto Save & View

- 16G Built-in Storage
- 5 MP Visible Camera
- 3.5" LCD Touch Screen
- 256 x 192 IR resolution
- 4°F ~ 1022°F Measure Range
- 0.3m Minimum Object Distance
- 0.06°C Thermal Sensitivity / NETD ≤ 60mK

Figure 4.1: Pocket-sized Thermal Camera PF210 Key Features

4.2 Temperature Range and Emissivity

The camera supports a temperature range from -200C to 5500C (-40F to 10220F) with adjustable temperature gears. It features 0.060C thermal sensitivity and an adjustable emissivity from 0.1 to 1.0, ensuring accurate measurements for various surfaces.

4.3 Imaging Modes and Color Palettes

The PF210 offers four optional imaging modes: Infrared (IR), Visible Light (VL), Picture-in-Picture (PIP), and Multispectral Image Fusion (MIF). You can also select from 6 color palettes (Iron Red, Hot Iron, Arctic, White Hot, Rainbow, Black Heat) to best visualize temperature differences.

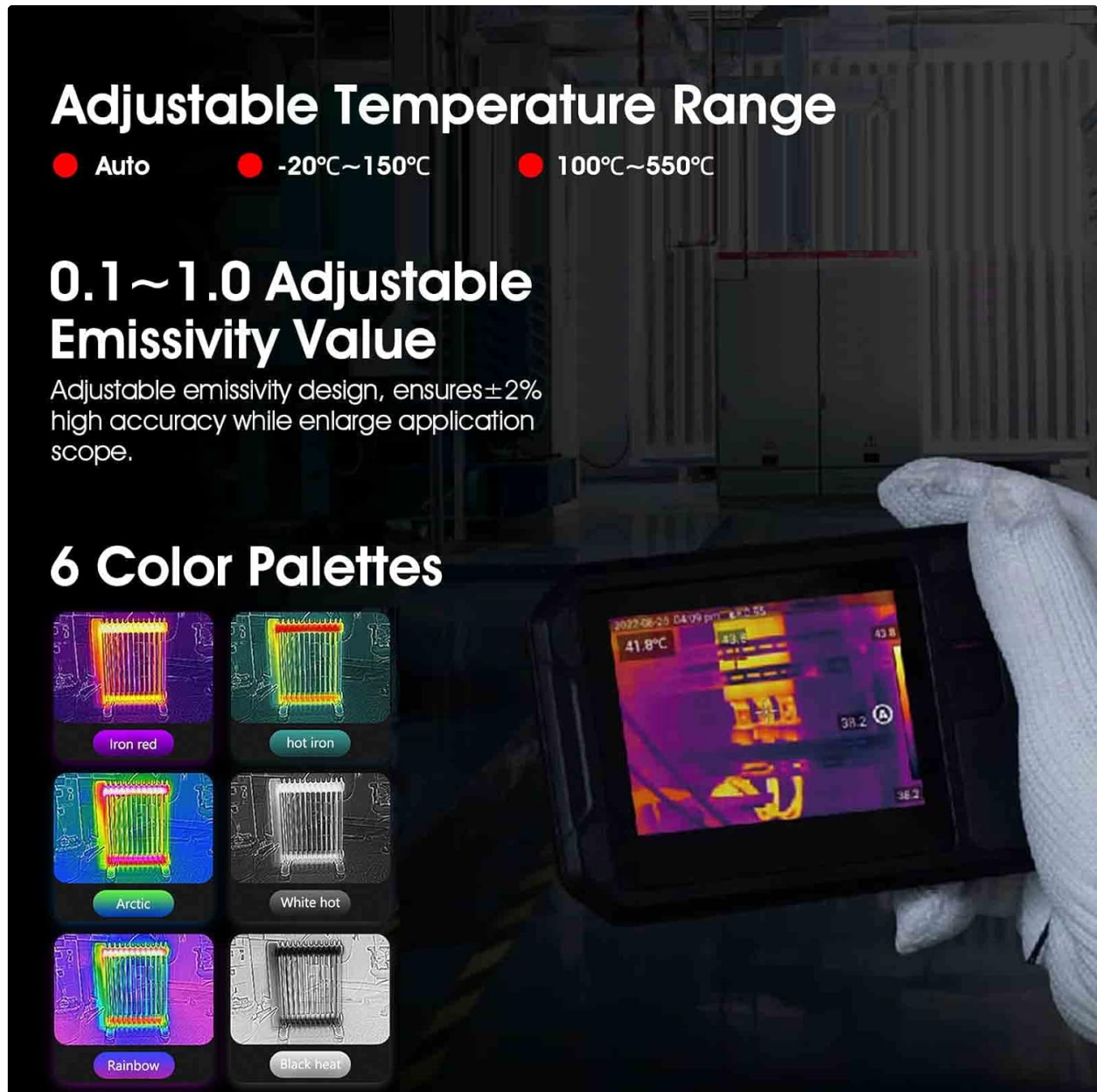


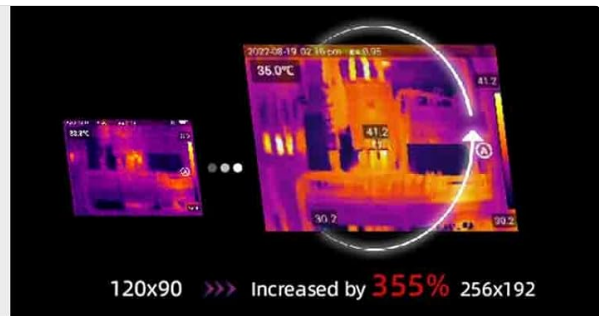
Figure 4.2: Temperature Settings and Color Palettes

4.4 Data Save and Share

With 16GB of built-in storage, the camera can save up to 60,000 images. Images can be transmitted to mobile phones via WiFi hotspot or uploaded/downloaded from a cloud server. Customized software "Thermography" is available on App Store or Google Play for further analysis.

Outstanding Thermal Imagery

Designed with 256x192 high resolution WLP Infrared module and upgraded de-noising algorithm, capture sharp thermal image more easier.



Real-time temperature information



IR



VIS



MIF



PIP

Get maximum, minimum and center-point temperature readings on thermal image in four imaging modes, including IR, VIS, MIF and PIP

Take and view

Save pictures automatically after captured. Built-in 1.6G storage card can save up to 60,000 Images, easier way to view and analysis Images.



Infrared laser pointer

Laser indicator

Locate measurement object visibly and measure temperature with $\pm 2\%$ high accuracy

Laser rangefinder

Not just supports laser measure distance up to 8m, but also can intelligently calculate rectangle target area.

Figure 4.3: Data Save and Share Capabilities

4.5 D:S Ratio and Digital Zoom

The PF210 offers a 266:1 distance-to-spot ratio and 1.1x to 8x digital zoom, allowing for flexible image capture from various distances. The minimum object distance is 0.3m.

4.6 Infrared Laser Pointer

The integrated infrared laser pointer assists in precisely locating the measurement object, enhancing accuracy. It also supports laser distance measurement up to 8m and intelligent rectangular target area calculation.



Figure 4.4: Advanced Imaging and Measurement Features

5. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your thermal imaging camera.

- **Cleaning:** Use a soft, dry cloth to clean the camera body. For the lens and screen, use a specialized lens cleaning cloth and solution to avoid scratches. Do not use abrasive cleaners or solvents.
- **Storage:** Store the camera in its hardshell carrying case in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** If storing for extended periods, ensure the battery is partially charged (around 50%) to maintain battery health. Recharge periodically if not in use.
- **Software Updates:** Regularly check for firmware updates to ensure optimal performance and access to new features.

6. TROUBLESHOOTING

If you encounter issues with your BTMETER PF210, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on	Low battery; Power button not pressed correctly	Charge the device; Press and hold the power button firmly for a few seconds.
Inaccurate temperature readings	Incorrect emissivity setting; Object too far/close; Environmental factors	Adjust emissivity based on material; Ensure object is within 0.3m minimum distance; Minimize air currents or reflective surfaces.
Cannot connect to WiFi hotspot	WiFi module off; Incorrect settings on phone/camera	Ensure WiFi hotspot is enabled on the camera; Verify network settings on your mobile device.
Images not saving	Storage full; Software glitch	Delete old images to free up space; Restart the device.

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

7. SPECIFICATIONS

Detailed technical specifications for the BTMETER PF210 Thermal Imaging Camera:

Feature	Specification
IR Resolution	256 x 192 pixels
Visual Camera	5 Megapixels
Temperature Range	-200C to 5500C (-40F to 10220F)
Thermal Sensitivity (NETD)	160mK (0.060C)
Measurement Accuracy	120C or 12%
Display	3.5" LCD Touch Screen
Emissivity	Adjustable 0.1-1.0
D:S Ratio	266:1
Minimum Object Distance	0.3m
Digital Zoom	1.1x to 8x

Feature	Specification
Internal Storage	16GB (up to 60,000 images)
Connectivity	WiFi Hotspot, USB Type-C
Battery Life	Approx. 4.5 hours standby
Weight	300g
Package Dimensions	9.84 x 7.48 x 2.76 inches

8. WARRANTY AND SUPPORT

The BTMETER PF210 Thermal Imaging Camera comes with a **365-day quality warranty** from the date of purchase. This warranty covers manufacturing defects and ensures the product meets its specified performance standards.

For technical support, warranty claims, or any inquiries regarding your device, please contact BTMETER customer service. Lifetime technical support is provided to assist you with any operational or technical challenges you may encounter.

You can find more information and support resources on the official BTMETER website or through your purchase platform.