

P/N: 64501-0101

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Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

Disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply. Products described herein may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions.



General description

The FLIR Exx series cameras are compact and rugged infrared cameras that can be used in harsh environments while still providing you with the latest technology such as a modern touch screen and wireless connectivity. A FLIR Exx series camera is the perfect choice when you are looking for a robust but feature-rich camera at an affordable price.

Benefits:

- **Robust and sophisticated:** The FLIR Exx series cameras have a robust and light-weight design and can withstand a 2 m drop. Large buttons combined with a modern touch screen and extensive measuring capabilities, they are the right choice for demanding inspections in the field.
- **Easy communication:** The Wi-Fi connectivity of the FLIR Exx series cameras allows you to connect to smart phones and tablets, for the wireless transfer of images or the remote control of the camera. The Bluetooth-based METERLiNK function transfers readings from external measurement instruments to the infrared image.
- **Best value for money:** The FLIR Exx series cameras combine good performance (up to 320 × 240 pixels), a user-friendly interface, and a rugged point-and-shoot design with an affordable price.

Imaging and optical data

| | |
|---------------------------|---------------------------------|
| IR resolution | 160 × 120 pixels |
| Thermal sensitivity/NETD | <0.07°C @ +30°C (+86°F) / 70 mK |
| Field of view (FOV) | 25° × 19° |
| Minimum focus distance | 0.4 m (1.31 ft.) |
| Focal length | 18 mm (0.7 in.) |
| Spatial resolution (IFOV) | 2.72 mrad |
| F-number | 1.3 |
| Image frequency | 60 Hz |
| Focus | Manual |
| Digital zoom | 2× |
| Panning | Panning over zoomed-in images |

P/N: 64501-0101

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#64501-0101; r. /35207; en-US

| Detector data | |
|------------------------------------|--|
| Detector type | Focal plane array (FPA), uncooled microbolometer |
| Spectral range | 7.5–13 μm |
| Image presentation | |
| Display | Touch screen, 3.5 in. LCD, 320 × 240 pixels |
| Image adjustment | Auto or manual |
| Image presentation modes | |
| Image modes | IR image, visual image, MSX, picture in picture, thumbnail gallery |
| Picture in Picture | IR area on visual image |
| Measurement | |
| Object temperature range | <ul style="list-style-type: none"> –20°C to +120°C (–4°F to +248°F) 0°C to +650°C (+32°F to +1202°F) |
| Accuracy | ±2°C (±3.6°F) or ±2% of reading, for ambient temperature 10°C to 35°C (+50°F to 95°F) |
| Measurement analysis | |
| Spotmeter | 3 |
| Area | 3 boxes with max./min./average |
| Automatic hot/cold detection | Auto hot or cold spotmeter markers within area |
| Difference temperature | Delta temperature between measurement functions or reference temperature |
| Reference temperature | Manually set or captured from any measurement function |
| Emissivity correction | Variable from 0.01 to 1.0 or selected from materials list |
| External optics/windows correction | Automatic, based on inputs of optics/window transmission and temperature |
| Measurement corrections | Reflected temperature, optics transmission and atmospheric transmission |
| Set-up | |
| Color palettes | Arctic, Gray, Iron, Lava, Rainbow and Rainbow HC |
| Set-up commands | Local adaptation of units, language, date and time formats |
| Storage of images | |
| Image storage | Standard JPEG, including measurement data, on memory card |
| Image storage mode | Simultaneous storage of images in IR, visual and MSX |
| Image annotations | |
| Voice | 60 seconds (via Bluetooth) |
| Text | Text from predefined list or soft keyboard on touch screen |

P/N: 64501-0101

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| Image annotations | |
|------------------------------------|---|
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Report generation | <ul style="list-style-type: none"> FLIR Tools software specifically designed to provide an easy way to create inspection reports. It is available on the major platforms – Android, Windows, MacOS, and iOS. |
| Video recording in camera | |
| Non-radiometric IR video recording | MPEG-4 to memory card |
| Video streaming | |
| Radiometric IR video streaming | Full dynamic to PC using USB |
| Non-radiometric IR video streaming | Uncompressed colorized video using USB |
| Digital camera | |
| Built-in digital camera | 3.1 Mpixels (2048 × 1536 pixels), and one LED light |
| Digital camera, focus | Fixed focus |
| Built-in digital lens data | FOV 53° × 41° |
| Digital camera, aspect ratio | 4:3 |
| Laser pointer | |
| Laser | Activated by dedicated button |
| Laser alignment | Position is automatic displayed on the IR image |
| Laser classification | Class 2 |
| Laser type | Semiconductor AlGaInP diode laser |
| Laser power | 1 mW |
| Laser wavelength | 635 nm (red) |
| Data communication interfaces | |
| Wi-Fi | Peer-to-peer (ad hoc) or infrastructure (network) |
| SD Card | One card slot for removable SD memory cards |
| Audio | Microphone headset via Bluetooth for voice annotation of images |
| USB | |
| USB | <ul style="list-style-type: none"> USB-A: Connect external USB device USB Mini-B: Data transfer to and from PC / uncompressed colorized video |
| USB, standard | USB Mini-B: 2.0 |
| USB, connector type | <ul style="list-style-type: none"> USB-A connector USB Mini-B connector |
| Composite video | |
| Video out | Composite |
| Video, standard | CVBS (ITU-R-BT.470 PAL/SMPTE 170M NTSC) |
| Video, connector type | 4-pole 3.5 mm jack |

P/N: 64501-0101

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#64501-0101; r. /35207; en-US

| Radio | |
|----------------------------------|--|
| Wi-Fi | Standard: 802.11 b/g Frequency range: 2412–2462 MHz Max. output power: 15 dBm |
| Bluetooth | Frequency range: 2402–2480 MHz |
| Antenna | Internal |
| Power system | |
| Battery type | Rechargeable Li ion battery |
| Battery voltage | 3.7 V |
| Battery capacity | 4.4 Ah, at +20°C to +25°C (+68°F to +77°F) |
| Battery operating time | Approx. 4 hours at +25°C (+77°F) ambient temperature and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or 2-bay charger |
| Charging time | 4 h to 90% capacity, charging status indicated by LED's |
| Charging temperature | 0°C to +45°C (+32°F to +113°F) |
| Power management | Automatic shutdown and sleep mode (user selectable) |
| AC operation | AC adapter, 90–260 VAC input, 12 V output to camera |
| Start-up time from sleep mode | Instant on |
| 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 +25°C to +40°C (+77°F to +104°F) / 2 cycles |
| EMC | <ul style="list-style-type: none"> • ETSI EN 301 489-1 (radio) • ETSI EN 301 489-17 • EN 61000-6-2 (Immunity) • EN 61000-6-3 (Emission) • FCC 47 CFR Part 15 B (Emission) • ICES-003 |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • FCC Part 15.247 • RSS-210 |
| Magnetic fields | EN 61 000-4-8, Test level 5 for continuous field (severe industrial environment) |
| 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 | EN/UL/CSA/PSE 60950-1 |

P/N: 64501-0101

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#64501-0101; r. /35207; en-US

| Physical data | |
|------------------------------|---|
| Camera weight, incl. battery | 0.869 kg (1.91 lb.) |
| Camera size (L × W × H) | 246 × 97 × 184 mm (9.7 × 3.8 × 7.2 in.) |
| Tripod mounting | UNC ¼"-20 (adapter needed) |
| Material | <ul style="list-style-type: none"> Polycarbonate + acrylonitrile butadiene styrene (PC-ABS) Thixomold magnesium Thermoplastic elastomer (TPE) |
| Color | Graphite gray and black |
| Shipping information | |
| Packaging, type | Cardboard box |
| List of contents | <ul style="list-style-type: none"> Hard transport case Infrared camera with lens Battery Handstrap Memory card Power supply, incl. multi-plugs Printed documentation USB cable Video cable |
| Packaging, weight | 5.2 kg (11.5 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254001138 |
| UPC-12 | 845188005160 |
| Country of origin | Estonia |

Supplies & accessories:

- 1196961; IR lens, f = 30 mm, 15° incl. case
- 1196960; IR lens, f = 10 mm, 45° incl. case
- T910814; Power supply, incl. multi plugs
- T911230ACC; Memory card SDHC 4 GB
- 1910423; USB cable Std A <-> Mini-B
- T198509; Cigarette lighter adapter kit, 12 VDC, 1.2 m/3.9 ft.
- 1910582ACC; Video cable
- T197771ACC; Bluetooth Headset
- T911093; Tool belt
- T198125; Battery charger, incl. power supply with multi plugs (Exx, Kxx)
- T199235; High-temperature lens
- T198113; IR lens, 76 mm (6°) with case and mounting support for Exx
- T198487; Li-Ion Battery pack 3.7V 17Wh
- T198484; Pouch for FLIR Exx series
- T198485; Sun shield
- T198341ACC; Transport case Exx
- T198486; Tripod Adapter
- T199363ACC; Battery Li-ion 3.6 V, 5.2 Ah, 19 Wh
- 19250-100; IR Window 2 in.
- 19251-100; IR Window 3 in.
- 19252-100; IR Window 4 in.
- 19250-200; SS IR Window 2 in.
- 19251-200; SS IR Window 3 in.



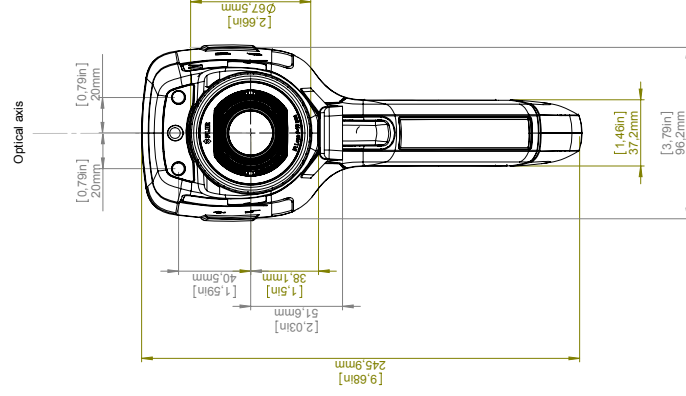
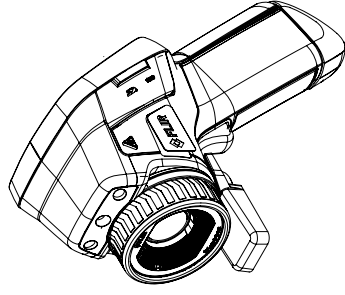
FLIR E40 (incl. Wi-Fi)

P/N: 64501-0101

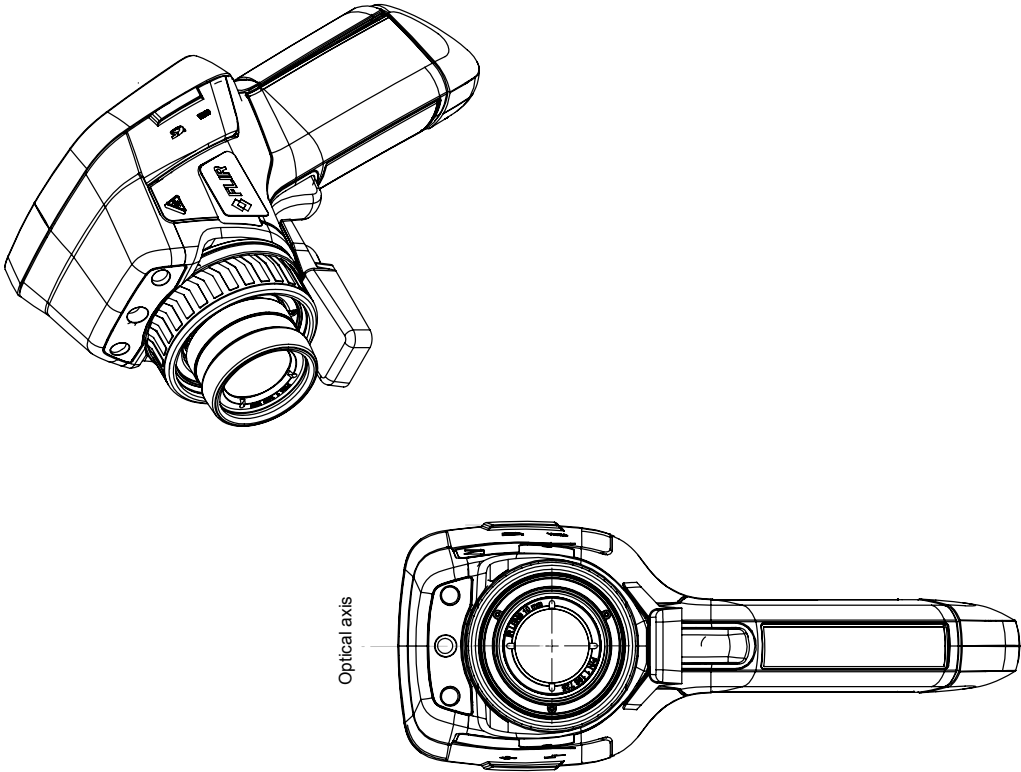
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- 19252-200; SS IR Window 4 in.
- T198586; FLIR Reporter Professional (license only)
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- DSW-10000; FLIR IR Camera Player
- APP-10002; FLIR Tools Mobile (Android Application)
- APP-10004; FLIR Tools (MacOS Application)
- T198697; FLIR ResearchIR Max + HSDR 4 (hardware sec. dev.)
- T199014; FLIR ResearchIR Max + HSDR 4 (printed license key)
- T199044; FLIR ResearchIR Max + HSDR 4 Upgrade (printed license key)
- T198696; FLIR ResearchIR Max 4 (hardware sec. dev.)
- T199013; FLIR ResearchIR Max 4 (printed license key)
- T199043; FLIR ResearchIR Max 4 Upgrade (printed license key)
- T198731; FLIR ResearchIR Standard 4 (hardware sec. dev.)
- T199012; FLIR ResearchIR Standard 4 (printed license key)
- T199042; FLIR ResearchIR Standard 4 Upgrade (printed license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB

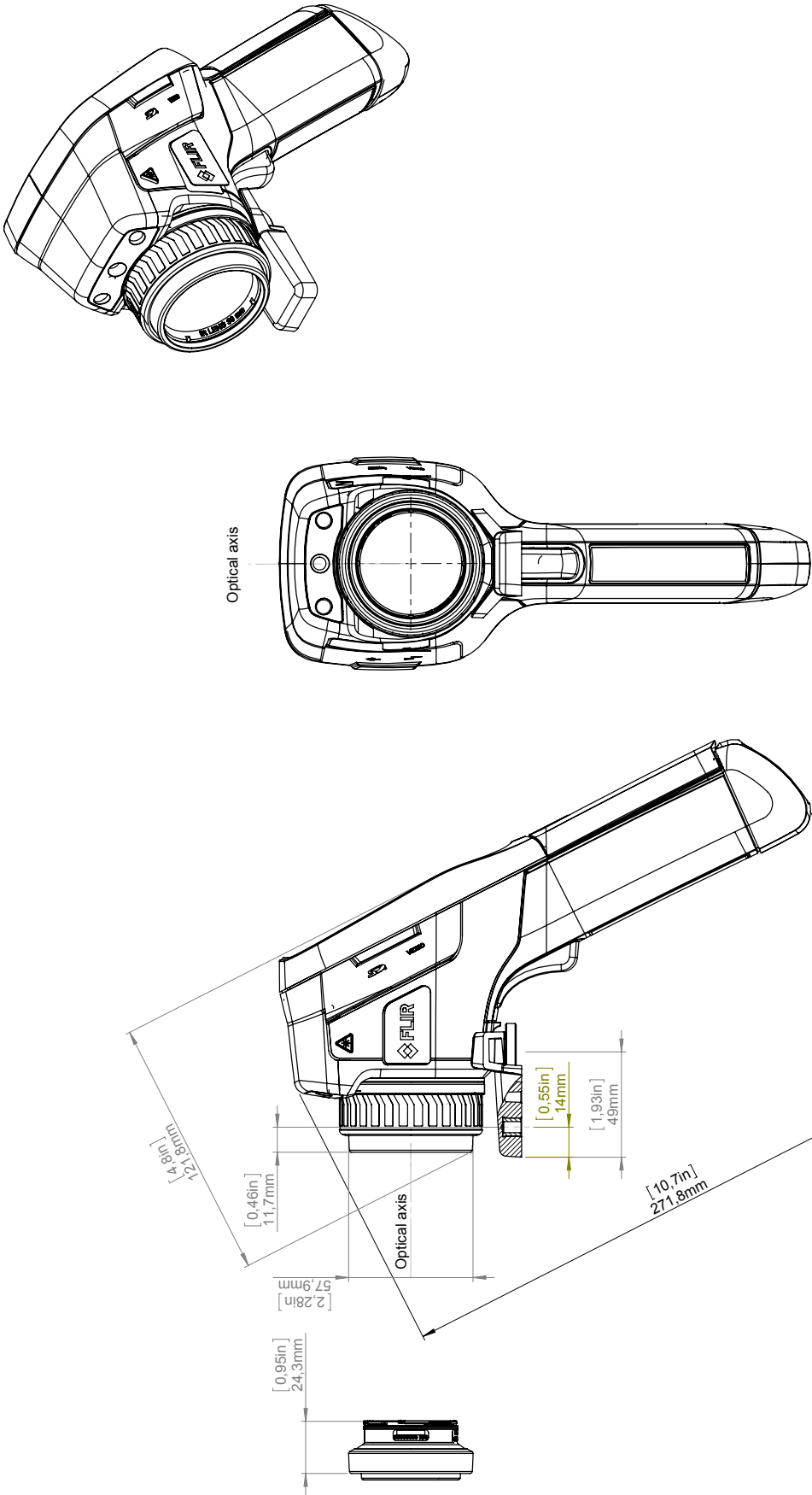
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Camera with Lens IR f=10 mm (45°)



| | | | |
|--|---------------|------------------------------|------------------------|
| For additional dimensions see page 1 | | | |
| Modified 2015-10-28 | Check JOHG | Drawn by R&D Thermography | FLIR |
| Denomination Basic dimensions Flir Exx series | | Size A3 | Sheet 2(5) |
| | | Scale 1:2 | Drawing No. T127869 |
| | | | Size B |

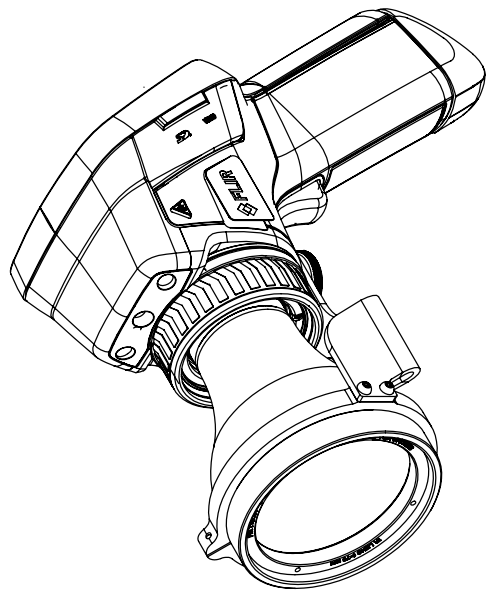
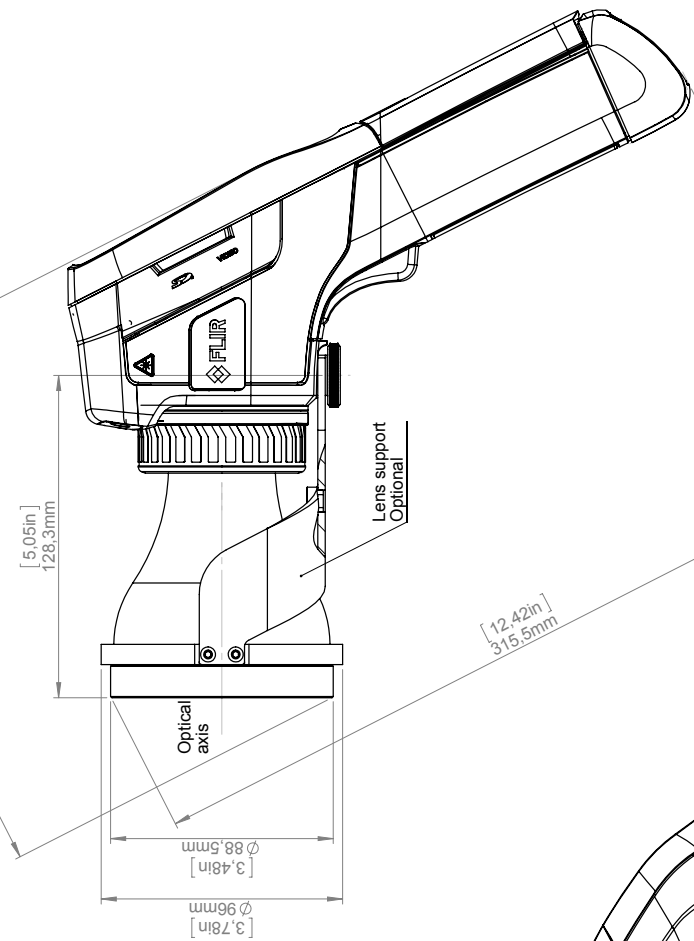
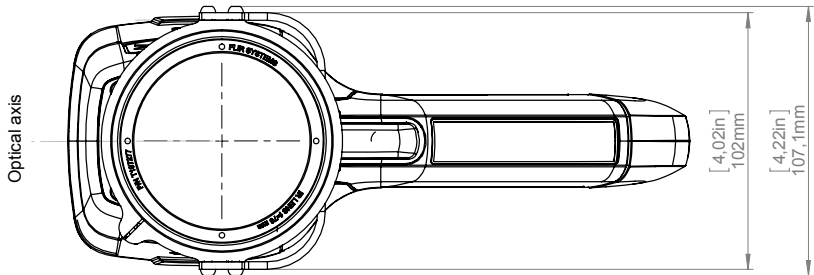
Camera with Lens IR f=30 mm (15°)



| | | | |
|--------------------------------------|---------------|----------------------------------|---------------|
| For additional dimensions see page 1 | | | |
| Modified 2015-10-28 | Check JOHG | Drawn by R&D Thermography | Size A3 |
| Denomination | | Basic dimensions Flir Exx series | |
| | | Scale 1:2 | Sheet 3(5) |
| | | Drawing No. T127869 | Size B |

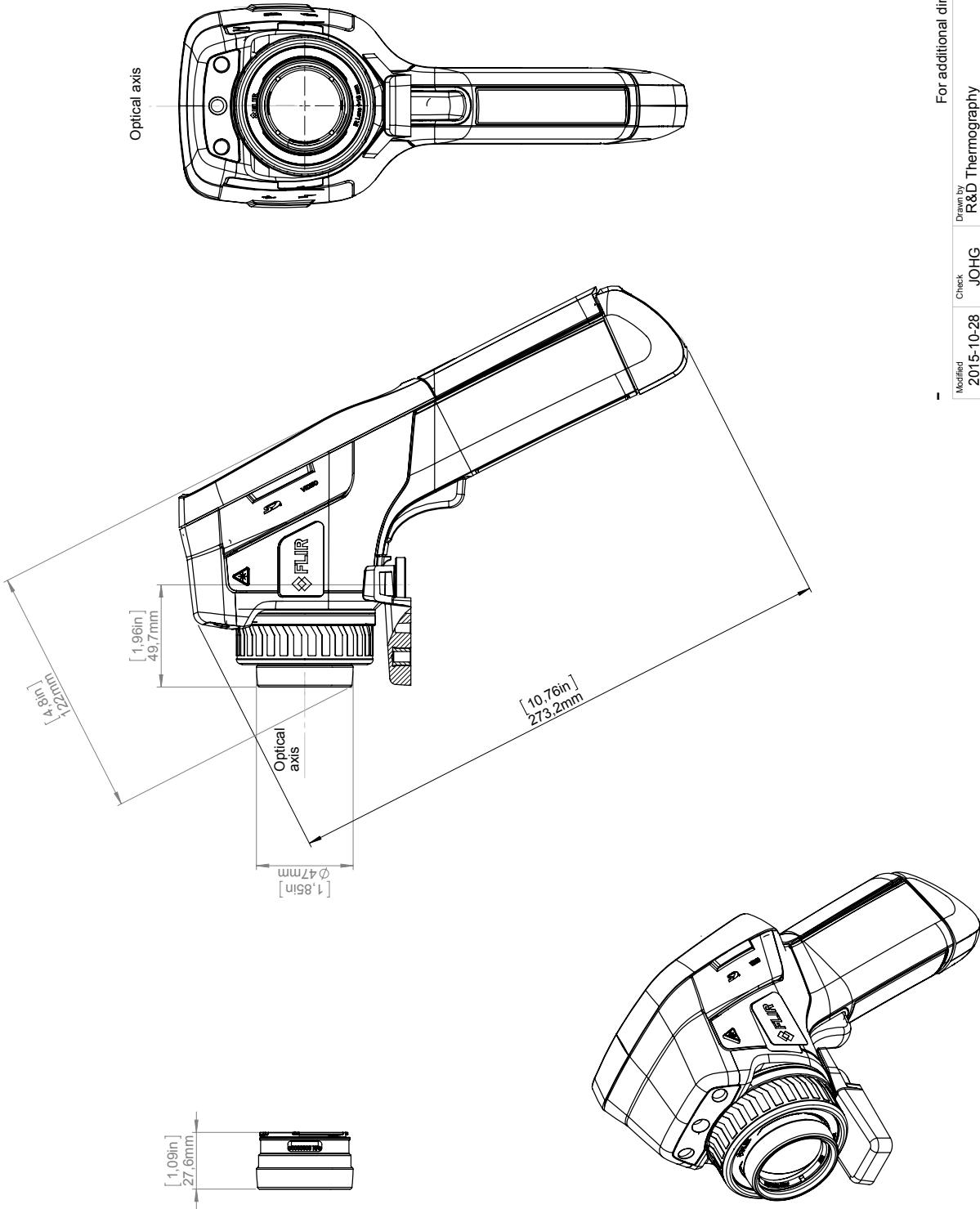
Camera with Lens IR f=76 mm (6°) incl support

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| | | | | | |
|----------------------------------|---------------|------------------------------|--------------------------------------|--------------|---------------|
| Modified 2015-10-28 | Check JOHG | Drawn by R&D Thermography | For additional dimensions see page 1 | | |
| Denomination | | | Size A3 | Scale 1:2 | Sheet 4(5) |
| Basic dimensions Flir Exx series | | | Drawing No. T127869 | Size B | |

Camera with High-Temperature Lens incl support



| | | | | | |
|--------------------------------------|-------|------------------|----------------------------------|---------|------|
| For additional dimensions see page 1 | | | FLIR | | |
| Modified | Check | Drawn by | Basic dimensions Flir Exx series | Size | A3 |
| 2015-10-28 | JOHG | R&D Thermography | | Scale | 1:2 |
| Denomination | | | | Sheet | 5(5) |
| | | | Drawing No. | T127869 | |
| | | | Size | B | |

CE Declaration of Conformity

This is to certify that the System listed below have been designed and manufactured to meet the requirements, as applicable, of the following EU-Directives and corresponding harmonising standards. The systems consequently meet the requirements for the CE-mark.

Directives:

| | |
|------------------------------|---|
| Directive 2004/108/EC | Electromagnetic Compatibility |
| Directive 2006/95/EC | “Low voltage Directive” (Power Supply) |
| Directive 1999/5/EC | “R&TTE on radio equipment and telecommunications terminal equipment” |
| Directive 2002/96/EC | Waste electrical and electronic equipment; WEEE (As applicable) |

Standards:

| | |
|-------------------------------|--|
| Emission: | EN 61000-6-3; Electro magnetic Compatibility Generic standards - Emission |
| Immunity: | EN 61000-6-2; Electro magnetic Compatibility Generic standards - Immunity |
| Safety (Power Supply): | EN 60950; (or other) Safety of information technology equipment |
| Radio | EN 300328 EN 301489 |

System: **FLIR EXX series**

FLIR Systems AB
Quality Assurance



Björn Svensson
Director