

FLIR E53 24° INPROTEC IRT



P/N: 84502-0201

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Website

http://www.flir.com

Customer support

http://support.flir.com

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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/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®

1 (7) www.flir.com



FLIR E53 24°



P/N: 84502-0201

Image presentation	
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	
Object temperature range	 -20 to +120°C (-4 to 248°F) 0-650°C (32-1200°F)
Accuracy	±2°C (±3.6°F) or ±2% of reading, for ambient temperature 15–35°C (59–95°F) and object temperature above 0°C (32°F)
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
	1
Difference temperature	Yes: as preset (Hot spot–Spot)
Difference temperature Reference temperature	Yes: as preset (Hot spot–Spot) Yes: in preview mode
Reference temperature	Yes: in preview mode Yes: variable from 0.01 to 1.0 or selected from
Reference temperature Emissivity correction	Yes: in preview mode Yes: variable from 0.01 to 1.0 or selected from materials list
Reference temperature Emissivity correction Measurement corrections	Yes: in preview mode Yes: variable from 0.01 to 1.0 or selected from materials list Yes
Reference temperature Emissivity correction Measurement corrections External optics/windows correction	Yes: in preview mode Yes: variable from 0.01 to 1.0 or selected from materials list Yes Yes 0.5°C (0.9°F) accuracy @ 37°C (98.6°F) with
Reference temperature Emissivity correction Measurement corrections External optics/windows correction Screening	Yes: in preview mode Yes: variable from 0.01 to 1.0 or selected from materials list Yes Yes 0.5°C (0.9°F) accuracy @ 37°C (98.6°F) with



FLIR E53 24°



P/N: 84502-0201

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
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



FLIR E53 24°



P/N: 84502-0201

Digital camera	
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)
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	25g (IEC 60068-2-27)
Vibration	2g (IEC 60068-2-6)

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FLIR E53 24°



P/N: 84502-0201

Environmental data	
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 1/4"-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	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 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
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

- T197771ACC; Bluetooth Headset
- T199425ACC; Battery charger
- T911689ACC; Pouch
- T911706ACC; Car adapter 12 V

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FLIR E53 24°



P/N: 84502-0201

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- 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)

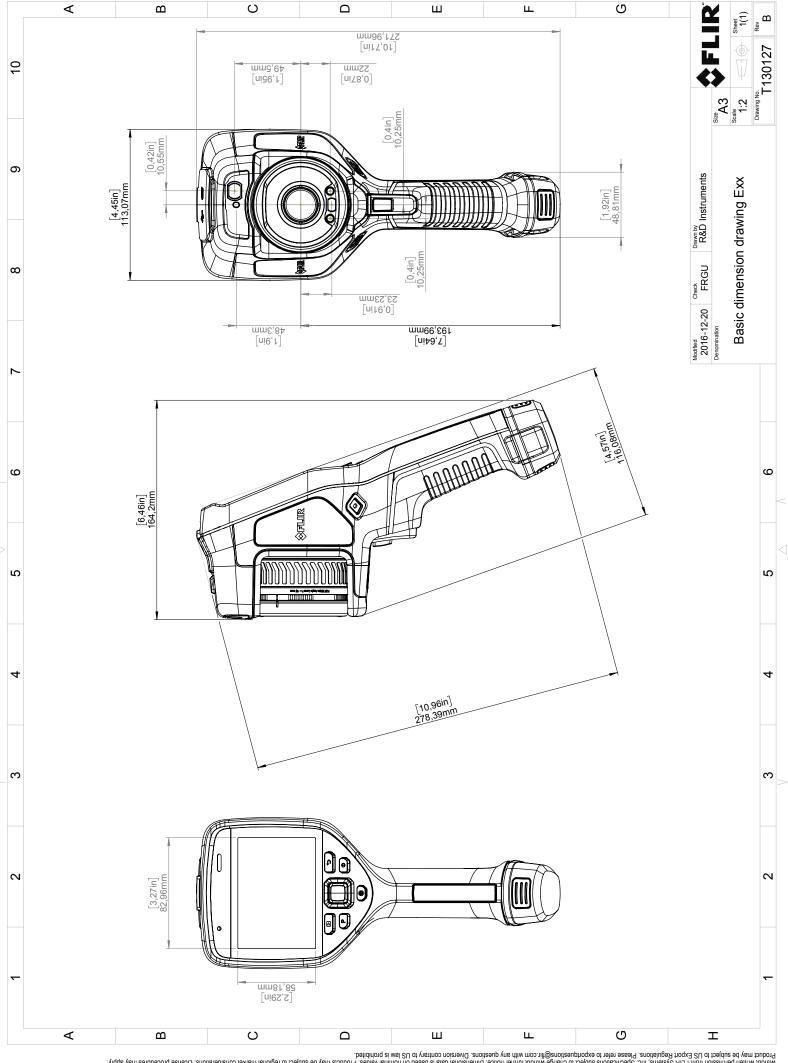
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6 (7) www.flir.com



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