

Infrared Training Course Details

No.	Topics Covered
1	Introduction
2	IR Camera Introduction
3	Basic Thermal Science
4	Basic Heat Transfer
5	The Electromagnetic Spectrum
6	Radiation Energy Exchange
7	Thermal Image Interpretation
8	Thermal Image Analysis Technique



Infrared Course Benefits

- Introduction to thermal imaging systems for electrical inspection applications
- Collect quality data, and account for effects such as distance and emissivity using infrared cameras.
- Interpret thermographs and make informed decisions using heat transfer concepts to analyze images.
- Learn how to report your findings with infrared analysis and IR reporting software.
- Avoid costly mistakes - distinguish between hot spots and reflections and direct vs indirect readings
- Acquire good electrical and mechanical inspection safety procedures.
- A wide variety of thermography applications are covered in these courses.

Who Should Attend

Electrical Engineers, Mechanical Engineers, Highly qualified Foremen and Technicians.

Course Objectives

Module 1

- Know how to define infrared thermography.
- Understand the subtopics that make up infrared thermography.
- Understand the importance of temperature as a control parameter.
- Understand what makes thermography unique as useful.
- Be able to recall some examples of applications for infrared thermography.

Module 2

- Insert the battery and memory unit
- Switch the camera on and off





- Focus automatically and manually
- Know and operate the menu system
- Auto adjust the image
- Manually adjust the image (level\Span)
- Use measurement function
- Preview (freeze) and save an IR image

Module 3

- Practice how to use the basic functions of your camera

Module 4

- Know the difference between heat and temperature.
- Understand the difference between absolute and relative temperature scale.
- Know how to convert temperature between different scales.
- Understand the concept of conservation of energy.
- Understand the concept of direction of heat flow.

Module 5

- Understand heat transfer
 - Conduction
 - Understand what four factors affect conduction, and how they do that.
 - Convection
 - Natural versus forced convection
 - Radiation
 - Emission
 - Absorption



Module 6

- Know how different types of radiation are classified
 - Different wave lengths
 - Know how visible light relates to infrared
- Understand what Mid waves and long waves mean
 - Know the approximate wavelength of the two
 - Understand the reason why we have MW and LW

Module 7

- Understand incident and exitant radiation
 - Know the components of each
 - Understand the relationships
 - Understand how properties of an object will affect incident and exitant radiation
- Know what a black body is
 - What its properties are.

Module 8

- Understand what the infrared image represents
- Know the meaning of the term “ apparent temperature”
- Understand how high and low emissivity can change the way the image appears