

FLIR C3-X

FLIR C3-X Compact Thermal Imaging Camera User Manual

MODEL: C3-X | BRAND: FLIR

Introduction

The FLIR C3-X is a pocket-sized compact infrared thermometer designed for a variety of building inspection, electrical, and mechanical applications. It is easy to carry and can be used to locate hidden heat spots, heat exhaustion, structural problems, plumbing issues, HVAC problems, and other issues at any time. This manual provides essential information for the proper setup, operation, and maintenance of your FLIR C3-X camera.

Setup

Before first use, ensure the FLIR C3-X camera is fully charged. Connect the camera to a USB power source using the provided USB-C cable. A full charge typically provides up to 4 hours of continuous operation. The camera features an adjustable USB connector to accommodate various phone cases when connecting to a mobile device.

To begin thermal imaging, download the official FLIR app from your device's app store. Connect the FLIR C3-X to your mobile device via the USB-C port. The camera typically takes about 20 seconds to fully start up and calibrate. The LED indicator will flash green when the camera is ready for use.

Adjust emissivity settings within the app to ensure accurate temperature readings based on the surface material being inspected. The camera's rugged design ensures durability in various working environments.



Figure 1: The FLIR C3-X camera displaying a thermal image of pipes, showing temperature variations.

Operating the FLIR C3-X

The FLIR C3-X detects infrared radiation (heat) and visualizes temperature differences. This allows users to identify hot spots, cold air infiltration, and other thermal anomalies. The camera features MSX technology, which blends thermal and visual details to create crisp, easy-to-interpret images.

The camera offers various image modes and color palettes to optimize visualization for different applications. You can select from modes like Thermal, Visual, Fusion, Picture-in-Picture (PIP), and Blending. Multiple color palettes are available, including White Hot, Black Hot, Rainbow, Ironbow, Red Hot, and Fusion, allowing you to choose the best representation for your specific inspection needs.

The temperature range for the FLIR C3-X is from -4°F to 662°F (-20°C to 350°C), with an accuracy of $\pm 2\%$ or $\pm 2^\circ\text{C}$. The display shows the center, minimum, and maximum temperatures within the field of view. You can toggle measurement crosshairs on or off to display specific temperature readings.

To capture an image, press the dedicated button on the device. For video recording, hold the button down. Captured images and videos are stored internally and can be accessed via the FLIR app or by connecting the device to a computer.



Figure 2: A user operating the FLIR C3-X camera in a dimly lit area, utilizing its built-in LED light.

Maintenance

The FLIR C3-X is designed to be rugged and durable, capable of withstanding bumps, drops, and temperature extremes common in job site environments. The outer shell is made of a soft-touch material that provides a secure grip and added protection. To clean the device, use a soft, damp cloth. Avoid abrasive cleaners or solvents that could damage the lens or screen.

Troubleshooting

The FLIR C3-X is an invaluable tool for quickly identifying hidden issues. Use the thermal imaging capabilities to:

- **Locate Heat Spots:** Identify areas of unusual heat, which may indicate electrical faults, overheating components, or insulation deficiencies.
- **Detect Cold Spots:** Pinpoint areas of cold air infiltration, drafts, or missing insulation in buildings.
- **Identify Moisture:** Thermal patterns can reveal hidden moisture issues behind walls or under floors.
- **HVAC System Checks:** Diagnose issues with heating, ventilation, and air conditioning systems by observing temperature

distribution.

The camera also features an alarm function that can be set to trigger an audible warning if temperatures exceed a user-defined threshold, which is useful for monitoring critical components.

Specifications

Model Number	C3-X
Product Dimensions	0.94 x 5.39 x 3.31 inches
Item Weight	6.7 ounces
Battery Type	1 AA batteries (included)
Battery Life	Up to 4 hours continuous use
Thermal Resolution	10,800 Pixels (96x96)
Temperature Range	-4°F to 662°F (-20°C to 350°C)
Accuracy	±2% or ±2°C
Connectivity	WiFi, Cloud Connection, USB-C
Features	MSX Technology, LED Light, Tripod Screw Hole

Warranty & Support

For product warranty registration and customer support, please refer to the information provided in the packaging or visit the official FLIR website. Ensure you register your product to activate any extended warranty benefits.