

## P/N: 78502-0301

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### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

### Disclaimer

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



|   |   |
|---|---|
| <b>Imaging and optical data</b>         |   |
| Infrared resolution                     | 464 × 348 pixels  |
| UltraMax (super-resolution)             | In FLIR Tools   |
| 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"> <li>• 14° (AutoCal)</li> <li>• 42° (AutoCal)</li> <li>• 6° (service calibration required)</li> </ul>   |
| Lens identification                     | Automatic   |
| f number                                | 1.3   |
| Image frequency                         | 30 Hz   |
| Focus                                   | <ul style="list-style-type: none"> <li>• Continuous LDM</li> <li>• One-shot LDM</li> <li>• One-shot contrast</li> <li>• Manual</li> </ul> |
| Field of view match                     | Yes   |
| Digital zoom                            | 1–4× continuous   |
| <b>Detector data</b>                    |   |
| Focal plane array/spectral range        | Uncooled microbolometer/7.5–14 μm   |
| Detector pitch                          | 17 μm   |
| <b>Image presentation</b>               |   |
| Resolution                              | 640 × 480 pixels (VGA)  |
| Surface brightness (cd/m <sup>2</sup> ) | 400   |
| Screen size                             | 4 in.   |
| Viewing angle                           | 80°   |

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| Image presentation   |   |
|----------------------|---|
| 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"> <li>• Automatic</li> <li>• Automatic maximum</li> <li>• Automatic minimum</li> <li>• Manual</li> </ul> |

| 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          | Object temperature range          | Accuracy — for ambient temperature +15 to +35°C (+59 to +95°F) |
| -20 to +120°C (-4 to +248°F)      | -20 to +100°C (-4 to +212°F)      | ±2°C (±3.6°F)  |
|                                   | +100 to +120°C (+212 to +248°F)   | ±2%  |
| 0 to +650°C (+32 to +1202°F)      | 0 to +100°C (+32 to +212°F)       | ±2°C (±3.6°F)  |
|                                   | +100 to +650°C (+212 to +1202°F)  | ±2%  |
| +300 to +1500°C (+572 to +2732°F) | +300 to +1500°C (+572 to +2732°F) | ±2%  |

| 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"> <li>• No measurements</li> <li>• Center spot</li> <li>• Hot spot</li> <li>• Cold spot</li> <li>• User preset 1</li> <li>• User preset 2</li> </ul> |
| Difference temperature       | Yes   |
| Reference temperature        | Yes   |
| Emissivity correction        | Yes: variable from 0.01 to 1.0 or selected from materials list  |
| Measurement corrections      | Yes   |

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|                                     |   |
|-------------------------------------|---|
| <b>Measurement analysis</b>         |   |
| External optics/windows correction  | Yes   |
| Screening                           | 0.5°C (0.9°F) accuracy @ 37°C (98.6°F) with reference   |
| <b>Alarm</b>                        |   |
| Color alarm (isotherm)              | <ul style="list-style-type: none"> <li>• Above</li> <li>• Below</li> <li>• Interval</li> <li>• Condensation (moisture/humidity/dewpoint)</li> <li>• Insulation</li> </ul> |
| Measurement function alarm          | Audible/visual alarms (above/below) on any selected measurement function  |
| <b>Set-up</b>                       |   |
| Color palettes                      | <ul style="list-style-type: none"> <li>• Iron</li> <li>• Gray</li> <li>• Rainbow</li> <li>• Arctic</li> <li>• Lava</li> <li>• Rainbow HC</li> </ul>                       |
| Setup commands                      | Local adaptation of units, language, date and time formats  |
| Languages                           | 21  |
| <b>Service functions</b>            |   |
| Camera software update              | Use PC software FLIR Tools  |
| <b>Storage of images</b>            |   |
| Storage media                       | Removable memory; SD card (8 GB)  |
| Time lapse (periodic image storage) | 10 seconds to 24 hours (infrared)   |
| Remote control operation            | <ul style="list-style-type: none"> <li>• Using FLIR Tools (using USB cable)</li> <li>• FLIR Tools Mobile (over Wi-Fi)</li> </ul>  |
| Image file format                   | Standard JPEG, measurement data included. Infrared-only mode  |
| <b>Image annotations</b>            |   |
| 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  |



# FLIR E95 24°

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|   |  |
|---|--|
| <b>Video recording in camera</b>  |  |
| Radiometric infrared-video recording  | RTRR (.csq)  |
| Non-radiometric infrared-video recording  | H.264 to memory card   |
| Visual video recording  | H.264 to memory card   |
| <b>Video streaming</b>  |  |
| Radiometric infrared-video streaming (compressed)                                 | Over UVC   |
| Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture) | <ul style="list-style-type: none"> <li>• H.264 (AVC) over RTSP (Wi-Fi)</li> <li>• MPEG4 over RTSP (Wi-Fi)</li> <li>• MJPEG over UVC and RTSP (Wi-Fi)</li> </ul>  |
| Visual video streaming  | Yes  |
| <b>Digital camera</b>   |  |
| Resolution  | 5 MP with LED light  |
| Focus   | Fixed  |
| Field of view   | 53° × 41°  |
| Video lamp  | Built-in LED light   |
| <b>Laser pointer</b>  |  |
| 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  |
| <b>Data communication interfaces</b>  |  |
| 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  |
| <b>Radio</b>  |  |
| Operating frequency   | Bluetooth + EDR/LE: 2402–2480 MHz<br>WLAN 2.4 GHz: 2412–2462 MHz<br>WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode)<br><br>Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations. |
| RF output (EIRP)  | Bluetooth + EDR/LE: < 10 dBm<br>WLAN: < 17 dBm   |
| Antenna   | Integrated PIFA antenna (gain: maximum 1.4 dBi)  |
| <b>Power system</b>   |  |
| Battery type  | Rechargeable Li-ion battery  |
| Battery voltage   | 3.6 V  |

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| <b>Power system</b>                   |  |
|---------------------------------------|--|
| 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   |
| <b>Environmental data</b>             |  |
| 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"> <li>• ETSI EN 301 489-1 (radio)</li> <li>• ETSI EN 301 489-17</li> <li>• EN 61000-6-2 (immunity)</li> <li>• EN 61000-6-3 (emission)</li> <li>• FCC 47 CFR Part 15 Class B (emission)</li> </ul> |
| Radio spectrum                        | <ul style="list-style-type: none"> <li>• ETSI EN 300 328</li> <li>• FCC Part 15.249</li> <li>• RSS-247 Issue 2</li> </ul>  |
| 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                                | EN/UL/CSA/PSE 60950-1  |
| <b>Physical data</b>                  |  |
| 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  |
| <b>Warranty and service</b>           |  |
| Warranty                              | <a href="http://www.flir.com/warranty/">http://www.flir.com/warranty/</a>  |

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| Shipping information |   |
|----------------------|---|
| Packaging, type      | Cardboard box   |
| Packaging, contents  | <ul style="list-style-type: none"> <li>• Accessory Box I:               <ul style="list-style-type: none"> <li>◦ Power supply for battery charger</li> <li>◦ Power supply, 15 W/3 A</li> <li>◦ Printed documentation</li> <li>◦ SD card (8 GB)</li> <li>◦ USB 2.0 A to USB Type-C cable, 1.0 m</li> <li>◦ USB Type-C to HDMI adapter, standard specification UH311</li> <li>◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m</li> </ul> </li> <li>• Accessory box II:               <ul style="list-style-type: none"> <li>◦ Accessory box III:                   <ul style="list-style-type: none"> <li>– Front protection fastener</li> <li>– Hand strap bracket, left</li> <li>– Hand strap bracket, right</li> <li>– Screws</li> <li>– Torx T10 wrench</li> </ul> </li> <li>◦ Carabiner hook</li> <li>◦ Front protection</li> <li>◦ Hand strap</li> <li>◦ Lanyard strap, camera</li> <li>◦ Lens cap strap</li> <li>◦ Wrist strap</li> </ul> </li> <li>• Battery (2 ea)</li> <li>• Battery charger</li> <li>• Hard transport case</li> <li>• Infrared camera with lens</li> <li>• Lens cap, front</li> <li>• Lens cap, front and rear (only for extra lenses)</li> </ul> |
| Packaging, weight    | 5.8 kg (12.8 lb.)   |
| Packaging, size      | 500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.)  |
| EAN-13               | 4743254002692   |
| UPC-12               | 845188013929  |
| Country of origin    | Estonia   |

### Supplies & accessories:

- T130337ACC; Calibration target
- T199330ACC; Battery
- T199346ACC; Hard transport case
- T199425ACC; Battery charger
- T199557ACC; Accessory Box II
- T199588; Lens 14° + case
- T199589; Lens 24° + case
- T199590; Lens 42° + case
- T300095; Lens 6° with case
- T911630ACC; Power supply for camera, 15 W/3 A
- T911631ACC; USB 2.0 A to USB Type-C cable, 0.9 m
- 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
- T300030; Option, No radio
- T197771ACC; Bluetooth Headset
- T198583; FLIR Tools+ (download card incl. license key)



## FLIR E95 24°

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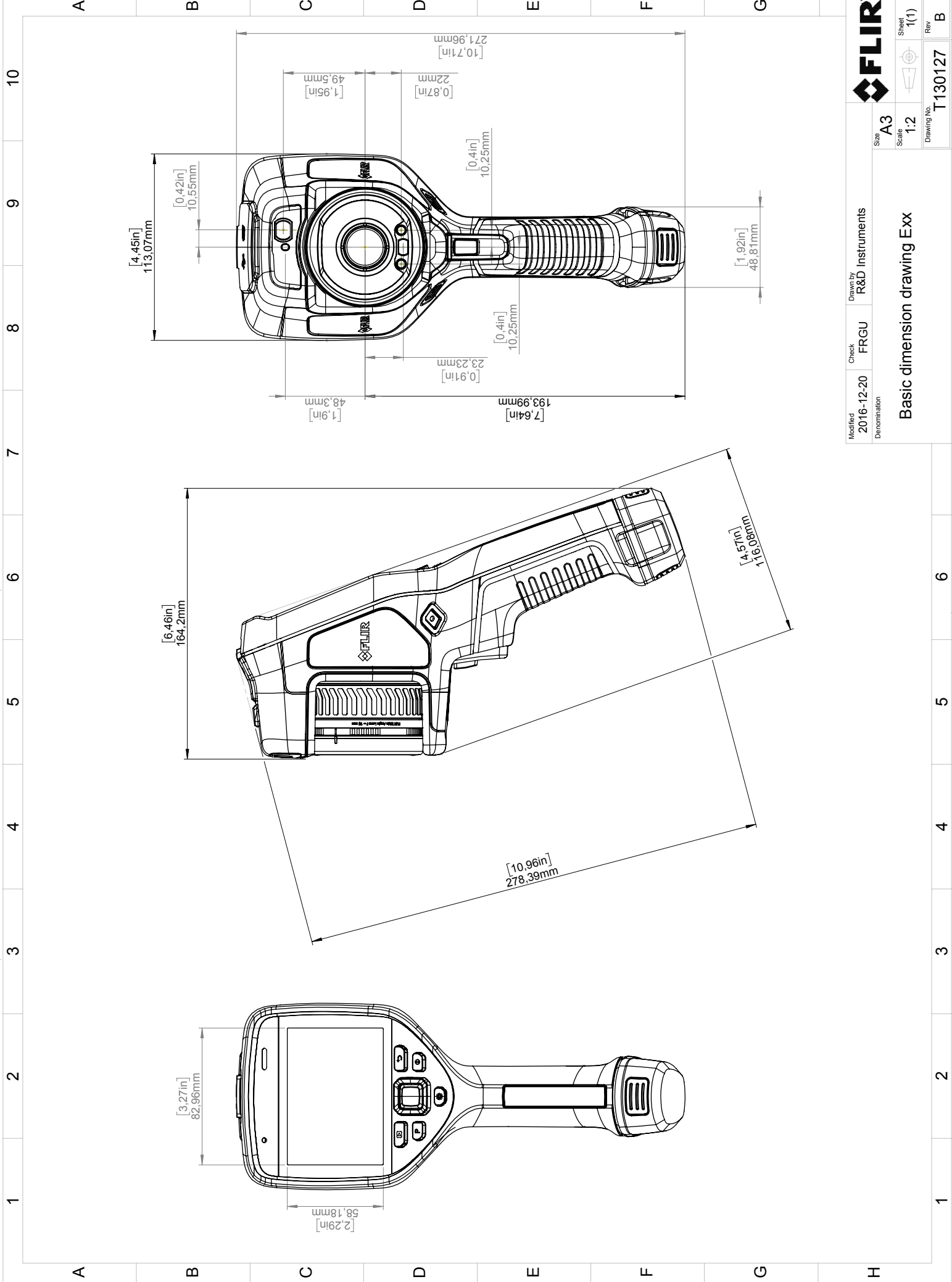
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- T198696; FLIR ResearchIR Max 4 (hardware sec. dev.)
- T199013; FLIR ResearchIR Max 4 (printed license key)
- T199043; FLIR ResearchIR Max 4 Upgrade (printed license key)
- INST-EW-0140; Extended Warranty 1 Year for E53, E75, E85, E95
- INST-EWGM-0135; Premium Service Package for A35, A65, E53, E75, E85, E95
- INST-GM-0125; General Maintenance Package for A35, A65, Exx, Kxx

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





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February 20, 2018 Täby, Sweden

AQ320222

## CE Declaration of Conformity – EU Declaration of Conformity

Product: FLIR E53 / E75 / E85 / E95 -series  
Name and address of the manufacturer:  
FLIR Systems AB  
PO Box 7376  
SE-187 15 Täby, Sweden

This declaration of conformity is issued under the sole responsibility of the manufacturer.  
The object of the declaration: FLIR E53 / E75 / E85 / E95 -series (Product Model Name FLIR-E7850).  
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

### Directives:

|           |             |  |
|-----------|-------------|--|
| Directive | 2012/19/EU  | Waste electrical and electric equipment                |
| Directive | 2014/53/EU  | Radio Equipment Directive (RED)                        |
| Directive | 1999/519/EC | Limitation of exposure to electromagnetic fields (SAR) |
| Directive | 2011/65/EU  | RoHS and 2015/830/EU                                   |

### Standards:

|                           |   |   |
|---------------------------|---|---|
| Emission:                 | EN 61000-6-3/A1:2011  | Electromagnetic Compability<br>Generic standards – Emission             |
| Immunity:                 | EN 61000-6-2:2005<br>Draft EN 301489-1:2016 v2.1.0<br>EN 301489-17:2012 v2.2.1    | Electromagnetic Compability<br>Generic standards – Immunity             |
| Laser:                    | EN 60825-1  | Safety of laser products  |
| Radio:                    | ETSI EN 300 328   | Harmonized EN covering essential<br>requirements of the R&TTE Directive |
| SAR:                      | EN 62209-2  | Human exposure Wireless   |
| Safety (Battery charger): | IEC 60950-1:2005+A1 EN 60950-<br>1:2006+A11:2009+A1:2010+A2:2013+AC:2011+A12:2011 | Information technology equipment  |
| RoHS:                     | EN 50581:2012   | Technical documentation   |

**FLIR Systems AB**  
Quality Assurance

Lea Dabiri  
Quality Manager