Fire Service Thermal Imagers

YOUR NEW FLIR

C&S Specialty, Inc

Authorized New England Distributor

Ph.:800-321-0325

Email: info@csspecialty.com

Thank you for purchasing a FLIR thermal Imager from C&S Specialty

FLIR Systems Inc.

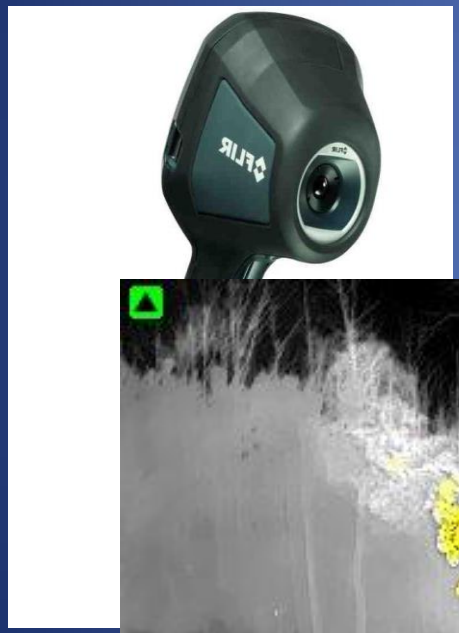
World's leading infrared company

- 2013 Revenue: $1.5 billion
- Employees: 2,500+ Worldwide
- Market Shares:
  - #1 Infrared Detector Camera Cores
  - #1 Thermography Testing Equipment
  - #1 Do-it-yourself Security Equipment

  - Service and customer care facility in Nashua NH

K-Series

Fire Service TIC Lineup



K2

160 X 120 Resolution

K-33 & K45

240 x 180 Resolution w/FSX

K53 & K55

320 x 240 Resolution w/FSX and Onboard Image & Video Capture

K65

320 x 240 Resolution w/FSX and Onboard Image & Video Capture

NFPA Certified

Aerial kits are also available

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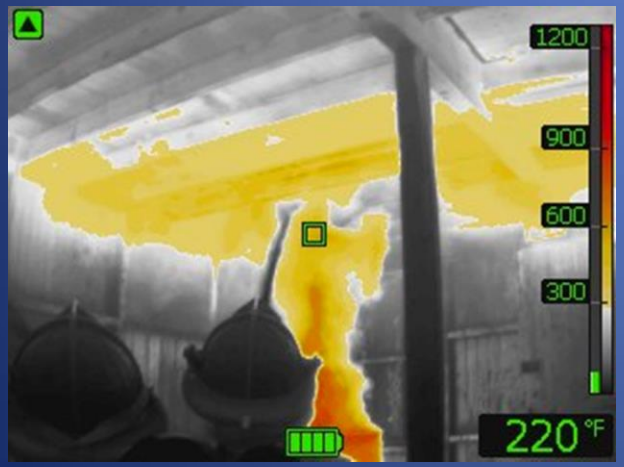
A SITUATIONAL ASSESMENT TOOL



- Size Up
- Fire Attack
- Search & Rescue (SAR)
- Situational Awareness
- Overhaul Operations
- Hot Spot Identification
- Forensics Post-Fire
- Wildland Firefighting
- Haz Mat
- Rehab

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Specifications

- **Automatic Imaging Enhancement: FSX – fixed scene enhancement**
- **Detector: Uncooled Vanadium Oxide (VOx) Micro bolometer**
- **Image refresh rate - 60Hz**
- **4” LCD display (K 33,45,53,55 & 65)**
- **Field of View: 51°x 38° (9mm lens)**
- **Operating temp. range: -4°F to 185°F (*500°F for 5 minutes)***
- **Object temp range: -4°F to 1202°F - Auto Ranging (no white out!)**
- **IP67 Rated – dust proof and water immersion safe up to 1m (3 ft.)**
- **Li-Ion Batteries: 4 hours of continuous use operating time**
- **Interface: USB Mini-B for Data transfer**

Other Key Features

- High Resolution Detector
- Quick Start from Sleep mode
  - Camera does not automatically reset to TI basic when in sleep mode
- 2X E-Zoom – Momentary function (K45,55&65)
- Onboard Image and Video capture(K45,55&65)
-
  - 200 jpegs/MPEG
  - Click trigger for image capture
  - Click and hold for video capture
- 5 different, intuitive operating modes
- "FLIR Tools" interface and setup software
  - Warranty: 2 years battery , 5 years camera + 10 years detector
    - ***You must register the camera activate this warranty***

What's in the box?

- FLIR K-Series Thermal Camera
- Battery (2x) - 4 hr operation each
- Power supply
- Battery charger
- *Retractable lanyard
- Strap lanyard
- Tripod adapter
- User manual (CD)
- Hard Case

* **Must be ordered separately with K2 & K65**

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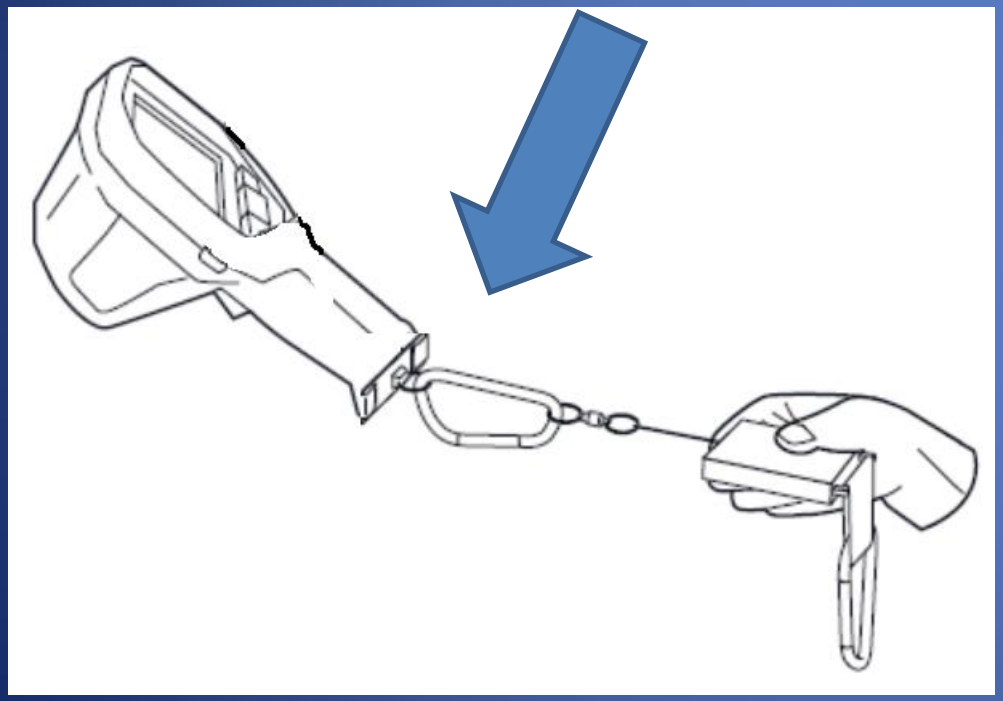
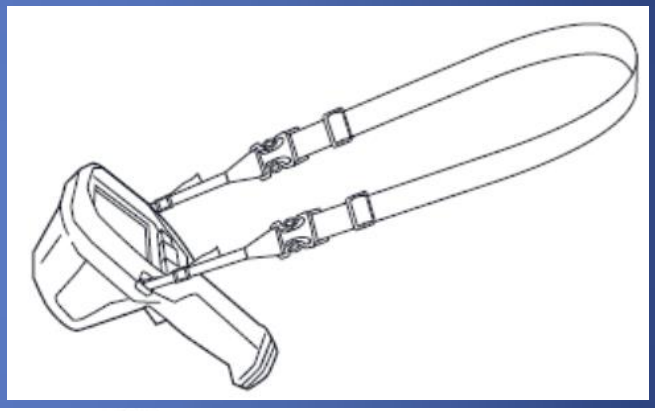
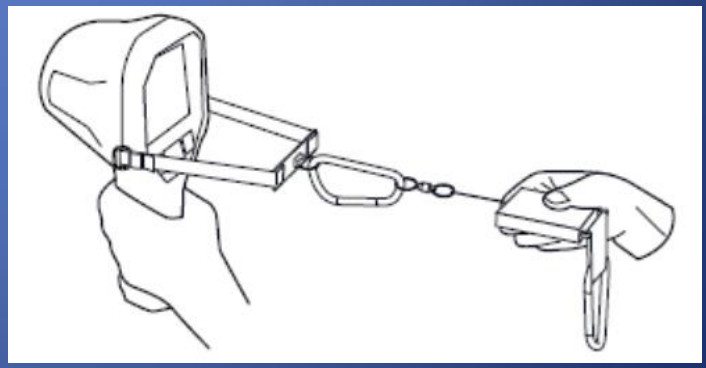
Lanyard and Neck Strap Choices

Most customers prefer to use a retraceable lanyard attached at the end of the handle







Truck Mount Charger Optional

Hardwired into Apparatus 12V Power

Charging Indicators

Spare Charging Bay

Easy to install two Wire 12V
May be installed in any position

$699.00

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Power Button

- Start up time from full OFF: < 25 seconds
- Start up time from “Sleep”: < 4 seconds

Power Button

Press & Release - ON

<u>To place K-Series in “Sleep” Mode</u>

Press & Hold Power until for 3 sec (display will shut off)

<u>To turn K-Series completely OFF</u>

Press & Hold Power for 10 sec / remove and change battery when done with camera or simply remove/change the battery . Camera resets NFPA Basic mode

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Powering Down

Push and hold the power momentarily = sleep mode

Push and hold the power button for 10 seconds = full power down

Change the battery after use

This ensures the camera is reset Into the default TI Basic when next used

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Zoom Button

2x Zoom

(Momentary Function)
Requires you to “hold” the button down to enable Zoom – image will always return to native FOV when released.

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Mode Button K45,55 & 65

5 selectable modes

Mode button - (Rocker Function)
Scroll through imaging modes using rocker down action. Stop scrolling at the desired imaging mode and that mode will auto-activate

Scroll function is down only

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Modes K45,55 & 65

Mode 1 TI basic is the default start up mode

Ti Basic and Gray scale modes cannot be optioned out

Modes 3,4 & 5 may be deselected

from camera

From Flir Tools software via data port

Data port is also used to download media and run updates

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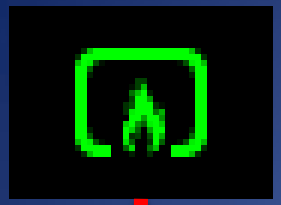


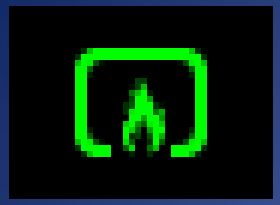
Menu Symbology

#1: TI Basic Mode

Also called “NFPA” TI Basic

- MOST WIDLEY USED MODE
- Initial Size Up
- Situational awareness analysis
- Search and rescue
- Fire Attack
- Overhaul

- **Default multi purpose mode for fire attack, search and rescue and control of the fire**
- Delivers optimum infrared image by auto-ranging between high and low sensitivity, while also maintaining safe/ consistent heat colorization of fire scene
- Colorization 300 – 1202 F°
- High Sens. Range -4°F to 300°F
- Low Sens. Range 300°F to 1202°F



Menu Symbology

#1: TI Basic Mode

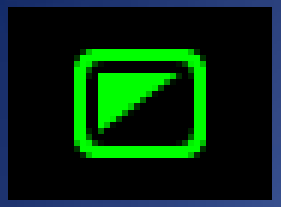
Also called “NFPA” TI Basic

- MOST WIDLEY USED MODE
- Initial Size Up
- Situational awareness analysis
- Search and rescue
- Fire Attack
- Overhaul

Colorization begins at 300 degrees F

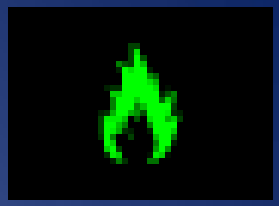
Note : Camera will not “white out” at high temperatures

On-Screen Symbology



#2: Grayscale Mode

- Multi-purpose mode similar to default mode but without colorization.
- Designed for Fire-fighters who prefer the image without heat colorization.
- Auto-Ranging (No colorization)
- Black & White Mode is also an NFPA Standard Interface mode
- High Sens. Range -4°F to 302°F
- Low Sens. Range 32°F to 1202°F

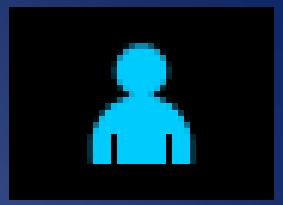


#3: Fire Mode

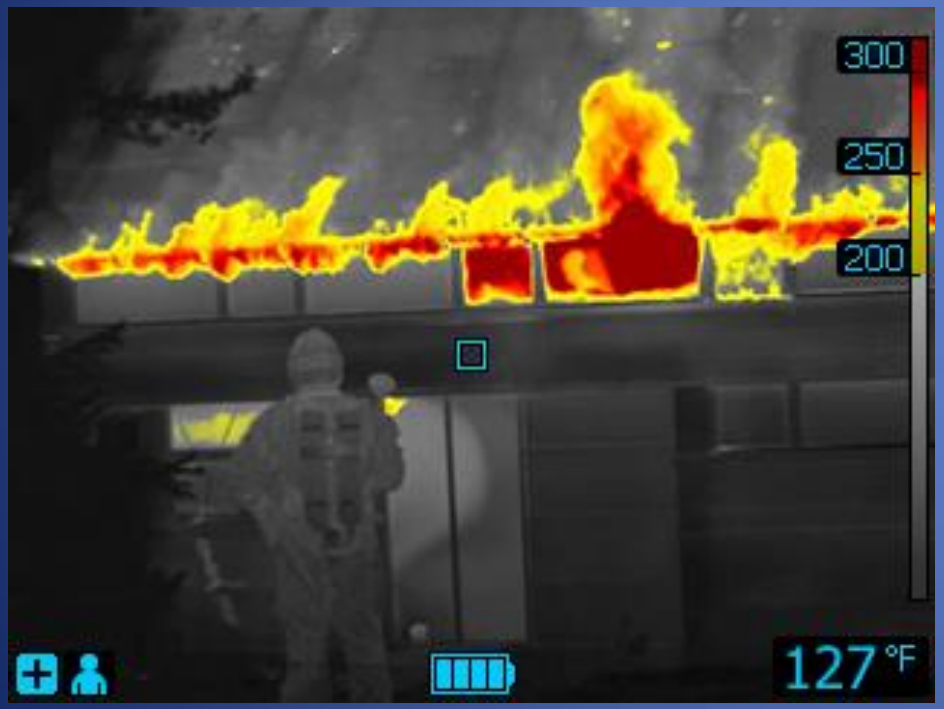
Colorization begins at 500 Deg. F

Note: On screen color is not fully transparent. The color overlay may affect background detail s

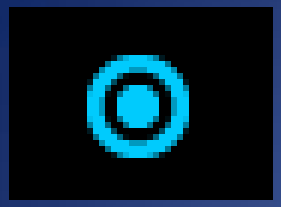
- Fire Mode is similar to NFPA Fire Mode 1 EXCEPT it has a higher temperature starting point for colorization
- Useful for fire scenes with higher background temperatures (such as structural fire scenes with a lot of open flames)
- Auto-Ranging
- Colorization from 500– 1202 F°
- High Sens. Range -4°F to 500°F
- Low Sens. Range 500°F to 1202°F



#4: SAR Mode (Search & Rescue)



- Search and Rescue mode is specifically optimized for maintaining high contrast in the infrared image.
- Valuable when searching for people in outdoor landscapes, cluttered buildings, the scene of an accident or natural disaster environments.
- No Auto-Ranging
- Colorization 200 – 302 F°
- High Sens. Range -4°F to 200°F



On-Screen Symbology

#5: Heat Detection Mode

- Heat Detection mode is optimized for “hotspots” searches during overhaul to ensure there is no hidden fire remaining.
- Also useful for forensics and locating thermal patterns – i.e. signs of people that were seated in a car seats to ensure everyone is accounted for after an accident, locating people in water and in vast landscapes, etc…
- Colorization - Gray scale palette with colorization of ~20% of the hottest areas of the scene
- No Auto-Ranging
- High Sens. Range -4°F to 302°F

Image/Video Capture

- Quick press: saves image internal memory. Up to 200 jpegs may be stored, access via USB
- Press and hold the trigger button for longer than 2 seconds and video capture is activated. Release and video is stored onboard. (not all products have this feature)
- **Viewable on scene**
- Easily download via USB Cord
- Image and Video features can be deselected
- via Flir tools

Menu Access

<u>To Access the Menu</u>
Press & Hold Mode Button, then press Zoom Button

- **Review pics and video on scene**

Mode Select
Press 1st & Hold

Zoom
Press 2nd

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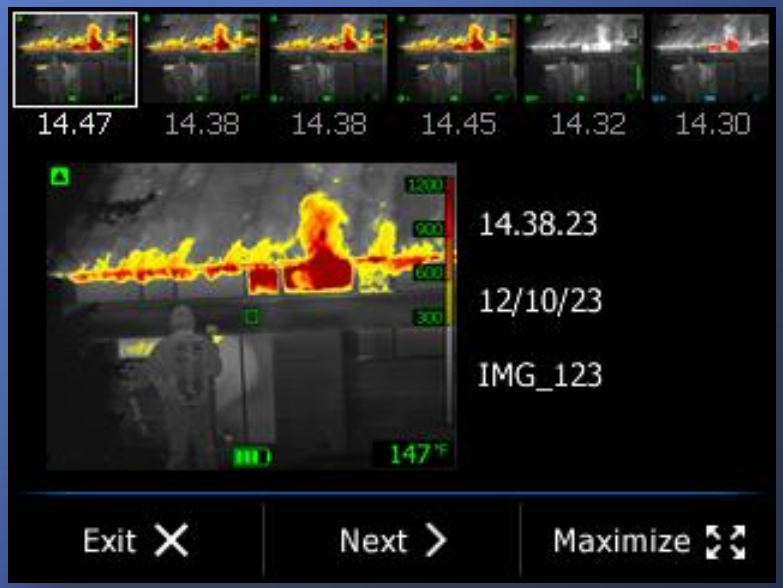
Image/Video Capture

- **Quick press:** saves image to internal memory. Up to 200 jpegs may be stored, access via USB
- Press and hold the trigger button for longer than 2 seconds and video capture is activated. Release and video is stored onboard

- **Review:** Scroll through stored jpeg images via the camera menu or use FLIR Tools software at the station



K Series

- Battery – Lithium Ion **4 hr. operation** - 45-60 min charge
- USB – Provides an easy way to update firmware
    - Update regularly on a schedule like monthly or bi monthly
- USB - Easy Download of photos and videos
- Clean- Mild soap and water

FLIR Tools Software

- Freeware – On CD and/or downloadable from FLIR.com
- Provides an easy way to update firmware for your camera when available
- Customize the interface and boot screen on your camera

K Series
Real World Track Record

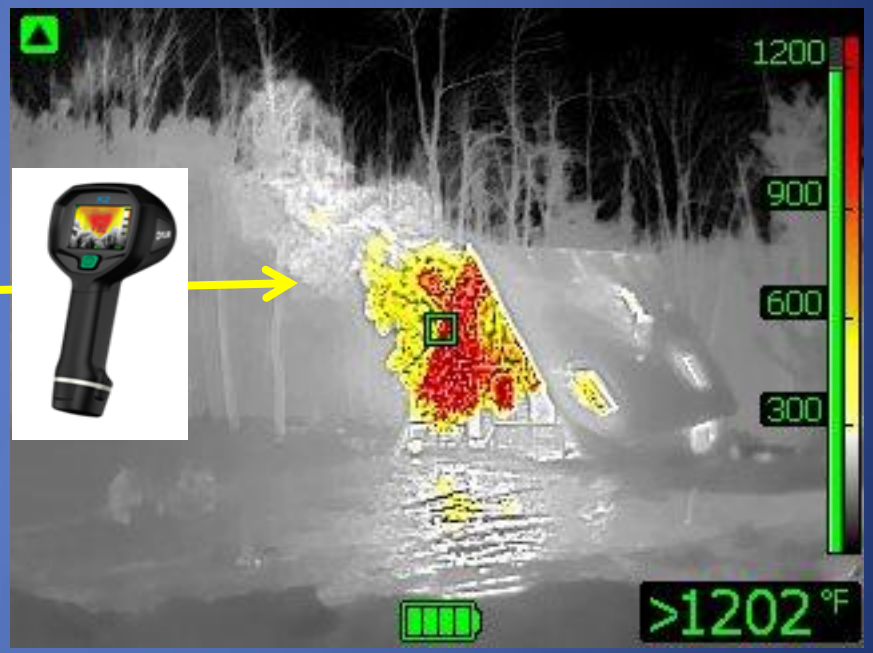
- Highly Reliable Proven performance with minimal service issues.
- Exceptional customer support and product backing delivered by FLIR from Nashua NH

Training is the key to a functional situational assessment

- It is important that you understand how to use your FLIR and how to understand the image
- Learn how to scan deliberately looking forward, to each side, at the floor, overhead and behind
- A TIC does not replace basic firefighting skills. It is a tool that enhances them
- The more you use your new K series the more value it will have. Begin the moment you exit the apparatus.

What do you see?
Situational Awareness

- Visual



- IR

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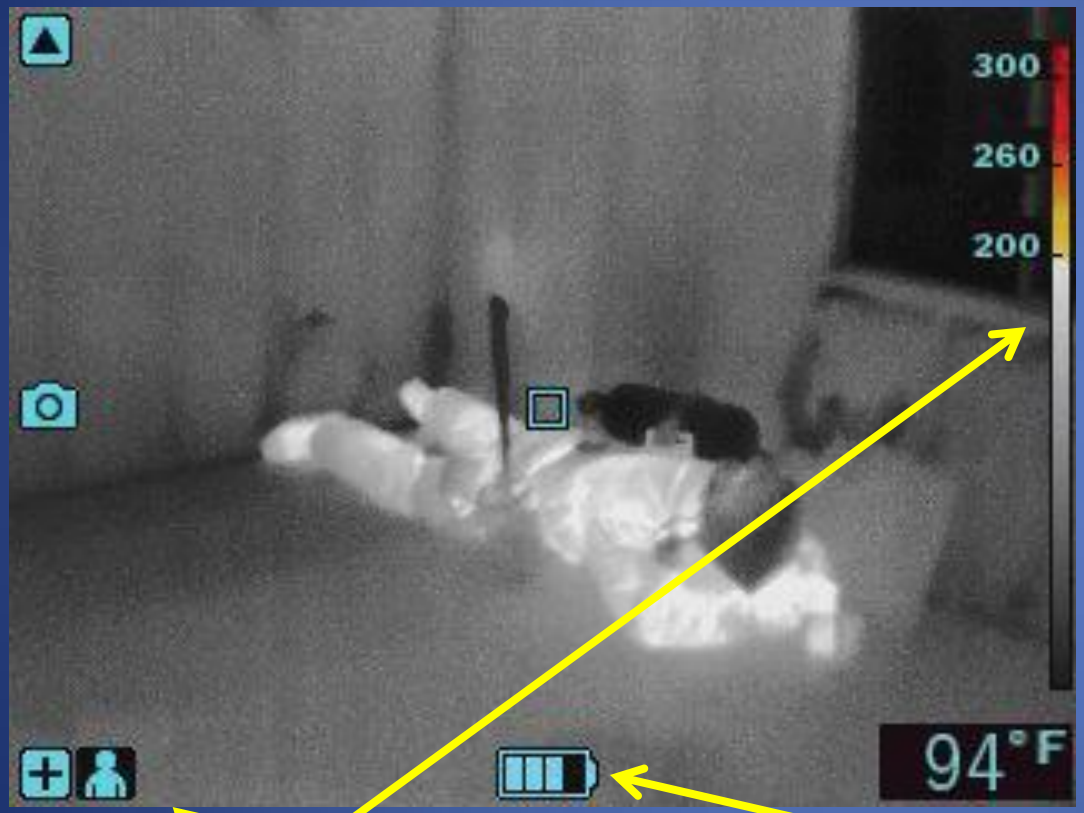
What can you see?



Is this a firefighter ?

Why is the SCBA cyl. dark?

On air or not?

Has the firefighter been exposed to heat?

What are the room conditions ?

What mode is the camera in ?

What is the battery status ?

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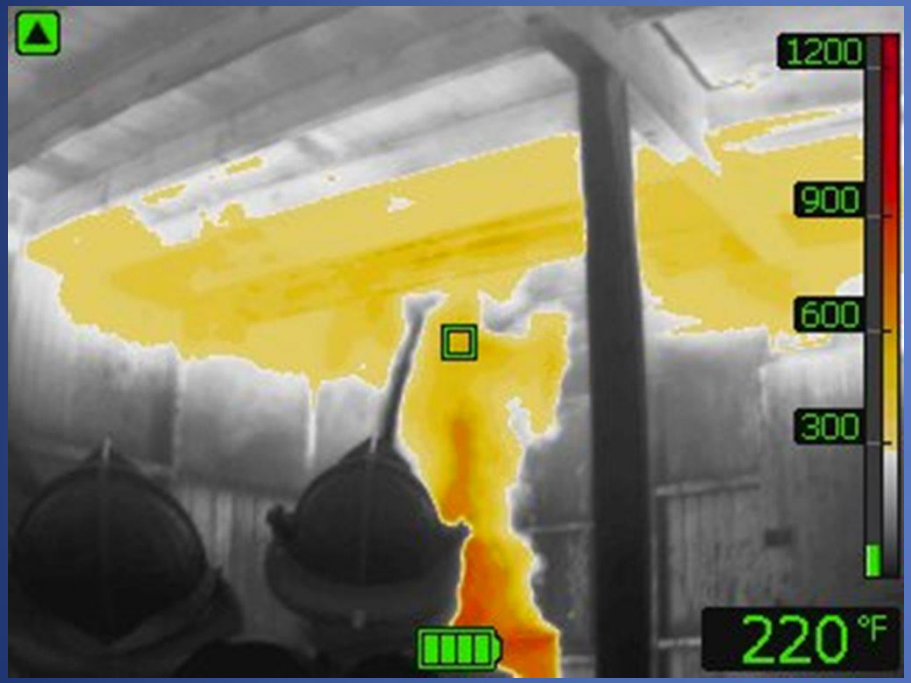
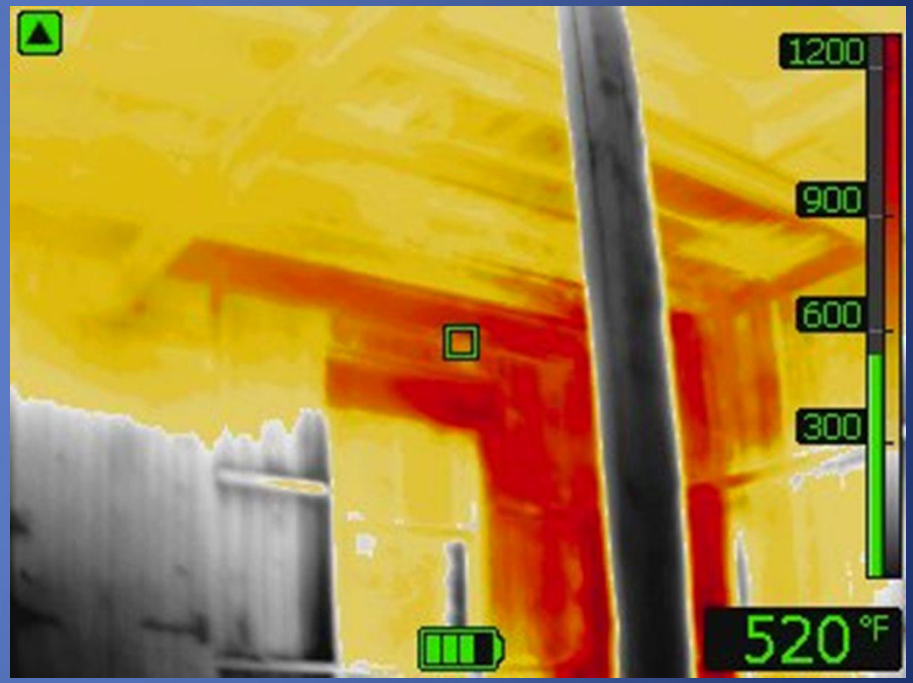
What can you see ?





Hose steam placement
Direction of heat travel
Buildup of heat in the room

Features of the room
Location of the fire

Thank You

This presentation should be considered an introductory overview for your FLIR K series thermal imager

It is not a formal TIC training program