

## P/N: 55904-8522

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### General description

The FLIR T660 is designed for the expert requiring the highest performance and the latest technology available. The camera combines excellent ergonomics and a walk-up-and-use interface with superior image quality of 640 × 480 pixel infrared resolution. The FLIR T660 is flexible and can meet your every need.

#### Benefits:

- Highest performance with the latest technology: The FLIR T660 is equipped with the innovative Multi Spectral Dynamic Imaging (MSX) feature, which produces an image richer in detail than ever before. Continuous auto-focus makes the FLIR T660 the first fully automatic infrared camera on the market.
- Ground-breaking efficiency: You can highlight objects of interest, on both the infrared and the visual images, by sketching or adding predefined stamps directly onto the camera's capacitive touch screen. The user interface is intuitive and logical for effective operation. Auto-orientation allows you to tilt between landscape and portrait views.
- Extensive communication options: The Wi-Fi connectivity of the FLIR T640 allows you to connect to smart phones or tablets for the wireless transfer of images or the remote control of the camera. The Bluetooth-based METERLiNK function transfers readings from external measurement instruments to the infrared image.
- Support for UltraMax: When enabling UltraMax in the camera, the resolution of images can be substantially enhanced when importing the images into FLIR Tools.

### Imaging and optical data

IR resolution	640 × 480 pixels
UltraMax	Yes
Thermal sensitivity/NETD	<20 mK @ +30°C (+86°F)
Field of view (FOV)	25° × 19°
Minimum focus distance	0.25 m (0.82 ft.)
Focal length	25 mm (0.97 in.)
Spatial resolution (IFOV)	0.68 mrad
Lens identification	Automatic
F-number	1.0
Image frequency	30 Hz
Focus	Continuous, one shot or manual
Digital zoom	1–8× continuous
Digital image enhancement	Adaptive digital noise reduction



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Detector data	
Detector type	Focal Plane Array (FPA), uncooled microbolometer
Spectral range	7.5–14 $\mu\text{m}$
Detector pitch	17 $\mu\text{m}$

Image presentation	
Display	Built-in touch screen, 4.3 in. wide screen LCD, 800 $\times$ 480 pixels
Display type	Capacitive touch screen
Auto orientation	Automatic landscape or portrait
Viewfinder	Built-in 800 $\times$ 480 pixels
Automatic image adjustment	Continuous, histogram based
Manual image adjustment	Linear based; Possible to adjust level/span/max/min

Image presentation modes	
Infrared image	Full color IR image
Visual image	Full color visual image
Thermal MSX	Thermal image with enhanced detail presentation
Picture in Picture	Resizable and movable IR area on visual image

Measurement	
Object temperature range	<ul style="list-style-type: none"><li>• <math>-40^{\circ}\text{C}</math> to <math>+150^{\circ}\text{C}</math> (<math>-40^{\circ}\text{F}</math> to <math>+302^{\circ}\text{F}</math>)</li><li>• <math>+100^{\circ}\text{C}</math> to <math>+650^{\circ}\text{C}</math> (<math>+212^{\circ}\text{F}</math> to <math>+1202^{\circ}\text{F}</math>)</li><li>• <math>+300^{\circ}\text{C}</math> to <math>+2000^{\circ}\text{C}</math> (<math>+572^{\circ}\text{F}</math> to <math>+3632^{\circ}\text{F}</math>)</li></ul>
Accuracy	<ul style="list-style-type: none"><li>• <math>\pm 1^{\circ}\text{C}</math> (<math>\pm 1.8^{\circ}\text{F}</math>) or <math>\pm 1\%</math> of reading for limited temperature range.</li><li>• <math>\pm 2^{\circ}\text{C}</math> (<math>\pm 3.6^{\circ}\text{F}</math>) or 2%, whichever is greater, at <math>25^{\circ}\text{C}</math> (<math>77^{\circ}\text{F}</math>) nominal.</li></ul>

Measurement analysis	
Spotmeter	10
Area	5 areas (boxes or circles) with max./min./average
Profile	1 line profile with max/min temp
Automatic hot/cold detection	Auto hot or cold spotmeter markers within area and profile
Measurement presets	No measurements, Center spot, Hot spot, Cold spot, User preset 1, User preset 2
User presets	The user can select and combine measurements from any number of spots/boxes/circles/profiles/delta
Difference temperature	Delta temperature between measurement functions or reference temperature
Reference temperature	Manually set using difference temperature
Atmospheric transmission correction	Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Optics transmission correction	Automatic, based on signals from internal sensors

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<b>Measurement analysis</b>	
Emissivity correction	Variable from 0.01 to 1.0 or selected from materials list
Emissivity table	Emissivity table of predefined materials
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
External optics/windows correction	Automatic, based on inputs of window transmission and temperature
Measurement corrections	Emissivity, reflected temperature, relative humidity, atmospheric temperature, object distance, external IR window compensation
Colors (palettes)	Iron, Rainbow, Rainbow HC, White hot, Black hot, Arctic, Lava
<b>Alarm</b>	
Color Alarm (isotherm)	Above/below/interval
Measurement function alarm	Audible/visual alarms (above/below) on any selected measurement function
Screening	Difference temperature alarm, audible
<b>Set-up</b>	
Set-up commands	Define user presets, Save options, Programmable button, Reset options, Set up camera, Wi-Fi, GPS & compass, Bluetooth, Language, Time & units, Camera information
<b>Service functions</b>	
Camera software update	Use PC software FLIR Tools
<b>Storage of images</b>	
Image storage	Standard JPEG, including digital photo and measurement data, on memory card
Storage media	Removable memory SD card
Image storage mode	<ul style="list-style-type: none"> <li>• Simultaneous storage of thermal and digital photo in same JPEG file.</li> <li>• Optional to store digital photo as a separate JPEG file.</li> </ul>
Time lapse	15 seconds to 24 hours
File formats	Standard JPEG, measurement data included
File formats, visual	Standard JPEG, automatically associated with corresponding thermal image
<b>Image annotations (in still images)</b>	
Voice	60 seconds (via Bluetooth) stored with the image
Text	Add table. Select between predefined templates or create your own in FLIR Tools
Image description	Add short note (stored in JPEG exif tag)
Sketch	Draw on thermal/digital photo or add predefined stamps



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<b>Image annotations (in still images)</b>	
METERLiNK	Wireless connection (Bluetooth) to: FLIR meters with METERLiNK
Report generation	<ul style="list-style-type: none"> <li>Instant Report (*.pdf file) in camera</li> <li>Separate PC software with extensive report generation</li> </ul>
<b>Geographic Information System</b>	
GPS	Location data automatically added to every still image from built-in GPS
Compass	Camera direction automatically added to every still image
<b>Video recording in camera</b>	
Radiometric IR-video recording	CSQ to memory card
Non-radiometric IR-video recording	MPEG-4 to memory card
Visual video recording	MPEG-4 to memory card
<b>Video streaming</b>	
Radiometric IR-video streaming	Full dynamic to PC using USB or to mobile devices using Wi-Fi.
Non-radiometric IR-video streaming	<ul style="list-style-type: none"> <li>MPEG-4 using Wi-Fi</li> <li>Uncompressed colorized video using USB</li> </ul>
Visual video streaming	<ul style="list-style-type: none"> <li>MPEG-4 using Wi-Fi</li> <li>Uncompressed colorized video using USB</li> </ul>
<b>Digital camera</b>	
Built-in digital camera	5 Mpixel with LED light (photo as separate image)
Digital camera, FOV	Adapts to the IR lens
Video lamp	Built-in LED light
<b>Laser pointer</b>	
Laser	Activated by dedicated button
Laser alignment	Position is automatic displayed on the IR image
Laser classification	Class 2
Laser type	Semiconductor AlGaInP diode laser, 1 mW, 635 nm (red)
<b>Data communication interfaces</b>	
Interfaces	USB-mini, USB-A, Bluetooth, Wi-Fi, Digital Video Output
METERLiNK/Bluetooth	Communication with headset and external sensors
Wi-Fi	Peer to peer (ad hoc) or infrastructure (network)
SD Card	One card slot for removable SD memory cards

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<b>USB</b>	
USB	<ul style="list-style-type: none"> <li>• USB-A: Connect external USB device</li> <li>• USB Mini-B: Data transfer to and from PC / Uncompressed colorized video</li> </ul>
USB, standard	USB 2.0 High Speed
<b>Video output</b>	
Video out	Digital Video Output (DVI)
Video, connector type	HDMI compatible
<b>Radio</b>	
Wi-Fi	<ul style="list-style-type: none"> <li>• Standard: 802.11 b/g</li> <li>• Frequency range: 2412–2462 MHz</li> <li>• Max. output power: 15 dBm</li> </ul>
METERLiNK/Bluetooth	Frequency range: 2402–2480 MHz
Antenna	Internal
<b>Power system</b>	
Battery type	Rechargeable Li Ion battery
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 2-bay charger
Charging time	2.5 h to 90 % capacity, charging status indicated by LED's
Charging temperature	0°C to +45°C (+32°F to +113°F)
External power operation	AC adapter 90–260 VAC, 50/60 Hz or 12 V from a vehicle (cable with standard plug, optional)
<b>Environmental data</b>	
Operating temperature range	–15°C to +50°C (+5°F to +122°F)
Storage temperature range	–40°C to +70°C (–40°F to +158°F)
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25° C to +40°C (+77°F to +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 Class B (Emission)</li> <li>• ICES-003</li> </ul>
Radio spectrum	<ul style="list-style-type: none"> <li>• ETSI EN 300 328</li> <li>• FCC Part 15.247</li> <li>• RSS-210</li> </ul>
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)
Safety	EN/UL/CSA/PSE 60950-1

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Physical data	
Weight	1.3 kg (2.87 lb.)
Camera size, excl. lens (L x W x H)	143 x 195 x 95 mm (5.6 x 7.7 x 3.7 in.)
Tripod mounting	UNC ¼"-20
Housing material	Magnesium
Shipping information	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none"> <li>• Infrared camera with lens</li> <li>• Battery (2 ea.)</li> <li>• Battery charger</li> <li>• Bluetooth headset</li> <li>• Calibration certificate</li> <li>• FLIR Tools download card</li> <li>• User documentation CD-ROM</li> <li>• Printed documentation</li> <li>• HDMI-DVI cable</li> <li>• HDMI-HDMI cable</li> <li>• Hard transport case</li> <li>• Large eyecap</li> <li>• Lens cap</li> <li>• Memory card</li> <li>• Neck strap</li> <li>• Power supply, incl. multi-plugs</li> <li>• Tripod adapter</li> <li>• USB cable, Std A to Mini-B</li> </ul>
Packaging, weight	6.6 kg (14.6 lb.)
Packaging, size	495 x 192 x 370 mm (19.49 x 7.56 x 14.57 in.)
EAN-13	7332558008720
UPC-12	845188009243
Country of origin	Sweden

### Supplies & accessories:

- T197914; IR lens, f=41.3 mm (15°) with case
- T197922; IR lens, f=24.6 mm (25°) with case
- T197915; IR lens, f=13.1 mm (45°) with case
- T198059; Close-up IR lens, 2.9x (50 µm) with case
- T198060; Close-up IR lens, 5.8x (100 µm) with case
- T198166; IR lens, f=88.9 mm (7°) with case and support for T6xx
- T198065; IR lens, f=6.5 mm (80°) with case
- T198066; Close-up IR lens, 1.5x (25 µm) with case
- T910814; Power supply, incl. multi plugs
- T198126; Battery charger, incl. power supply with multi plugs T6xx
- T198506; Li-Ion Battery pack 3.7V 29Wh
- T911230ACC; Memory card SDHC 4 GB
- 1910423; USB cable Std A <-> Mini-B
- T198509; Cigarette lighter adapter kit, 12 VDC, 1.2 m/3.9 ft.
- T910930ACC; HDMI type C to DVI cable 1.5 m
- T910891ACC; HDMI type C to HDMI type A cable 1.5 m
- T198625ACC; Hard transport case for T6xx series
- T198495; Pouch for FLIR T6xx and T4xx series
- T198497; Large eyecup
- T198498; Tripod Adapter



## FLIR T660 25° (incl. Wi-Fi)

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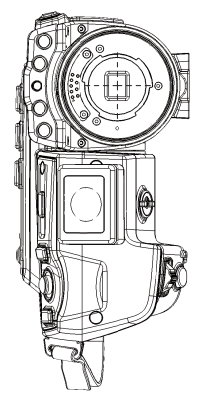
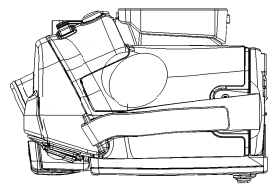
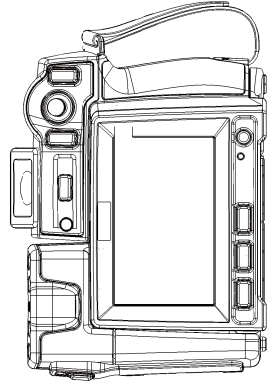
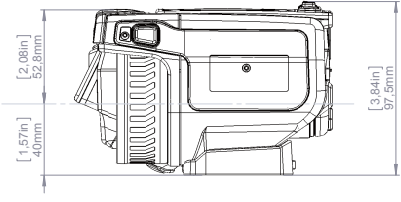
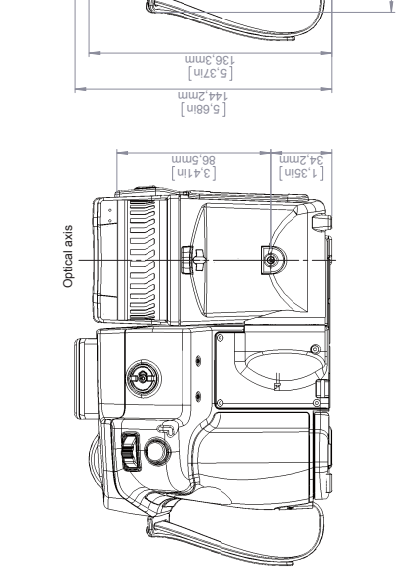
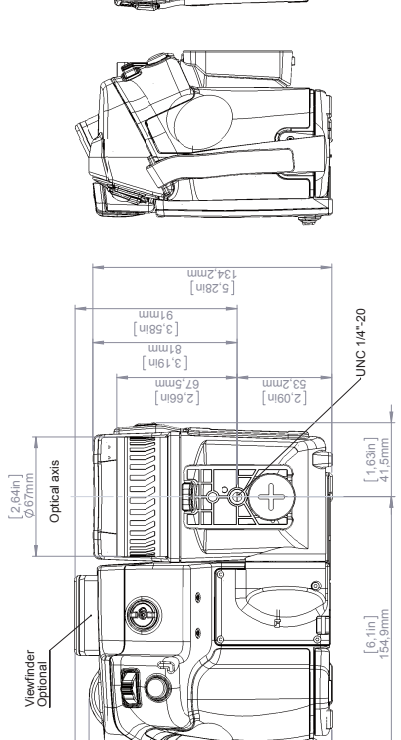
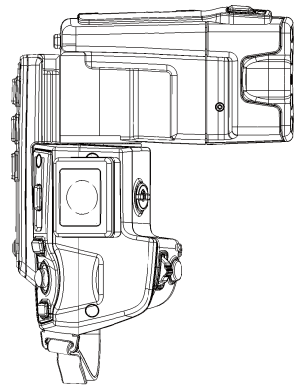
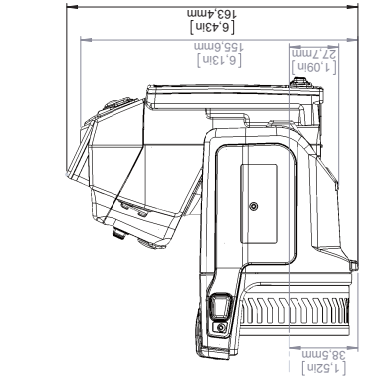
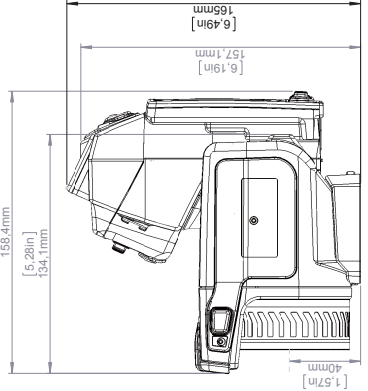
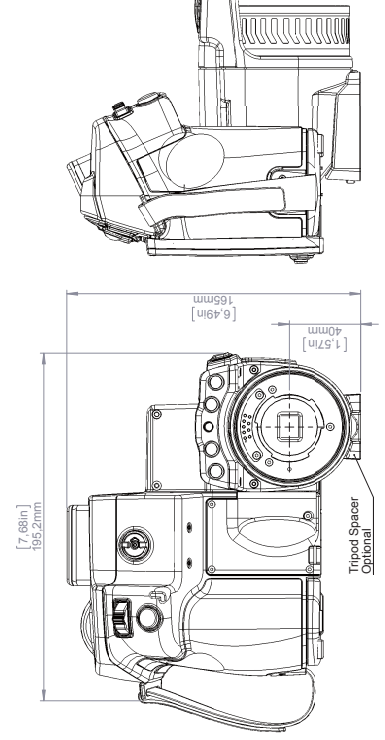
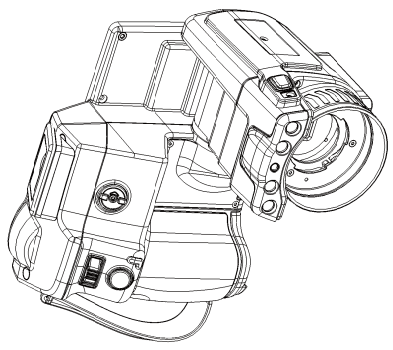
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- T198499; Neck strap
- T197771ACC; Bluetooth Headset
- T911093; Tool belt
- 19250-100; IR Window 2 in
- 19251-100; IR Window 3 in.
- 19252-100; IR Window 4 in.
- 19250-200; SS IR Window 2 in.
- 19251-200; SS IR Window 3 in.
- 19252-200; SS IR Window 4 in.
- T198586; FLIR Reporter Professional (license only)
- T198584; FLIR Tools
- T198583; FLIR Tools+ (license only)
- DSW-10000; FLIR IR Camera Player
- APP-10002; FLIR Tools Mobile (Android Application)
- APP-10004; FLIR Tools (MacOS Application)
- T198578; FLIR ResearchIR 3 (license only)
- T198574; FLIR ResearchIR 3 Max (license only)

# Camera housing



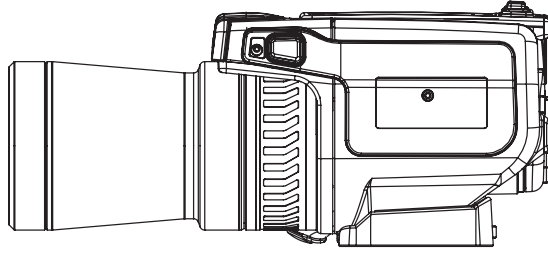
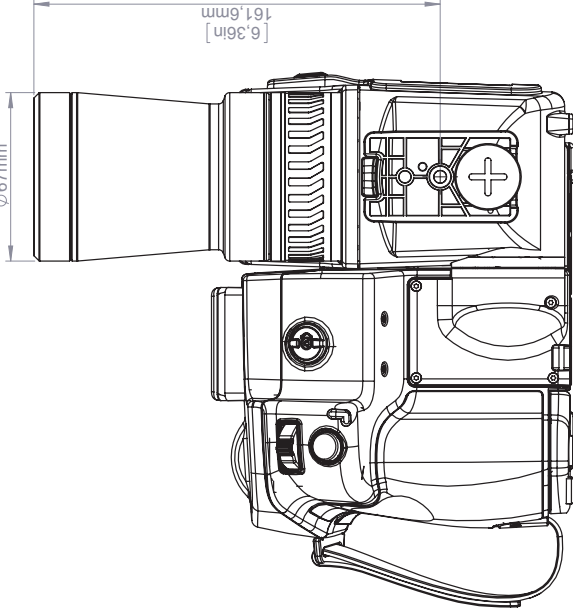
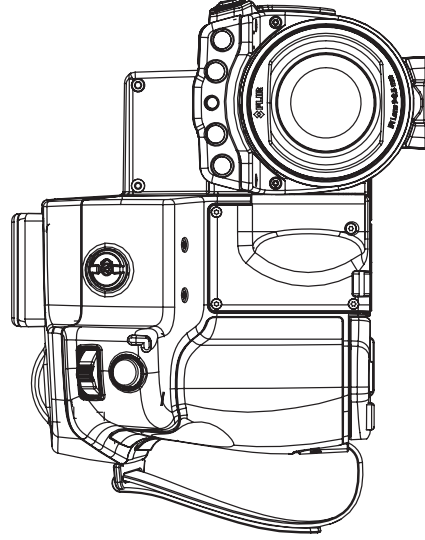
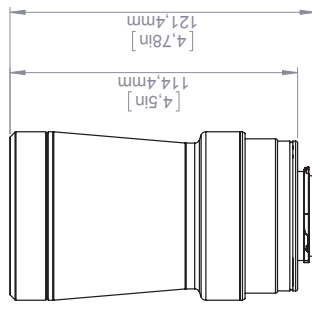
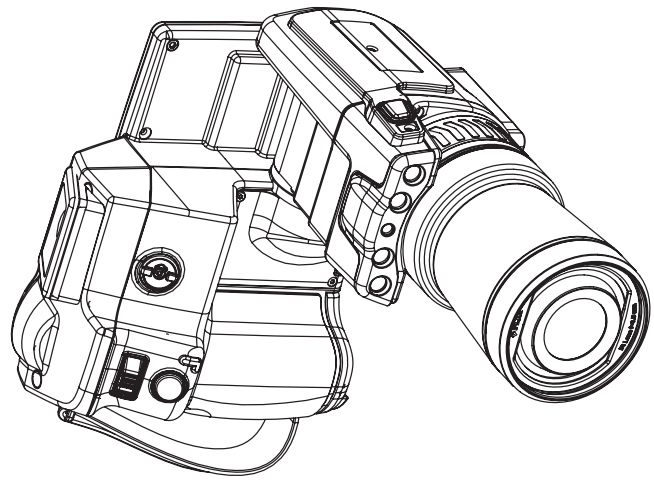
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Denomination	Basic dimensions FLIR T6xx mk II					
Size	A2	Sheet	12	Sheet	19	
Drawing No.	T128123				Size	A



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# Camera with Lens IR f=6,5 mm (80°)

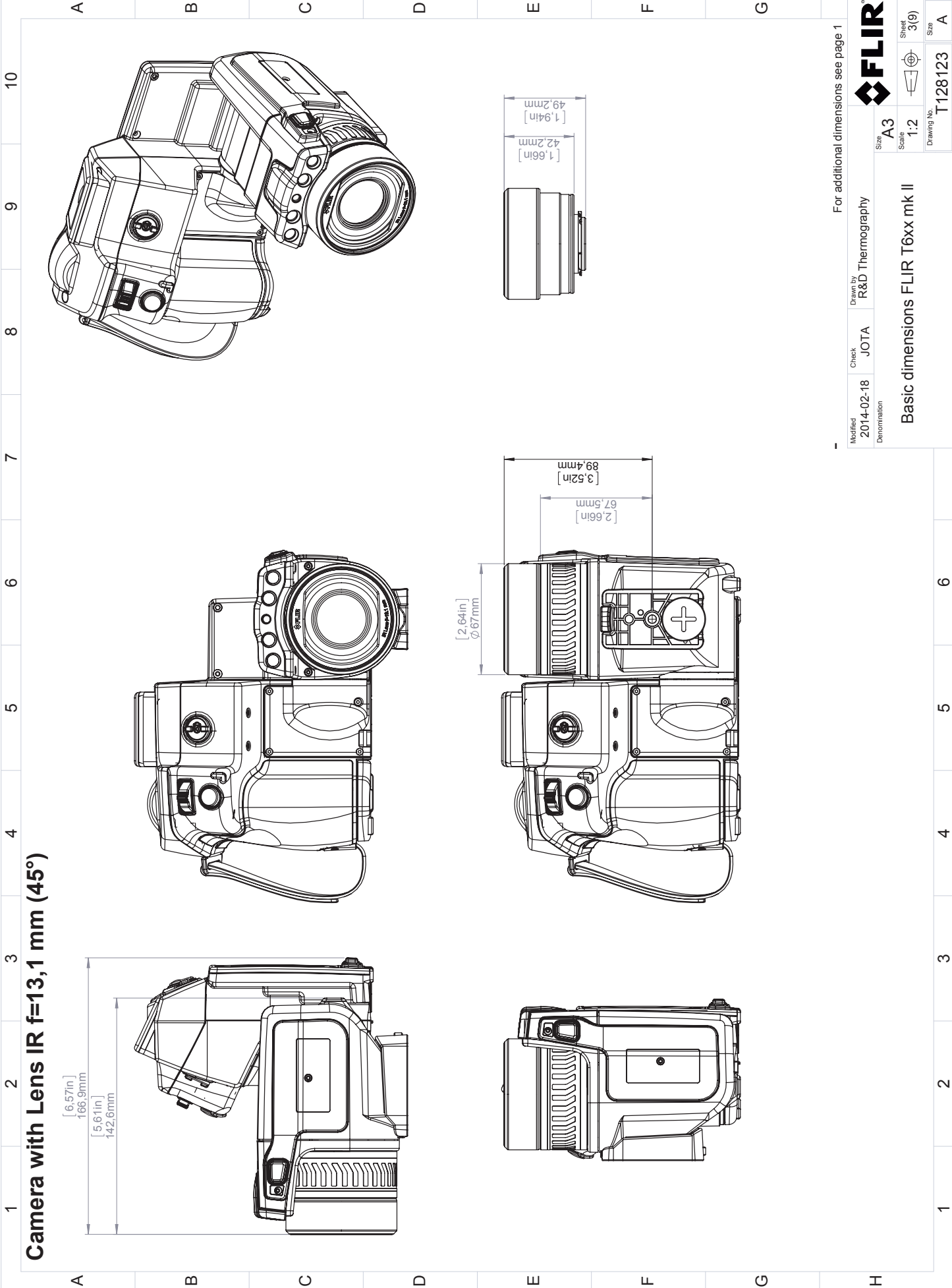


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For additional dimensions see page 1

Modified 2014-02-18	Check JOTA	Drawn by R&D Thermography	FLIR®
Denomination Basic dimensions FLIR T6xx mk II			Size A3
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			Drawing No. T128123
			Size A

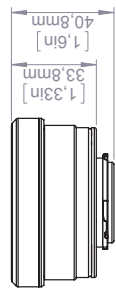
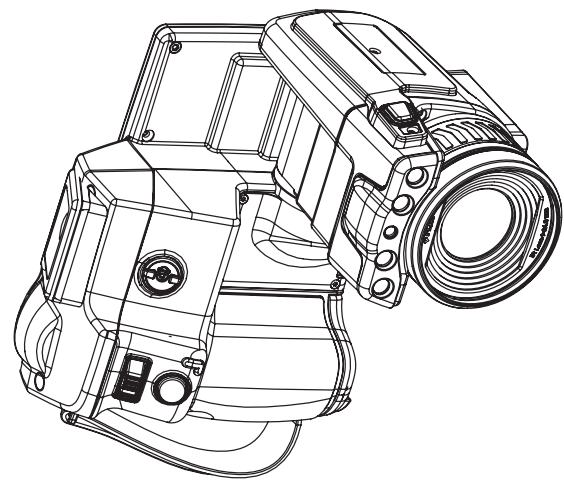
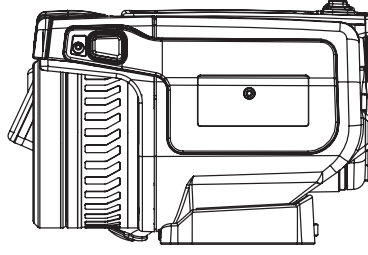
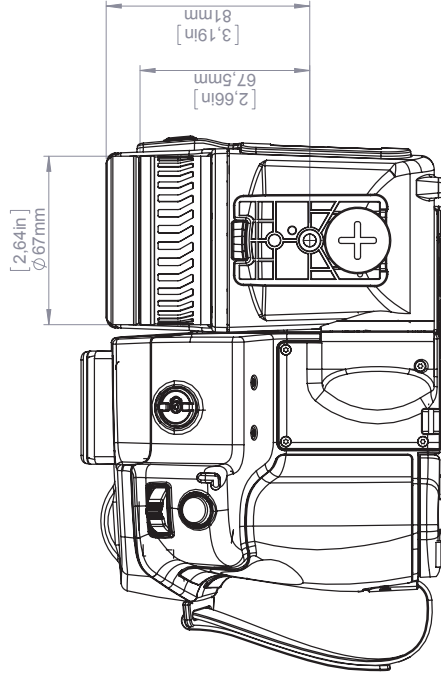
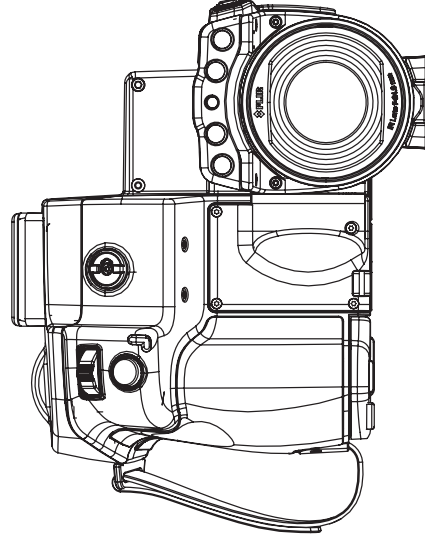
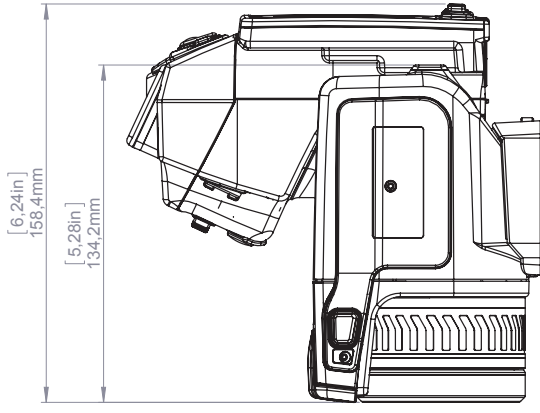
# Camera with Lens IR f=13,1 mm (45°)



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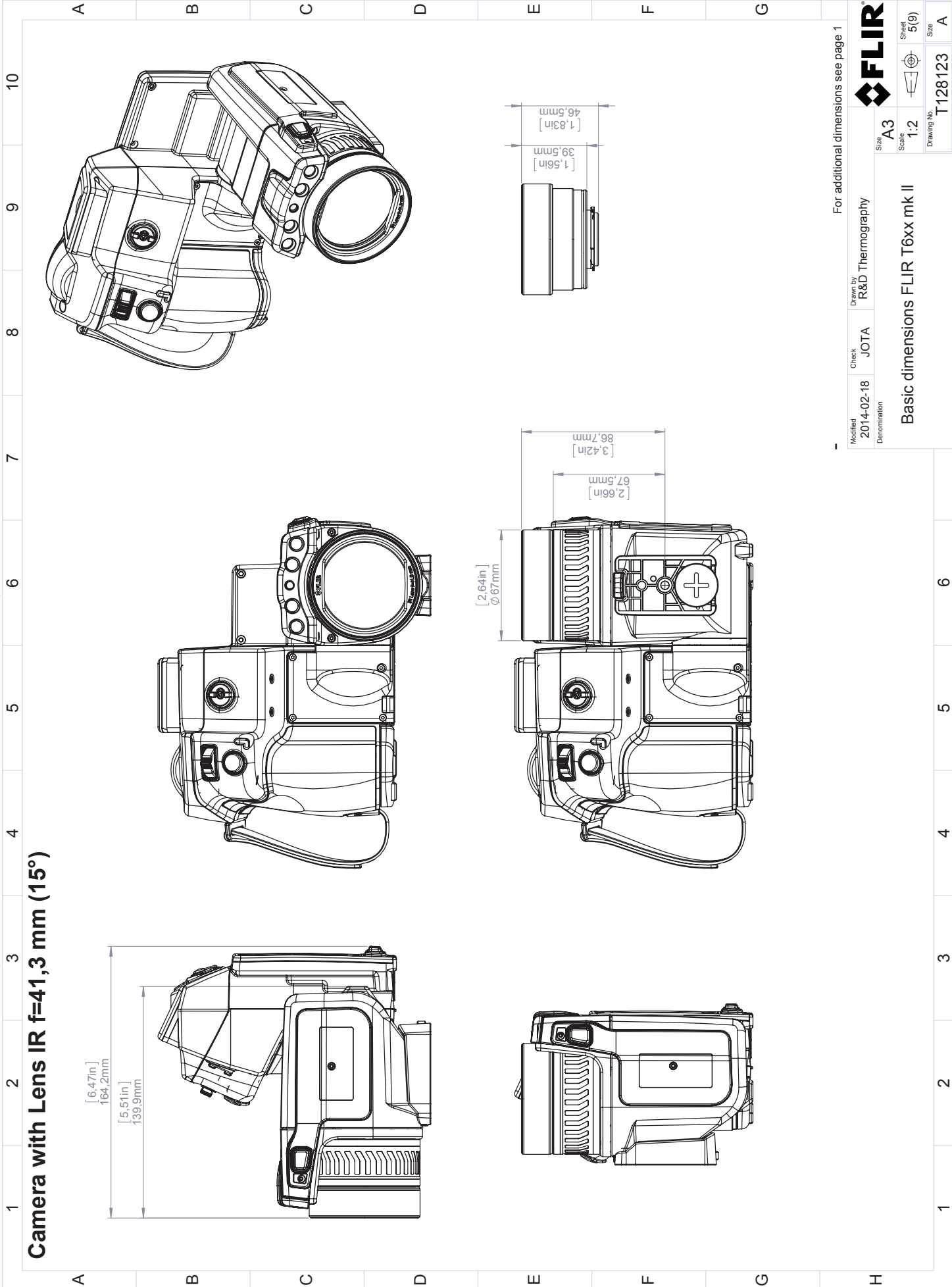
# Camera with Lens IR f=24,6 mm (25°)



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Basic dimensions FLIR T6xx mk II			Drawing No. T128123		

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# Camera with Lens IR f=41,3 mm (15°)



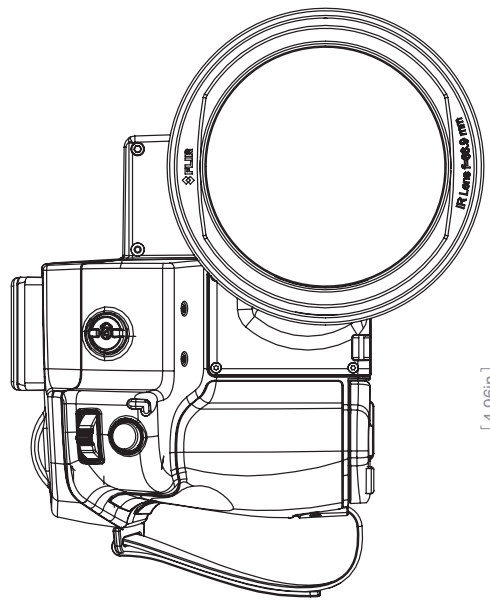
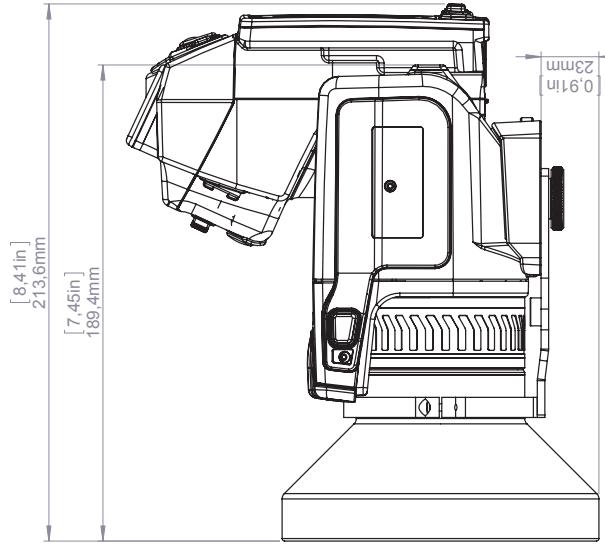
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For additional dimensions see page 1

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				Size
				T128123
				Size
				A

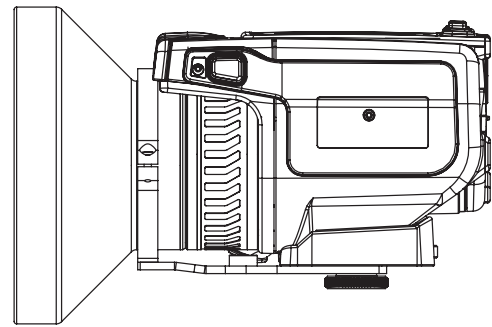
Basic dimensions FLIR T6xx mk II

# Camera with Lens IR f=88,9 mm (7°) incl support



[4,96in]  
Ø 126mm

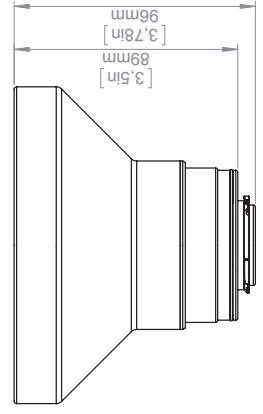
[2,48in]  
63mm



Lens support  
Optional

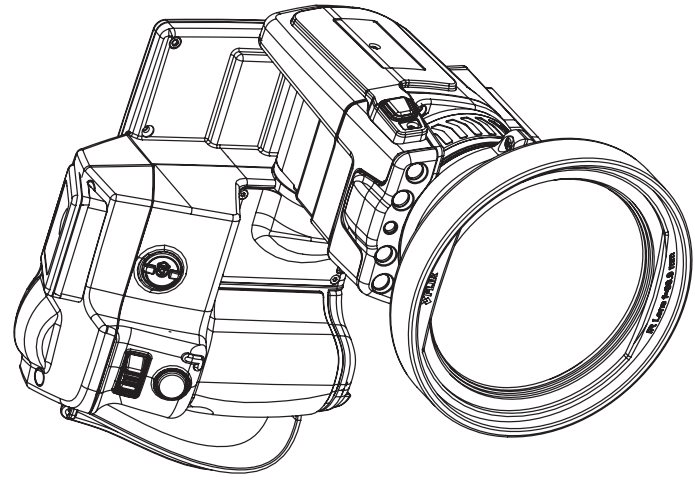
[2,66in]  
67,5mm

[5,36in]  
136,2mm



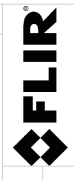
[3,5in]  
89mm

[3,78in]  
96mm



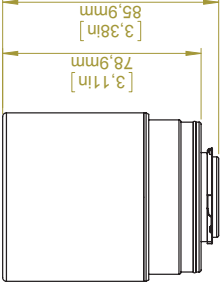
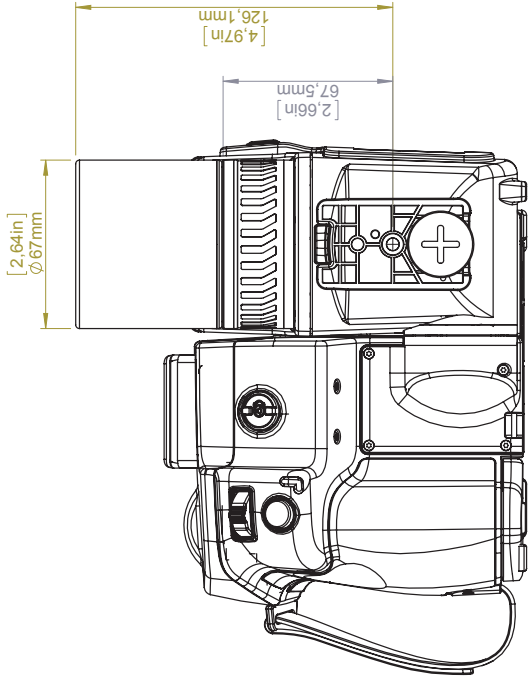
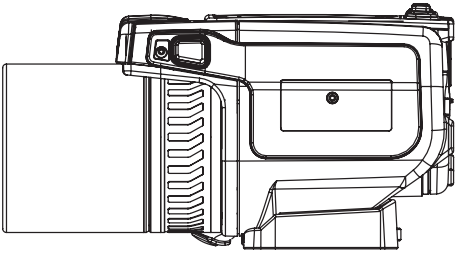
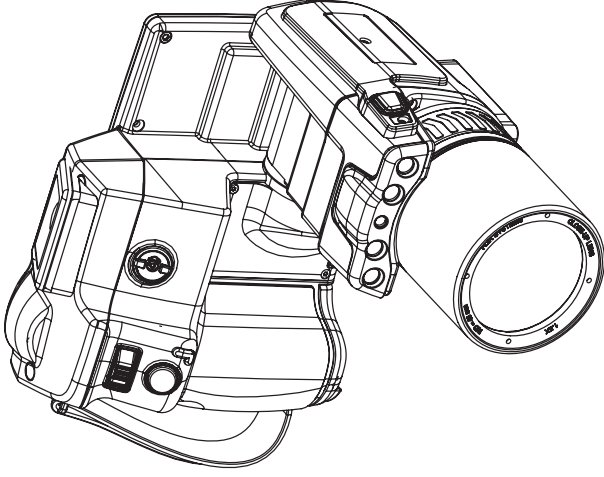
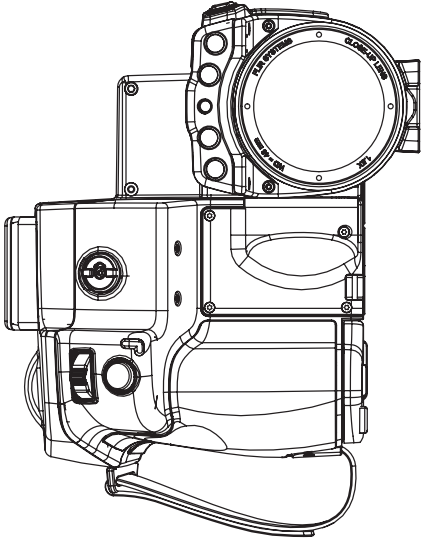
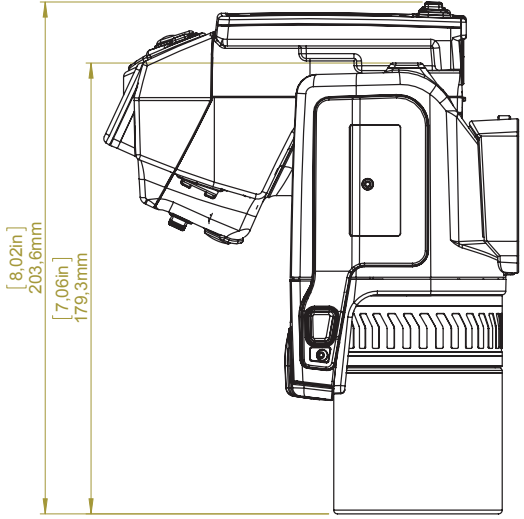
For additional dimensions see page 1

Modified 2014-02-18	Check JOTA	Drawn by R&D Thermography	Size A3
Denomination Basic dimensions FLIR T6xx mk II			Scale 1:2
Drawing No. T128123			Sheet 6(9)
Size A			Size A



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# Camera with Close-up lens 1,5X (25 µm)

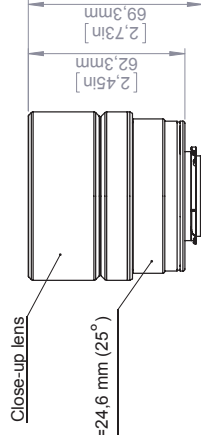
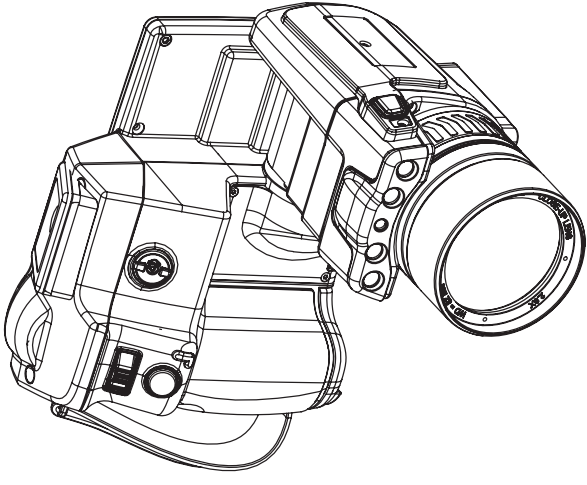
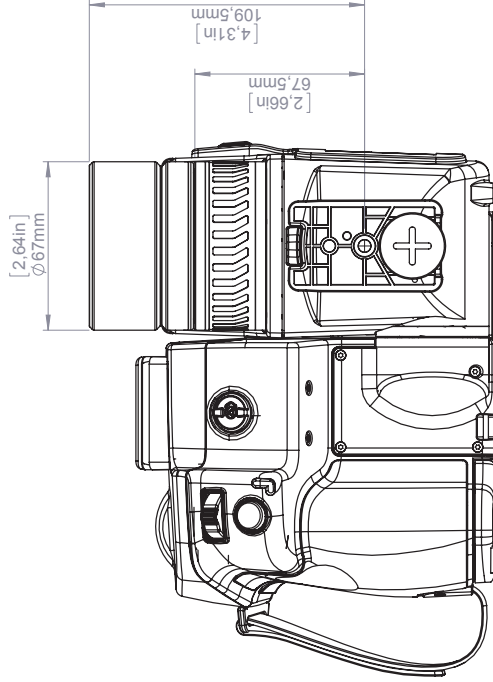
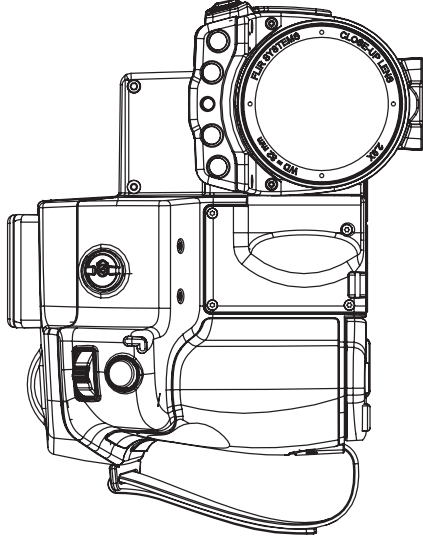
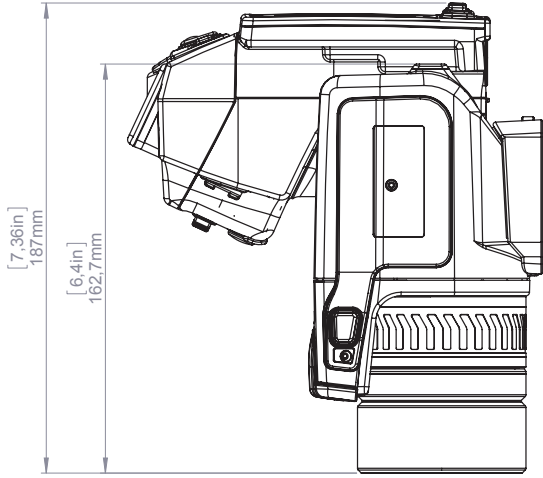


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For additional dimensions see page 1

Modified 2014-02-18	Check JOTA	Drawn by R&D Thermography	<b>FLIR</b>
Denomination			Sheet 7(9)
Basic dimensions FLIR T6xx mk II			Size A3
			Scale 1:2
			Drawing No. T128123
			Size A

# Camera with Close-up lens 2,9X (50 µm)



IR Lens f=24,6 mm (25°)

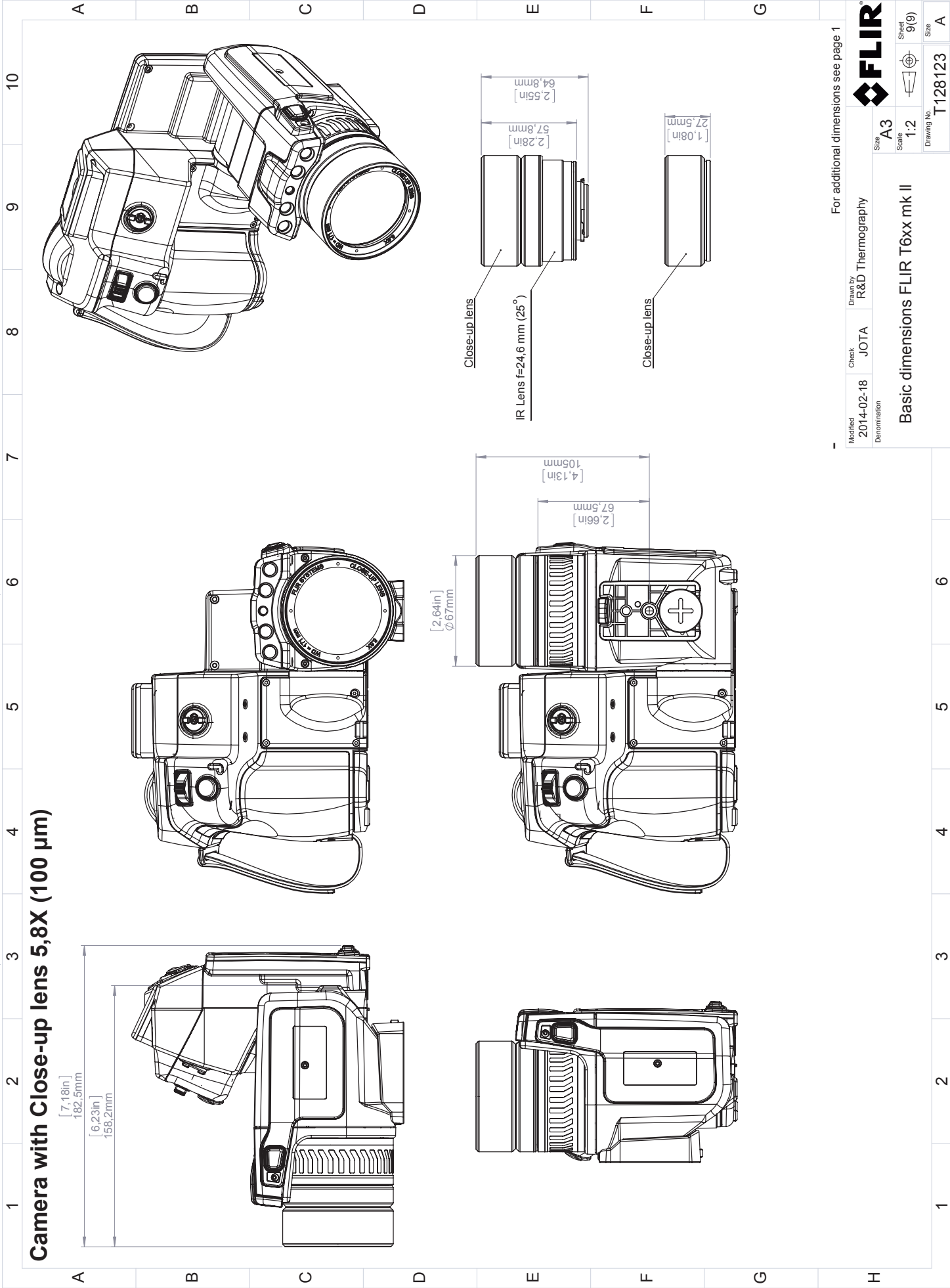


Close-up lens

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Modified 2014-02-18		Check JOTA	Drawn by R&D Thermography	For additional dimensions see page 1	
Denomination		Size A3	Scale 1:2	Sheet 8(9)	Size A
Basic dimensions FLIR T6xx mk II			Drawing No. T128123		

# Camera with Close-up lens 5,8X (100 µm)



A B C D E F G

For additional dimensions see page 1

Modified 2014-02-18	Check JOTA	Drawn by R&D Thermography	Size A3	Sheet 9(9)
Denomination 2014-02-18		Scale 1:2		Size A
Basic dimensions FLIR T6xx mk II			Drawing No. T128123	Size A

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