

# Experience the world of thermal imaging



FLIR EX-Series

Thermal imaging camera for fast electrical/mechanical inspections with FLIR's patented MSX® feature for ultra crisp and clear thermal images



www.flir.com

## **FLIR Ex-Series**





FLIR Ex-Series cameras are point-and-shoot thermal imaging cameras that give you access to a new dimension in inspection capability. A FLIR Ex-Series camera is an affordable replacement for a spot pyrometer. It provides a thermal image with temperature information on every pixel. The combined image storage of the new MSX®, thermal and visual formats make the cameras incomparably easy to use.





#### **Outstanding ease-of-use**

The cameras are extremely easy to understand and operate, designed for entry-level users. The cameras are intuitive and come with a full manual.



#### **Fully automatic**

FLIR Ex-Series produce instant, point-and-shoot JPEG thermal imagery with all required temperature data included.



#### Focus free

The fixed focus-free lens makes using the FLIR Ex-Series a snap



#### **Compact and lightweight**

FLIR Ex-Series weighs only 575g, and is easy to store in a belt pouch.



#### Visual camera

Visible light camera makes observing and inspecting faster and easier.



#### Reporting and analysis software included

FLIR Tools software is available for free download for all Ex-Series users.



#### Measure temperatures

Measures temperatures up to +250°C and detects temperature differences as small as 0.06°C (FLIR E6 / FLIR E8).



#### **Measurement functions**

Spotmeter, area with max./min., color alarm; blue below / red above set temperature.\*



#### Picture-in-Picture (PiP)

With the PiP function it is easy to locate areas of interest.\*



#### Multi Spectral Dynamic Imaging (MSX®)

The innovative MSX® feature produces an image more rich in every detail than ever before.



#### Multi Spectral Image storage

Combined image storage including MSX®, thermal, PiP and visual.

<sup>\*</sup> Features dependant on camera model, please check technical specifications for more details.



MSX® allows seeing even more detail on the thermal image.

# Save time and money in 3 steps:

- Detect hidden problems, make quick damage assessments and perform preventive inspections
- Identify energy losses and poor insulation
- Spot electrical faults before it is too late
- Produce instant thermal images of your findings
- Create reports, analyse and document your findings with the easy-to-use software



## FLIR Ex-Series camera model comparison

FLIR E4	FLIR E5	FLIR E6	FLIR E8
Thermal image quality: 80x60 pixels	Thermal image quality: 120x90 pixels	Thermal image quality: 160x120 pixels	Thermal image quality: 320x240 pixels
Thermal sensitivity: 0.15°C	Thermal sensitivity: 0.10°C	Thermal sensitivity: 0.06°C	Thermal sensitivity: 0.06°C
IR image, visual image, MSX <sup>®</sup> , thumbnail gallery	IR image, visual image, MSX®, thumbnail gallery	IR image, visual image, MSX <sup>®</sup> , picture in picture, thumbnail gallery	IR image, visual image, MSX®, picture in picture, thumbnail gallery
Center spot	Center spot, area with max./min.	Spotmeter, area with max./min., color alarm; blue below / red above set temperature	Spotmeter, area with max./min., color alarm; blue below / red above set temperature



# **FLIR Ex-Series**





\* After product registration on www.flir.com

## Technical specifications

### Camera specific

	FLIR E4	FLIR E5	FLIR E6	FLIR E8
IR resolution	80 x 60 pixels	120 x 90 pixels	160 x 120 pixels	320 x 240 pixels
MSX resolution	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
Thermal sensitivity	0.15°C	0.10°C	0.06°C	0.06°C
Spatial resolution (IFOV)	10.3 mrad	6.9 mrad	5.2 mrad	2.6 mrad
Image modes	IR image, visual image,	IR image, visual image,	IR image, visual image, MSX®,	IR image, visual image, MSX®,
	MSX®, thumbnail gallery	MSX®, thumbnail gallery	picture in picture, thumbnail gallery	picture in picture, thumbnail gallery
Color alarm	NA	NA	Blue below or red above set	Blue below or red above set
			temperature	temperature

#### General

Imaging performance	
Field of view/min focus distance	45° x 34° / 0.5 m
Spectral range	7.5 - 13 µm
Image Frequency	9 Hz
Focus	Focus free
Focal Plane Array (FPA)	Uncooled microbolometer
Image Presentation	
Display	3" 320 x 240 color LCD
Image adjustment	Automatic adjust/lock image
maye aujusumem	Automatic adjust/fock image
Measurement	
Object temperature range	-20°C to +250°C
Accuracy	$\pm 2$ °C or $\pm 2\%$ of reading , for ambient temperature 10°C to 35°C and object temperature above $\pm 0$ °C
•	±2 Coll ±2% of reading , for animent temperature to C to 33 C and object temperature above + 0 C
Measurement analysis	
Spotmeter	Center spot
Emissivity correction	Variable from 0.1 to 1.0
Emissivity table	Emissivity table of predefined materials
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Reflected apparent temperature correction	Automatic, based on input of reflected temperature
Setup	
Color palettes	Iron, Rainbow and Black/White
Set-up commands	Local adaptation of units, language, date and time formats
Image Storage	
Image storage capacity	Internal memory store at least 500 sets of images
Image storage mode	Simultaneous storage of images in IR, visual and MSX
File formats	Standard JPEG - 14 bit measurement data included
Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device
Power system	
Battery Type	Li-lon rechargeable
Battery voltage	3.7 V
Battery operating time	Approx. 4 hours at +25°C ambient temperature and typical use
Charging system	Battery is charged inside the camera or in specific charger
Charging time	2.5 hours to 90% capacity in camera. 2 hours in charger
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Dawer management	Automatic abutdown
Power management	Automatic shutdown AC adapter 90.260 VAC input. 5 VDC output to camera
AC operation	Automatic shutdown AC adapter, 90-260 VAC input, 5 VDC output to camera
AC operation  Environmental specifications	AC adapter, 90-260 VAC input, 5 VDC output to camera
AC operation  Environmental specifications Operating temperature range	AC adapter, 90-260 VAC input, 5 VDC output to camera -15°C to +50°C
AC operation  Environmental specifications Operating temperature range Storage temperature range	AC adapter, 90-260 VAC input, 5 VDC output to camera  -15°C to +50°C -40°C to +70°C
AC operation  Environmental specifications Operating temperature range Storage temperature range Humidity	AC adapter, 90-260 VAC input, 5 VDC output to camera  -15°C to +50°C -40°C to +70°C IEC 60068-2-30/24 h 95% relative humidity
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AC operation  Environmental specifications Operating temperature range Storage temperature range Humidity EMC  Bump Drop Vibration	AC adapter, 90-260 VAC input, 5 VDC output to camera  -15°C to +50°C -40°C to +70°C IEC 60068-2-30/24 h 95% relative humidity  • WEEE 2012/19/EC • RoHs 2011/65/EC • C-Tick • EN 61000-6-3 • EN 61000-6-2 • FCC 47 CFR Part 15 Class B 25 g, IEC 60068-2-29 2 m
AC operation  Environmental specifications Operating temperature range Storage temperature range Humidity EMC  Bump Drop Vibration  Physical characteristics	AC adapter, 90-260 VAC input, 5 VDC output to camera  -15°C to +50°C -40°C to +70°C IEC 60068-2-30/24 h 95% relative humidity  • WEEE 2012/19/EC • RoHs 2011/65/EC • C-Tick • EN 61000-6-3 • EN 61000-6-2 • FCC 47 CFR Part 15 Class B 25 g, IEC 60068-2-29 2 m 2 g, IEC 60068-2-6
AC operation  Environmental specifications Operating temperature range Storage temperature range Humidity EMC  Bump Drop Vibration  Physical characteristics Dimensions	AC adapter, 90-260 VAC input, 5 VDC output to camera  -15°C to +50°C -40°C to +70°C IEC 60068-2-30/24 h 95% relative humidity  • WEEE 2012/19/EC • RoHs 2011/65/EC • C-Tick • EN 61000-6-3 • EN 61000-6-2 • FCC 47 CFR Part 15 Class B 25 g, IEC 60068-2-29 2 m 2 g, IEC 60068-2-6
AC operation  Environmental specifications Operating temperature range Storage temperature range Humidity EMC  Bump Drop Vibration  Physical characteristics Dimensions Weight	AC adapter, 90-260 VAC input, 5 VDC output to camera  -15°C to +50°C -40°C to +70°C IEC 60068-2-30/24 h 95% relative humidity  • WEEE 2012/19/EC • RoHs 2011/65/EC • C-Tick • EN 61000-6-3 • EN 61000-6-2 • FCC 47 CFR Part 15 Class B 25 g, IEC 60068-2-29 2 m 2 g, IEC 60068-2-6
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Standard package

FLIR thermal imaging camera, hard transport case, FLIR Tools™ download card, user documentation CD-ROM, printed documentation, battery (FLIR E8 2x), power supply/charger with EU, UK, US and Australian plugs, USB cable, battery charger (FLIR E8 only)

