

# FLIR T840 80°

**P/N: 82511-0201**

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**Website**

<http://www.flir.com>

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<http://support.flir.com>

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<b>Imaging and optical data</b>	
Infrared resolution	464 × 348 pixels
UltraMax (super-resolution) <sup>1</sup>	Yes
NETD	<40 mK @ +30°C (+86°F)
Field of view	80° × 63°
Minimum focus distance	0.1 m (0.33 ft.)
Focal length	5 mm (0.19 in.)
Spatial resolution (IFOV)	3.6 mrad/pixel
Available extra lenses	<ul style="list-style-type: none"> <li>• 14° (AutoCal)</li> <li>• 24° (AutoCal)</li> <li>• 42° (AutoCal)</li> <li>• Dual FOV 24°/14° (service calibration required)</li> <li>• 6° (service calibration required)</li> <li>• Macro lens 2.0x (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	1–6x 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 (display)	640 × 480 pixels (VGA)
Surface brightness (cd/m <sup>2</sup> )	400
Screen size	4 in.
Viewing angle	80°
Color depth (bits)	24
Aspect ratio	4:3

1. Not supported when using macro.

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<b>Image presentation</b>	
Auto-rotation	Yes
Touchscreen	Optically bonded PCAP
Display technology	IPS
Cover glass material	Dragontrail®
Programmable buttons	2
Viewfinder	Yes
Image adjustment	<ul style="list-style-type: none"> <li>• Automatic</li> <li>• Automatic maximum</li> <li>• Automatic minimum</li> <li>• Manual</li> </ul>
<b>Image presentation modes</b>	
Infrared image	Yes
Visual image	<ul style="list-style-type: none"> <li>• No, with 80° lens</li> <li>• Yes, with other lenses</li> </ul>
MSX	<ul style="list-style-type: none"> <li>• No, with 80° lens</li> <li>• Yes, with other lenses</li> </ul>
Picture in picture	Resizable and movable <ul style="list-style-type: none"> <li>• No, with 80° lens</li> <li>• Yes, with other lenses</li> </ul>
Gallery	Yes
<b>Measurement</b>	
Camera temperature range	<ul style="list-style-type: none"> <li>• -20 to 120°C (-4 to 248°F)</li> <li>• 0 to 650°C (32 to 1202°F)</li> <li>• 300 to 1500°C (572 to 2732°F)</li> </ul>
Object temperature range and accuracy (for ambient temp. 15 to 35°C (59 to 95°F))	<ul style="list-style-type: none"> <li>• Range -20 to 120°C (-4 to 248°F):               <ul style="list-style-type: none"> <li>◦ -20 to 100°C (-4 to 212°F): ±2°C (±3.6°F)</li> <li>◦ 100 to 120°C (212 to 248°F): ±2%</li> </ul> </li> <li>• Range 0 to 650°C (32 to 1202°F):               <ul style="list-style-type: none"> <li>◦ 0 to 100°C (32 to 212°F): ±2°C (±3.6°F)</li> <li>◦ 100 to 650°C (212 to 1202°F): ±2%</li> </ul> </li> <li>• Range 300 to 1500°C (572 to 2732°F): ±2%</li> </ul>
<b>Inspection mode</b>	
FLIR Inspection route	Enabled in the camera
<b>Measurement analysis</b>	
Spotmeter	3 in live mode
Area	3 in live mode
Automatic hot/cold detection	Automatic 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

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<b>Measurement analysis</b>	
Emissivity correction	Yes, variable from 0.01 to 1.0 or selected from materials list
Measurement corrections	Yes
External optics/windows correction	Yes
<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>• 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
<b>Service functions</b>	
Camera software update	Using USB cable or SD card
<b>Storage of images</b>	
Storage media	<ul style="list-style-type: none"> <li>• Removable memory: SD card</li> <li>• FLIR Ignite Cloud services (with Wi-Fi)</li> </ul>
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.
<b>Image annotations</b>	
Voice	60 seconds with 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	<ul style="list-style-type: none"> <li>• No, with 80° lens</li> <li>• Yes, with other lenses</li> </ul>
Image sketch	Yes: on infrared 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	Location data automatically added to every still image and first frame in video from built-in GPS

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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 <ul style="list-style-type: none"> <li>No, with 80° lens</li> <li>Yes, with other lenses</li> </ul>
<b>Video streaming</b>	
Radiometric infrared-video streaming (compressed)	Over UVC
Non-radiometric video streaming <ul style="list-style-type: none"> <li>compressed: IR (with 80° lens)</li> <li>compressed: IR, MSX, visual, Picture in Picture (with other lenses)</li> </ul>	<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	<ul style="list-style-type: none"> <li>No, with 80° lens</li> <li>Yes, with other lenses</li> </ul>
<b>Digital camera</b>	
<ul style="list-style-type: none"> <li>No, with 80° lens</li> <li>Yes, with other lenses</li> </ul>	
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 dedicated button
Laser	Class 2, 0.05–40 m (0.16–131 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 (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

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<b>Radio</b>	
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)
<b>Power system</b>	
Battery type	Rechargeable Li-ion battery
Battery voltage	3.6 V
Battery operating time	> 4 hours at 25°C (68°F) with typical use
Charging system	In camera (AC adapter or 12 V from a vehicle) or two-bay charger
Charging time (using two-bay charger)	3.5 h to 90% capacity, on-screen indicator
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: <a href="https://support.flir.com/resources/msds">https://support.flir.com/resources/msds</a>
<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)/2 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 B, class B (emission)</li> </ul>
Radio spectrum	<ul style="list-style-type: none"> <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)
Safety	Camera: <ul style="list-style-type: none"> <li>IEC/EN 60950-1, IEC/EN 62368-1</li> </ul> Power supply: <ul style="list-style-type: none"> <li>IEC/EN 62368-1</li> <li>CSA/UL/KC/SA/PSE 60950-1</li> </ul>
Declaration of conformity	See: <a href="https://support.flir.com/resources/DoC">https://support.flir.com/resources/DoC</a>

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<b>Physical data</b>	
Weight (including battery)	1.6 kg (3.5 lb.)
Size (L x W x H)	140 x 245 x 84 mm (5.5 x 9.6 x 3.3 in.)
Battery weight	195 g (6.89 oz.)
Battery size (L x W x H)	59 x 66 x 94 mm (2.3 x 2.6 x 3.7 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>
<b>Shipping information</b>	
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</li> <li>◦ USB Type-C to HDMI and PD adapter</li> <li>◦ USB Type-C to USB Type-C cable (USB 2.0 standard)</li> </ul> </li> <li>• Accessory box II:                             <ul style="list-style-type: none"> <li>◦ Lens cap strap</li> <li>◦ Lens cleaning cloth</li> <li>◦ Neck strap</li> <li>◦ Small eyecup</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> <li>• License card: FLIR Thermal Studio Pro (3 month subscription) + FLIR Route Creator Plugin for Thermal Studio Pro (3 month subscription)</li> <li>• T300095 IR lens, f=70 mm (6°) with case</li> </ul>
Packaging, weight	6.1 kg (13.4 lb.)
Packaging, size	500 x 190 x 370 mm (19.7 x 7.5 x 14.6 in.)
EAN-13	7332558032947
UPC-12	845188030087
Country of origin	Sweden

## Supplies & accessories:

- T300238; Macro lens 2.0x with case
- T300095; IR lens, f=70 mm (6°) with case
- T300587; IR lens Dual FOV, f=17/29 mm (24°/14°) with case
- T131171ACC; Remote operation button
- T199300ACC; Battery
- T199347ACC; Hard transport case for FLIR T8xx, T5xx, and GF7x series
- T199610; Battery charger
- T300030; Option, No radio
- T911997; Tripod
- T911998; HDMI 2-port video splitter



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## FLIR T840 80°

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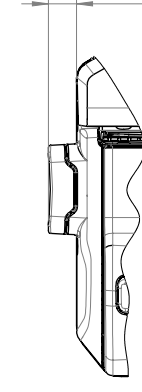
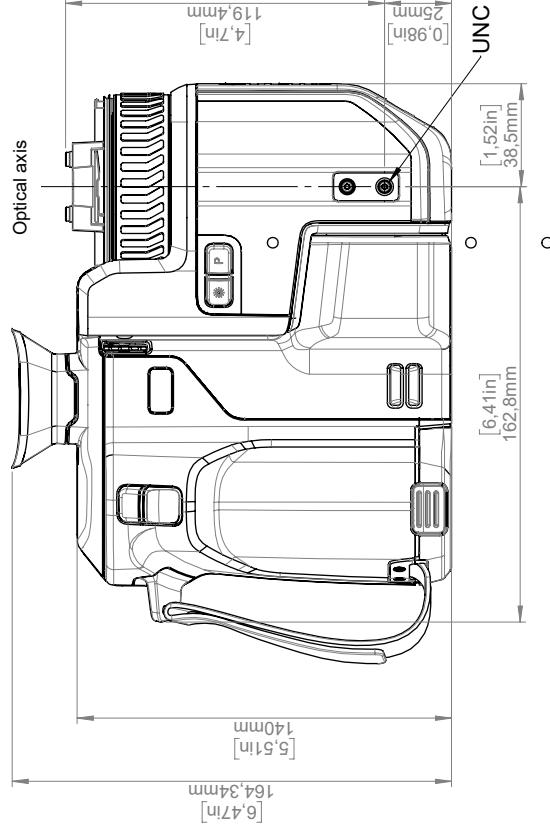
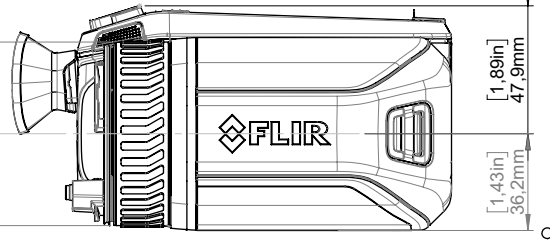
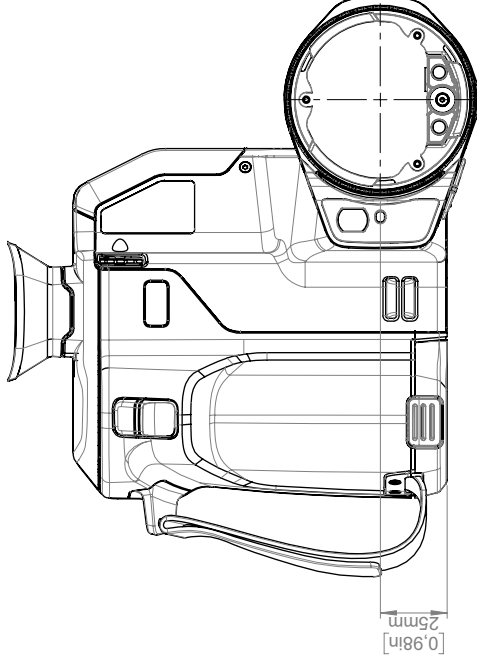
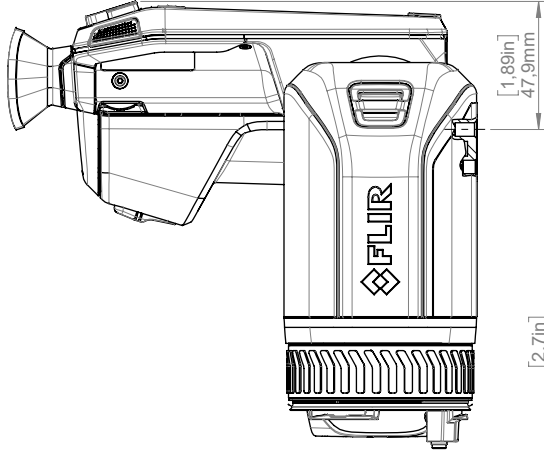
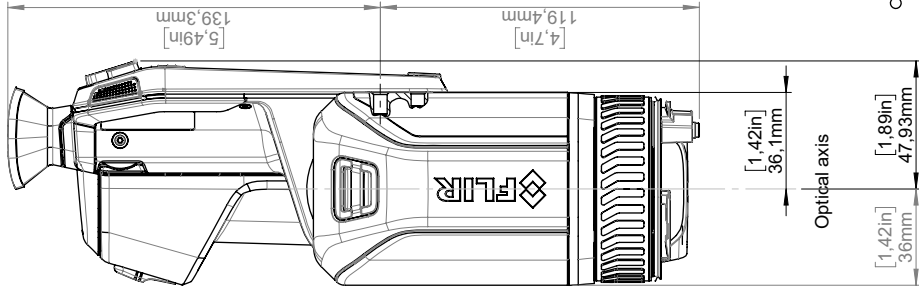
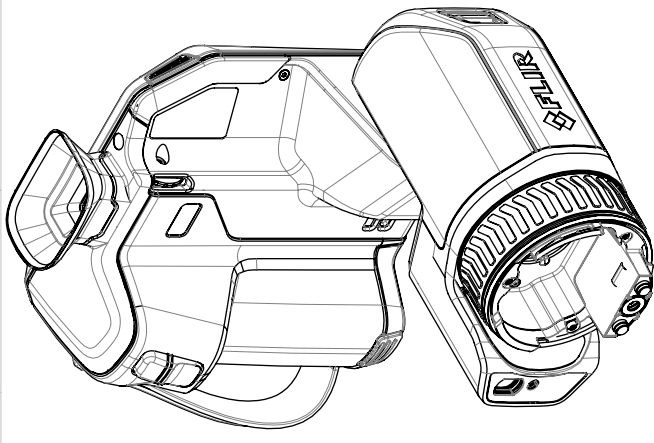
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- T300369; Mounting kit (FLIR T5xx, T8xx, Exx)
- T300768; Port adapter
- T130531ACC; Large eyecup
- T300188; Hand strap and neck strap
- T300493ACC; Industrial protective lens window
- T850105; FLIR Inspection Route - Camera Option
- T850111; Option, Dual streaming
- T199609; Option, Macro mode 50/71/101 µm for 24°
- T130337ACC; Calibration target
- T911630ACC; Power supply for camera, 15 W/3 A
- T911633ACC; Power supply for battery charger
- 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
- T300437ACC; Lens case
- T199588; IR lens, f=29 mm (14°) with case
- T199589; IR lens, f=17 mm (24°) with case
- T199590; IR lens, f=10 mm (42°) with case
- T300805; IR lens, f=5 mm (80°) with case
- T198495; Pouch
- 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
- 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
- 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)

# Camera housing



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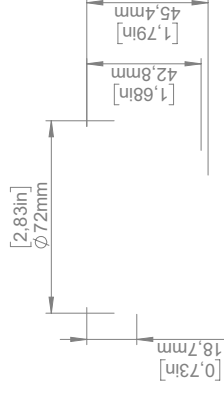
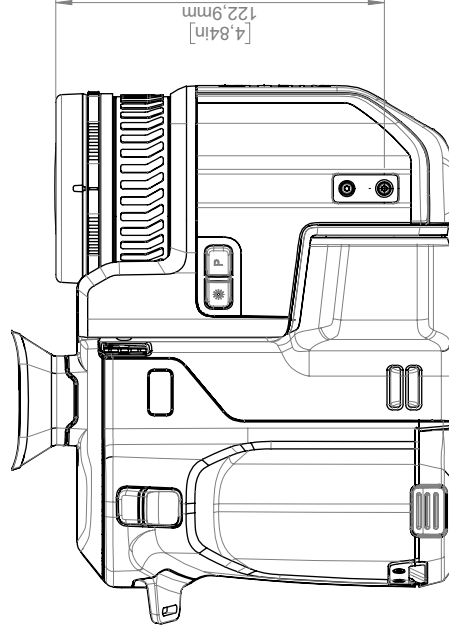
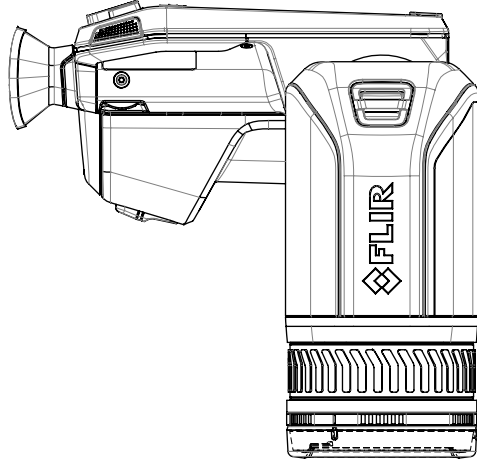
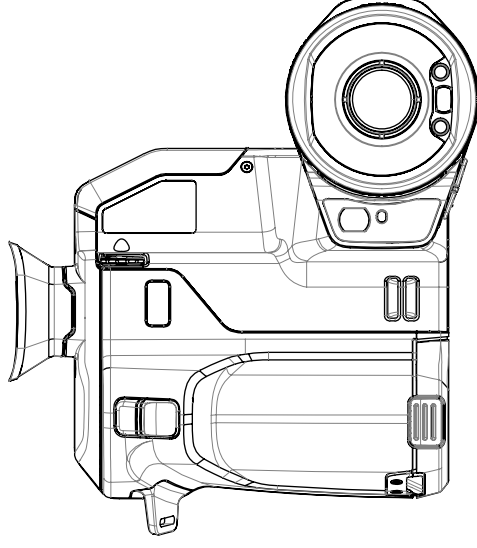
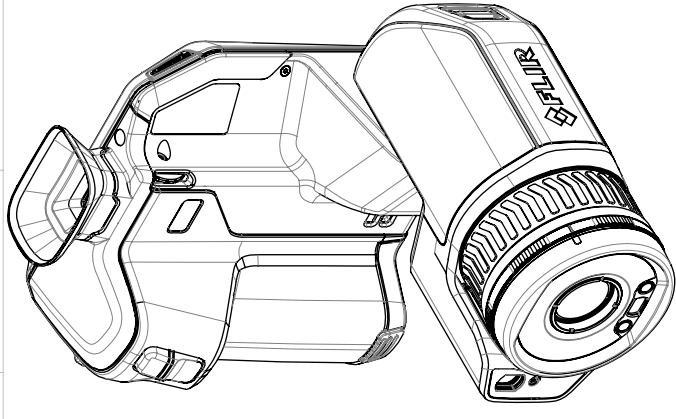
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Drawing No.	T129914	Rev	E





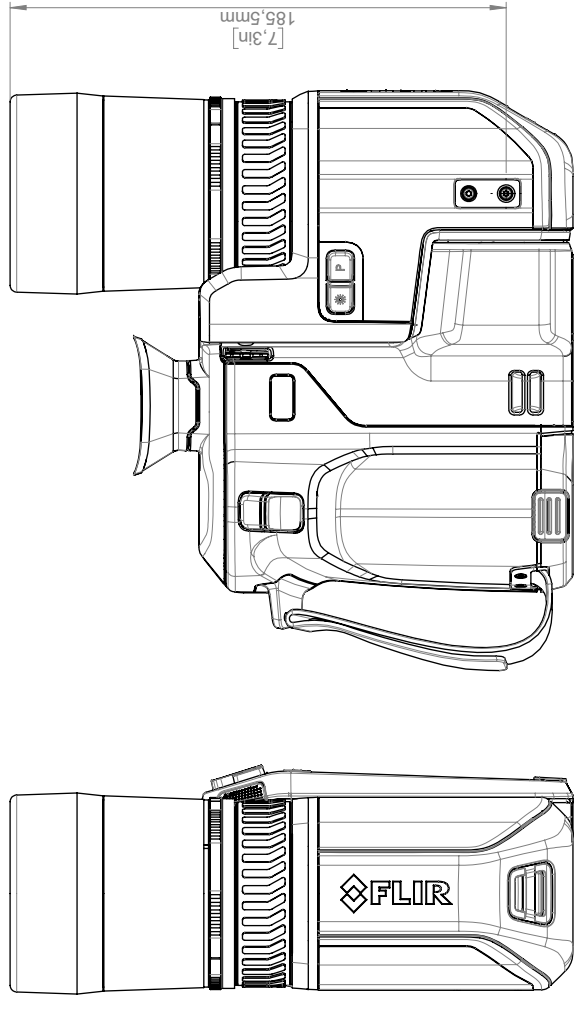
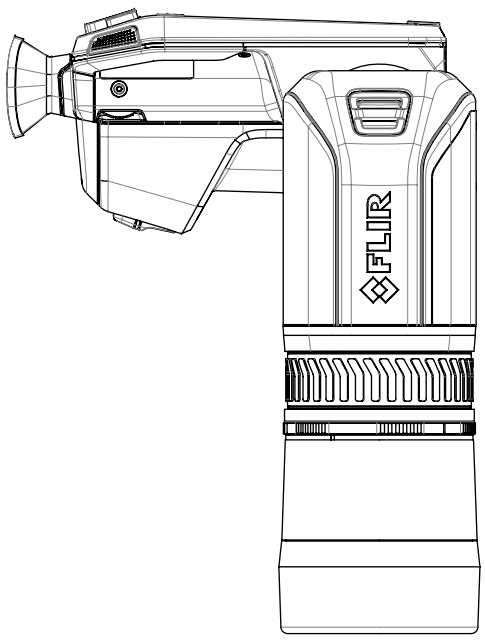
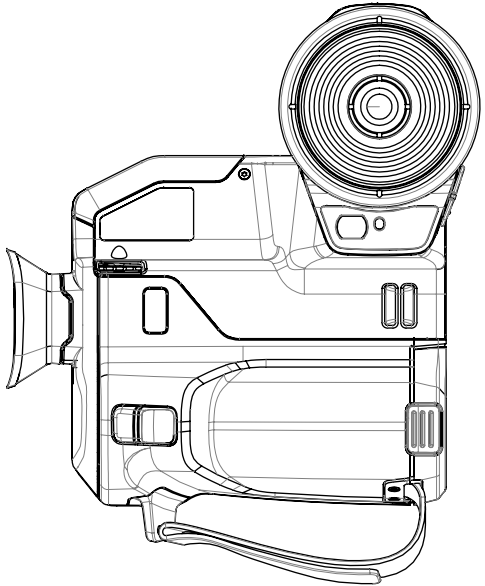
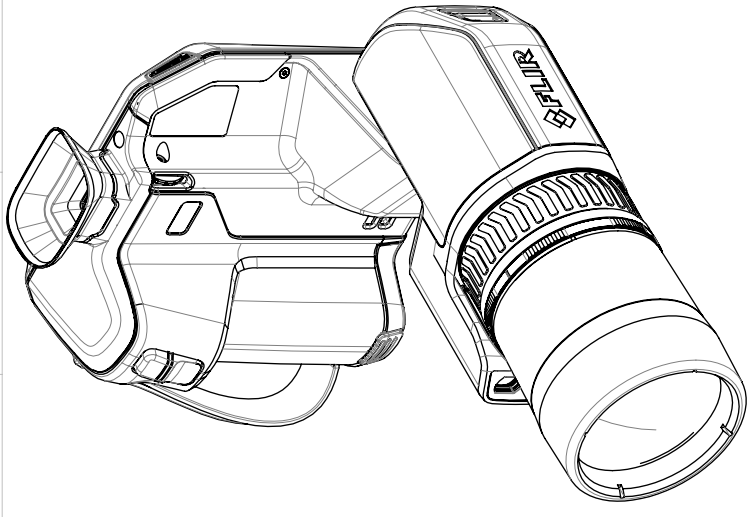
- Camera with Lens IR f=10mm (42°)
- Camera with Lens IR f=17mm (24°)
- Camera with Lens IR f=29mm (14°)
- Camera with Lens IR Close-Up lens 2x



For additional dimensions see page 1

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# Camera with Lens IR f=70mm (6°)

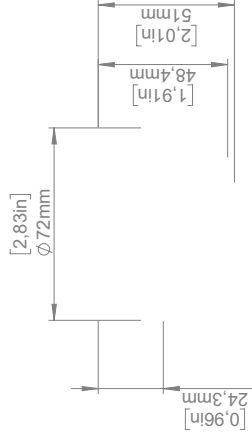
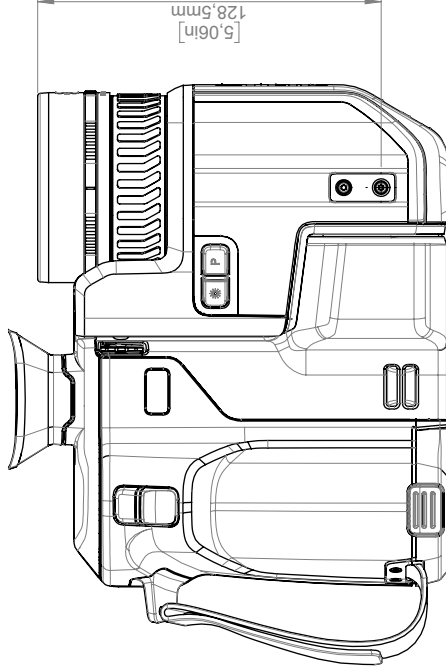
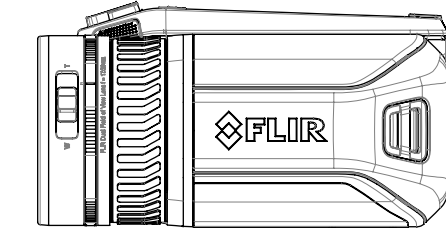
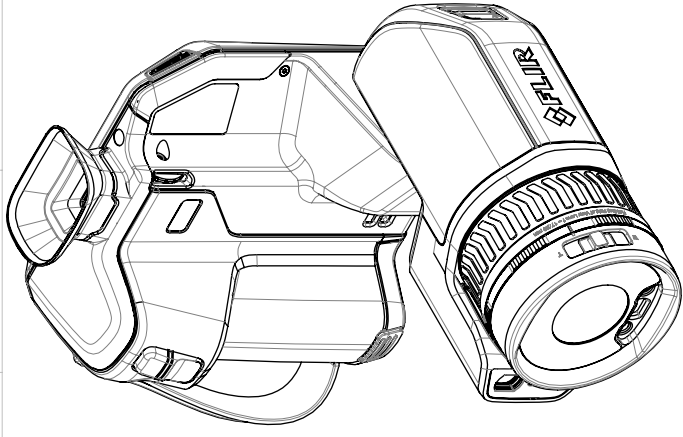
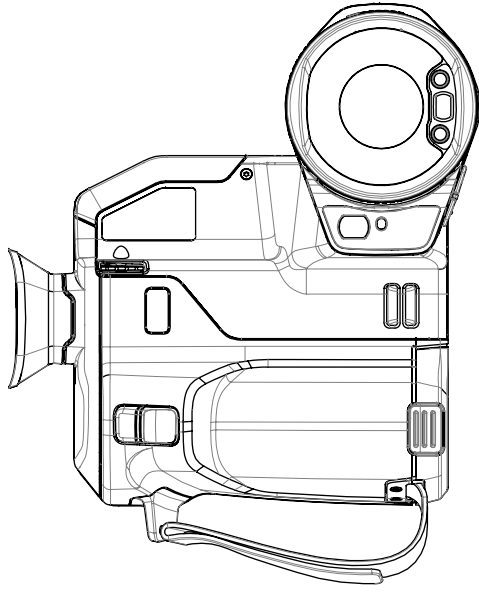
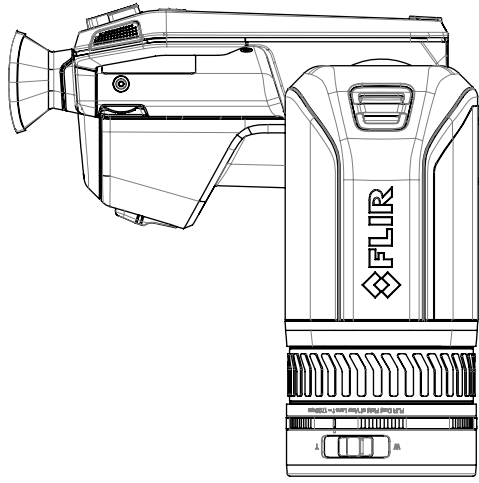


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# Camera with Lens IR f=17/29mm (DFOV)



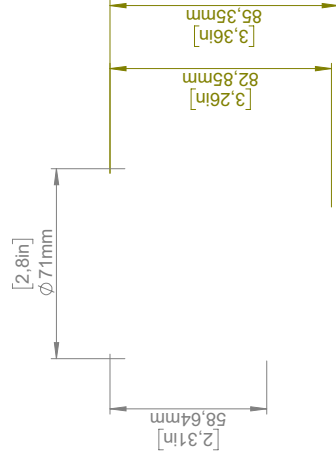
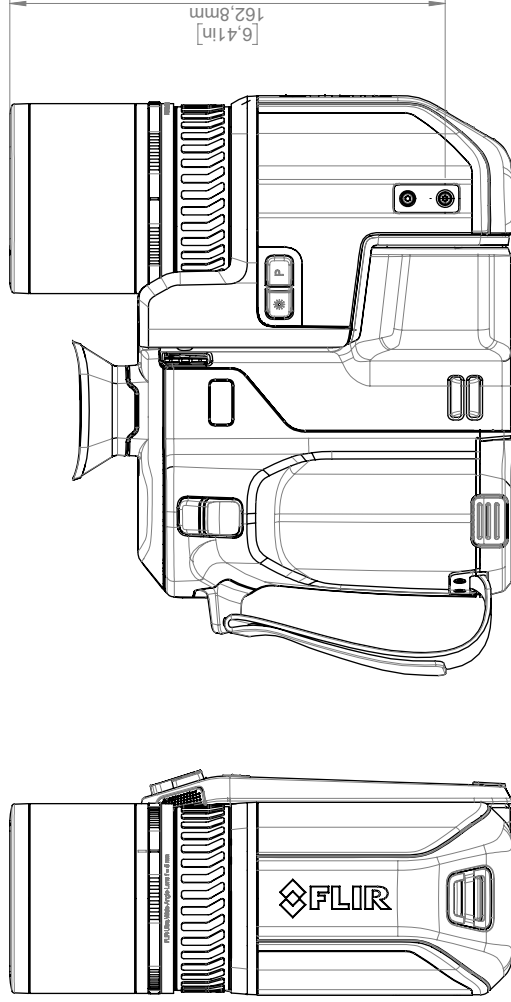
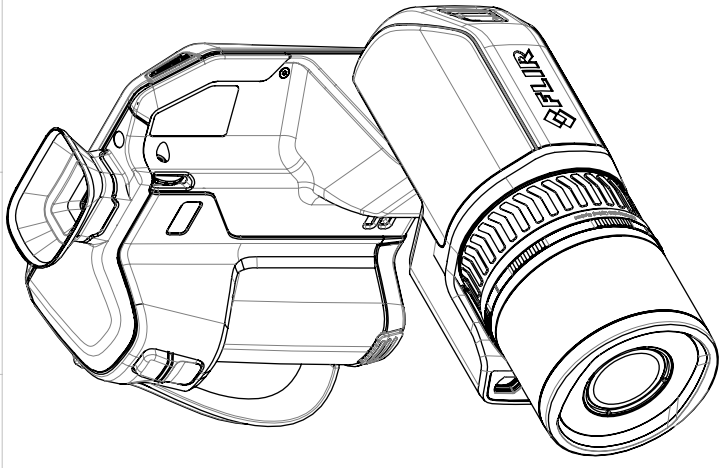
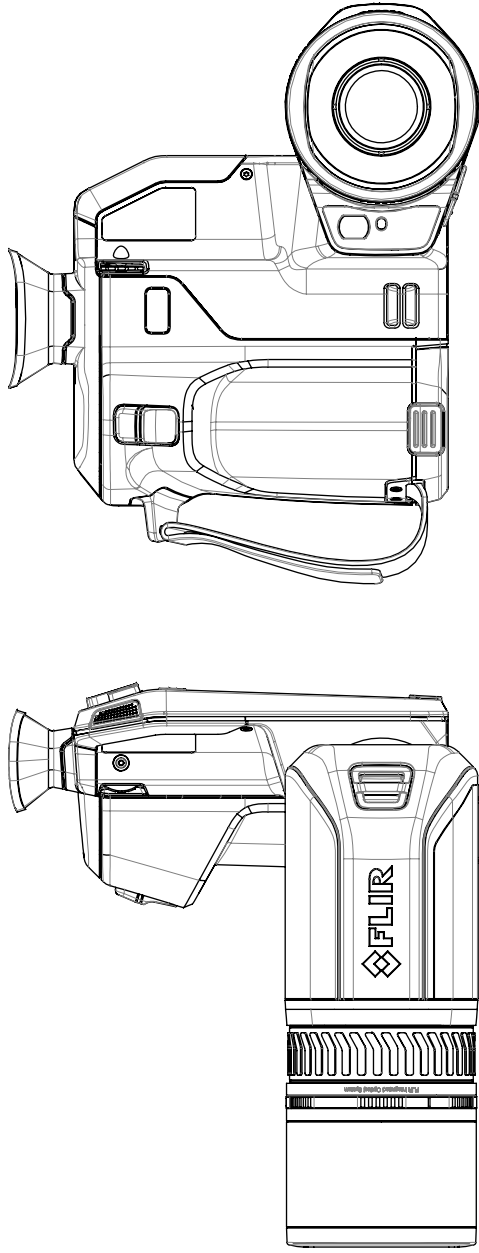
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Denomination <b>Basic dimensions FLIR T8xx</b>			Scale <b>1:5</b>
			Sheet <b>4(6)</b>
			Drawing No. <b>T129914</b>
			Rev <b>E</b>

# Camera with Lens IR f=5mm (80°)



For additional dimensions see page 1

Modified by A. Agardson	Approved by AKZE	Modified 2023-09-29	Size A3	Sheet 5(6)	Rev E
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Denomination Basic dimensions FLIR T8xx					