

## P/N: 63909-0904

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### Document identity

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### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

### Disclaimer

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### General description

The FLIR Ex series cameras are point-and-shoot infrared cameras that give you access to the infrared world. A FLIR Ex series camera is an affordable replacement for an infrared thermometer, providing a thermal image with temperature information in every pixel. The new MSX and visual formats make the cameras incomparably easy to use.

The FLIR Ex series cameras are user-friendly, compact, and rugged, for use in harsh environments. The wide field of view makes them the perfect choice for building applications.

### Benefits:

- Easy to use: The FLIR Ex series cameras are fully automatic and focus-free with an intuitive interface for simple measurements in thermal, visual, or MSX mode.
- Compact and rugged: The FLIR Ex series cameras' low weight of 0.575 kg and the accessory belt pouch make them easy to bring along at all times. Their rugged design can withstand a 2 m drop test, and ensures reliability, even in harsh environments.
- Ground breaking affordability: The FLIR Ex series cameras are the most affordable infrared cameras on the market.

### Imaging and optical data

IR resolution	120 × 90 pixels
Thermal sensitivity/NETD	<0.10°C (0.27°F) / <100 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	6.9 mrad
F-number	1.5
Image frequency	9 Hz
Focus	Focus free

### Detector data

Detector type	Focal plane array (FPA), uncooled microbolometer
Spectral range	7.5–13 μm

### Image presentation

Display	3.0 in. 320 × 240 color LCD
Image adjustment	Automatic adjust/lock image



## FLIR E5 (incl. Wi-Fi)

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<b>Image presentation modes</b>	
Image modes	Thermal MSX, Thermal, Picture-in-Picture, Thermal blending, Digital camera.
Multi Spectral Dynamic Imaging (MSX)	IR image with enhanced detail presentation
Picture-in-Picture	IR area on visual image

<b>Measurement</b>	
Object temperature range	-20°C to +250°C (-4°F to +482°F)
Accuracy	±2°C (±3.6°F) or ±2% of reading, for ambient temperature 10°C to 35°C (+50°F to 95°F) and object temperature above +0°C (+32°F)

<b>Measurement analysis</b>	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above/below/interval
Emissivity correction	Variable from 0.1 to 1.0
Emissivity table	Emissivity table of predefined materials
Reflected apparent temperature correction	Automatic, based on input of reflected temperature

<b>Set-up</b>	
Color palettes	Black and white, iron and rainbow
Set-up commands	Local adaptation of units, language, date and time formats

<b>Storage of images</b>	
File formats	Standard JPEG, 14-bit measurement data included

<b>Digital camera</b>	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

<b>Data communication interfaces</b>	
Interfaces	USB Micro: Data transfer to and from PC and Mac device
Wi-Fi	Peer-to-peer (ad hoc) or infrastructure (network)

<b>Radio</b>	
Wi-Fi	<ul style="list-style-type: none"><li>• Standard: 802.11 b/g/n</li><li>• Frequency range:<ul style="list-style-type: none"><li>◦ 2400–2480 MHz</li><li>◦ 5150–5260 MHz</li></ul></li><li>• Max. output power: 15 dBm</li></ul>

<b>Power system</b>	
Battery type	Rechargeable Li ion battery
Battery voltage	3.6 V
Battery operating time	Approx. 4 hours at +25°C (+77°F) ambient temperature and typical use
Charging system	Battery is charged inside the camera or in specific charger.



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<b>Power system</b>	
Charging time	2.5 hours to 90% capacity in camera. 2 hours in charger.
Power management	Automatic shut-down
AC operation	AC adapter, 90–260 VAC input, 5 VDC output to camera
<b>Environmental data</b>	
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)	IEC 60068-2-30/24 h 95% relative humidity
EMC	<ul style="list-style-type: none"><li>• WEEE 2012/19/EC</li><li>• RoHs 2011/65/EC</li><li>• C-Tick</li><li>• EN 61000-6-3</li><li>• EN 61000-6-2</li><li>• FCC 47 CFR Part 15 Class B</li></ul>
Radio spectrum	<ul style="list-style-type: none"><li>• Standard: 802.11 b/g/n</li><li>• Frequency range:<ul style="list-style-type: none"><li>◦ 2400–2480 MHz</li><li>◦ 5150–5260 MHz</li></ul></li><li>• Max. output power: 15 dBm</li></ul>
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)
Drop	2 m (6.6 ft.)
<b>Physical data</b>	
Camera weight, incl. battery	0.575 kg (1.27 lb.)
Camera size (L × W × H)	244 × 95 × 140 mm (9.6 × 3.7 × 5.5 in.)
Color	Black and gray
<b>Certifications</b>	
Certification	UL, CSA, CE, PSE and CCC
<b>Shipping information</b>	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none"><li>• Infrared camera</li><li>• Hard transport case</li><li>• Battery (inside camera)</li><li>• USB cable</li><li>• Power supply/charger with EU, UK, US and Australian plugs</li><li>• Printed documentation</li></ul>
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254002876
UPC-12	845188014124
Country of origin	Estonia

### Supplies & accessories:

- T911093; Tool belt
- T198528; Hard transport case FLIR Ex-series



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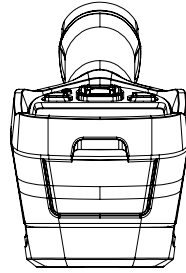
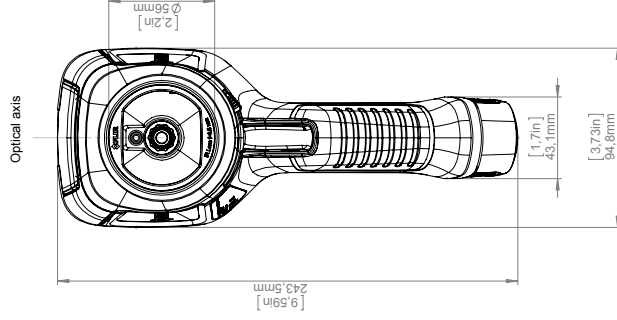
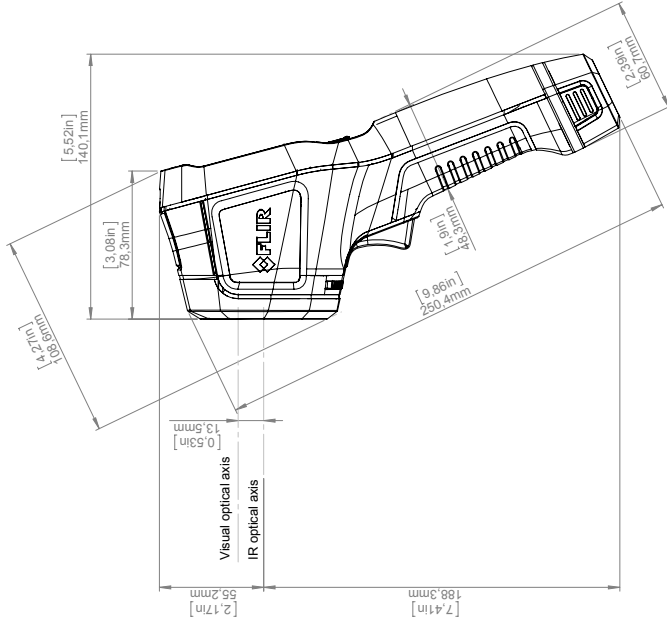
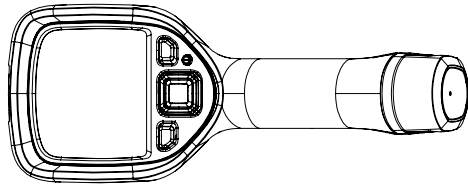
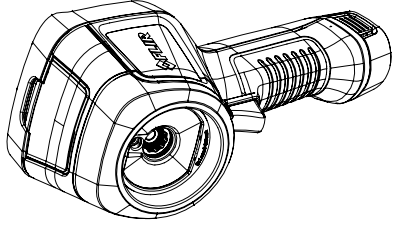
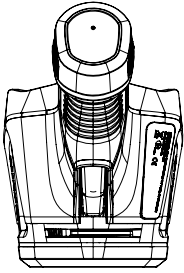
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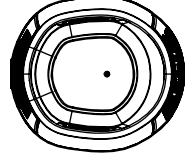
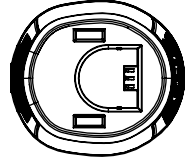
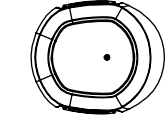
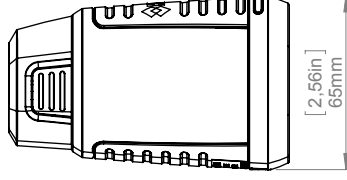
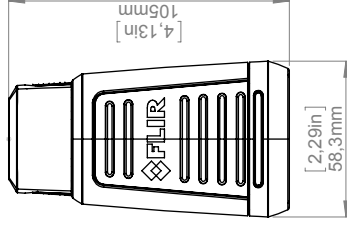
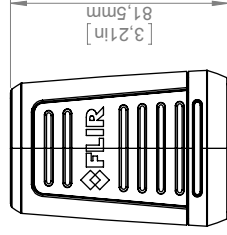
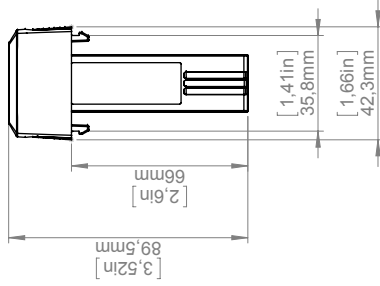
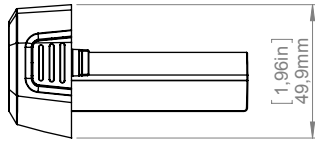
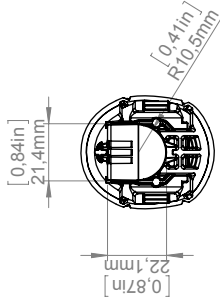
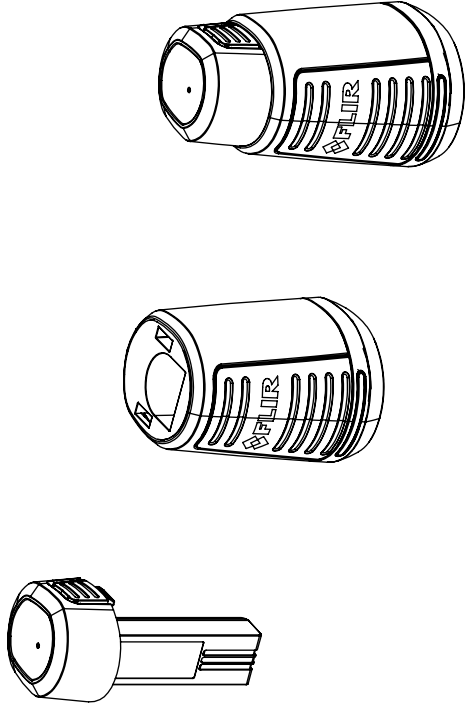
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- T198530; Battery
- T198531; Battery charger incl power supply
- T198532; Car charger
- T198534; Power supply USB-micro
- T198529; Pouch FLIR Ex and ix series
- T198533; USB cable Std A <-> Micro B
- T199362ACC; Battery Li-ion 3.6 V, 2.6 Ah, 9.4 Wh
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB

Camera with built-in IR lens f=6,5 mm (45°)



# Charger and Power pack



		Drawing No. <b>T127831</b> Size <b>A</b>
Modified <b>2013-03-25</b> Denomination	Check <b>CAHA</b>	Drawn by <b>R&amp;D Thermography</b>
Size <b>A3</b> Scale <b>1:2</b>		Sheet <b>2(2)</b> Size <b>A</b>
<b>Basic dimensions FLIR Ex</b>		

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February 24, 2017 Täby, Sweden

AQ320224

## CE Declaration of Conformity – EU Declaration of Conformity

Product: FLIR EX -series

Name and address of the manufacturer:

FLIR Systems AB

PO Box 7376

SE-187 15 Täby, Sweden

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration: FLIR EX -series.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

### Directives:

Directive	2014/30/EU	Electromagnetic Compatibility
Directive	2014/35/EU	Low Voltage Directive (Power Supply)
Directive	2012/19/EU	Waste electrical and electric equipment
Directive:	2011/65/EU	RoHS
Directive	1999/5/EC	Radio and Telecommunications Terminal Equipment

### Standards:

Emission:	EN 61000-6-3/A1:2011	Electromagnetic Compatibility Generic standards – Emission
Immunity:	EN 61000-6-2:2005	Electromagnetic Compatibility Generic standards – Immunity
Restricted substances (RoHS):	EN 50581:2012	Technical documentation
Radio:	ETSI EN 300 328 ETSI EN 301 893	Harmonized EN covering essential requirements of the R&TTE Directive
Safety (Power supply):	EN 60950	Information technology equipment

**FLIR Systems AB**  
Quality Assurance

Lea Dabiri  
Quality Manager