FLIR E52 24°

P/N: 84502-0301

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	<50 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

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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	• 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	• −20 to 120°C (−4 to 248°F) • 0 to 550°C (32 to 1022°F)

Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F)	• Range −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%
	• Range 0 to 550°C (32 to 1022°F):
	  ○ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F)
	  ○ 100 to 550°C (212 to 1022°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	• No measurements • Center spot • Hot spot • Cold spot • 3 spots • Hot spot–Spot
Difference temperature	Yes: as preset (Hot spot–Spot)

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Measurement analysis	
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)	- Above - Below - Interval - Condensation (moisture/humidity/dewpoint) - Insulation
Measurement function alarm	Audible/visual alarms (above/below)

Set-up	
Color palettes	- 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	- 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

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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)	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

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
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

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Power system	
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

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 B, class B (emission)
Radio spectrum	• 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: • 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 × 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
	• 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 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.)
EAN-13	4743254006089
UPC-12	845188026929
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
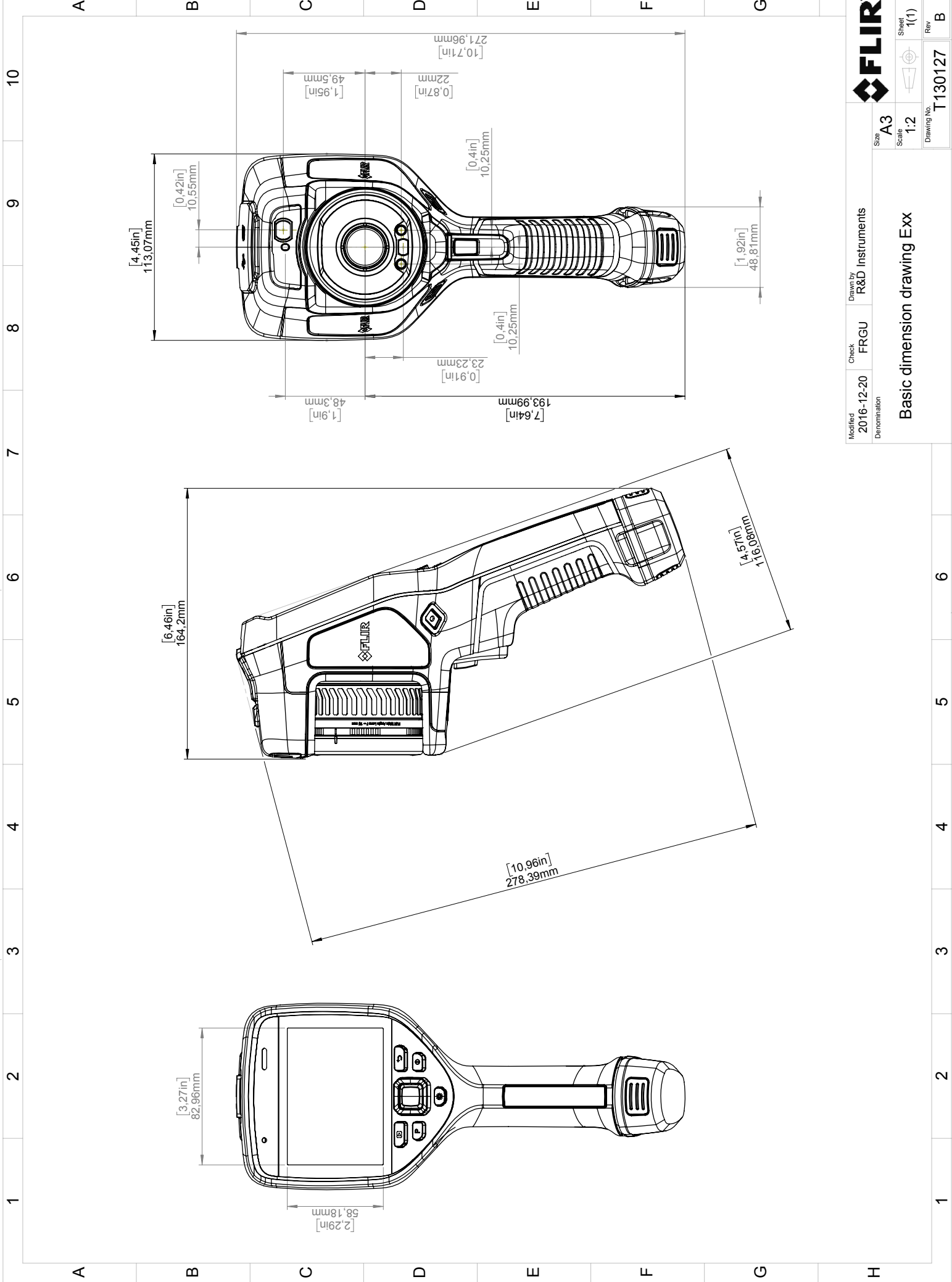- T197771ACC; Bluetooth Headset

- 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)
- 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)
- 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

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Dimension labels:
- [10,71in] 271,96mm
- [1,95in] 49,5mm
- [0,87in] 22mm
- [0,4in] 10,25mm
- [0,42in] 10,55mm
- [4,45in] 113,07mm
- [1,92in] 48,81mm
- [0,4in] 10,25mm
- [0,91in] 23,23mm
- [1,9in] 48,3mm
- [7,64in] 193,99mm
- [6,46in] 164,2mm
- [4,57in] 116,08mm
- [10,96in] 278,39mm
- [3,27in] 82,96mm
- [2,29in] 58,18mm

Title block:

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