

Technical data FLIR Exx series

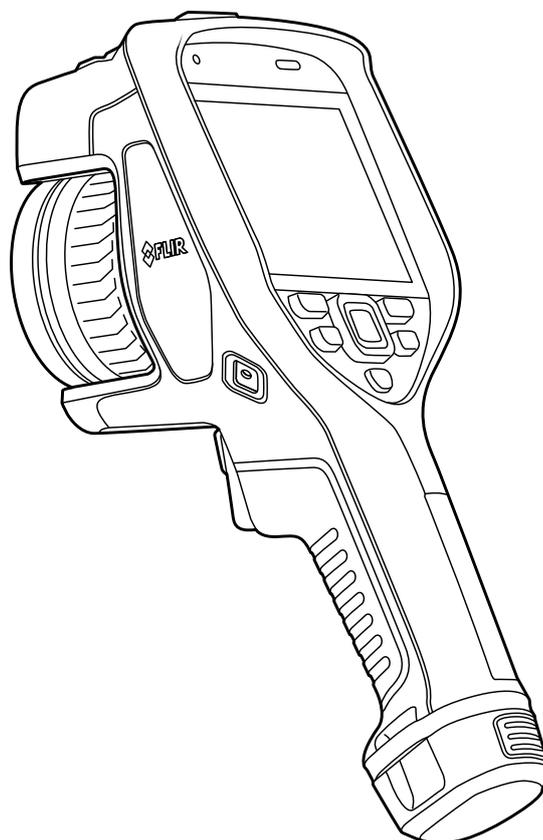


Table of contents

| | | |
|----------|-------------------------------------------|------------|
| 1 | General | 1 |
| 1.1 | Online field-of-view calculator | 1 |
| 1.2 | Note about technical data | 1 |
| 1.3 | Note about authoritative versions | 1 |
| 2 | Technical data | 2 |
| 2.1 | FLIR E54 24° | 3 |
| 2.2 | FLIR E76 14° | 9 |
| 2.3 | FLIR E76 24° | 16 |
| 2.4 | FLIR E76 42° | 23 |
| 2.5 | FLIR E76 42° + 14° | 30 |
| 2.6 | FLIR E76 24° + 14° | 37 |
| 2.7 | FLIR E76 24° + 42° | 44 |
| 2.8 | FLIR E76 24° + 14° & 42° | 51 |
| 2.9 | FLIR E86 14° | 58 |
| 2.10 | FLIR E86 24° | 65 |
| 2.11 | FLIR E86 42° | 72 |
| 2.12 | FLIR E86 42° + 14° | 79 |
| 2.13 | FLIR E86 24° + 14° | 86 |
| 2.14 | FLIR E86 24° + 42° | 93 |
| 2.15 | FLIR E86 24° + 14° & 42° | 100 |
| 2.16 | FLIR E96 14° | 107 |
| 2.17 | FLIR E96 24° | 114 |
| 2.18 | FLIR E96 42° | 121 |
| 2.19 | FLIR E96 42° + 14° | 128 |
| 2.20 | FLIR E96 24° + 14° | 135 |
| 2.21 | FLIR E96 24° + 42° | 142 |
| 2.22 | FLIR E96 24° + 14° & 42° | 149 |
| 3 | Mechanical drawings | 156 |
| 4 | CE Declaration of conformity | 158 |

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.

2.1 FLIR E54 24°

P/N: 84512-1201

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 320 × 240 pixels |
| NETD | <40 mK @ +30°C (+86°F) |
| Field of view | 24° × 18° |
| Minimum focus distance | 0.15 m (0.49 ft.) |
| Minimum focus distance with MSX | 0.5 m (1.64 ft.) |
| Focal length | 17 mm (0.67 in.) |
| Spatial resolution (IFOV) | 1.31 mrad/pixel |
| Lens identification | Automatic |
| f number | 1.3 |
| Image frequency | 30 Hz |
| Focus | Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation modes | |
| Picture in Picture | Centered infrared area on the visual image |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 1 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • 3 spots • Hot spot-Spot |
| Difference temperature | Yes: as preset (Hot spot-Spot) |
| Reference temperature | Yes: in preview mode |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) |
| Set-up | |
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |

Technical data

| Storage of images | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage media | <ul style="list-style-type: none"> Removable memory: SD card (8 GB) FLIR Ignite Cloud services (with Wi-Fi) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | No |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> H.264 (AVC) over RTSP (Wi-Fi) MPEG4 over RTSP (Wi-Fi) MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser pointer | Yes |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |

| Data communication interfaces | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |
| Environmental data | |
| Operating temperature range | –15 to +50°C (5–122°F) |
| Storage temperature range | –40 to +70°C (–40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |

| Environmental data | |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L x W x H) | 278.4 x 116.1 x 113.1 mm (11.0 x 4.6 x 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L x W x H) | 150 x 46 x 55 mm (5.9 x 1.8 x 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |
| Shipping information | |
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front |
| Packaging, weight | 5.4 kg (11.9 lb.) |
| Packaging, size | 500 x 190 x 370 mm (19.7 x 7.5 x 14.6 in.) |
| EAN-13 | 4743254004733 |
| UPC-12 | 845188022730 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.2 FLIR E76 14°

P/N: 78511-1101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 320 × 240 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <50 mK @ +30°C (+86°F) |
| Field of view | 14° × 10° |
| Minimum focus distance | 1.0 m (3.28 ft.) |
| Minimum focus distance with MSX | 1.0 m (3.28 ft.) |
| Focal length | 29 mm (1.41 in.) |
| Spatial resolution (IFOV) | 0.75 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 42° (AutoCal) • 24° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.5 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

Technical data

| Image presentation modes | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • Optional 300 to 1000°C (572 to 1832°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Optional Range 300 to 1000°C (572 to 1832°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

Technical data

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | No |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

Technical data

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004597 |
| UPC-12 | 845188022594 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.3 FLIR E76 24°

P/N: 78512-1101

Rev.: 83141

| Imaging and optical data | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared resolution | 320 × 240 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <40 mK @ +30°C (+86°F) |
| Field of view | 24° × 18° |
| Minimum focus distance | 0.15 m (0.49 ft.) |
| Minimum focus distance with MSX | 0.5 m (1.64 ft.) |
| Focal length | 17 mm (0.67 in.) |
| Spatial resolution (IFOV) | 1.31 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 42° (AutoCal) • 14° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.3 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

Technical data

| Image presentation modes | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • Optional 300 to 1000°C (572 to 1832°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Optional Range 300 to 1000°C (572 to 1832°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

Technical data

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | No |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004603 |
| UPC-12 | 845188022600 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.4 FLIR E76 42°

P/N: 78513-1101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 320 × 240 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <30 mK @ +30°C (+86°F) |
| Field of view | 42° × 32° |
| Minimum focus distance | 0.15 m (0.49 ft.) |
| Minimum focus distance with MSX | 0.65 m (2.13 ft.) |
| Focal length | 10 mm (0.39 in.) |
| Spatial resolution (IFOV) | 2.41 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 24° (AutoCal) • 14° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.1 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

Technical data

| Image presentation modes | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • Optional 300 to 1000°C (572 to 1832°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Optional Range 300 to 1000°C (572 to 1832°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | No |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

Technical data

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004610 |
| UPC-12 | 845188022617 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.5 FLIR E76 42° + 14°

P/N: 78517-1101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 320 × 240 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 2.41 mrad/pixel, 42° • 0.75 mrad/pixel, 14° |
| Available extra lenses | <ul style="list-style-type: none"> • 24° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

| Image presentation | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • Optional 300 to 1000°C (572 to 1832°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Optional Range 300 to 1000°C (572 to 1832°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |

| Alarm | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |
| Set-up | |
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | No |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |

Technical data

| Video streaming | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radiometric infrared–video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |

Technical data

| Power system | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |
| Environmental data | |
| Operating temperature range | –15 to +50°C (5–122°F) |
| Storage temperature range | –40 to +70°C (–40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004658 |
| UPC-12 | 845188022655 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.6 FLIR E76 24° + 14°

P/N: 78514-1101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 320 × 240 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <40 mK, 24° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 24° × 18° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.5 m (1.64 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 17 mm (0.67 in.), 24° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 1.31 mrad/pixel, 24° • 0.75 mrad/pixel, 14° |
| Available extra lenses | <ul style="list-style-type: none"> • 42° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.3, 24° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

Technical data

| Image presentation | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • Optional 300 to 1000°C (572 to 1832°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Optional Range 300 to 1000°C (572 to 1832°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |

| Alarm | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |
| Set-up | |
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | No |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |

| Video streaming | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radiometric infrared–video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |

Technical data

| | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power system | |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |
| Environmental data | |
| Operating temperature range | –15 to +50°C (5–122°F) |
| Storage temperature range | –40 to +70°C (–40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004627 |
| UPC-12 | 845188022624 |
| Country of origin | Estonia |

Supplies and accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.7 FLIR E76 24° + 42°

P/N: 78515-1101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 320 × 240 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <40 mK, 24° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 24° × 18° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 0.15 m (0.49 ft.), 24° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 0.5 m (1.64 ft.), 24° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 17 mm (0.67 in.), 24° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 2.41 mrad/pixel, 42° • 1.31 mrad/pixel, 24° |
| Available extra lenses | <ul style="list-style-type: none"> • 14° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.3, 24° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

| Image presentation | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • Optional 300 to 1000°C (572 to 1832°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Optional Range 300 to 1000°C (572 to 1832°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |

| Alarm | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |
| Set-up | |
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | No |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |

| Video streaming | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radiometric infrared–video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |

| | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power system | |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |
| Environmental data | |
| Operating temperature range | –15 to +50°C (5–122°F) |
| Storage temperature range | –40 to +70°C (–40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | <p>Camera:</p> <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 <p>Power supply:</p> <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 42° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004634 |
| UPC-12 | 845188022631 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.8 FLIR E76 24° + 14° & 42°

P/N: 78516-1101

Rev.: 83141

| | |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 320 × 240 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <40 mK, 24° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 24° × 18° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 0.15 m (0.49 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 0.5 m (1.64 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 17 mm (0.67 in.), 24° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 2.41 mrad/pixel, 42° • 1.31 mrad/pixel, 24° • 0.75 mrad/pixel, 14° |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.3, 24° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |

| Image presentation | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • Optional 300 to 1000°C (572 to 1832°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Optional Range 300 to 1000°C (572 to 1832°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |

| Alarm | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |
| Set-up | |
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | No |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | No |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video streaming | |
| Radiometric infrared–video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |

Technical data

| | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power system | |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |
| Environmental data | |
| Operating temperature range | –15 to +50°C (5–122°F) |
| Storage temperature range | –40 to +70°C (–40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • Extra lens, 42° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.4 kg (14.1 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004641 |
| UPC-12 | 845188022648 |
| Country of origin | Estonia |

Supplies and accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter

- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.9 FLIR E86 14°

P/N: 78511-1301

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 464 × 348 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <50 mK @ +30°C (+86°F) |
| Field of view | 14° × 10° |
| Minimum focus distance | 1.0 m (3.28 ft.) |
| Minimum focus distance with MSX | 1.0 m (3.28 ft.) |
| Focal length | 29 mm (1.41 in.) |
| Spatial resolution (IFOV) | 0.52 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 42° (AutoCal) • 24° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.5 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

| Image presentation modes | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004665 |
| UPC-12 | 845188022662 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.10 FLIR E86 24°

P/N: 78512-1301

Rev.: 83141

| Imaging and optical data | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared resolution | 464 × 348 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <40 mK @ +30°C (+86°F) |
| Field of view | 24° × 18° |
| Minimum focus distance | 0.15 m (0.49 ft.) |
| Minimum focus distance with MSX | 0.5 m (1.64 ft.) |
| Focal length | 17 mm (0.67 in.) |
| Spatial resolution (IFOV) | 0.90 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 14° (AutoCal) • 42° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.3 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

Technical data

| Image presentation modes | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004672 |
| UPC-12 | 845188022679 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.11 FLIR E86 42°

P/N: 78513-1301

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 464 × 348 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <30 mK @ +30°C (+86°F) |
| Field of view | 42° × 32° |
| Minimum focus distance | 0.15 m (0.49 ft.) |
| Minimum focus distance with MSX | 0.65 m (2.13 ft.) |
| Focal length | 10 mm (0.39 in.) |
| Spatial resolution (IFOV) | 1.66 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 24° (AutoCal) • 14° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.1 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

Technical data

| Image presentation modes | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

Technical data

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

Technical data

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004689 |
| UPC-12 | 845188022686 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.12 FLIR E86 42° + 14°

P/N: 78517-1301

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 464 × 348 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 1.66 mrad/pixel, 42° • 0.52 mrad/pixel, 14° |
| Available extra lenses | <ul style="list-style-type: none"> • 24° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation | |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

Technical data

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004726 |
| UPC-12 | 845188022723 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.13 FLIR E86 24° + 14°

P/N: 78514-1301

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 464 × 348 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <40 mK, 24° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 24° × 18° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.5 m (1.64 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 17 mm (0.67 in.), 24° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 0.90 mrad/pixel, 24° • 0.52 mrad/pixel, 14° |
| Available extra lenses | <ul style="list-style-type: none"> • 42° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.3, 24° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation | |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004696 |
| UPC-12 | 845188022693 |
| Country of origin | Estonia |

Supplies and accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.14 FLIR E86 24° + 42°

P/N: 78515-1301

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 464 × 348 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <40 mK, 24° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 24° × 18° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 0.15 m (0.49 ft.), 24° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 0.5 m (1.64 ft.), 24° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 17 mm (0.67 in.), 24° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 1.66 mrad/pixel, 42° • 0.90 mrad/pixel, 24° |
| Available extra lenses | <ul style="list-style-type: none"> • 14° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.3, 24° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

| Image presentation | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 42° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004702 |
| UPC-12 | 845188022709 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.15 FLIR E86 24° + 14° & 42°

P/N: 78516-1301

Rev.: 83141

| | |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 464 × 348 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <40 mK, 24° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 24° × 18° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 0.15 m (0.49 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 0.5 m (1.64 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 17 mm (0.67 in.), 24° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 1.66 mrad/pixel, 42° • 0.90 mrad/pixel, 24° • 0.52 mrad/pixel, 14° |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.3, 24° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–4× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 17 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation | |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |

| Alarm | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |
| Set-up | |
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video streaming | |
| Radiometric infrared–video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |

Technical data

| | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power system | |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |
| Environmental data | |
| Operating temperature range | –15 to +50°C (5–122°F) |
| Storage temperature range | –40 to +70°C (–40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | <p>Camera:</p> <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 <p>Power supply:</p> <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • Extra lens, 42° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.4 kg (14.1 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004719 |
| UPC-12 | 845188022716 |
| Country of origin | Estonia |

Supplies and accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.16 FLIR E96 14°

P/N: 90201-0101

Rev.: 83141

| Imaging and optical data | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared resolution | 640 × 480 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <50 mK @ +30°C (+86°F) |
| Field of view | 14° × 10° |
| Minimum focus distance | 1.0 m (3.28 ft.) |
| Minimum focus distance with MSX | 1.0 m (3.28 ft.) |
| Focal length | 29 mm (1.41 in.) |
| Spatial resolution (IFOV) | 0.38 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 42° (AutoCal) • 24° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.5 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–8× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 12 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

| Image presentation modes | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

Technical data

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004528 |
| UPC-12 | 845188022259 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.17 FLIR E96 24°

P/N: 90202-0101

Rev.: 83141

| Imaging and optical data | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared resolution | 640 × 480 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <40 mK @ 30°C (86°F) |
| Field of view | 24° × 18° |
| Minimum focus distance | 0.15 m (0.49 ft) |
| Minimum focus distance with MSX | 0.5 m (1.64 ft) |
| Focal length | 17 mm (0.67 in) |
| Spatial resolution (IFOV) | 0.66 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 14° (AutoCal) • 42° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.3 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–8× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 12 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

Technical data

| Image presentation modes | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to 45°C (32°F to 113°F), except for the Korean market: 10°C to 45°C (50°F to 113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to 50°C (5 to 122°F) |
| Storage temperature range | -40 to 70°C (-40 to 158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in) |
| Battery weight | 140 g (4.9 oz) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in) |
| EAN-13 | 4743254004535 |
| UPC-12 | 845188022266 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.18 FLIR E96 42°

P/N: 90203-0101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 640 × 480 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <30 mK @ +30°C (+86°F) |
| Field of view | 42° × 32° |
| Minimum focus distance | 0.15 m (0.49 ft.) |
| Minimum focus distance with MSX | 0.65 m (2.13 ft.) |
| Focal length | 10 mm (0.39 in.) |
| Spatial resolution (IFOV) | 1.20 mrad/pixel |
| Available extra lenses | <ul style="list-style-type: none"> • 24° (AutoCal) • 14° (AutoCal) |
| Lens identification | Automatic |
| f number | 1.1 |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–8× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 12 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |

Technical data

| Image presentation modes | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 5.8 kg (12.8 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004542 |
| UPC-12 | 845188022273 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.19 FLIR E96 42° + 14°

P/N: 90207-0101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 640 × 480 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 1.20 mrad/pixel, 42° • 0.38 mrad/pixel, 14° |
| Available extra lenses | <ul style="list-style-type: none"> • 24° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–8× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 12 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation | |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004580 |
| UPC-12 | 845188022310 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.20 FLIR E96 24° + 14°

P/N: 90204-0101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 640 × 480 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <40 mK, 24° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 24° × 18° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.5 m (1.64 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 17 mm (0.67 in.), 24° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 0.66 mrad/pixel, 24° • 0.38 mrad/pixel, 14° |
| Available extra lenses | <ul style="list-style-type: none"> • 42° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.3, 24° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–8× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 12 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation | |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

Technical data

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004559 |
| UPC-12 | 845188022280 |
| Country of origin | Estonia |

Supplies and accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.21 FLIR E96 24° + 42°

P/N: 90205-0101

Rev.: 83141

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 640 × 480 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <40 mK, 24° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 24° × 18° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 0.15 m (0.49 ft.), 24° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 0.5 m (1.64 ft.), 24° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 17 mm (0.67 in.), 24° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 1.20 mrad/pixel, 42° • 0.66 mrad/pixel, 24° |
| Available extra lenses | <ul style="list-style-type: none"> • 14° (AutoCal) |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.3, 24° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–8× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 12 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation | |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |
| Alarm | |
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |

| Set-up | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |
| Video streaming | |
| Radiometric infrared-video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |

Technical data

| Environmental data | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range | -15 to +50°C (5–122°F) |
| Storage temperature range | -40 to +70°C (-40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | Camera: <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 Power supply: <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

| Shipping information | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 42° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.2 kg (13.7 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004566 |
| UPC-12 | 845188022297 |
| Country of origin | Estonia |

Supplies & accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply
- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m

- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

2.22 FLIR E96 24° + 14° & 42°

P/N: 90206-0101

Rev.: 83141

| | |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging and optical data | |
| Infrared resolution | 640 × 480 pixels |
| UltraMax (super-resolution) | Yes |
| NETD | <ul style="list-style-type: none"> • <30 mK, 42° @ +30°C (+86°F) • <40 mK, 24° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F) |
| Field of view | <ul style="list-style-type: none"> • 42° × 32° • 24° × 18° • 14° × 10° |
| Minimum focus distance | <ul style="list-style-type: none"> • 0.15 m (0.49 ft.), 42° • 0.15 m (0.49 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Minimum focus distance with MSX | <ul style="list-style-type: none"> • 0.65 m (2.13 ft.), 42° • 0.5 m (1.64 ft.), 24° • 1.0 m (3.28 ft.), 14° |
| Focal length | <ul style="list-style-type: none"> • 10 mm (0.39 in.), 42° • 17 mm (0.67 in.), 24° • 29 mm (1.41 in.), 14° |
| Spatial resolution (IFOV) | <ul style="list-style-type: none"> • 1.20 mrad/pixel, 42° • 0.66 mrad/pixel, 24° • 0.38 mrad/pixel, 14° |
| Lens identification | Automatic |
| f number | <ul style="list-style-type: none"> • 1.1, 42° • 1.3, 24° • 1.5, 14° |
| Image frequency | 30 Hz |
| Focus | <ul style="list-style-type: none"> • Continuous LDM • One-shot LDM • One-shot contrast • Manual |
| Field of view match | Yes |
| Digital zoom | 1–8× continuous |
| Detector data | |
| Focal plane array/spectral range | Uncooled microbolometer/7.5–14 μm |
| Detector pitch | 12 μm |
| Image presentation | |
| Resolution | 640 × 480 pixels (VGA) |
| Surface brightness (cd/m ²) | 400 |
| Screen size | 4 in. |
| Viewing angle | 80° |
| Color depth (bits) | 24 |
| Aspect ratio | 4:3 |
| Auto-rotation | Yes |
| Touchscreen | Optically bonded PCAP |

Technical data

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image presentation | |
| Display technology | IPS |
| Cover glass material | Dragontrail® |
| Programmable buttons | 1 |
| Viewfinder | No |
| Image adjustment | <ul style="list-style-type: none"> • Automatic • Automatic maximum • Automatic minimum • Manual |
| Image presentation modes | |
| Infrared image | Yes |
| Visual image | Yes |
| Thermal fusion | No |
| MSX | Yes |
| Picture in Picture | Resizable and movable |
| Gallery | Yes |
| Measurement | |
| Camera temperature range | <ul style="list-style-type: none"> • -20 to 120°C (-4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 1500°C (572 to 2732°F) |
| Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)) | <ul style="list-style-type: none"> • Range -20 to 120°C (-4 to 248°F): <ul style="list-style-type: none"> ◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F): ±2% • Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> ◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F): ±2% • Range 300 to 1500°C (572 to 2732°F): ±2% |
| Inspection mode | |
| FLIR Inspection route | Enabled in the camera |
| Measurement analysis | |
| Spotmeter | 3 in live mode |
| Area | 3 in live mode |
| Automatic hot/cold detection | Auto-maximum/minimum markers within area |
| Measurement presets | <ul style="list-style-type: none"> • No measurements • Center spot • Hot spot • Cold spot • User preset 1 • User preset 2 |
| Difference temperature | Yes |
| Reference temperature | Yes |
| Emissivity correction | Yes: variable from 0.01 to 1.0 or selected from materials list |
| Measurement corrections | Yes |
| External optics/windows correction | Yes |

| Alarm | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color alarm (isotherm) | <ul style="list-style-type: none"> • Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation |
| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |
| Set-up | |
| Color palettes | <ul style="list-style-type: none"> • Arctic • White hot • Black hot • Iron • Lava • Rainbow • Rainbow HC |
| Setup commands | Local adaptation of units, language, date and time formats |
| Languages | 21 |
| Service functions | |
| Camera software update | Using USB cable or SD card |
| Storage of images | |
| Storage media | <ul style="list-style-type: none"> • Removable memory: SD card (8 GB) • FLIR Ignite Cloud services (with Wi-Fi) |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared) |
| Remote control operation | Using USB cable or Wi-Fi |
| Image file format | Standard JPEG, measurement data included. Infrared-only mode |
| Image annotations | |
| Voice | 60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video |
| Text | Text from predefined list or soft keyboard on touchscreen |
| Visual image annotation | Yes |
| Image sketch | Yes: on infrared images only |
| Sketch | From touchscreen |
| METERLiNK | Wireless connection (Bluetooth) to: FLIR meters with METERLiNK |
| Compass | Yes |
| Laser distance meter information | Yes |
| Area measurement information | Yes |
| GPS | Yes: location data automatically added to every still image and the first frame in video from built-in GPS |
| Video recording in camera | |
| Radiometric infrared-video recording | RTRR (.csq) |
| Non-radiometric infrared-video recording | H.264 to memory card |
| Visual video recording | H.264 to memory card |

| Video streaming | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radiometric infrared–video streaming (compressed) | Over UVC |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> • H.264 (AVC) over RTSP (Wi-Fi) • MPEG4 over RTSP (Wi-Fi) • MJPEG over UVC and RTSP (Wi-Fi) |
| Visual video streaming | Yes |
| Digital camera | |
| Resolution | 5 MP with LED light |
| Focus | Fixed |
| Field of view | 53° × 41° |
| Video lamp | Built-in LED light |
| Laser pointer | |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser distance meter | Activated by a dedicated button |
| Laser | Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance |
| Data communication interfaces | |
| Interfaces | USB 2.0, Bluetooth, Wi-Fi, DisplayPort |
| METERLiNK/Bluetooth | Communication with headset and external sensors |
| Wi-Fi | Peer to peer (<i>ad hoc</i>) or infrastructure (network) |
| Audio | Microphone and speaker for voice annotation of images |
| USB | USB Type-C: data transfer/video/power |
| USB standard | USB 2.0 High Speed |
| Video out | DisplayPort |
| Video connector type | DisplayPort over USB Type-C |
| Cloud services | FLIR Ignite Cloud services |
| Radio | |
| Operating frequency | Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP) | Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm |
| Antenna | Integrated PIFA antenna (gain: maximum 1.4 dBi) |
| Power system | |
| Battery type | Rechargeable Li-ion battery |
| Battery voltage | 3.6 V |
| Battery operating time | > 2.5 hours at 25°C (68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |

| | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power system | |
| Charging time (using two-bay charger) | 2.5 hours to 90% capacity with charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional) |
| Power management | Automatic shut-down and sleep mode |
| Environmental data | |
| Operating temperature range | –15 to +50°C (5–122°F) |
| Storage temperature range | –40 to +70°C (–40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two 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, class B (emission) |
| Radio spectrum | <ul style="list-style-type: none"> • ETSI EN 300 328 • ETSI EN 301 893 • FCC 47 CFR part 15 C • FCC 47 CFR part 15 E |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25g (IEC 60068-2-27) |
| Vibration | 2g (IEC 60068-2-6) |
| Drop | Designed for 2 m (6.6 ft.) |
| Safety | <p>Camera:</p> <ul style="list-style-type: none"> • IEC/EN 60950-1, IEC/EN 62368-1 <p>Power supply:</p> <ul style="list-style-type: none"> • IEC/EN 62368-1 • CSA/UL/KC/SAA/PSE 60950-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| Physical data | |
| Weight (including battery) | 1 kg (2.2 lb.) |
| Size (L × W × H) | 278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.) |
| Battery weight | 140 g (4.9 oz.) |
| Battery size (L × W × H) | 150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | PCABS with TPE, magnesium |
| Color | Black |
| Warranty and service | |
| Warranty | http://www.flir.com/warranty/ |

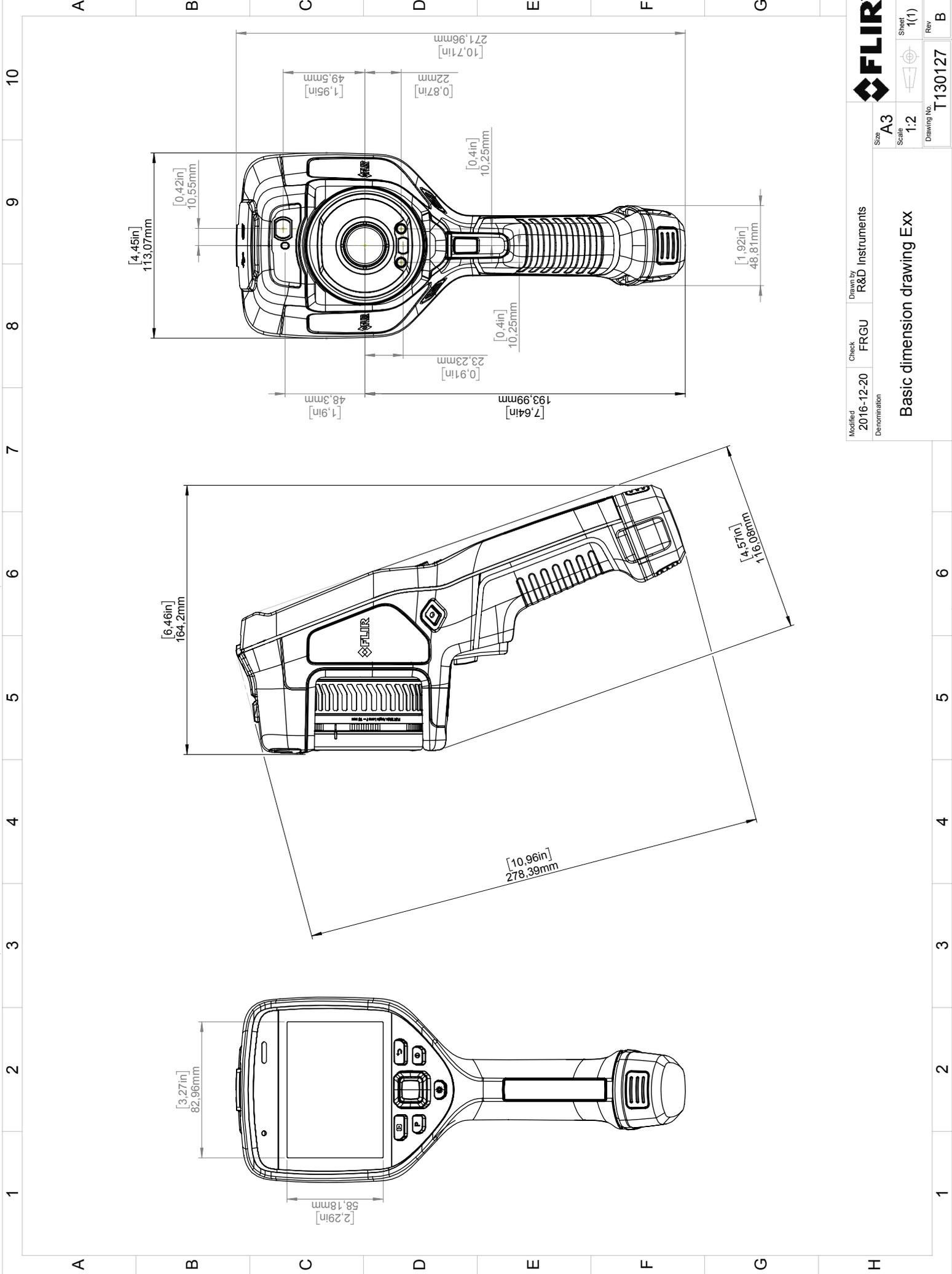
| Shipping information | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging, type | Cardboard box |
| Packaging, contents | <ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Extra lens, 14° • Extra lens, 42° • FLIR Thermal Studio Starter • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses) |
| Packaging, weight | 6.4 kg (14.1 lb.) |
| Packaging, size | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.) |
| EAN-13 | 4743254004573 |
| UPC-12 | 845188022303 |
| Country of origin | Estonia |

Supplies and accessories:

- T131171ACC; Remote operation button
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300493ACC; Industrial protective lens window
- T850111; Option, Dual streaming
- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case for FLIR Exx series
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- T911689ACC; Pouch for FLIR E-series
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911706ACC; Car adapter 12 V
- T911845ACC; USB Type-C to HDMI and PD adapter
- T911846ACC; USB 2.0 A to USB Type-C with Power supply

- T911940ACC; USB 2.0 A to USB Type-C cable, 1.0 m
- T300437ACC; Lens case
- T199589; IR lens, f=17 mm (24°) with case
- T199588; IR lens, f=29 mm (14°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T197771ACC; Bluetooth Headset
- T300244; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, 1 Year Subscription
- T300439; FLIR Route Creator Plugin for FLIR Thermal Studio Pro, Perpetual license
- T300342; FLIR Screen-EST, Perpetual license
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

[See next page]



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|--------------|------------|-------|------|-----------------------------|-----------------|-------------|---------|-------|------|
| Modified | 2016-12-20 | Check | FRGU | Drawn by | R&D Instruments | Size | A3 | Sheet | 1(1) |
| Denomination | | | | Basic dimension drawing Exx | | Scale | 1:2 | Rev | B |
| | | | | | | Drawing No. | T130127 | | |



The full text of the Declaration of conformity is available at the following internet address:
<http://support.flir.com/resources/5v82>.



Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

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