FLIR E53 24°

P/N: 84502-0201

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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.

Imaging and optical data	
Infrared resolution	240 × 180 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)	1.75 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

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Image presentation	
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
Thermal fusion	No
MSX	Yes
Picture in Picture	Centered infrared area on the visual image
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 +0°C (–4 to +32°F)	±2°C (±3.6°F)
	0 to +100°C (+32 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%

Measurement analysis	
Spotmeter	3 in live mode
Area	1 in live mode
Automatic hot/cold detection	Auto-maximum/minimum markers within area
Measurement presets	• 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

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Measurement analysis	
External optics/windows correction	Yes
Screening	0.5°C (0.9°F) accuracy @ 37°C (98.6°F) with reference

Alarm	
Color alarm (isotherm)	• Above • Below • Interval • Condensation (moisture/humidity/dewpoint) • Insulation
Measurement function alarm	Audible/visual alarms (above/below)

Set-up	
Color palettes	• Iron • Gray • Rainbow • Arctic • Lava • Rainbow HC
Setup commands	Local adaptation of units, language, date and time formats
Languages	21

Service functions	
Camera software update	Use PC software FLIR Tools

Storage of images	
Storage media	Removable memory; SD card (8 GB)
Remote control operation	• Using FLIR Tools (using USB cable) • FLIR Tools Mobile (over 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

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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)	Yes: over UVC or RTSP (Wi-Fi)
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

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 (*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

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)

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Power system	
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	• 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 Class B (emission)
Radio spectrum	• ETSI EN 300 328 • FCC Part 15.249 • RSS-247 Issue 2
Encapsulation	IP 54 (IEC 60529)
Shock	25*g* (IEC 60068-2-27)
Vibration	2*g* (IEC 60068-2-6)
Drop	Designed for 2 m (6.6 ft.)
Safety	EN/UL/CSA/PSE 60950-1

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/

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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
	  ◦ 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:
	  ◦ 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

Packaging, weight	5.4 kg (11.9 lb.)
Packaging, size	500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.)
EAN-13	4743254003781
UPC-12	845188016630
Country of origin	Estonia

Supplies & accessories:

- T197771ACC; Bluetooth Headset
- T199425ACC; Battery charger
- T911689ACC; Pouch
- T911706ACC; Car adapter 12 V
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m
- T911632ACC; USB Type-C to HDMI adapter, standard specification UH311
- T911631ACC; USB 2.0 A to USB Type-C cable, 0.9 m
- T911630ACC; Power supply for camera, 15 W/3 A
- T199346ACC; Hard transport case
- T911633ACC; Power supply for battery charger
- T199330ACC; Battery
- T199557ACC; Accessory Box II
- T199559; High temperature option, +300 to +1000°C
- T198583; FLIR Tools+ (download card incl. license key)
- T198696; FLIR ResearchIR Max 4 (hardware sec. dev.)
- T199013; FLIR ResearchIR Max 4 (printed license key)
- T199043; FLIR ResearchIR Max 4 Upgrade (printed license key)

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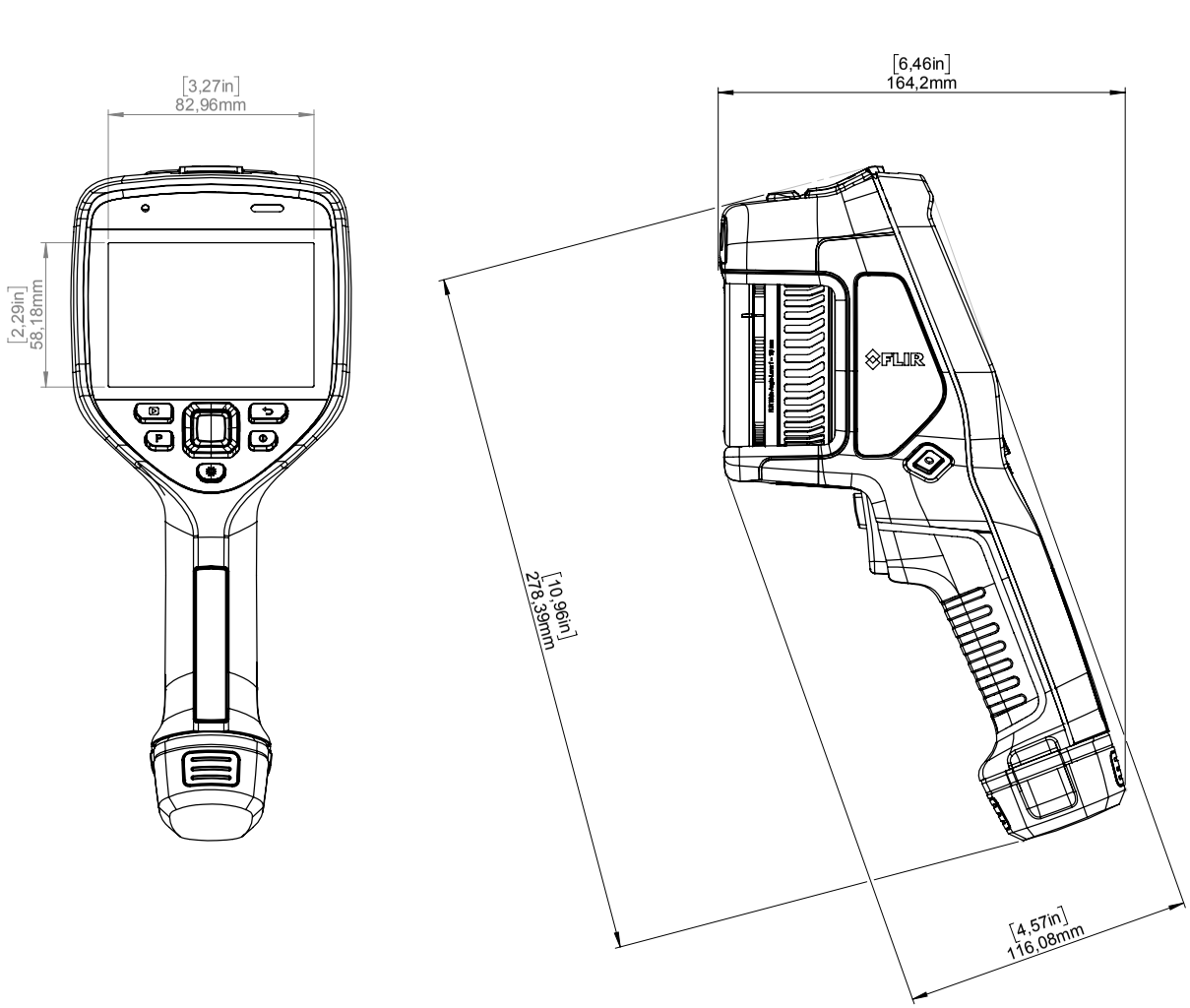

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February 20, 2018 Täby, Sweden AQ320222

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 Generic standards – Emission
Immunity:	EN 61000-6-2:2005 Draft EN 301489-1:2016 v2.1.0 EN 301489-17:2012 v2.2.1	Electromagnetic Compability Generic standards – Immunity
Laser:	EN 60825-1	Safety of laser products
Radio:	ETSI EN 300 328	Harmonized EN covering essential requirements of the R&TTE Directive
SAR:	EN 62209-2	Human exposure Wireless
Safety (Battery charger):	IEC 60950-1:2005+A1 EN 60950-1:2006+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