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DATASHEET

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WHY BUY WHEN YOU CAN HIRE

ThermaCAM™ P65
The professional thermographers choice

- Extremely high thermal sensitivity (0.08°C)
- Unparalleled image quality (320 x 240 pixels)
- Infrared and visual image
- Autofocus
- Text and voice comments
- Bluetooth
- Useable in all weather conditions (IP 54)
- Radiometric JPEG image storage
- A wide range of accessories and lenses
- Compatible with ThermaCAM™ Reporter™ software

The standard for infrared camera systems

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™ P65: the perfect choice for maintenance professionals who realize that infrared imaging and measurement can save their companies millions each year. The P65 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
• Bluetooth technology
• Auto-focus
• Ergonomic, lightweight and portable
• Wireless communication
• High speed image download
• Fully radiometric JPEG storage
• Burst and AVI recording
• Software for professional inspection reporting

The ThermaCAM P65 is a powerful infrared inspection system, ergonomically designed to maximize the efficiency and productivity of the professional thermographer.

Find out what you can do with the ThermaCAM P65, and discover that this is the new standard for infrared cameras.

ERGONOMIC AND RUGGED DESIGN

The ThermaCAM™ P65 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 P65 weighs less than 2 kg, making it the lightest full-featured infrared camera on the market.

Designed for use in harsh environments, the ThermaCAM P65 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 P65 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.

A lamp can be connected to the camera to illuminate dark areas, e.g. when shooting visual images in-door, so that you always produce clear, high-quality visual images to document your inspections.
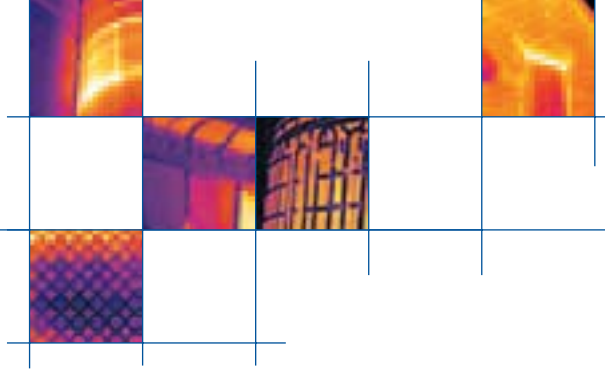
The LCD display, with all necessary remote control buttons, is detachable. It allows you to view images while the camera is positioned in hard-to-reach areas.

PRECISION TEMPERATURE MEASUREMENT
EXTRAORDINARY IMAGE QUALITY

The ThermaCAM P65 delivers unmatched temperature measurement accuracy. A thermal sensitivity of 0.08°C results in clear noise-free images (320 x 240 pixels).

A low thermal sensitivity not only offers you the possibility to see the smallest of temperature changes. It also means you get crisp, very detailed high-resolution images which cannot be obtained by less sensitive cameras.
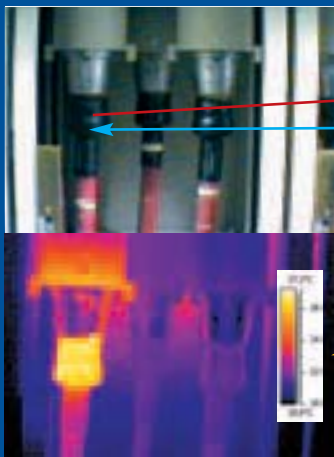
Thermal and visual images Laser pointer

ONE CAMERA

The ThermaCAM™ P65 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 P65, all this is done automatically. There is no need to carry separately a digital camera.

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.

Easier and quicker inspections thanks to new powerful and useful features

SOUND AND COLOR ALARMS

The operator can set a maximum temperature in the camera. If the P65 is pointed to an object and this temperature is exceeded, the camera will produce an audible and/or visible alarm.

TEMPERATURE DIFFERENTIAL MEASUREMENT

Calculates the temperature difference between measurement points directly in the field.

AUTO HOT-SPOT

The camera will automatically indicate the temperature and the position of the hottest spot in the image.

RECORD AVI-FILES

Useful when scanning moving targets such as motors, conveyor belts, …
The camera can record up to 35 seconds of video in an AVI-file. This AVI-file can be replayed in the camera or on a PC for further analysis.

VOICE RECORDINGS WITH BLUETOOTH TECHNOLOGY

The camera can store up to 30 seconds of voice comment with each image. A Bluetooth connection allows for wireless connection between the camera and the earpiece with integrated microphone. The wireless earpiece eliminates all cable connections between the operator and the camera, increasing operator safety.

UPLOAD USER PROFILES

No need to re-set all your preferred camera settings one by one if a colleague has used the camera. You can easily upload your own favorite camera settings (color palettes, spots or areas, …).

EVEN EASIER TEXT COMMENTS

From now on, you do not need to introduce all fields in the text comments boxes over and over again. Just copy the text comments from one image to another and change only what needs to be changed.
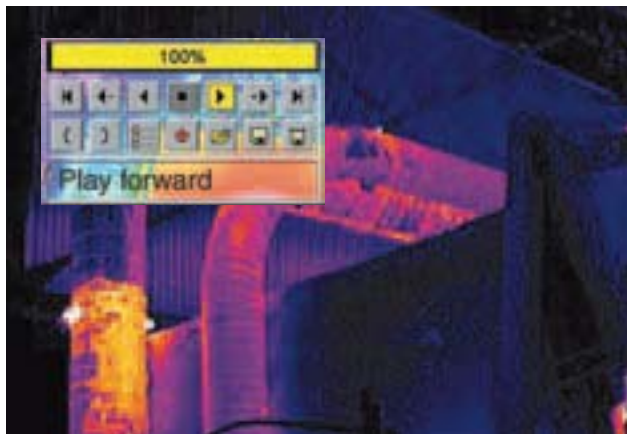
CUSTOMIZE COLOR PALETTES

Tailor your color palettes to your applications and upload them in the camera.

LASER LOCATIR™

_A Li-Ion battery provides over
2 hours of continuous operation_

A flexible system

INTELLIGENT BATTERY SYSTEM

The battery compartment hides a Li-Ion battery. This type of battery gives the ThermaCAM™ P65 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.
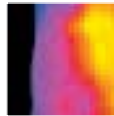
Internal RAM-memory for burst and AVI recording

The ThermaCAM™ P65 can store up to 600 images on its internal RAM-memory. Radiometric images can be stored at a rate between 25 Hz and 0.5 Hz allowing between 24 seconds and 20 minutes recording time. Ideal when scanning moving targets such as motors, conveyor belts, ...

In-camera play-back allows you to view recorded images or sequences without the need to carry a PC. The recorded data can also be easily transferred to a PC for further analysis and editing in the optionally available ThermaCAM Reporter™ software.

For those applications that do not require radiometric data, the camera can also record up to 35 seconds of moving images in an AVI-file. No special software needed. Anyone can access these AVI-files.
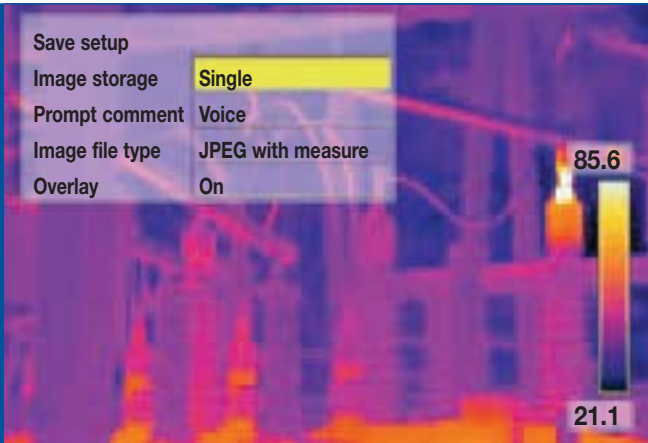
Save setup	
Image storage	Single
Prompt comment	Voice
Image file type	JPEG with measure
Overlay	On

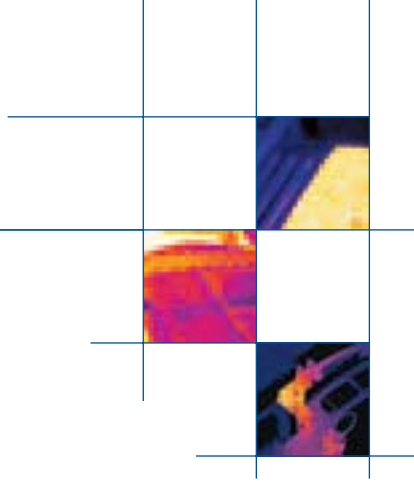85.6

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FLEXIBLE JPEG IMAGE STORAGE

The ThermaCAM™ P65 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 (256 MB) or in the camera's FLASH memory. Images can easily be downloaded from the camera using the ThermaCAM QuickView™ software which is supplied as standard.

File	Measure	Image	Setup		+1	48,7°C
Open ...						
Save						
Directories ...						87.2
Delete image ...						
Voice comment ...						
Text comment ...						27.7

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.

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.

If you want to review images in the camera you can open the "image gallery". This allows you to browse through thumbnail images and easily find and select the one you need.

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

IrDA INTERFACE

An infrared interface allows wireless connection to your PC for fast and easy downloading of data from the camera's internal memory.
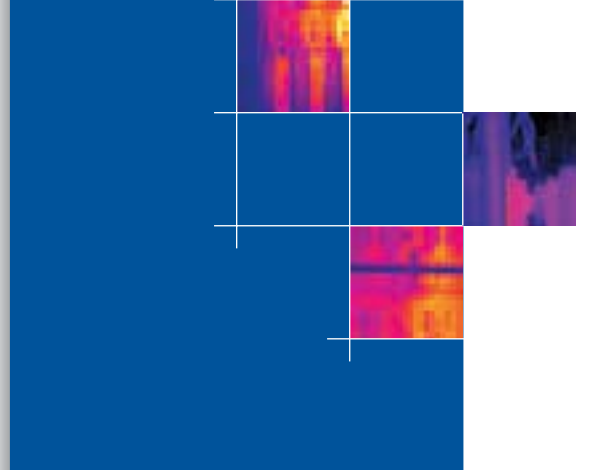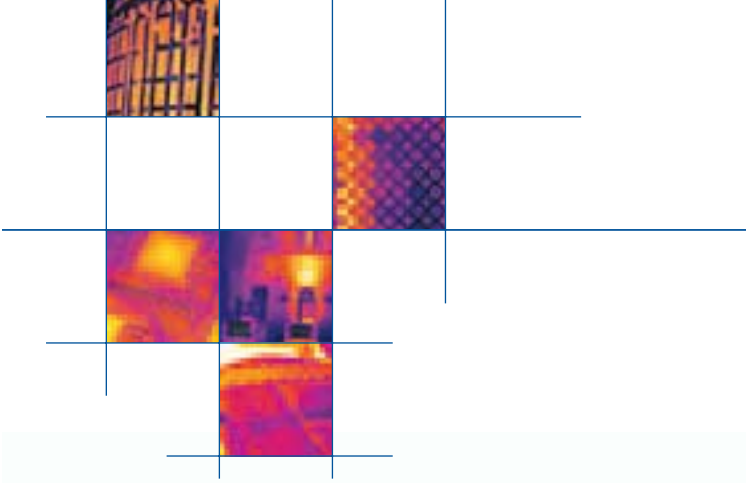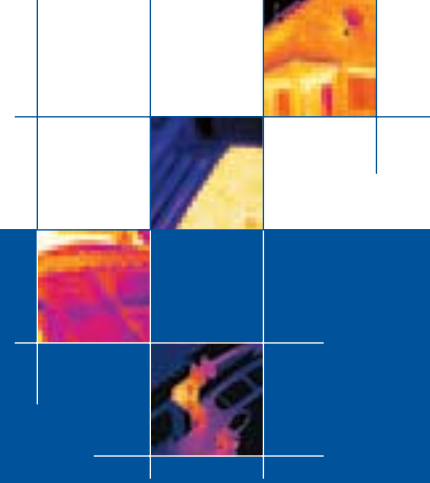
An included lamp, easily connects to the ThermaCAM P65 and allows shooting clear visual images, also in dark environments.

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ThermaCAM™ P65: 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 P65 incorporates a high-resolution TFT color view-finder. 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 P65. Change color palettes, emissivity settings or tempera-ture 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.

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

6 OPEN INTERFACES
Fast access to composite video connection. Direct connection to charge the battery inside the camera.

7 DUAL STORAGE POSSIBILITY
JPEG images are stored on removable multimedia FLASH Cards (256 MB) or in the camera's internal memory. Images can easily be copied from the cam-era's internal memory to the multimedia FLASH Card.

8 EASY CONNECTIVITY
USB and RS-232 connections allow fast downloading of full radiometric 14-bit JPEG images. A wireless headset with Bluetooth technology can be connected for voice annotations.
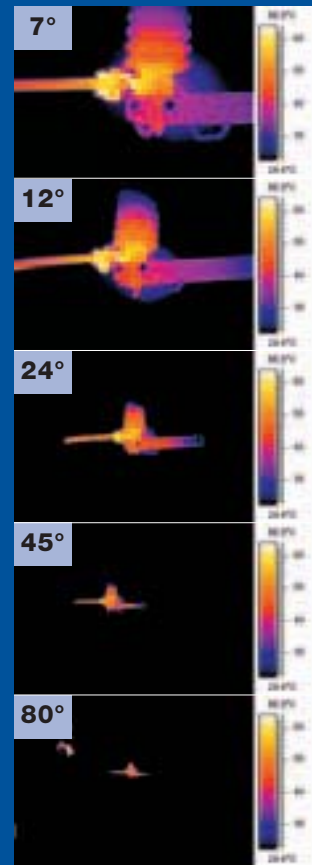
ThermaCAM™ P65

**A TOOL THAT IS ADAPTABLE
TO EVERY SITUATION**
The ThermaCAM P65 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 an other lens can solve these problems.

The ThermaCAM P65 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.

7°

12°

24°

45°

80°

AUTOMATED REPORT GENERATION IN A FAMILIAR ENVIRONMENT

Full radiometric images captured by the ThermaCAM™ P65 can easily be downloaded and integrated in the new ThermaCAM Reporter™ software.
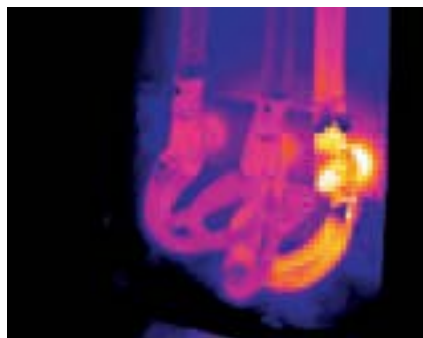
This easy-to-use Windows-based software integrates powerful image analysis and report generation functions for fast, accurate evaluation of infrared inspection results.

ThermaCAM Reporter allows you to create all your reports in Microsoft Word®. 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 install ThermaCAM Reporter or to use special viewing software.
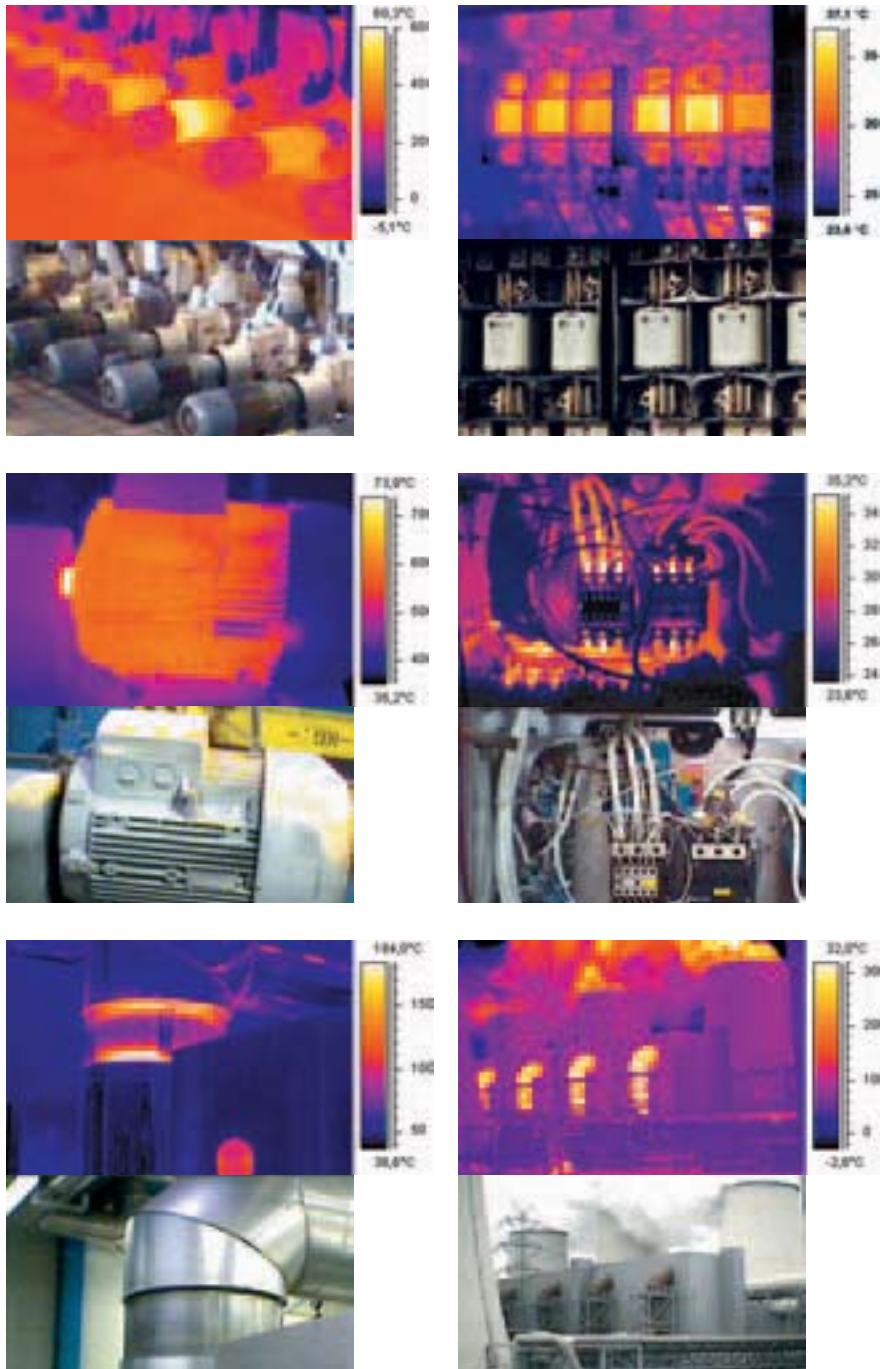

See it

Measure it

Report it

ThermaCAM™ P65,
the perfect tool for EVERY situation

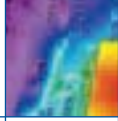TEMPERATURE RANGE -40°C TO +2,000°C, THERMAL SENSITIVITY 0.08°C

ThermaCAM™ P65 includes:

- **IR** camera
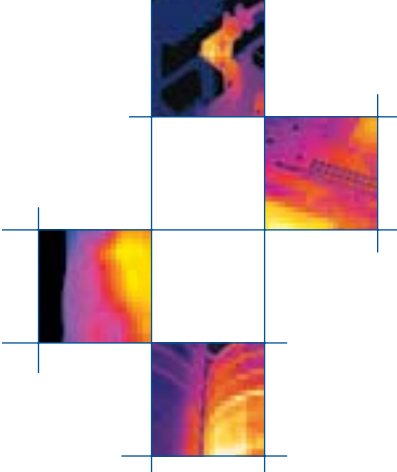- **Visual** camera
- **Lamp** to shoot clear visual images
- **Laser LocatIR™**
- **Remote** control with **LCD** display
- **Carrying** case
- **Lens** cap, shoulder strap, hand strap
- **Manual**
- **Batteries** (2)
- **Power** supply including cable
- **Battery** charger
- **Wireless** headset 🔵
- **Video** cable **RCA**-plug
- **USB**-cable
- **Flash** Card
- **ThermaCAM QuickView™** software

TECHNICAL SPECIFICATIONS

IMAGING PERFORMANCE

Thermal:

Field of view/min focus distance	24°x18° /0.3 m (with 35 mm lens)
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, IEEE-1394 FireWire DV-output
Viewfinder	Built-in, high-resolution color LCD (TFT)
External display	4" LCD with integrated remote control

MEASUREMENT

Temperature range	-40°C to +500°C, (+40°F to +932°F), in 2 ranges 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 (5) and/or box (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 (256 MB) Built-in Flash memory (50 images) Built-in RAM memory for burst and AVI recording
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 - Bluetooth wireless headset 🔵
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 (with 122 mm lens) 12°x 9°/1.2 m (with 71 mm lens) 45°x 34°/0.1 m (with 18 mm lens) 80°x 60°/0.1 m (with 9 mm lens) 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) 18μm close-up (6 mm x 4 mm/7mm)
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

FireWire	IEEE-1394 FireWire output (DV only)
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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We understand why prompt delivery is important to you. So, if we confirm your order before 3pm, you are guaranteed same day despatch.

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Inlec guarantee you real value for money. Our price match policy is simple - if you can hire the same product for less elsewhere, we guarantee to match that price and reduce it by a further 10% of the difference - and still deliver our industry leading technical and customer support.

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All equipment is thoroughly checked prior to dispatch to ensure you receive it in full, safe working order. Your shipment will be securely packed and include manufacturer's instructions, accessories or consumables and a valid calibration certificate where appropriate. In addition, Inlec offer a 24 hour replacement service if you decide the equipment is not suitable for your application*.

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