



Irisys

Thermal Imaging

Red Hot Intelligence

IR16DS – Dual View Thermal Imager



100% Thermal

100% Visible



Identify faults in machines and components *before* they fail

The **Irisys** IR16DS is the perfect tool to find faults and identify failing components thereby reducing the risk of catastrophic failure



Large display with Image Fusion & Picture in Picture



- Dual vision showing both thermal and visual images or a combination as 'image fusion' including 'picture in picture'.
- Real time image and measurement display.
- Detector resolution of 160x120 pixels and thermal sensitivity of 0.08°C giving crisp clear images.

Multiple measurement points



- Four moveable temperature measurement cursors onscreen; allowing easy comparison of components and items in the scene.
- Auto hot and cold hunting with temperature difference.
- Area analysis and isotherms with temperature difference.
- Individual cursor emissivity settings for accurate temperature measurements.

Voice annotation and alarms



"Bearing in motor in control room B3.7 showing signs of overheating"

- Record notes for each image saved for later playback.
- Alarms (both visual and audible) can be set to trigger when preset hot or cold temperature thresholds are exceeded.

Other key features of the **Irisys IR16DS**



- LED illuminator for visual image capture in all site environments
- Laser pointer to highlight problem areas
- Megapixel camera for quality visual images
- Time sequence recording allows changes in temperature over a set time period to be measured
- Long 5 hour battery life with rechargeable and field replaceable battery
- Rugged and robust housing for use in all industrial conditions
- Easy navigation through icon driven menu

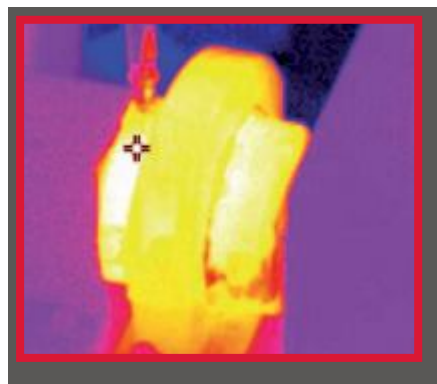


- Multiple language options



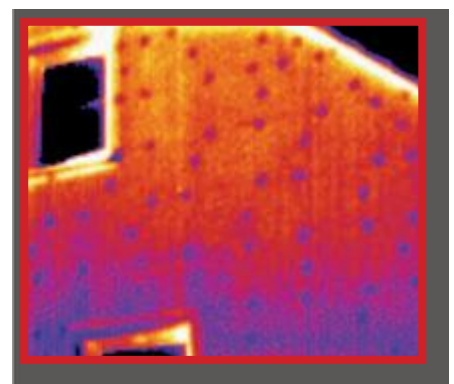

Electrical

- Failing/Fatigued components
- Loose/Tight connections
- Overloaded Components
- Uneven voltage distribution



Mechanical

- Wear
- Poor Lubrication
- Shaft Misalignment
- Overloaded Components



Energy Efficiency

- Poor or Missing Insulation
- Energy losses
- Integrity of Refrigeration seals
- HVAC

The top reasons that make the **Irisys IR16DS** the ideal Thermal Imager:

- **Cost effective** – the IR16DS offers many features at an affordable price that are only available from other manufacturers on their more expensive models. Features include multiple moveable temperature measuring cursors each with individual emissivity settings, automatic hot and/or cold spot finding.
- **Ease of use** - with an icon-driven menu structure the IR16DS is as easy to use as a smart phone. The user can quickly see results without the need for extensive training.
- **Clear imaging** – built with a detector resolution of 160 x 120 and a thermal sensitivity of 0.08°C, the IR16DS delivers excellent image quality with accurate and repeatable results.
- **Long battery life** – with an industry leading, field replaceable Lithium Ion battery, the IR16DS allows up to 5 hours continuous use between charges without the need to reduce the screen brightness.
- **Image fusion** – the IR16DS has enhanced image fusion capabilities allowing full image and picture in picture fusion between 0 & 100%.
- **Voice annotation** – a built in microphone allows the user to record voice notes with every image saved. Over 1,000 images (both visual & thermal) and voice notes can be saved on the supplied SD card. Voice notes can be played back on the camera using its built in speaker or headphones and via the supplied software package.
- **Timed or Alarmed imaging** – for unattended imaging the IR16DS can be tripod mounted to automatically save images at regular intervals. It can also be set to record an image only when a pre-defined image temperature is reached.

Analysis & report writing software package



The **Irisys IR16DS** Includes:

- IR Camera
- Battery
- USB Charger
- USB cable
- CD with user manual and software (PC analysis and report writer)
- Carrying case
- SD card



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IR16DS

Dual View Thermal Imager

The IR 16DS thermal / visual camera from IRISYS brings to the engineer a maintenance tool with full capability at an affordable price.

Electrical inspection

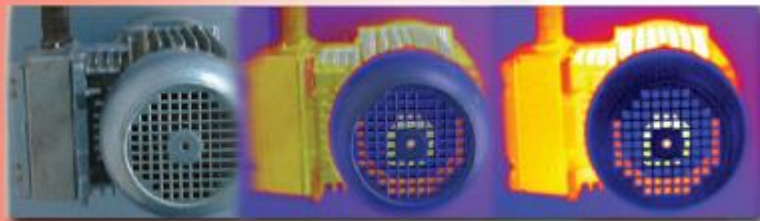
- Loose/tight terminations
- Overloaded circuits
- Uneven voltage distribution
- Failing/Fatigued components

Mechanical inspections

- Overheated bearings
- Poor lubrication
- Shaft misalignment

Energy Efficiency

- Poor or non existent insulation
- Moisture
- Air leakage
- HVAC inspections



Key Features of the Irisys IR16DS

- 1. Image Fusion**
The camera can display a thermal image only, a visual image only or a fusion of both thermal and visual images, or as a fused PIP (picture in picture).
An LED illuminator is available for dark environments.
- 2. Voice annotation**
Record voice notes to each image saved. Playback on the camera through its speaker or through headphones and on the PC, once the image has been transferred using the supplied software.
- 3. Alarms**
The camera can detect hot & or cold spots and be set to alarm when the temperature is outside the alarm threshold. Alarms are both audible through the camera speaker or headphones and visual via the camera display.
- 4. Time Sequencing**
Allows unattended monitoring of equipment over a period of time to observe changes in equipment performance. This can be at regular timed intervals or on user defined threshold temperatures.
- 5. Individual cursor emissivity settings**
Four moveable cursors allowing easy comparison of components and items in the scene with individual emissivity settings to get a more accurate measure of actual temperatures.
- 6. Battery Life**
Long battery life (5 hours) which is also replaceable, allowing a typical shift to be worked without recharging.



Quality System
Quality
Process
Company

Building the Future



irisys

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TECHNICAL SPECIFICATION

PERFORMANCE

Field of View:	20° X 15°
Focus:	Manual
Minimum Focus:	30cm
Spectral response:	8µm to 14µm
Thermal Sensitivity:	NETD $\leq 80\text{mK}$ (0.08°C) @ 23°C ambient and 30°C scenetemperature.
Detector:	160x120 Pixels uncooled microbolometer.

MEASUREMENT

Temperature range:	-10°C to +250°C
Radiometry:	Four moveable temperature measurement cursors giving automatic temperature difference measurement and auto locking onto hottest and coldest points.
Emissivity Correction:	User selectable 0.1 to 1.0 in steps of 0.01 with reflected ambient temperature compensation. The four measurement cursors can have individual emissivity values assigned to them.
Accuracy:	The greater of $\pm 2^\circ\text{C}$ or $\pm 2\%$ of reading in °C for the ambient temperature range of -15°C to +45°C

DISPLAY

3 1/2" colour LCD with LED backlight with 8 colour palettes.
Thermal images or visible images or mixed thermal and visible images including picture in picture.
Electronic zoom (IR and visible) up to x4; Image integration up to x4.

IMAGE STORAGE

Over 1000 images on supplied micro SD card.

LASER POINTER

A Built in class 2 laser highlights the central measurement area.

IMAGER POWER SUPPLY

Battery:	Rechargeable Lithium-Ion field replaceable battery with up to 5 hours continuous operation; charge through the USB port.
AC Operation:	USB AC power adaptor supplied.

MECHANICAL

Housing:	Impact resistant plastic with over moulded soft plastic.
Dimensions:	130mm X 95mm X 220mm
Weight:	0.8Kg
Mounting:	Handheld & tripod mounting 1/4" BSW.

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SETTINGS AND CONTROLS

- Auto/user selectable span and level control.
- Readout in °C or °F
- Four moveable temperature measurement cursors with individual emissivity values and temperature difference between two points.
- User selectable emissivity setting for each measurement cursor.
- Auto hot and cold seeking or hot only or cold only.
- User selectable reflected temperature compensation.
- Area analysis – 3 options.
- X-Y thermal profiles.
- Isotherms with temperature difference.
- Voice and/or text annotation.
- Image capture; time and date.
- Visual/audio alarm for above/below set temperature values.
- Palette selection.
- User selectable integration.
- Image fusion control: 0 to 100% adjustment on whole image and on picture in picture.
- Electronic zoom, x2, x4.
- Multi-language options.
- Battery power indicator.
- Image browser showing thumbnails and voice annotation playback.
- Time or Alarm sequence recording.

INTERFACES

Data transfer direct from micro SD card or over USB.
Jack socket for headphones,
Built-in microphone for voice annotation.
Time sequence recording of images (IR only) to the SD card.

Pack Includes:

Carry case, USB charger, USB cable, CD with user manual and PC software (analysis and report writing) and Quick start guide.

OPTIONAL ACCESSORIES

Light shade, battery, desk top charger, car charger, hard carry case.

COMPUTER REQUIREMENTS (for PC software)

IBM Compatible PC with one of the following operating systems:
Windows XP, VISTA and Windows 7.

See Irisys website for currently supported operating systems.

ENVIRONMENT

Temperature operating range:	-15°C to +50°C
Storage range:	-20°C to +70°C
Humidity:	10% to 90% non condensing
IP rating:	IP54
CE mark (Europe)	
Vibration:	MIL-PRF-288000F Class 2 section 4.5.5.3.1 MIL-PRF-288000F Class 2 section 4.5.5.4.1 MIL-PRF-288000F Class 2 section 4.5.5.4.2; 2 metres drop test
Shock:	
Drop test:	

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