

### P/N: 78522-2202

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### **Document identity**

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Website

http://www.flir.com

#### **Customer support**

http://support.flir.com

### Disclaimer

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



#### General

The following options are enabled on this camera:

- Option, Dual streaming
- Option, Auto-screening

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
Lens identification	Automatic
f number	1.1
Image frequency	30 Hz
Focus	<ul><li>Continuous LDM</li><li>One-shot LDM</li><li>One-shot contrast</li><li>Manual</li></ul>



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Imaging and optical data	Γ
	V
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/m²)	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	Automatic     Automatic maximum     Automatic minimum     Manual
Image presentation modes	
Infrared image	Yes
Visual image	Yes
MSX	Yes
Picture in Picture	Resizable and movable
Gallery	Yes
Measurement	
Camera temperature range	15 to 45°C (59 to 113°F)
	Accuracy ±0.3°C (±0.5°F) when used in Screening mode
	The camera will provide contrast from -20 to 120 ° C (-4 to 248°F), but no temperature information will be provided
Alarm	
Color alarm (isotherm)	Above
Measurement function alarm	Audible/visual alarms (above/below) on any selected measurement function



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Set-up	
Color palettes	<ul> <li>Arctic</li> <li>White hot</li> <li>Black hot</li> <li>Iron</li> <li>Lava</li> <li>Rainbow</li> <li>Rainbow HC</li> </ul>
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	Removable memory; SD card (8 GB)
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
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
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)	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



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Laser pointer	
Laser pointer	Yes <sup>1</sup>
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 (ad hoc) 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
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
Battery documents	For documents like MSDS and UN38.3 test reports/summaries, see: https://support.flir.com/resources/msds

 $<sup>{\</sup>bf 1.}\ \ {\bf Laser\ pointer\ is\ disabled\ in\ Screening\ mode}.$ 



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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> <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 B, class B (emission)</li> </ul>
Radio spectrum	<ul> <li>ETSI EN 300 328</li> <li>ETSI EN 301 893</li> <li>FCC 47 CFR part 15 C</li> <li>FCC 47 CFR part 15 E</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	Camera:  • IEC/EN 60950-1, IEC/EN 62368-1  Power supply:  • 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 $(L \times W \times H)$	150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in)
Tripod mounting	UNC 1/4"-20
Housing material	PCABS with TPE, magnesium
Color	Black
Warranty and service	
	1

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Shipping information	
Packaging, type	Cardboard box
Packaging, contents	Accessory Box I:     Power supply for battery charger     Power supply, 15 W/3 A     Printed documentation     Remote operation button     SD card (8 GB)     USB 2.0 A to USB Type-C cable with Power supply     USB 2.0 A to USB Type-C cable, 1.0 m     USB Type-C to HDMI and PD adapter     USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m      Accessory box III:     Accessory box III:     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     Hard transport case     Infrared camera with lens     Lens cap, front     Lens cap, front
Packaging, weight	5.8 kg (12.8 lb)
Packaging, size	500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in)
EAN-13	4743254004788
UPC-12	845188023072
Country of origin	Estonia

### Supplies & accessories:

- T131171ACC; Remote operation button
- T131177; Roll-up, Backdrop for screening
- T131178; Floor sticker, Direction arrow (5 pcs)
- T131179; Floor sticker, Queue markers (5 pcs)
- T131180; Floor sticker, Flexible position for screening
- T131181; Floor sticker, Position for screening
- T300030; Option, No radio
- T300366; Roll-up and stickers kit for screening
- T911997; Tripod
- T911998; HDMI 2-port video splitter
- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- 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

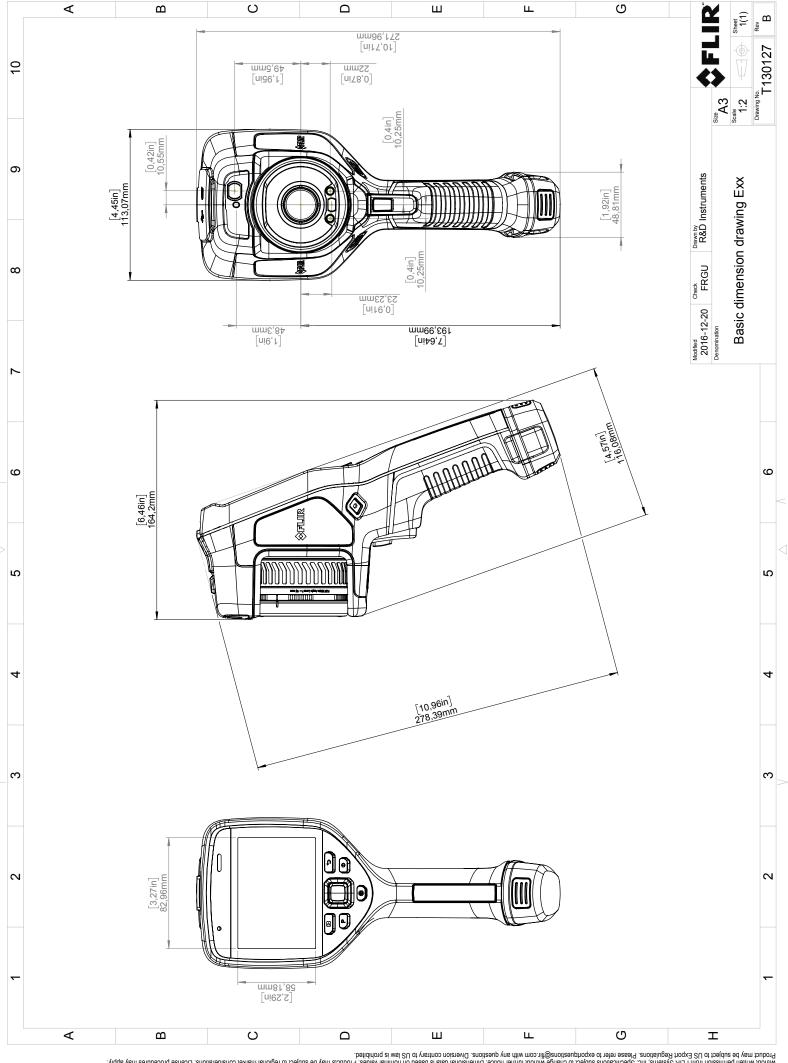
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### FLIR E86-EST 42°

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- 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
- T199589; IR lens, f=17 mm (24°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T300342; FLIR Screen-EST, Perpetual license



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