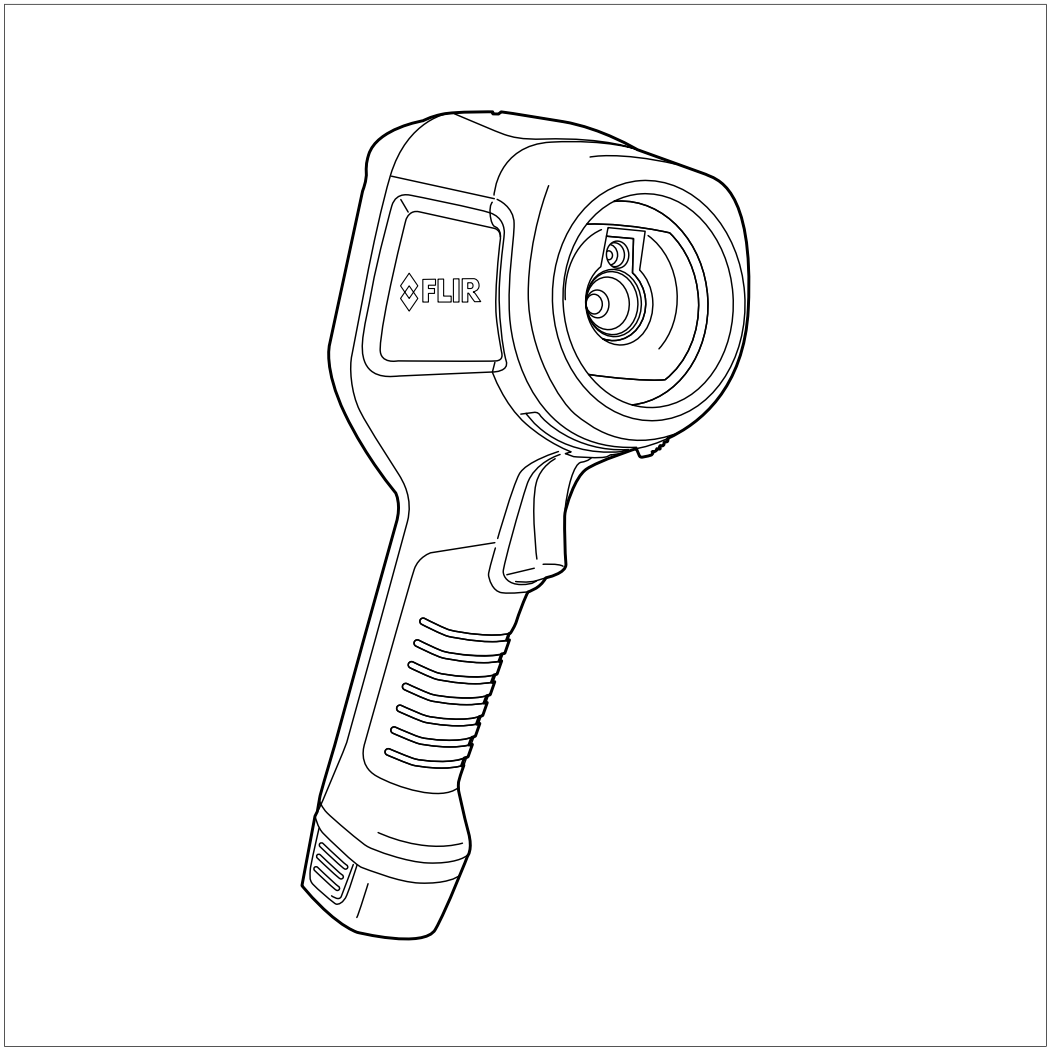
Technical data
FLIR Ex series



Technical data
FLIR Ex series

Table of contents

1 General

1.1 Online field-of-view calculator

Please visit http://support.flir.com and click the photo of the camera series for field-of-view tables for all lens–camera combinations.

1.2 Note about technical data

FLIR Systems reserves the right to change specifications at any time without prior notice. Please check http://support.flir.com for latest changes.

1.3 Note about authoritative versions

The authoritative version of this publication is English. In the event of divergences due to translation errors, the English text has precedence.

Any late changes are first implemented in English.

2 Technical data

2.1 FLIR E5xt

P/N: 63905-0601
Rev.: 60477

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	160 × 120 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)	5.2 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

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%
10 to 400°C (50 to 752°F)	10 to 100°C (50 to 212°F)	±3°C (±5.4°F)
	100 to 400°C (212 to 752°F)	±3%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)

Environmental data	
Drop	2 m (6.6 ft.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254003972
UPC-12	845188018757
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0110; Extended Warranty 1 Year for AX8, E4, E5
- INST-EWGM-0110; Premium Service Package for E4, E5
- INST-GM-0115; General Maintenance Package for E4, E5, ix, Kx

2.2 FLIR E5xt (incl. Wi-Fi)

P/N: 63909-1004
Rev.: 60477

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	160 × 120 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)	5.2 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

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%
10 to 400°C (50 to 752°F)	10 to 100°C (50 to 212°F)	±3°C (±5.4°F)
	100 to 400°C (212 to 752°F)	±3%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

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

Radio	
Wi-Fi	• Standard: 802.11 b/g/n • Frequency range: ◦ 2400–2480 MHz ◦ 5150–5260 MHz • Max. output power: 15 dBm

Power system	
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.
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

Environmental data	
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

Environmental data	
EMC	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Radio spectrum	• ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR Part 15 C, E • RSS-247 Issue 2
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254004009
UPC-12	845188018788
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0110; Extended Warranty 1 Year for AX8, E4, E5

- INST-EWGM-0110; Premium Service Package for E4, E5
- INST-GM-0115; General Maintenance Package for E4, E5, ix, Kx

2.3 FLIR E6xt

P/N: 63902-0302
Rev.: 60477

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	240 × 180 pixels
Thermal sensitivity/NETD	< 0.06°C (0.11°F) / < 60 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	3.4 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/Manual

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%
10 to 550°C (50 to 1022°F)	10 to 100°C (50 to 212°F)	±3°C (±5.4°F)
	100 to 550°C (212 to 1022°F)	±3%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)

Environmental data	
Drop	2 m (6.6 ft.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254003989
UPC-12	845188018764
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8
- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

2.4 FLIR E6xt (incl. Wi-Fi)

P/N: 63907-0804
Rev.: 60477

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	240 × 180 pixels
Thermal sensitivity/NETD	< 0.06°C (0.11°F) / < 60 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	3.4 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/Manual

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%
10 to 550°C (50 to 1022°F)	10 to 100°C (50 to 212°F)	±3°C (±5.4°F)
	100 to 550°C (212 to 1022°F)	±3%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

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

Radio	
Wi-Fi	• Standard: 802.11 b/g/n • Frequency range: ◦ 2400–2480 MHz ◦ 5150–5260 MHz • Max. output power: 15 dBm

Power system	
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.
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

Environmental data	
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

Environmental data	
EMC	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Radio spectrum	• ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR Part 15 C, E • RSS-247 Issue 2
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254004016
UPC-12	845188018795
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8

- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

2.5 FLIR E8xt

P/N: 63903-0403
Rev.: 60477

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	320 × 240 pixels
Thermal sensitivity/NETD	< 0.05°C (0.09°F) / < 50 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	2.6 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/Manual

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%
10 to 550°C (50 to 1022°F)	10 to 100°C (50 to 212°F)	±3°C (±5.4°F)
	100 to 550°C (212 to 1022°F)	±3%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)

Environmental data	
Drop	2 m (6.6 ft.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (2x) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Battery charger • Printed documentation
Packaging, weight	3.13 kg (6.9 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254003996
UPC-12	845188018771
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8
- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

2.6 FLIR E8xt (incl. Wi-Fi)

P/N: 63908-0905
Rev.: 60477

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	320 × 240 pixels
Thermal sensitivity/NETD	< 0.05°C (0.09°F) / < 50 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	2.6 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/Manual

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%
10 to 550°C (50 to 1022°F)	10 to 100°C (50 to 212°F)	±3°C (±5.4°F)
	100 to 550°C (212 to 1022°F)	±3%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

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

Radio	
Wi-Fi	• Standard: 802.11 b/g/n • Frequency range: ◦ 2400–2480 MHz ◦ 5150–5260 MHz • Max. output power: 15 dBm

Power system	
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.
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

Environmental data	
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

Environmental data	
EMC	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Radio spectrum	• ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR Part 15 C, E • RSS-247 Issue 2
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (2x) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Battery charger • Printed documentation
Packaging, weight	3.13 kg (6.9 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254004023
UPC-12	845188018801
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8

- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

2.7 FLIR E4

P/N: 63901-0101
Rev.: 60477

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	80 × 60 pixels
Thermal sensitivity/NETD	<0.15°C (0.27°F) / <150 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	10.3 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

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)

Environmental data	
Drop	2 m (6.6 ft.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254000995
UPC-12	845188004941
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0110; Extended Warranty 1 Year for AX8, E4, E5
- INST-EWGM-0110; Premium Service Package for E4, E5
- INST-GM-0115; General Maintenance Package for E4, E5, ix, Kx

2.8 FLIR E4 (incl. Wi-Fi)

P/N: 63906-0604
Rev.: 60477

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	80 × 60 pixels
Thermal sensitivity/NETD	<0.15°C (0.27°F) / <150 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	10.3 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

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

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

Radio	
Wi-Fi	• Standard: 802.11 b/g/n • Frequency range: ◦ 2400–2480 MHz ◦ 5150–5260 MHz • Max. output power: 15 dBm

Power system	
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.
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

Environmental data	
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

Environmental data	
EMC	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Radio spectrum	• ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR Part 15 C, E • RSS-247 Issue 2
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254002869
UPC-12	845188014117
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0110; Extended Warranty 1 Year for AX8, E4, E5

- INST-EWGM-0110; Premium Service Package for E4, E5
- INST-GM-0115; General Maintenance Package for E4, E5, ix, Kx

2.9 FLIR E5

P/N: 63905-0501
Rev.: 60477

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

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)

Environmental data	
Drop	2 m (6.6 ft.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254001114
UPC-12	845188005146
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0110; Extended Warranty 1 Year for AX8, E4, E5
- INST-EWGM-0110; Premium Service Package for E4, E5
- INST-GM-0115; General Maintenance Package for E4, E5, ix, Kx

2.10 FLIR E5 (incl. Wi-Fi)

P/N: 63909-0904
Rev.: 60477

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

Image presentation modes	
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

Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature 10 to 35°C (59 to 95°F) and object temperature above 0°C (32°F)
–20 to 250°C (–4 to 482°F)	0 to 100°C (32 to 212°F)	±2°C (±3.6°F)
	100 to 250°C (212 to 482°F)	±2%

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

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

Radio	
Wi-Fi	• Standard: 802.11 b/g/n • Frequency range: ◦ 2400–2480 MHz ◦ 5150–5260 MHz • Max. output power: 15 dBm

Power system	
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.
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

Environmental data	
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

Environmental data	
EMC	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Radio spectrum	• ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR Part 15 C, E • RSS-247 Issue 2
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
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
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0110; Extended Warranty 1 Year for AX8, E4, E5

- INST-EWGM-0110; Premium Service Package for E4, E5
- INST-GM-0115; General Maintenance Package for E4, E5, ix, Kx

2.11 FLIR E6

P/N: 63902-0202
Rev.: 60477

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	160 × 120 pixels
Thermal sensitivity/NETD	<0.06°C (0.11°F) / <60 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	5.2 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/Manual

Image presentation modes	
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

Measurement	
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)

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.

Measurement analysis	
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254001008
UPC-12	845188004958
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8
- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

2.12 FLIR E6 (incl. Wi-Fi)

P/N: 63907-0704
Rev.: 60477

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	160 × 120 pixels
Thermal sensitivity/NETD	<0.06°C (0.11°F) / <60 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	5.2 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/Manual

Image presentation modes	
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

Measurement	
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)

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.

Measurement analysis	
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

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

Radio	
Wi-Fi	• Standard: 802.11 b/g/n • Frequency range: ◦ 2400–2480 MHz ◦ 5150–5260 MHz • Max. output power: 15 dBm

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM

Environmental data	
Radio spectrum	• ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR Part 15 C, E • RSS-247 Issue 2
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (inside camera) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254002883
UPC-12	845188014131
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8
- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

2.13 FLIR E8

P/N: 63903-0303
Rev.: 60477

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	320 × 240 pixels
Thermal sensitivity/NETD	<0.06°C (0.11°F) / <60 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	2.6 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/Manual

Image presentation modes	
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

Measurement	
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)

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.

Measurement analysis	
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac device

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (2x) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Battery charger • Printed documentation
Packaging, weight	3.13 kg (6.9 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254001015
UPC-12	845188004965
Country of origin	Estonia

Supplies & accessories:

- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- 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
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8
- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

2.14 FLIR E8 (incl. Wi-Fi)

P/N: 63908-0805
Rev.: 60477

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	320 × 240 pixels
Thermal sensitivity/NETD	<0.06°C (0.11°F) / <60 mK
Field of view (FOV)	45° × 34°
Minimum focus distance	0.5 m (1.6 ft.)
Spatial resolution (IFOV)	2.6 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/Manual

Image presentation modes	
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

Measurement	
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)

Measurement analysis	
Spotmeter	Center spot
Area	Box with max./min.

Measurement analysis	
Isotherm	Above alarm, Below alarm
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

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

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Digital camera	
Digital camera, resolution	640 × 480
Digital camera, FOV	55° × 43°

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

Radio	
Wi-Fi	• Standard: 802.11 b/g/n • Frequency range: ◦ 2400–2480 MHz ◦ 5150–5260 MHz • Max. output power: 15 dBm

Power system	
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.
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

Environmental data	
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	• EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 Class B (Emission) • RCM

Environmental data	
Radio spectrum	• ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR Part 15 C, E • RSS-247 Issue 2
Hazardous substances	• WEEE 2012/19/EU • RoHs 2011/65/EU
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.)
Safety	Camera: IEC/EN60950-1 Power supply: UL, CSA, CE, PSE, CCC, and SAA

Physical data	
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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera • Hard transport case • Battery (2x) • USB cable • Power supply/charger with EU, UK, US and Australian plugs • Battery charger • Printed documentation
Packaging, weight	3.13 kg (6.9 lb.)
Packaging, size	385 × 165 × 315 mm (15.2 × 6.5 × 12.4 in.)
EAN-13	4743254002890
UPC-12	845188014148
Country of origin	Estonia

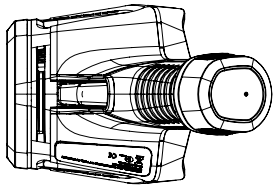
Supplies & accessories:

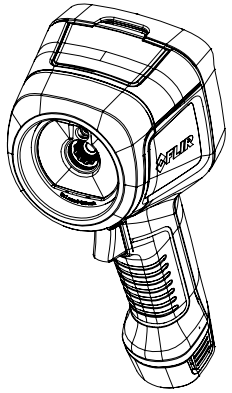
- T911093; Tool belt
- T911689ACC; Pouch for FLIR E-series
- T198528; Hard transport case FLIR Ex-series
- T198531; Battery charger incl power supply
- T198532; Car charger
- T198534; Power supply USB-micro
- T198529; Pouch FLIR Ex and ix series
- T198533; USB cable Std A <-> Micro B
- T199362ACC; Battery Li-ion 3.6 V, 2.6 Ah, 9.4 Wh
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- INST-EW-0125; Extended Warranty 1 Year for A5, A15, E6, E8
- INST-EWGM-0120; Premium Service Package for A5, A15, E6, E8
- INST-GM-0120; General Maintenance Package for A5, A15, E6, E8

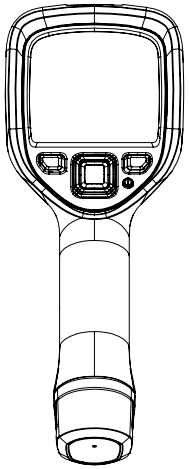
3 Mechanical drawings

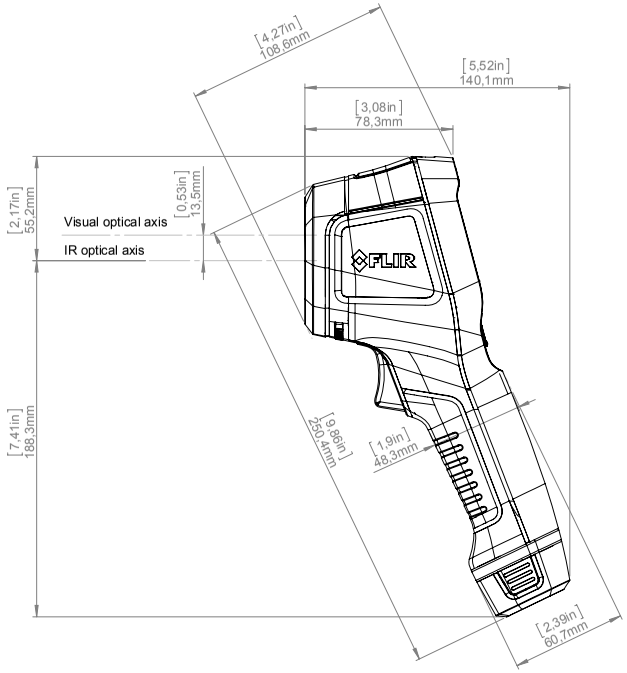
[See next page]

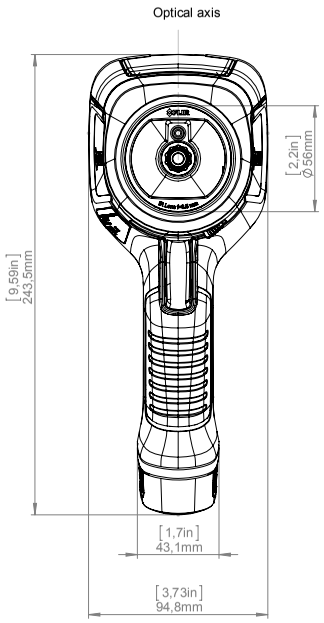
Camera with built-in IR lens f=6,5 mm (45°)

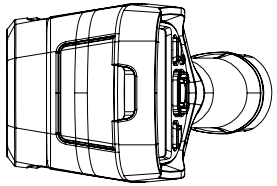












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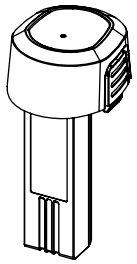
Modified	Check	Drawn by
2013-03-25	CAHA	R&D Thermography

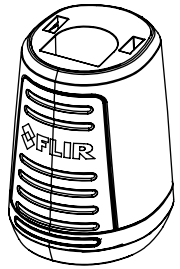
Denomination

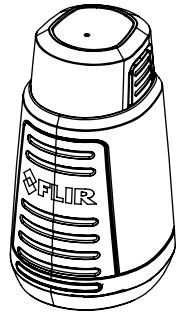
Basic dimensions FLIR Ex

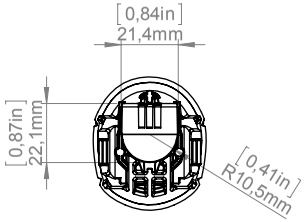
Size	Sheet
A2	1(2)
Scale 1:2	
Drawing No. T127831	Size A

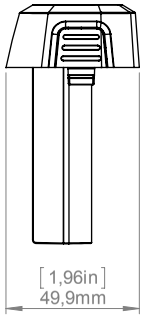
Charger and Power pack

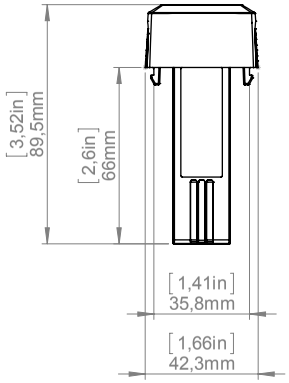


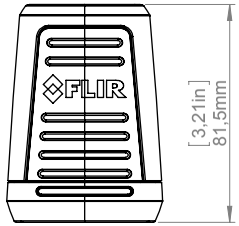


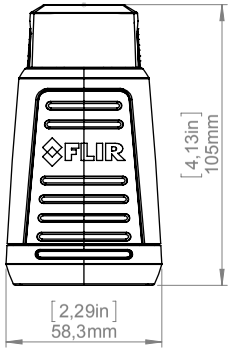


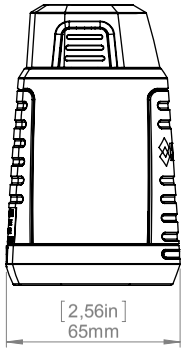


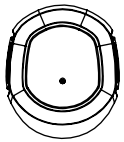


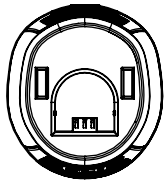


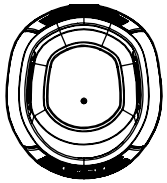












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Modified 2013-03-25	Check CAHA	Drawn by R&D Thermography	FLIR
Denomination: Basic dimensions FLIR Ex		Size A3	
		Scale 1:2	Sheet 2(2)
		Drawing No. T127831	Size A

4 CE Declaration of conformity

[See next page]

FLIR | The World's Sixth Sense™

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 Compability
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 Compability Generic standards – Emission
Immunity:	EN 61000-6-2:2005	Electromagnetic Compability 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

Website
http://www.flir.com

Customer support
http://support.flir.com

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Head: 60793
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