

FLUKE®

TiR2, TiR3, TiR4, Ti40, Ti45, Ti50, Ti55

IR FlexCam Thermal Imager

Getting Started Guide

PN 2808417

January 2007, Rev.2, 5/09

© 2007, 2009 Fluke Corporation. All rights reserved. Printed in USA.

All product names are trademarks of their respective companies.

Product specifications are subject to change without notice.

LIMITED WARRANTY AND LIMITATION OF LIABILITY

Each Fluke product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is two years and begins on the date of shipment. Parts, product repairs, and services are warranted for 90 days. This warranty extends only to the original buyer or end-user customer of a Fluke authorized reseller, and does not apply to fuses, disposable batteries, or to any product which, in Fluke's opinion, has been misused, altered, neglected, contaminated, or damaged by accident or abnormal conditions of operation or handling. Fluke warrants that software will operate substantially in accordance with its functional specifications for 90 days and that it has been properly recorded on non-defective media. Fluke does not warrant that software will be error free or operate without interruption.

Fluke authorized resellers shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of Fluke. Warranty support is available only if product is purchased through a Fluke authorized sales outlet or Buyer has paid the applicable international price. Fluke reserves the right to invoice Buyer for importation costs of repair/replacement parts when product purchased in one country is submitted for repair in another country.

Fluke's warranty obligation is limited, at Fluke's option, to refund of the purchase price, free of charge repair, or replacement of a defective product which is returned to a Fluke authorized service center within the warranty period.

To obtain warranty service, contact your nearest Fluke authorized service center to obtain return authorization information, then send the product to that service center, with a description of the difficulty, postage and insurance prepaid (FOB Destination). Fluke assumes no risk for damage in transit. Following warranty repair, the product will be returned to Buyer, transportation prepaid (FOB Destination). If Fluke determines that failure was caused by neglect, misuse, contamination, alteration, accident, or abnormal condition of operation or handling, including overvoltage failures caused by use outside the product's specified rating, or normal wear and tear of mechanical components, Fluke will provide an estimate of repair costs and obtain authorization before commencing the work. Following repair, the product will be returned to the Buyer transportation prepaid and the Buyer will be billed for the repair and return transportation charges (FOB Shipping Point).

THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. FLUKE SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY.

Since some countries or states do not allow limitation of the term of an implied warranty, or exclusion or limitation of incidental or consequential damages, the limitations and exclusions of this warranty may not apply to every buyer. If any provision of this Warranty is held invalid or unenforceable by a court or other decision-maker of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision.

Fluke Corporation
P.O. Box 9090
Everett, WA 98206-9090
U.S.A.

Fluke Europe B.V.
P.O. Box 1186
5602 BD Eindhoven
The Netherlands

11/99

To register your product online, visit <http://register.fluke.com>.

Table of Contents

Title	Page
Introduction	1
How to Contact Fluke	1
Safety Information	2
Standard Accessories	3
Charge and Insert Battery	6
Power Camera On	6
Insert Memory Card	7
Focus	7
Set Temperature Level and Span	8
Set IR-Fusion® Blend Level	9
Capturing an Image	10
SmartView Software for Your PC	11

TiR2, TiR3, TiR4, Ti40, Ti45, Ti50, Ti55

Getting Started Guide

List of Tables

Table	Title	Page
1.	Symbols	3
2.	Standard Accessories	5

TiR2, TiR3, TiR4, Ti40, Ti45, Ti50, Ti55

Getting Started Guide

List of Figures

Figure	Title	Page
1.	Standard Accessories	4
3.	Turning the Power On and Off	6
4.	Inserting a Memory Card	7
5.	Focusing the Camera	7
6.	Setting the Level and Span	8
7.	Setting the IR-Fusion [®] Blend Level.....	9
8.	Capturing an Image.....	10

TiR2, TiR3, TiR4, Ti40, Ti45, Ti50, Ti55

Getting Started Guide

IR FlexCam Thermal Imager

Introduction

Thank you for choosing the IR FlexCam[®] portable infrared camera (hereafter, “Camera”).

The IR FlexCam is available in 7 models. The TiR2, Ti40 and Ti45 cameras use a detector with 160 x 120 resolution. The TiR3, TiR4, Ti50 and Ti55 cameras use a detector with 320 x 240 resolution. The visible light camera module (VLCM) and IR-Fusion[®] functions make it easier than ever to manage and analyze images captured with this system and improve reporting abilities. The unique control image and IR-Fusion[®] technology enables you to combine visible light images—like a normal digital camera—and infrared images together to create a single image with greatly enhanced detail. This is especially helpful in low contrast scenes where the temperature differential is minimal and the infrared image appears to be all one color.

This Guide describes the basic functions of the camera. Refer to the CD for complete user information.

How to Contact Fluke

To contact Fluke, call one of the following telephone numbers:

1-800-760-4523 in USA

1-800-363-5853 in Canada

+31-402-675-200 in Europe

+81-3-3434-0181 in Japan

+65-738-5655 in Singapore

+1-425-446-6888 from anywhere in the world

Or, visit Fluke's website at www.fluke.com.

To register your product, visit <http://register.fluke.com>.

To view, print, or download the latest manual supplement, visit <http://us.fluke.com/usen/support/manuals>.

Safety Information

Use your Camera only as specified in this manual.

A **⚠ Warning** identifies hazardous conditions and actions that could cause bodily harm or death.

A **⚠ Caution** identifies conditions and actions that could damage the camera or cause permanent loss of data.

⚠ Caution

- **To avoid damaging your Camera, treat it with care as you would any type of precision equipment.**
- **Your infrared camera is a precision instrument that uses a sensitive infrared (IR) detector. Pointing your camera towards highly-intense energy sources—including devices that emit laser radiation and reflections from these devices—may adversely affect camera accuracy and may harm or permanently damage your camera's IR detector.**
- **Your camera requires three minutes to warm up before accurate measurements are available.**

⚠⚠ Warning

- **Your camera contains a Class 2 laser pointer. See diagram in Appendix B of the Users Manual for laser aperture location.**
- **To avoid eye damage, do not point laser directly at eye or indirectly off reflective surfaces.**
- **Use of controls or adjustments or performance or procedures other than those specified herein may result in hazardous laser radiation exposure.**
- **Do not use camera in a manner not specified in this manual or the protection provided by the equipment may be impaired.**

Table 1. Symbols

Symbol	Description	Symbol	Description
	Class 2 laser pointer	Hg	Contains Mercury. Dispose Properly.
	On Off Symbol		Important information. See manual.
	Conforms to requirements of European Union and European Free Trade Association.		
	Do not dispose of this product as unsorted municipal waste. Go to Fluke's website for recycling information.		
	This camera contains a lithium battery. Do not mix with the solid waste stream. Spent batteries should be disposed of by a qualified recycler or hazardous materials handler per local regulations. Contact your authorized Fluke Service Center for recycling information.		

Standard Accessories

If any of the standard accessories shown in Figure 1 and described in Table 2 are missing or damaged, contact a Fluke customer service representative. The *Users Manual* is available on the CD-ROM that ships with your camera.

TiR2, TiR3, TiR4, Ti40, Ti45, Ti50, Ti55
Getting Started Guide

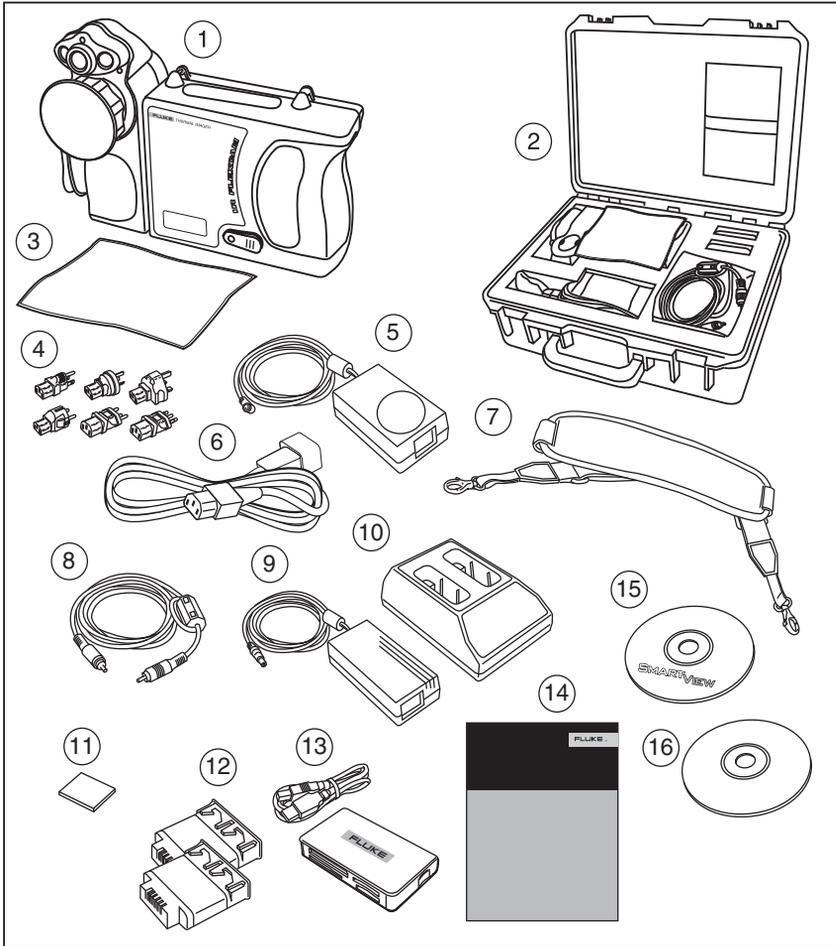


Figure 1. Standard Accessories

eii001.eps

Table 2. Standard Accessories

Number	Description
①	Portable Infrared Camera with Lens Cap
②	Camera Carrying Case
③	LCD Cleaning Cloth
④	AC adapters (2) or equivalent
⑤	Auxiliary AC Power Supply (TiR2, TiR4, Ti45 and Ti55 only) or equivalent
⑥	AC Patch Cord or equivalent
⑦	Neck Strap
⑧	Video Cable
⑨	AC Power Supply
⑩	Battery Charger
⑪	Compact Flash Memory Card
⑫	Two Rechargeable Batteries
⑬	Multifunction Memory Card Reader with USB Adapter
⑭	Getting Started Guide
⑮	SmartView® Software CD (includes SmartView Users Manual)
⑯	FlexCam Documentation CD (Users Manuals)

Charge and Insert Battery

Charge the batteries for 3 hours before use. Use only the rechargeable batteries and charger supplied with your camera. A battery is fully charged when the green LED light on the charger remains solid. To begin using, insert a charged battery into the bottom of the Camera as shown in Figure 2.

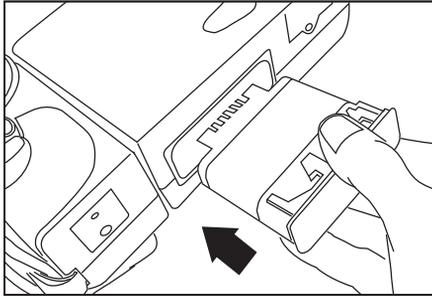


Figure 2. Charge and Insert the Battery

eii002.eps

Power Camera On

With a charged battery inserted, press  as shown in Figure 3.  lights up green, and the start-up screen appears after approximately 10 seconds. IR Images will appear in about 30 seconds and calibrated temperature reading will appear in about 3 minutes.

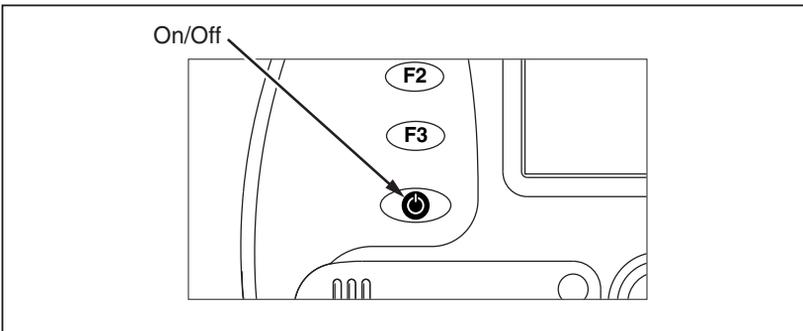


Figure 3. Turning the Power On and Off

eii003.eps

Insert Memory Card

1. Pull cover up and rotate as shown in Figure 4.
2. Insert the Compact Flash memory card into the slot with the card's connection end pointed at the camera and the label with MB size facing the back of the camera.
3. Look for the "Compact Flash Card inserted" message on the camera display screen.
4. Close the cover.

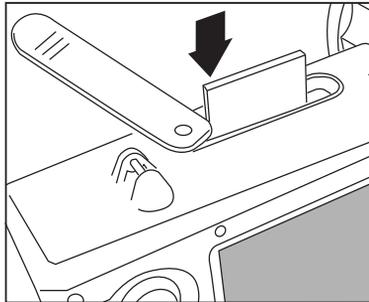


Figure 4. Inserting a Memory Card

eii004.eps

Focus

Remove the lens cap, point the lens at the target, and manually rotate the lens with your finger, as shown in Figure 5, until the image is in focus.

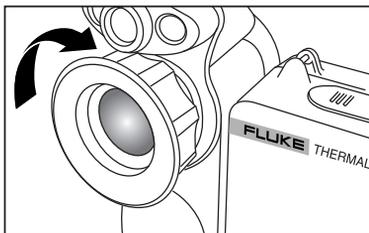


Figure 5. Focusing the Camera

eii005.eps

Set Temperature Level and Span

1. Press  as shown in Figure 6 to automatically set the camera's temperature level and span.
2. Press  again as needed to properly scale the image.

Note

Repeat Focus and Set Temperature Level and Span as needed to obtain desired image quality.

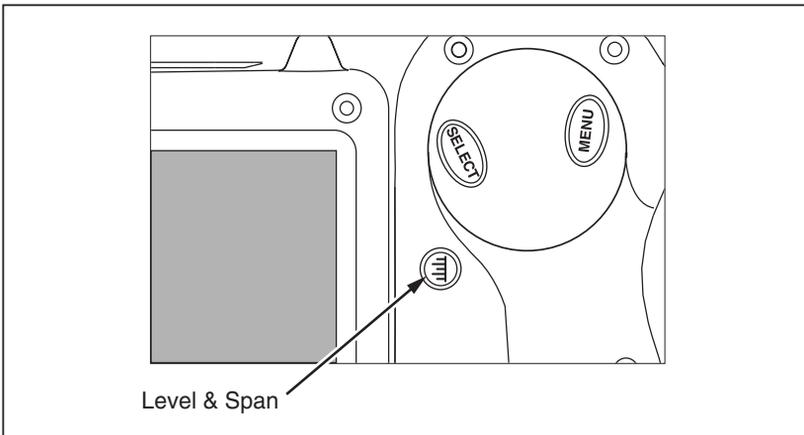


Figure 6. Setting the Level and Span

eii006.eps

Set IR-Fusion® Blend Level

Note

Fusion blending is disabled with optional 10 and 54-mm lenses.

Set the IR-Fusion® blend level with the following steps:

1. Press and hold  until the IR-Fusion® blend level control box appears on the display screen.
2. While continuing to press , use the mouse controller shown in Figure 7 to slide the IR-Fusion® blend level bar in the control box to the desired setting.
3. Tap the trigger button as shown in Figure 8 to retain settings.

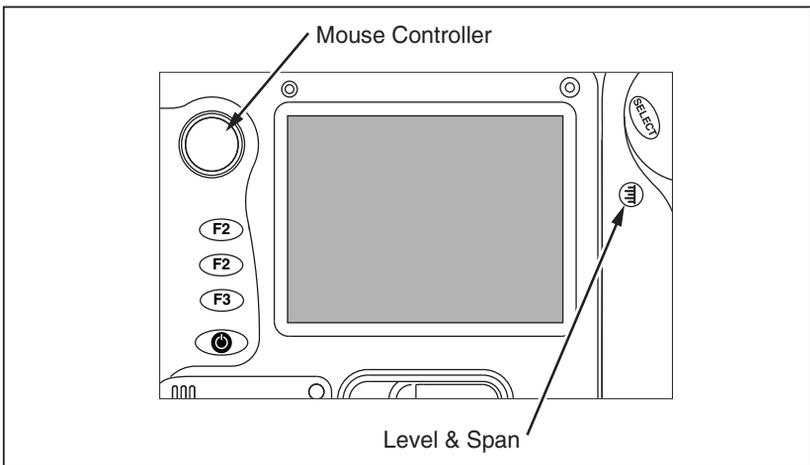


Figure 7. Setting the IR-Fusion® Blend Level

ei007.eps

Capturing an Image

1. Tap the trigger button once to pause the live image.
2. Review the image and camera settings.
3. Press and hold the trigger button for 2 seconds to capture (save) the image. The image file name appears in the upper left-hand corner of the display screen indicating the image is saved on the memory card.

Note

The memory card must be inserted into the camera to save and store images.

4. Tap the trigger button to return to scan target mode.

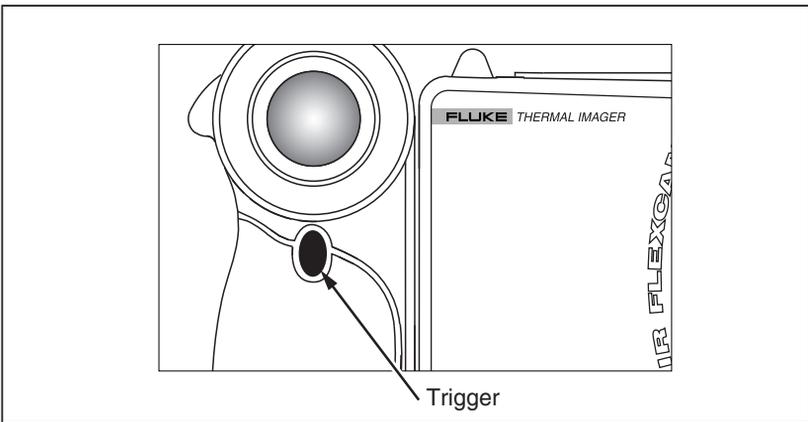


Figure 8. Capturing an Image

eii008.eps

SmartView Software for Your PC

Your system includes a CD containing SmartView[®] software that you install on your personal computer. SmartView, together with your Camera, enables you to:

- Transfer thermographic images to a computer and efficiently manage them
- Optimize and analyze your infrared and visible light control images
- Create and print detailed, professional reports containing important image data

SmartView image analysis software is compatible with any personal computer running Microsoft Windows 2000/XP/Vista (32 bit). This software is provided on the SmartView CD-ROM disk included with your camera.

To install SmartView software on your computer:

1. Start your computer and close any open applications.
2. Insert the CD-ROM disk containing the SmartView software in the CD-ROM drive.

If the SmartView CD does not start automatically, use Windows explorer to locate the file named "setup.exe" on the CD-ROM. Start the CD by double-clicking the "setup.exe" file.

3. Follow the on-screen instructions to complete the installation.

TiR2, TiR3, TiR4, Ti40, Ti45, Ti50, Ti55

Getting Started Guide
