

## P/N: 55904-6521

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### General description

The FLIR T640 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 IR resolution. The T640 is flexible and can meet your every need.

### Benefits:

- Highest performance with the latest technology: The T640 camera 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 T640 the first fully automatic IR camera on the market.
- Ground-breaking efficiency: You can highlight objects of interest, on both the IR and the visual images, by sketching or adding pre-defined stamps directly on 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.

### Imaging and optical data

IR resolution	640 × 480 pixels
Thermal sensitivity/NETD	<35 mK @ +30°C (+86°F)
Field of view (FOV)	15° × 11°
Minimum focus distance	0.5 m (1.64 ft.)
Focal length	41 mm (1.63 in.)
Spatial resolution (IFOV)	0.41 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

### Detector data

Detector type	Focal Plane Array (FPA), uncooled microbolometer
Spectral range	7.5–14 μm
Detector pitch	17 μm

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<b>Image presentation</b>	
Display	Built-in touch screen, 4.3 in. wide screen LCD, 800 × 480 pixels
Viewfinder	Built-in 800 × 480 pixels
Automatic image adjustment	Continuous, histogram based
Automatic image adjustment, type	Standard or histogram based from image content
Manual image adjustment	Linear based; Possible to adjust level/span/max/min
<b>Image presentation modes</b>	
Infrared image	Full color IR image
Visual image	Full color visual image
Multi Spectral Dynamic Imaging (MSX)	Thermal image with enhanced detail presentation
Picture in Picture	Resizable and movable IR area on visual image
<b>Measurement</b>	
Object temperature range	-40°C to +150°C (-40°F to +302°F) +100°C to +650°C (+212°F to +1202°F) +300°C to +2000°C (+572°F to +3632°F)
Accuracy	±2°C (±3.6°F) or ±2% of reading
<b>Measurement analysis</b>	
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
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
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
<b>Alarm</b>	
Measurement function alarm	Audible/visual alarms (above/below) on any selected measurement function

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<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>	
Storage media	Removable memory SD card
Image storage mode	Simultaneous storage of thermal and digital photo in same JPEG. Optional to store digital photo as separate JPEG.
File formats	Standard JPEG, measurement data included
File formats, visual	Standard JPEG, automatically associated with corresponding thermal image
<b>Image annotations</b>	
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
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 image from built-in GPS
Compass	Camera direction automatically added to every image
<b>Video recording in camera</b>	
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
Non-radiometric IR-video streaming	Uncompressed colorized video using USB
Visual video streaming	Uncompressed colorized video using USB
<b>Digital camera</b>	
Built-in digital camera	5 Mpixel with LED light
Digital camera, FOV	Adapts to the IR lens
Video lamp	Built-in LED light

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<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>	
SD Card	One card slot for removable SD memory cards
<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
USB, connector type	<ul style="list-style-type: none"> <li>• USB-A connector</li> <li>• USB Mini-B connector</li> </ul>
<b>Composite video</b>	
Video out	Digital Video Output (DVI)
Video, connector type	HDMI compatible
<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)
Power management	Automatic shutdown and sleep mode (user selectable)
<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>• EN 61000-6-2 (Immunity)</li> <li>• EN 61000-6-3 (Emission)</li> <li>• FCC 47 CFR Part 15 Class B (Emission)</li> </ul>
Encapsulation	IP 54 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Safety	EN/UL/CSA/PSE 60950-1

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<b>Physical data</b>	
Weight	1.33 kg (2.93 lb.)
Size (L x W x H)	143 x 195 x 95 mm (5.6 x 7.7 x 3.7 in.)
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

<b>Shipping information</b>	
<ul style="list-style-type: none"> <li>• Infrared camera with lens</li> <li>• Battery (2 ea.)</li> <li>• Battery charger</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>	
EAN-13	7332558006955
UPC-12	845188007300
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
- T198496; Stylus pen
- T198499; Neck strap
- T197771ACC; Bluetooth Headset
- T910972; EX845; Clamp meter + IR therm TRMS 1000A AC/DC

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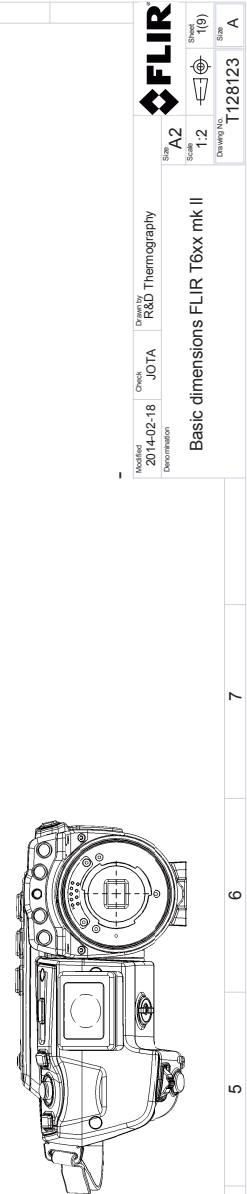
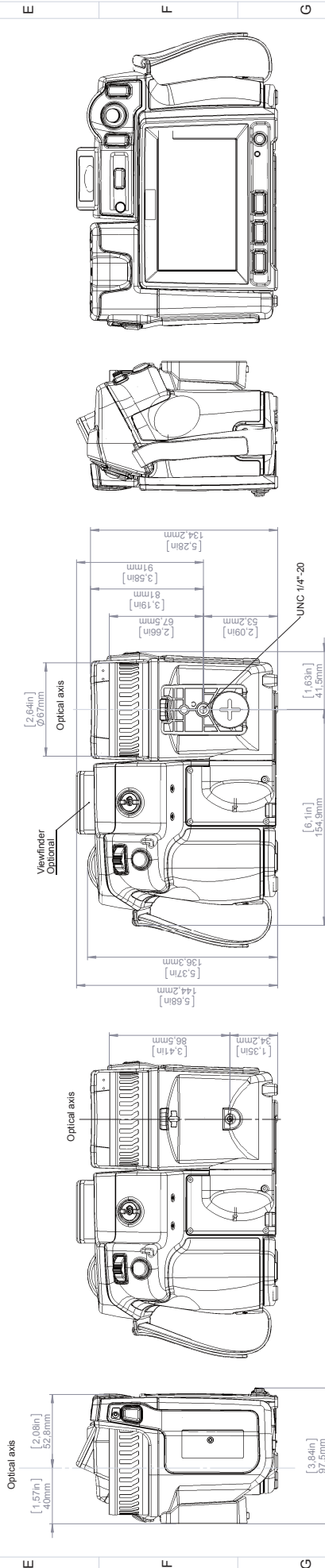
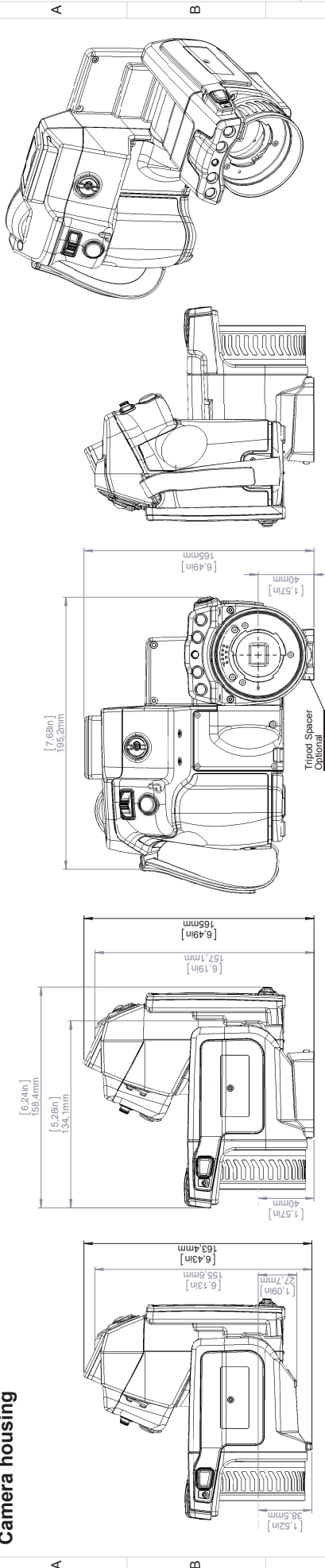
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- T910973; MO297: Moisture meter, pinless with memory
- T911093; Tool belt
- T198586; FLIR Reporter Professional (license only)
- T198584; FLIR Tools
- T198583; FLIR Tools+ (license only)
- DSW-10000; FLIR IR Camera Player
- APP-10002; FLIR Tools Mobile (Android Application)
- APP-10004; FLIR Tools (MacOS Application)
- T127597L5; FLIR ResearchIR 3 (license only), 5 user licenses
- T127597L10; FLIR ResearchIR 3 (license only), 10 user licenses
- T127598L5; FLIR ResearchIR 3 Max (license only), 5 user licenses
- T127598L10; FLIR ResearchIR 3 Max (license only), 10 user licenses
- T198696; FLIR ResearchIR Max 4
- T198697; FLIR ResearchIR Max + HSDR 4
- T198579; FLIR ResearchIR 3 (CD)
- T198578; FLIR ResearchIR 3 (license only)
- T198575; FLIR ResearchIR 3 Max (CD)
- T198574; FLIR ResearchIR 3 Max (license only)
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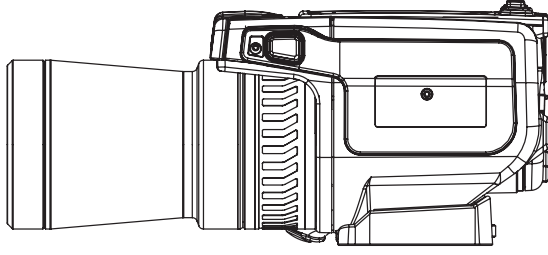
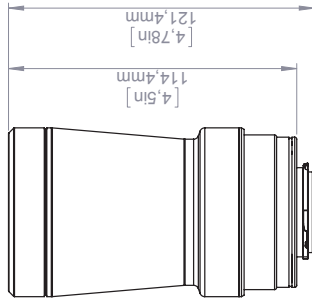
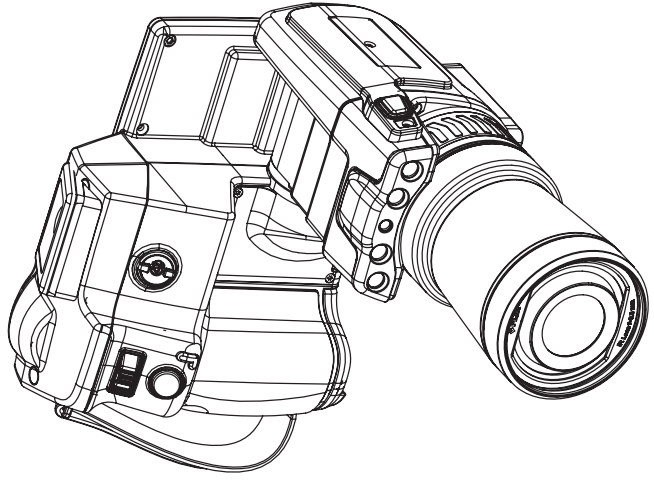
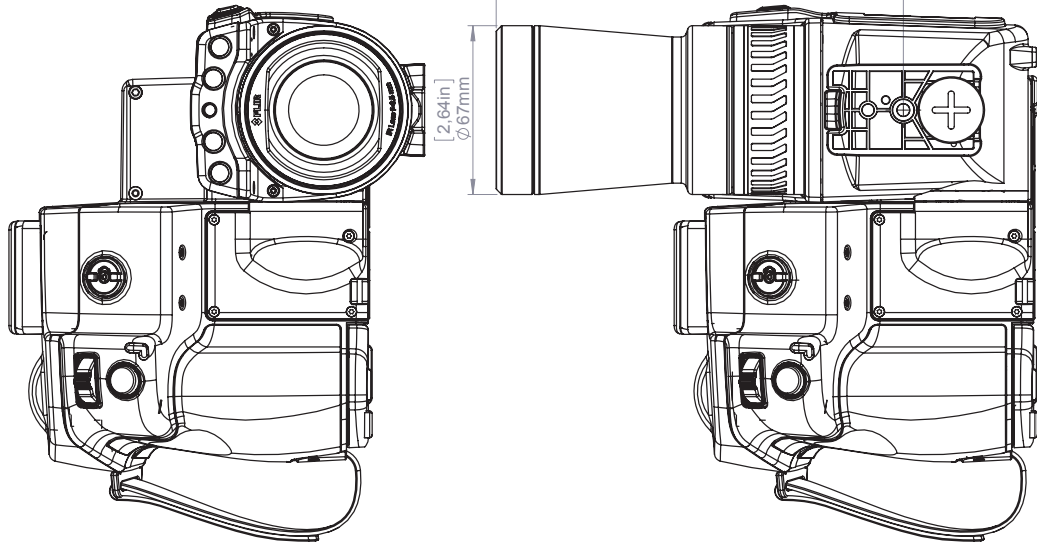
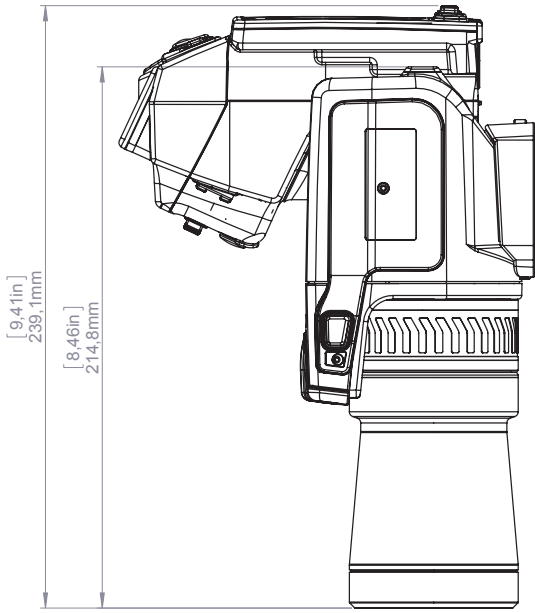
# Camera housing



**FLIR**  
 R&D Thermography  
 Checked by: JOTA  
 Drawn by: JOTA  
 Date: 2014-02-18  
 Description: Basic dimensions FLIR T6xx mtk II  
 Drawing No.: T128123  
 Sheet: 1(9)  
 Size: A2  
 Scale: 1:2

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# Camera with Lens IR f=6,5 mm (80°)



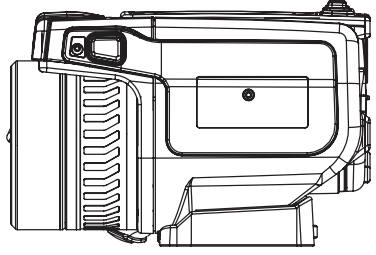
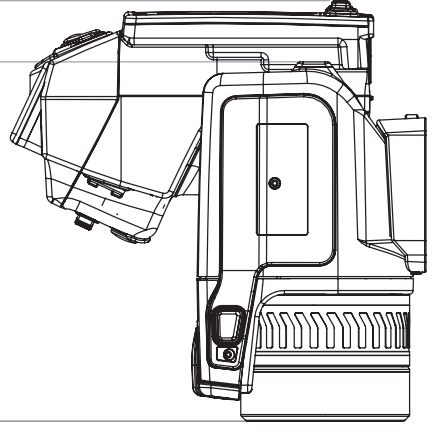
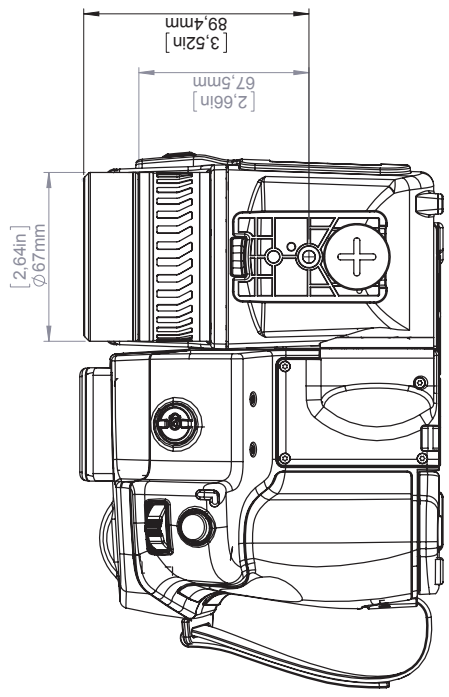
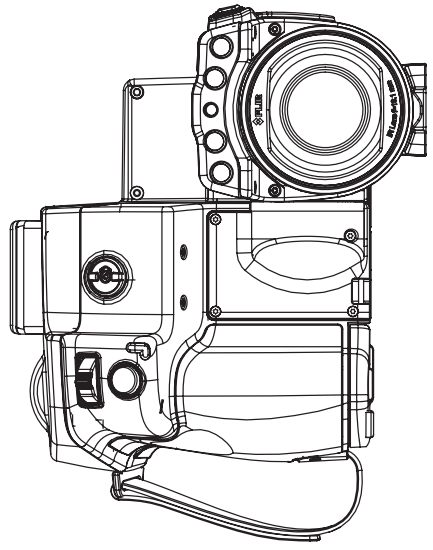
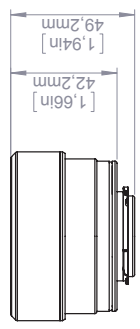
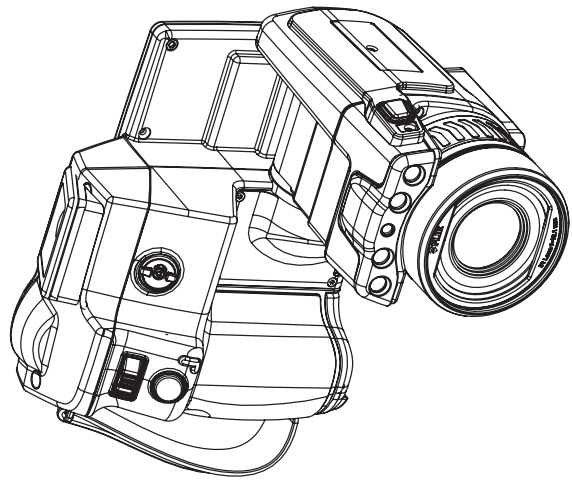
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Modified 2014-02-18		Check JOTA	Drawn by R&D Thermography	Size A3	Sheet 2(9)			Drawing No. T128123
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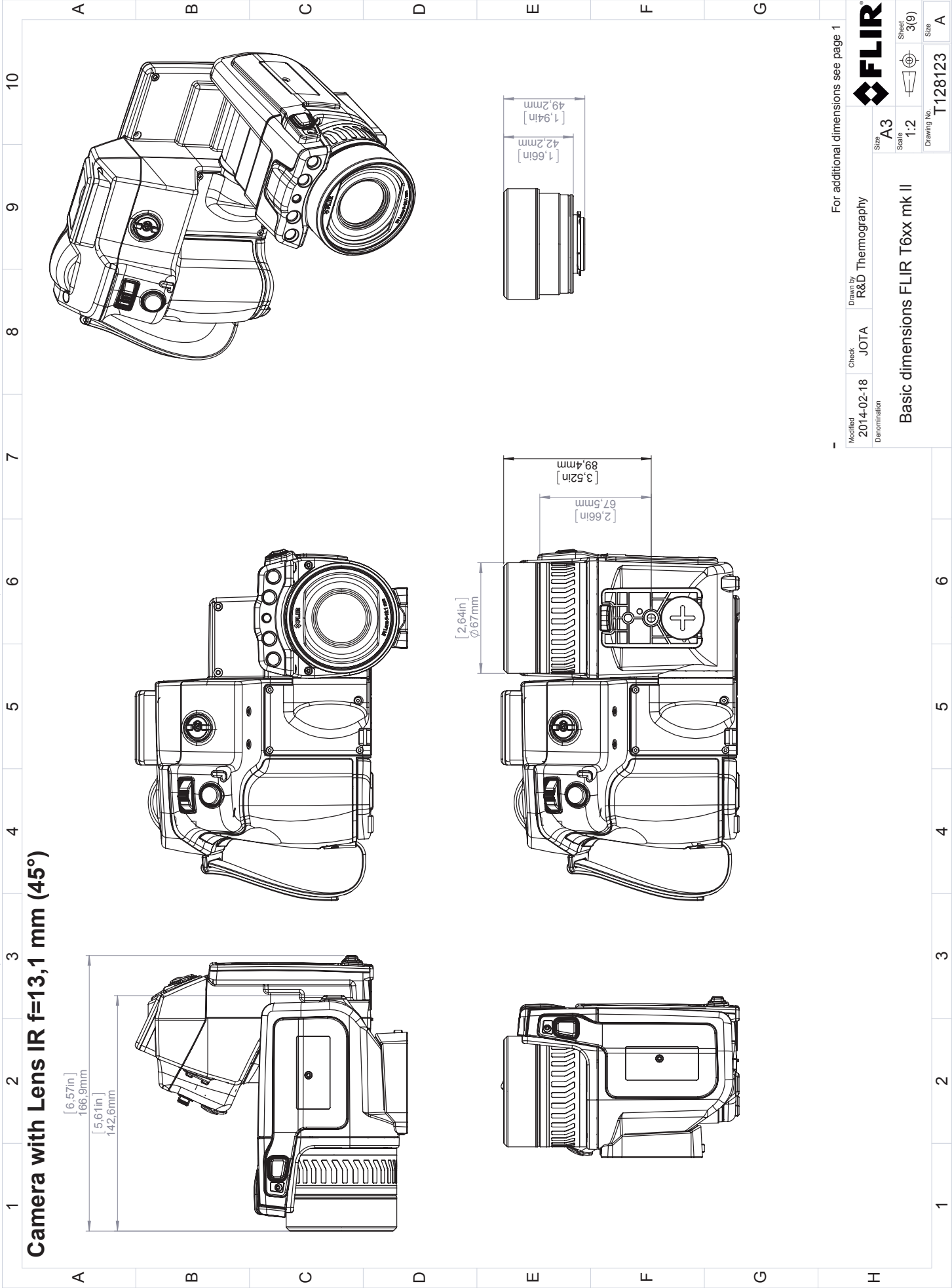
For additional dimensions see page 1



# Camera with Lens IR f=13,1 mm (45°)



[6,57in]  
166,9mm  
[5,61in]  
142,6mm



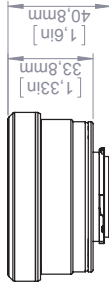
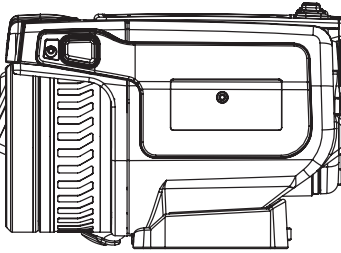
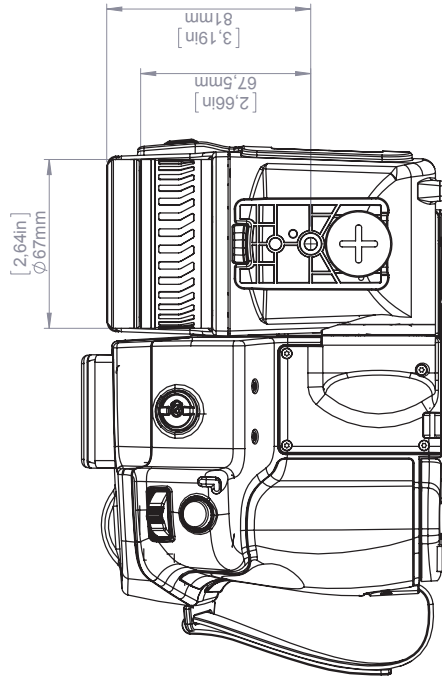
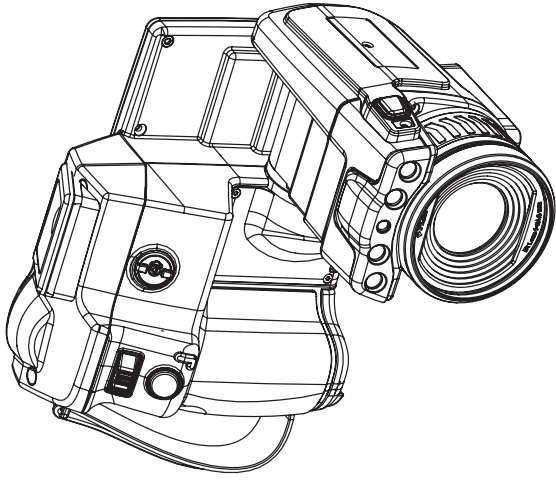
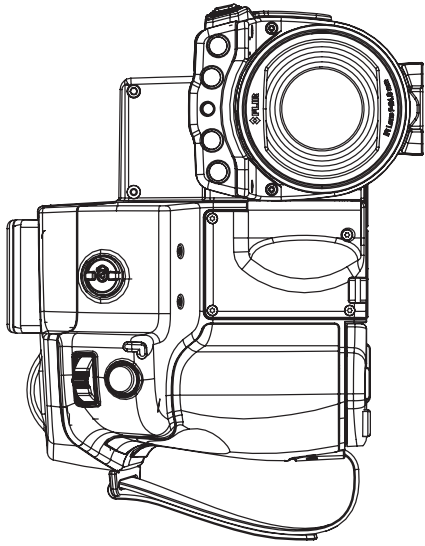
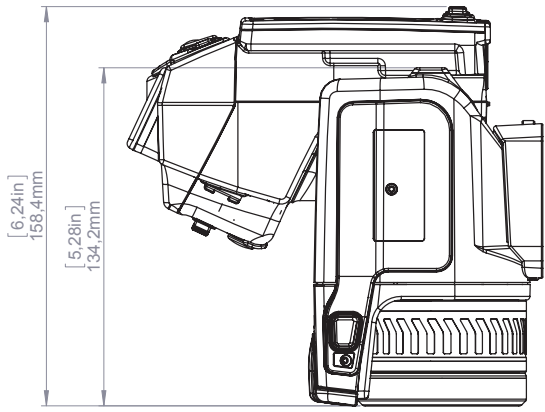
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For additional dimensions see page 1

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Basic dimensions FLIR T6xx mk II			Scale 1:2	Drawing No. T128123
				Size A



# Camera with Lens IR f=24,6 mm (25°)

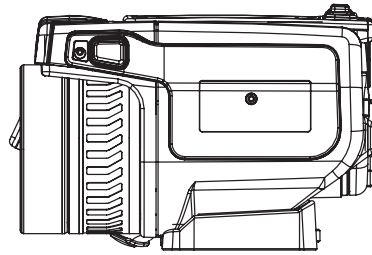
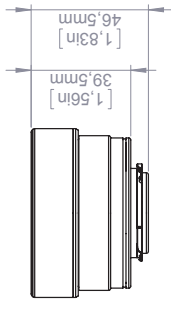
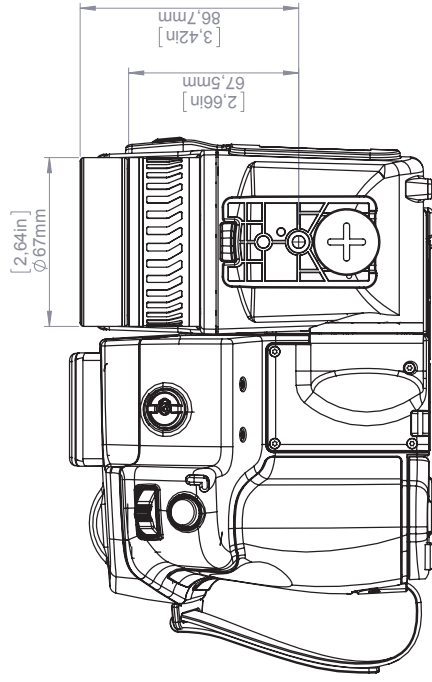
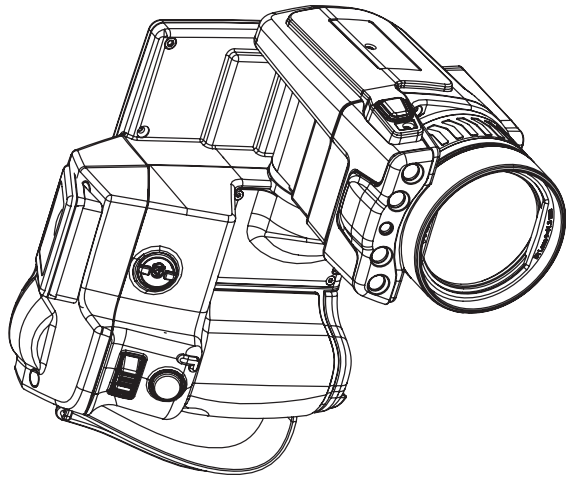
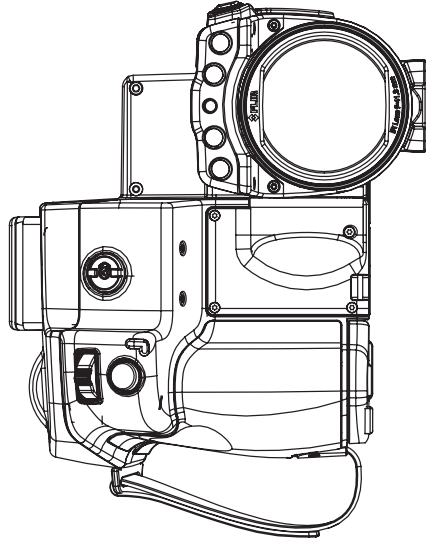
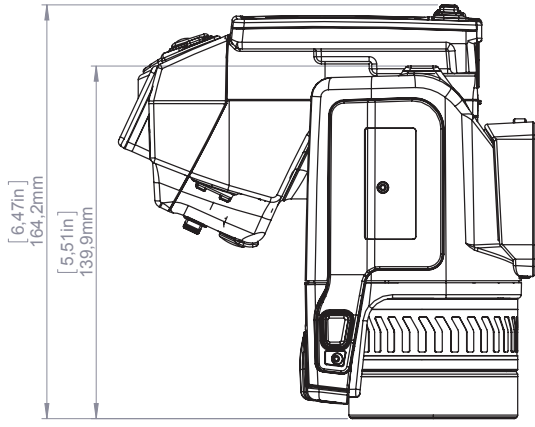


For additional dimensions see page 1

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				Size A



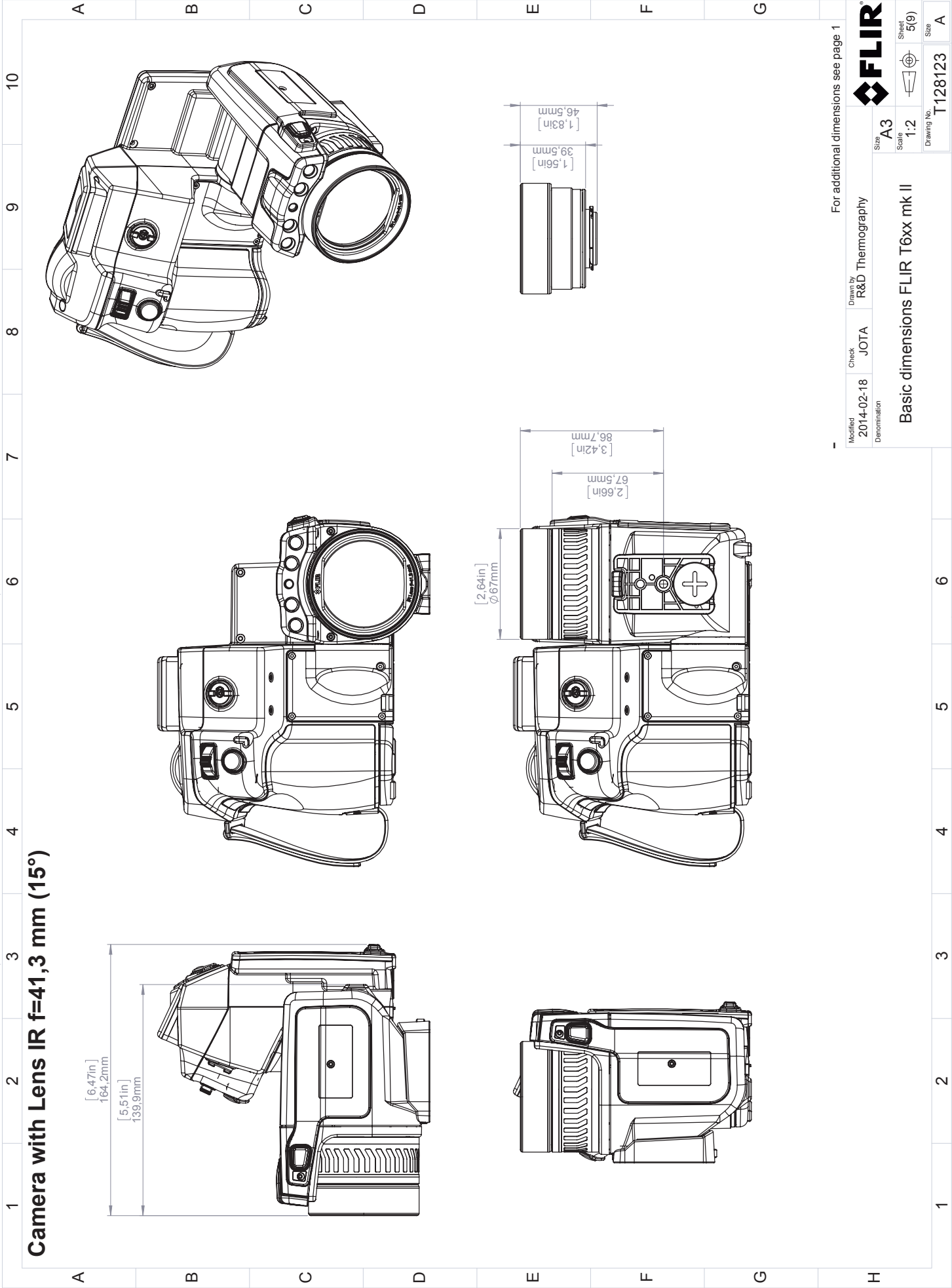
# Camera with Lens IR f=41,3 mm (15°)



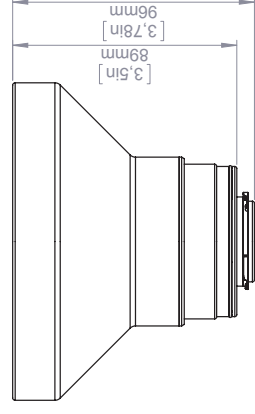
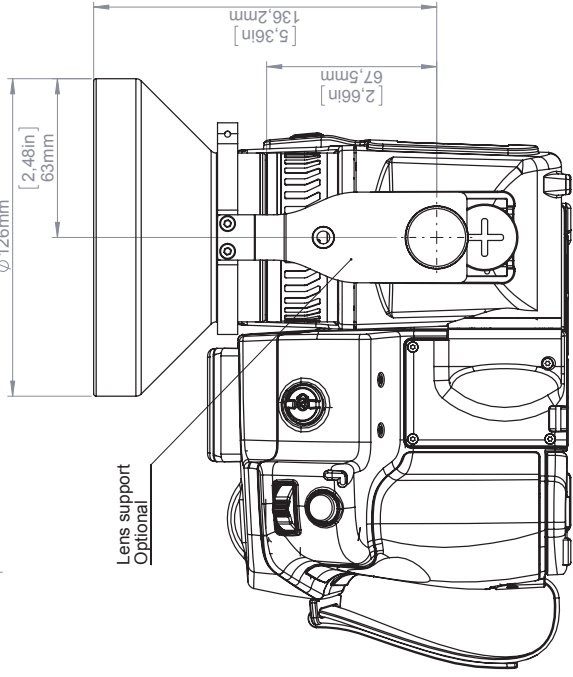
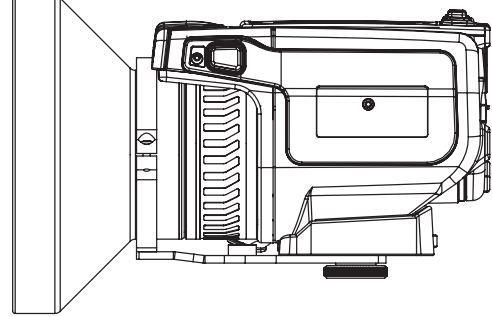
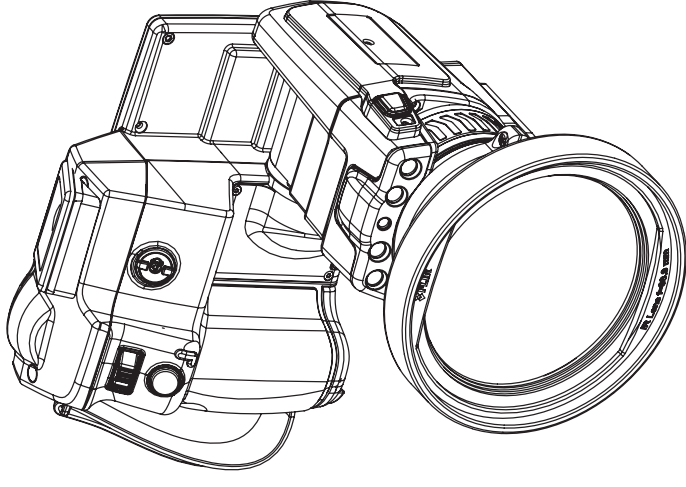
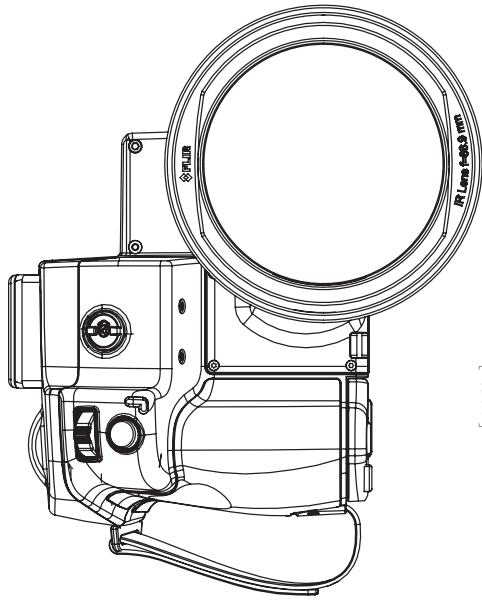
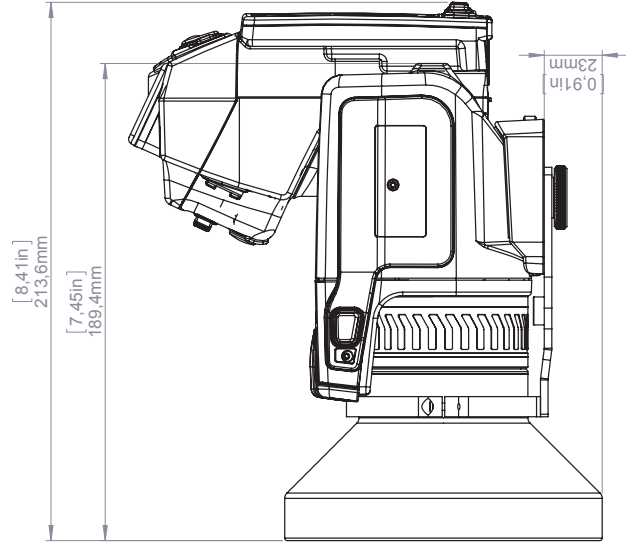
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Denomination Basic dimensions FLIR T6xx mk II			Scale 1:2	Drawing No. T128123	

For additional dimensions see page 1



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



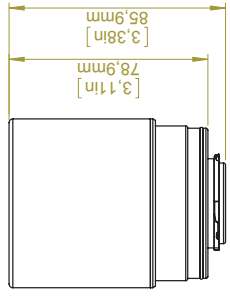
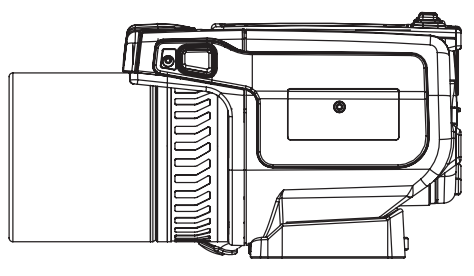
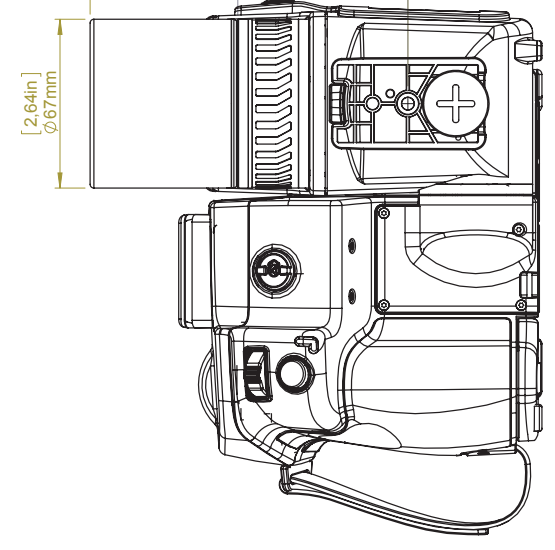
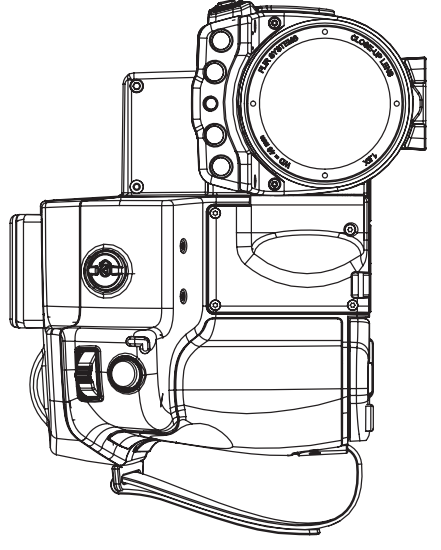
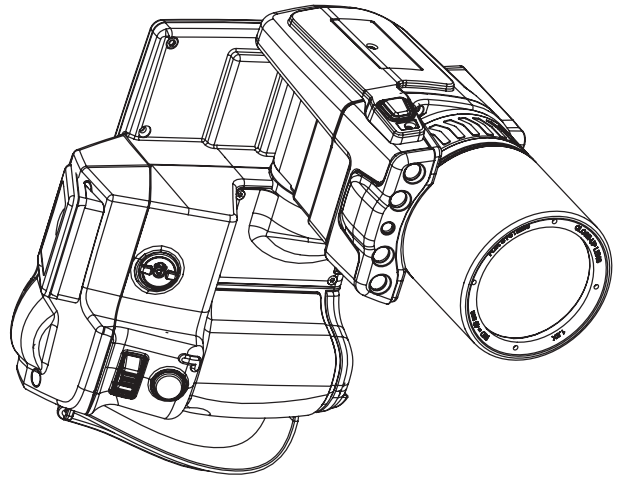
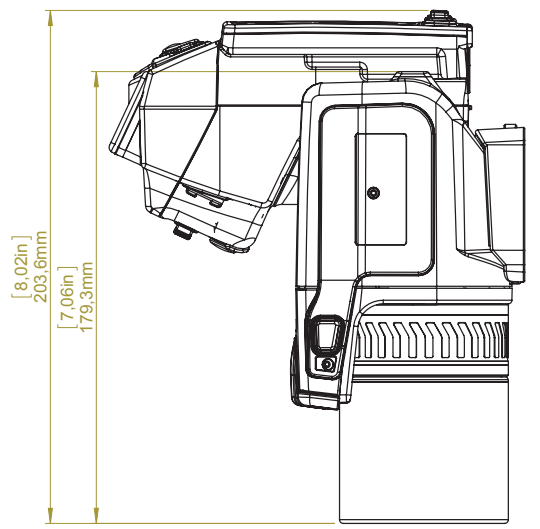
For additional dimensions see page 1

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



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



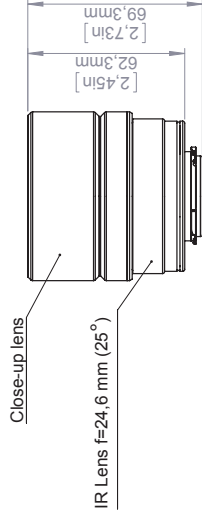
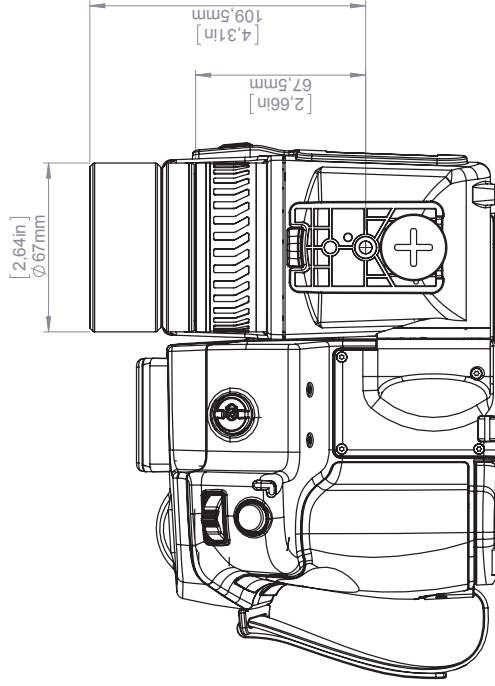
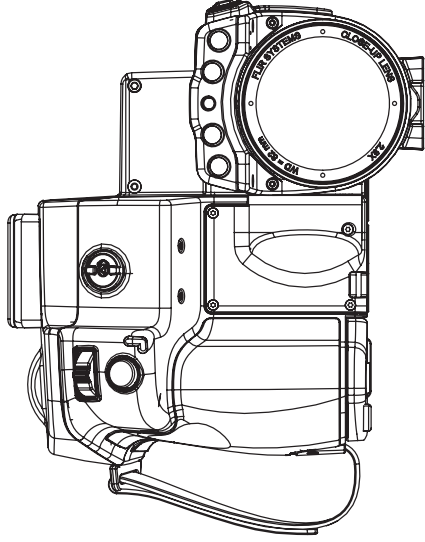
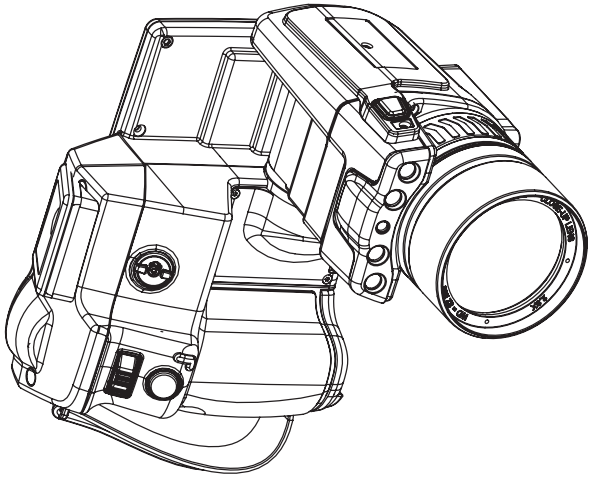
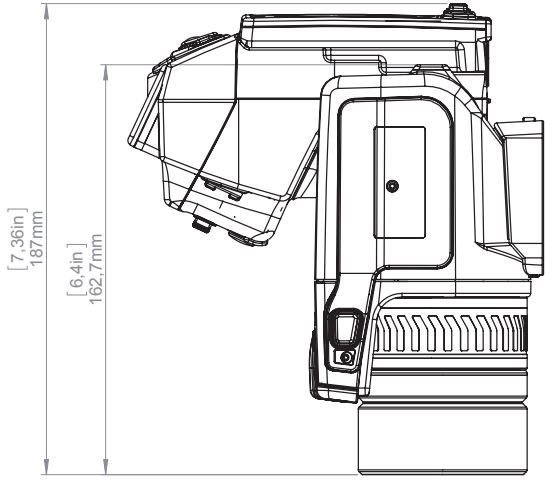
Modified 2014-02-18	Check JOTA	Drawn by R&D Thermography	Size A3	Sheet 7(9)
Denomination Basic dimensions FLIR T6xx mk II			Scale 1:2	Drawing No. T128123
				Size A

For additional dimensions see page 1



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



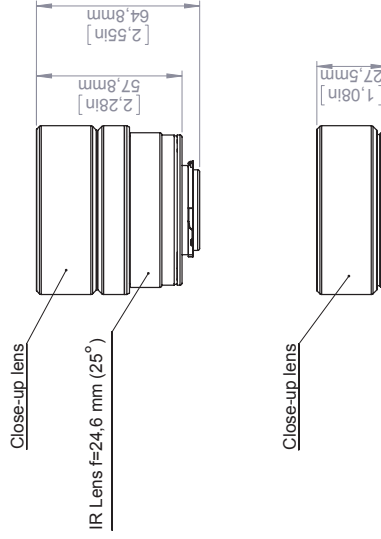
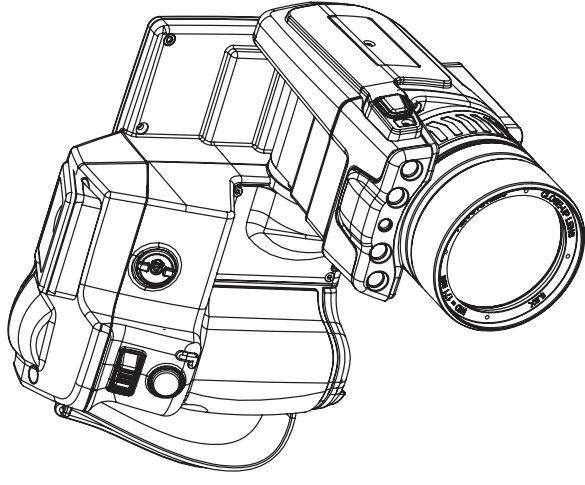
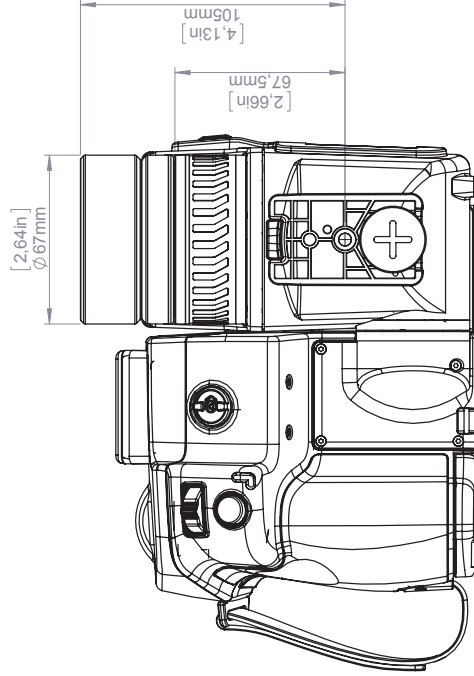
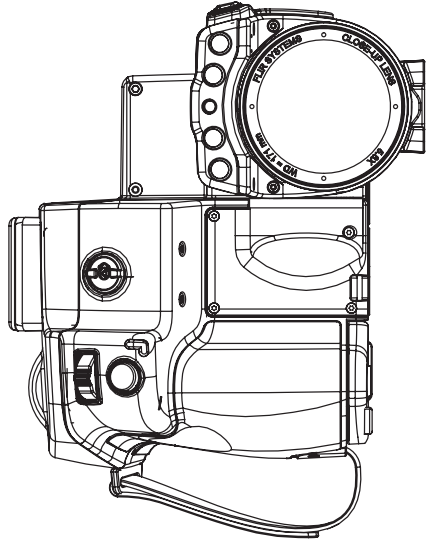
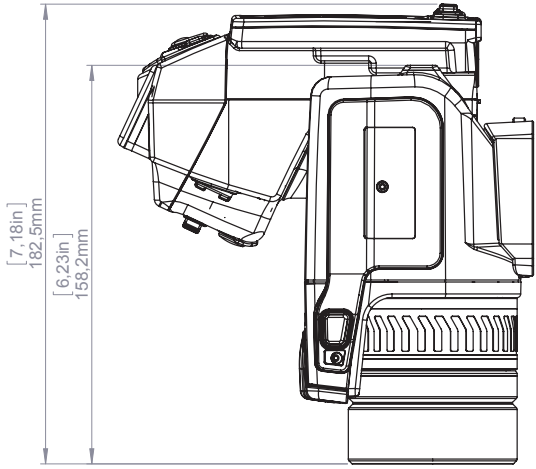
For additional dimensions see page 1

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



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



For additional dimensions see page 1

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



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