

ThermaCAM™ P60

The professional thermographer's choice

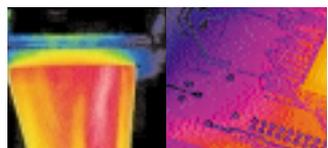


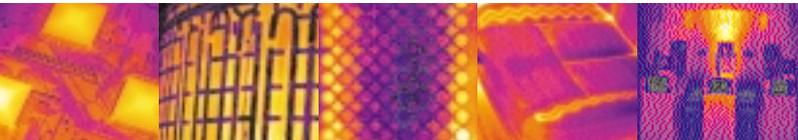
The new standard for
infrared camera systems





ThermaCAM™ P60





A tool that's ahead of its time. Designed by FLIR Systems... and its customers.

Over the last years, more and more predictive maintenance professionals have become aware of the advantages of using infrared cameras in their predictive maintenance programs. As a result, the market for infrared has grown considerably.

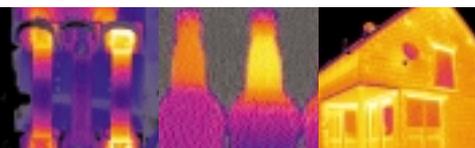
As the world leader in infrared camera systems, FLIR Systems has designed and produced the ultimate infrared camera, based on the needs and wishes expressed by its customers.

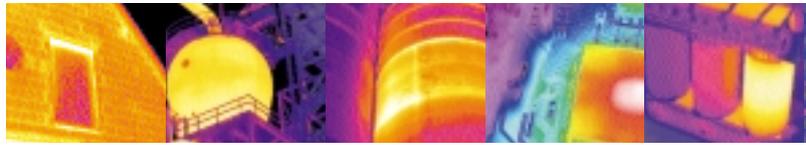
The result is FLIR Systems' ThermaCAM™ P60: the perfect choice for maintenance professionals who realize that infrared imaging and measurement can save their companies millions each year. The P60 features everything you need to make well-informed maintenance decisions:

- outstanding image quality
- precision non-contact temperature measurement
- visual and thermal imaging
- text and voice annotation
- auto-focus
- ergonomic, lightweight and portable
- wireless communication
- high speed image download
- fully radiometric JPEG storage
- software for professional inspection reporting

The ThermaCAM P60 is a powerful infrared inspection system, ergonomically designed to maximize the efficiency and productivity of the professional thermographer.

Find out about what you can do with the ThermaCAM P60, and discover that this is the new standard for infrared cameras.





Thermal and visual images Laser pointer One camera

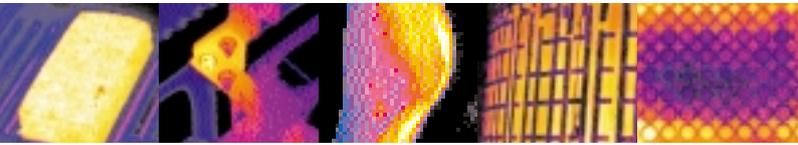
The ThermaCAM™ P60 takes high-definition 14-bit thermal images. At the same time, it records visual images with its built-in digital camera.

FLIR Systems has recognized the importance of having a visual image as a reference against the thermal image. Engineers who detect problems with the infrared camera are often not the same people as those who have to repair the defects. The ability to view the environment in which a problem is located on a visual image makes the job a lot easier. With the ThermaCAM P60, all this is done automatically. There is no need to carry a separate digital camera around.

The integrated Laser LocatIR™, activated at the touch of a button, helps you to safely and quickly associate a hot spot shown on the IR image with the problem area on the physical target.



Laser LocatIR™



Ergonomic and rugged design

The ThermaCAM™ P60 has been designed in cooperation with maintenance professionals who use an infrared camera several hours a day. This has led to a system that is not only very user-friendly but also extremely light and easy to carry. Including battery and LCD display, the ThermaCAM P60 weighs less than 2 kg, making it the lightest full-featured infrared camera on the market.

Designed for use in harsh environments, the ThermaCAM P60 is built to withstand shocks (25G) and vibration (2G). It is dust- and watersplash-proof and carries the industrial IP 54 rating.

Flexible solution

No matter what the situation, the ThermaCAM P60 is always easy to handle. Look at the object through the high-resolution TFT color viewfinder, or carry the camera by its handle while viewing the infrared image on the LCD display. The camera control buttons are always right underneath your fingers.

The LCD display, with all necessary remote control buttons, is detachable. It allows you to view images while the camera is positioned in hard-to-reach areas.



Extraordinary image quality

The state-of-the-art, fourth generation uncooled microbolometer allows you to see temperature differences as small as 0.08°C. It produces outstanding noise-free, crisp high-resolution images (320 x 240 pixels).

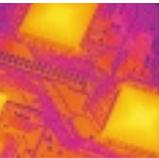


Intelligent battery system

The battery compartment hides a Li-Ion battery. This type of battery gives the ThermoCAM™ P60 over 2 hours of continuous operation with the LCD and viewfinder running at the same time. The battery can be charged while still in the camera, in a 2-bay battery charger or in your car on the way to the next job.

The camera features smart power management functions such as a configurable sleep mode, which increases battery life considerably.





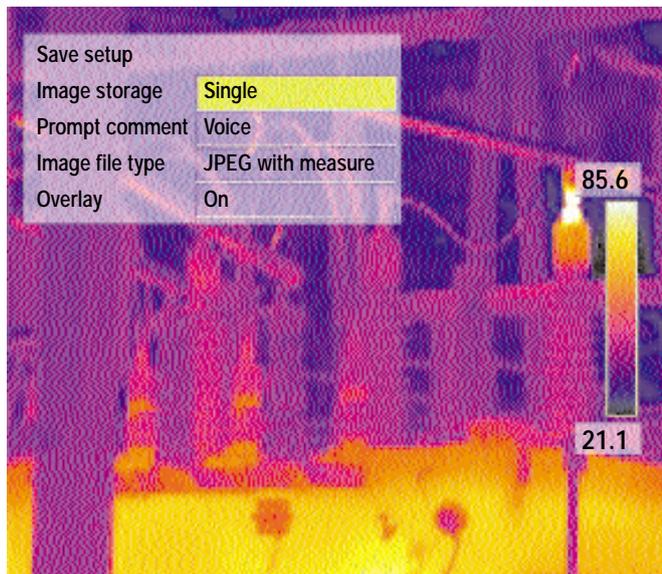
1. Easy operation

Conveniently located buttons and a joystick, control all the features of the camera and allow point-and-shoot operation. Functions like autofocus and freezing and storing images, are just a button away.

The laser pointer can be activated by a button underneath your fingertips.

2. IRDA interface

An infrared interface allows wireless connection to your PC for fast and easy downloading of data from the camera's internal memory.



Flexible JPEG image storage

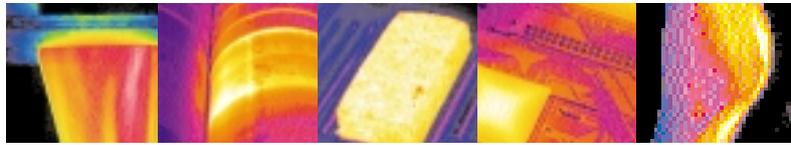
The ThermaCAM™ P60 saves images as fully radiometric JPEGs. These images, together with measurements, plus voice and/or text annotations, are stored either on a removable compact FLASH PC card (128 MB) or in the camera's FLASH memory. Images can easily be downloaded from the camera using the ThermaCAM Connect™ software which is supplied as standard.



Intuitive user interface

Control the menus inside the camera with the joystick just as you control your PC with the mouse.

Moving crosshairs, calculating temperature differences, isotherms, analyzing line profiles... you can activate all these functions easily.



ThermaCAM™ P60: the new standard for infrared cameras

1. LCD display with remote control

Detachable LCD display with user-friendly controls. Includes an innovative, durable joystick and direct-access fingertip buttons.

2. Viewfinder

The ThermaCAM P60 incorporates a high-resolution TFT color viewfinder. Ideal for outdoor use or when the LCD display is not being used.

3. Direct access buttons

For increased flexibility, the operator can program four buttons located on the side of the ThermaCAM P60. Change color palettes, emissivity settings or temperature ranges. Activate analysis tools such as spots, areas, color alarms... all at the touch of just one button.

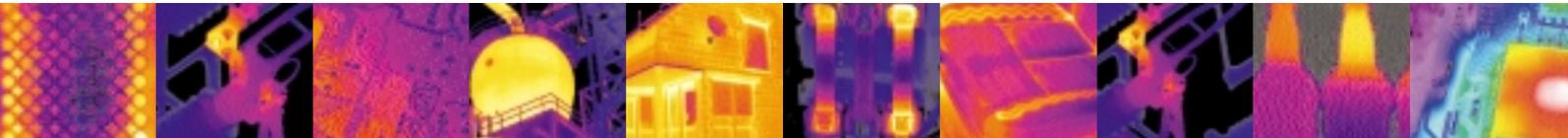
4. LCD data panel

An LCD screen gives you continuous information about the status of specific camera functions. It provides you with information on battery usage, storage capacity, communication status and more.

6. Laser activator

A conveniently placed button activates the Laser LocatIR™ laser pointer.





6. Open interfaces

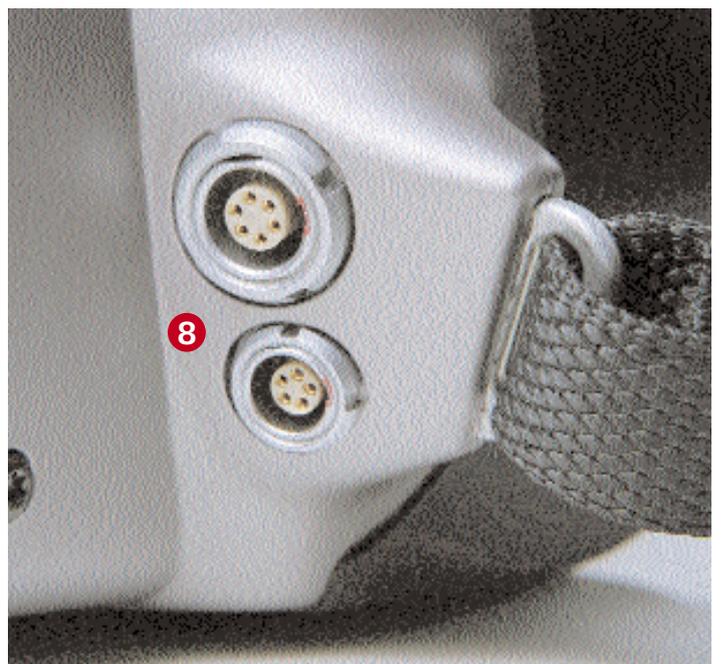
Fast access to composite and S-video connections.
Direct connection to charge the battery inside the camera.

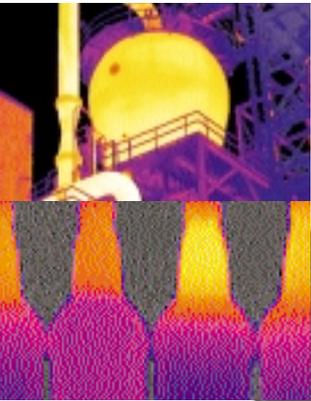
7. Dual storage possibility

JPEG images are stored on removable multimedia FLASH cards or in the camera's internal memory.

8. Easy connectivity

USB and RS-232 connections allow fast downloading of full radiometric 14-bit JPEG images. A headset can be connected for voice annotations.





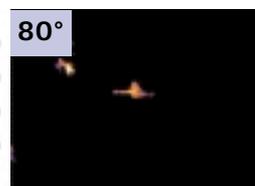
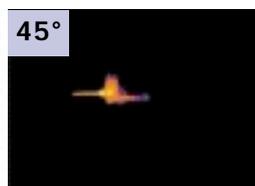
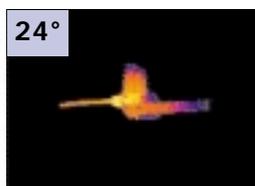
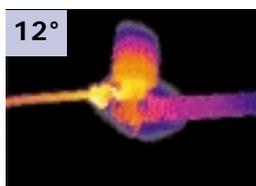
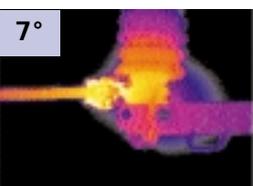
ThermaCAM™ P60: a tool that is adaptable to every situation

The ThermaCAM P60 is designed with a built-in 24° field-of-view lens. This standard optic is suitable for the majority of applications.

Sometimes however, you are too far away from the object to make a good measurement. In other cases you cannot get far enough away from the object to capture it in one image. Using another lens can solve these problems.

The ThermaCAM P60 can be used with a complete series of accessory lenses including close-up, wide-angle, telescopic and microscopic lenses to suit the most demanding applications.

Apart from lenses, a complete series of accessories is available, including extra battery chargers, extension cables, memory cards and many more.





Automated report generation in a familiar environment

Full radiometric images captured by the ThermoCAM™ P60 can easily be downloaded and integrated in the new ThermoCAM Reporter™ software.

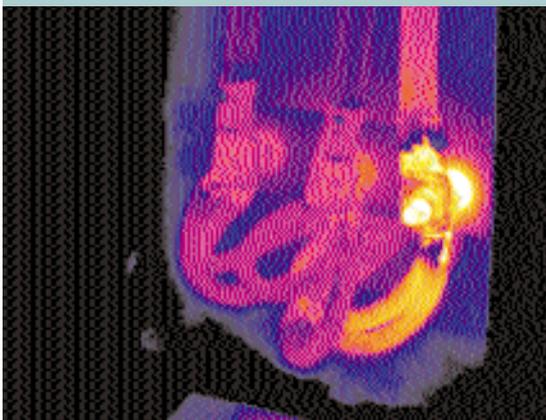
This easy-to-use Windows-based software integrates powerful image analysis and report generation functions for fast, accurate evaluation of infrared inspection results.

ThermoCAM Reporter allows you to create all your reports in a familiar software environment. From now on, you can not only make templates for infrared inspection reports in Microsoft Word, but you can also analyze your infrared images within the same program. An extra toolbar on your screen gives you instant access to specific functions for detailed analysis in a familiar environment.

Since all images are in JPEG format and all your reports in Word format, you can easily share them with your colleagues or customers. Anyone can open and read your files, with no need to possess ThermoCAM Reporter or to use special viewing software.



See it



Measure it

ThermoCAM Reporter 2002.doc - Microsoft Word

File Edit View Insert Format Tools Table ThermoCAM Window Help

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FLIR SYSTEMS Infrared Inspection Report A102

Location: AX Factory	Section: Boiler 2	Equipment: Connection box A3
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Cable terminal, boiler 2

Check and replace

Label	Value
Sp 1: Temperature	111.50 °C
Sp 2: Temperature	29.44 °C

Object Parameter	Value
Emisivity	0.90
Ambient Temperature	21.00 °C

IR Test Content	Value
Series	Boiler 2
Equipment	Conn. Box A3
Additional information	
Fault	
Recommendation	Replace cable

Report it

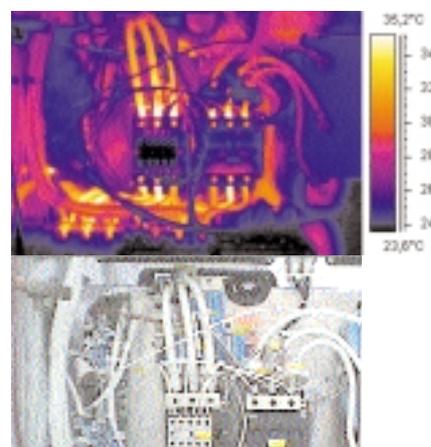
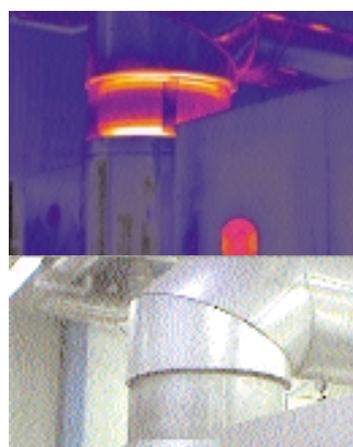
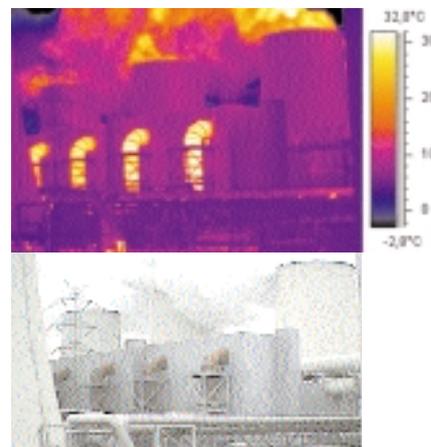
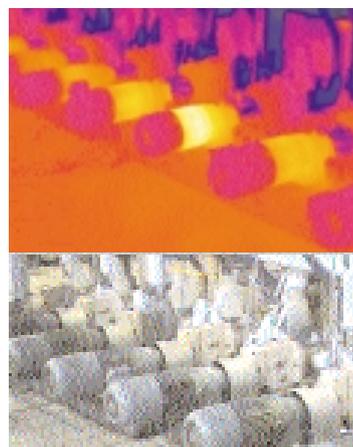
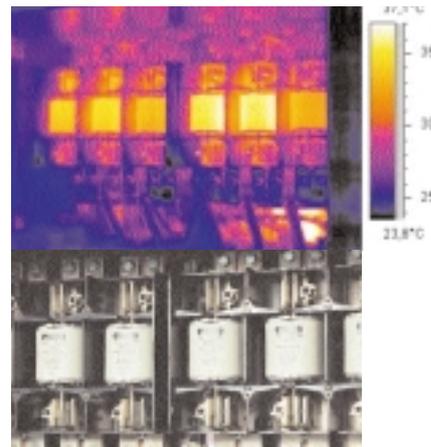
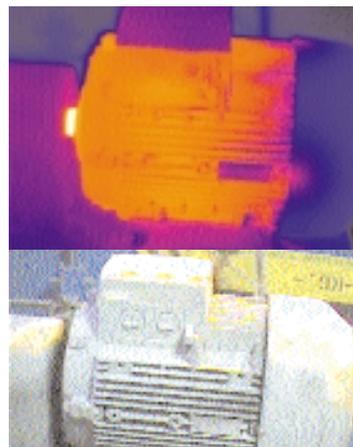
OMADA



ThermaCAM™ P60, the perfect tool for EVERY situation

Temperature range -40°C to $+2,000^{\circ}\text{C}$

Thermal sensitivity 0.08°C





TECHNICAL SPECIFICATIONS

ThermaCAM™ P60 includes:

- IR camera
- Visual camera
- Laser LocatIR™
- Remote control with LCD display
- Carrying case
- Lens cap, shoulder strap, hand strap
- Manual
- Batteries (2)
- Power supply including cable
- Battery charger
- Head set
- Video cable RCA-plug
- USB-cable
- S-video cable
- FLASH Card
- ThermaCAM Connect™ software

IMAGING PERFORMANCE	
Thermal:	
Field of view/min focus distance	24°x18° /0.3 m
Spatial resolution (IFOV)	1.3 mrad
Thermal sensitivity	0.08°C at 30°C
Image frequency	50/60 Hz non-interlaced
Focus	Automatic or manual
Electronic zoom function	2,4,8 interpolating
Detector type	Focal Plane Array (FPA), uncooled microbolometer 320 x 240 pixels
Spectral range	7.5 to 13µm
Digital image enhancement	Normal and enhanced
Visual:	
Built-in digital video	640 x 480 pixels, full color
IMAGE PRESENTATION	
Video output	RS170 EIA/NTSC or CCIR/PAL composite video and S- video
Viewfinder	Built-in, high-resolution color LCD (TFT)
External display	4" LCD with integrated remote control
MEASUREMENT	
Temperature range	-40°C to +120°C, (-40°F to +248°F), Range1 0°C to +500°C, (+32°F to +932°F), Range 2 Up to +1500°C (2732°F) or +2000°C (3632°F), optional
Accuracy	±2°C, ±2% of reading
Measurement mode	Spot/manual (up to 10 movable), automatic placement and reading of max. and min. temperature within area. Area (circle or box, up to 5 movable), isotherm (2), line profile, Delta T
Atmospheric transmission correction	Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Optics transmission correction	Automatic, based on signals from internal sensors
Emissivity correction	Variable from 0.1 to 1.0 or select from listings in pre-defined materials list
Reflected ambient temperature correction	Automatic, based on input of reflected temperature
External optics/window correction	Automatic, based on input of optics/window transmission and temperature
IMAGE STORAGE	
Type	Removable FLASH-card (128 MB) Built-in FLASH memory (50 images)
File formats - Thermal	Standard JPEG, 14 bit measurement data included
File formats - Visual	Standard JPEG (including movable marker) linked with corresponding thermal image
Voice annotation of images	30 sec. of digital voice "clip" stored together with the image
Text annotation of images	Predefined text selected and stored together with the image
LENSES (OPTIONAL)	
Field of view/min focus distance	7°x5.3°/4 m • 12°x 9°/1,2 m • 45°x 34°/0.1 m • 80°x 60°/0.1 m 200µm close-up (64 mm x 48 mm/150 mm) 100µm close-up (34 mm x 25 mm/80 mm) 50µm close-up (15 mm x 11 mm/19mm)
Lens identification	Automatic
SYSTEM STATUS INDICATOR	
LCD Display	Shows status of battery and storage media. Indication of power, communication and storage modes
LASER LOCATIR™	
Classification	Class 2
Type	Semiconductor AlGaInP Diode Laser: 1mW/635 nm red
BATTERY SYSTEM	
Type	Li-Ion, rechargeable, field replaceable
Operating time	2 hours continuous operation
Charging system	in camera (AC adapter or 12 V from car) or 2 bay intelligent charger
External power operation	AC adapter 110/220 V AC, 50/60 Hz or 12 V from car (cable with Std plug: optional)
Power saving	Automatic shutdown and sleep mode (user selectable)
ENVIRONMENTAL SPECIFICATION	
Operating temperature range	-15°C to +50°C (5°F to 122°F)
Storage temperature range	-40°C to +70°C (-40°F to 158°F)
Humidity	Operating and storage 10% to 95%, non-condensing
Encapsulation	IP 54 IEC 529
Shock	Operational: 25G, IEC 68-2-29
Vibration	Operational: 2G, IEC 68-2-6
PHYSICAL CHARACTERISTICS	
Weight	2.0 kg incl. battery and top handle (includes remote control, LCD, video camera and laser) 1,4 kg excluding battery and remote control with LCD
Size	100mm x 120mm x 220 mm (3.9"x4.7"x8.7") camera body
Tripod mounting	1/4" - 20
INTERFACES	
USB / RS-232	Image (thermal and visual), measurement, voice and text transfer to PC
IrDA	Wireless communication
Remote control	Top carrying handle with video camera, Laser LocatIR and LCD

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ThermaCAM™ P60



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