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FLIR A615 7°

P/N: 55001-0104

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<http://www.flir.com>

Customer support

<http://support.flir.com>

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General description	
The FLIR A615 has features and functions that make it the natural choice for anyone who uses PC software to solve problems and needs 640 × 480 pixel resolution. Among its main features are GigE Vision and GenICam compliance, which makes it plug-and-play when used with software packages such as IMAQ Vision and Halcon.	
The camera is equipped with a 7° lens.	
Key features:	
<ul style="list-style-type: none"> • Affordable. • GigE compliant. • GenICam compliant. • Trigg/synchronization/GPIO. • 16-bit 640 × 480 pixel images at 50 Hz, signal, temperature linear, and radiometric. • Windowing mode: 640 × 240 pixels at 100 Hz or 640 × 120 pixels at 200 Hz. • Compliant with any software that supports GenICam, including National Instruments IMAQ Vision and Stemmers Common Vision Blox. • Open and well-described TCP/IP protocol for control and set-up. 	
Typical applications:	
<ul style="list-style-type: none"> • High-end infrared machine vision that requires temperature measurement. • Slag detection. • Food processing. • Electronics testing. • Power resistor testing. • Automotive. 	
Imaging and optical data	
IR resolution	640 × 480 pixels
Thermal sensitivity/NETD	< 0.05°C @ +30°C (+86°F) / 50 mK
Field of view (FOV)	7° × 5.3° (8.7° diagonally)
Minimum focus distance	2.0 m (6.6 ft.)
Focal length	88.9 mm (3.5 in.)
Spatial resolution (IFOV)	0.19 mrad
Lens identification	Automatic
F-number	1.3
Image frequency	50 Hz (100/200 Hz with windowing)
Focus	Automatic or manual (built in motor)

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Detector data	
Detector type	Focal plane array (FPA), uncooled microbolometer
Spectral range	7.5–14 μm
Detector pitch	17 μm
Detector time constant	Typical 8 ms

Measurement	
Object temperature range	<ul style="list-style-type: none"> –40°C to +150°C (–40°F to +302°F) 100 to +650°C (+212 to +1202°F) 300 to +2000°C (+572 to +3632°F)
Accuracy	$\pm 2^\circ\text{C}$ ($\pm 3.6^\circ\text{F}$) or $\pm 2\%$ of reading

Measurement analysis	
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
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
External optics/windows correction	Automatic, based on input of optics/window transmission and temperature
Measurement corrections	Global object parameters

USB	
USB	<ul style="list-style-type: none"> Control and image
USB, standard	USB 2 HS
USB, connector type	<ul style="list-style-type: none"> USB Mini-B
USB, communication	TCP/IP socket-based FLIR proprietary
USB, image streaming	16-bit 640 × 480 pixels @ 25 Hz <ul style="list-style-type: none"> Signal linear Temperature linear Radiometric
USB, protocols	TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP

Ethernet	
Ethernet	Control and image
Ethernet, type	Gigabit Ethernet
Ethernet, standard	IEEE 802.3
Ethernet, connector type	RJ-45
Ethernet, communication	TCP/IP socket-based FLIR proprietary and GenICam protocol

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Ethernet	
Ethernet, image streaming	16-bit 640 × 480 pixels @ 50 Hz 16-bit 640 × 240 pixels @ 100 Hz 16-bit 640 × 120 pixels @ 200 Hz <ul style="list-style-type: none"> • Signal linear • Temperature linear • Radiometric GigE Vision and GenICam compatible
Ethernet, protocols	TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP
Digital input/output	
Digital input, purpose	Image tag (start, stop, general), Image flow control, (stream on/off), Input ext. device (programmatically read)
Digital input	2 opto-isolated, 0–1.5 V = low, 3–25 V = high
Digital output, purpose	Output to ext. device (programmatically set)
Digital output	2 opto-isolated, ON = supply (max. 100 mA), OFF = open
Digital I/O, isolation voltage	500 VRMS
Digital I/O, supply voltage	6–24 VDC, max. 200 mA
Digital I/O, connector type	6-pole jackable screw terminal
Power system	
External power operation	12/24 VDC, 24 W absolute max.
External power, connector type	2-pole jackable screw terminal
Voltage	Allowed range 10–30 VDC
Environmental data	
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)
EMC	<ul style="list-style-type: none"> • EN 61000-6-2:2001 (Immunity) • EN 61000-6-3:2001 (Emission) • FCC 47 CFR Part 15 Class B (Emission)
Encapsulation	IP 30 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)
Declaration of conformity	See: https://support.flir.com/resources/DoC
Physical data	
Weight	1.61 kg (3.55 lb.)
Camera size (L × W × H)	271 × 126 × 128 mm (10.7 × 5.0 × 5.0 in.)
Camera size, excl. lens (L × W × H)	203 × 73 × 75 mm (8.0 × 2.9 × 3.0 in.)
Tripod mounting	UNC ¼"-20 (on three sides)
Base mounting	2 × M4 thread mounting holes (on three sides)
Housing material	Aluminum
Comments to physical data	Outline dimensional drawings and STEP files can be found at http://support.flir.com

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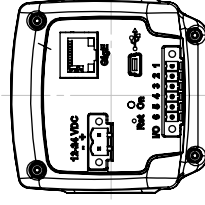
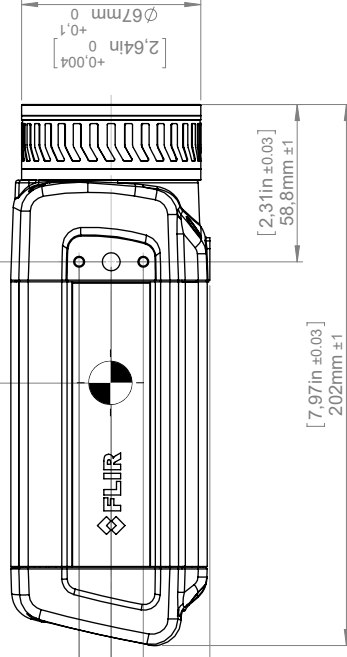
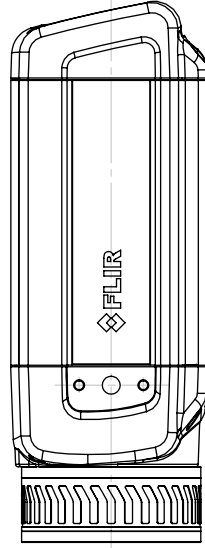
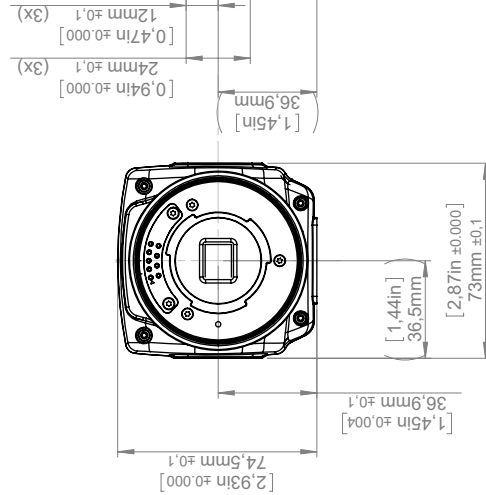
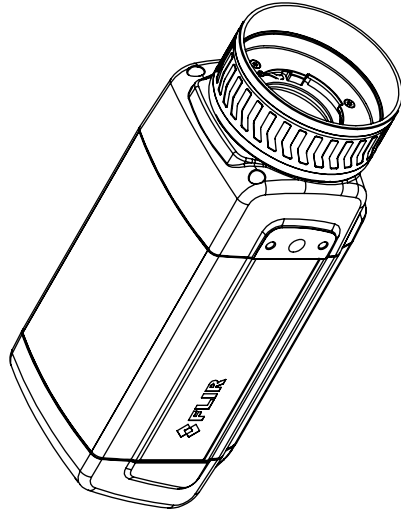
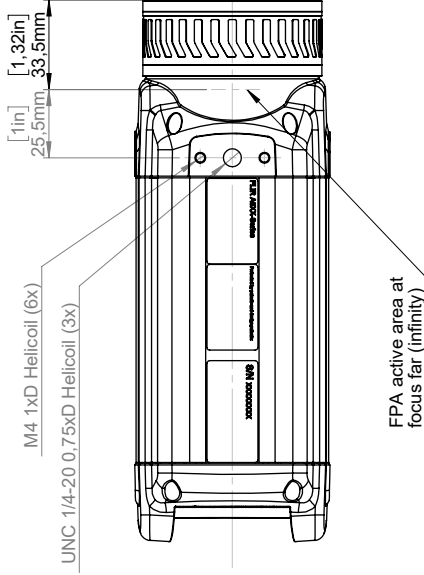
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Shipping information	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none"> • Infrared camera with lens • Ethernet cable • Mains cable • Power cable, pig-tailed • Power supply • Printed documentation • USB cable
Packaging, weight	5.8 kg (12.8 lb.)
Packaging, size	400 × 400 × 540 mm (15.7 × 15.7 × 21.3 in.)
EAN-13	7332558004685
UPC-12	845188004620
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, 2.9× (50 µm) with case
- T198065; IR lens, f=6.5 mm (80°) with case
- T198165; IR lens, f=88.9 mm (7°) with case and mounting support (for A6xx/A6xxsc)
- 1910400; Power cord EU
- 1910402; Power cord UK
- 1910401; Power cord US
- T911803; Power supply, 24 VDC, 2 A, 50 W
- T910922; Power supply, incl. multi plugs, for A3xx, A3xxsc, A6xx and A6xxsc
- 1910423; USB cable Std A <-> Mini-B
- 1910423ACC; USB cable Std A <-> Mini-B
- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- 1910586ACC; Power cable, pigtailed
- T197870ACC; Cardboard box for FLIR A3xx/A6xx series
- T197871ACC; Hard transport case for FLIR A3xx/A6xx series
- T126889ACC; Filter holder for A6xx lenses
- T199722; ThermoVision EFD, max. 2 cameras
- T199724; ThermoVision EFD, max. 4 cameras
- T198567; ThermoVision™ System Developers Kit Ver. 2.6
- T198566; ThermoVision™ LabVIEW® Digital Toolkit Ver. 3.3
- 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
- T199233; FLIR Atlas SDK for .NET
- 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)
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

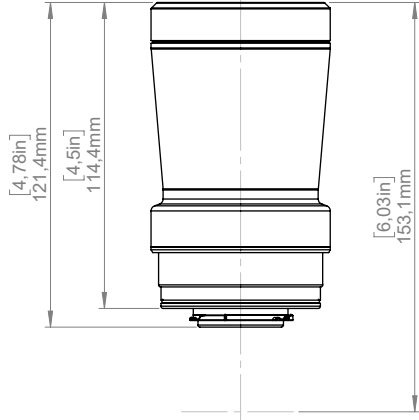
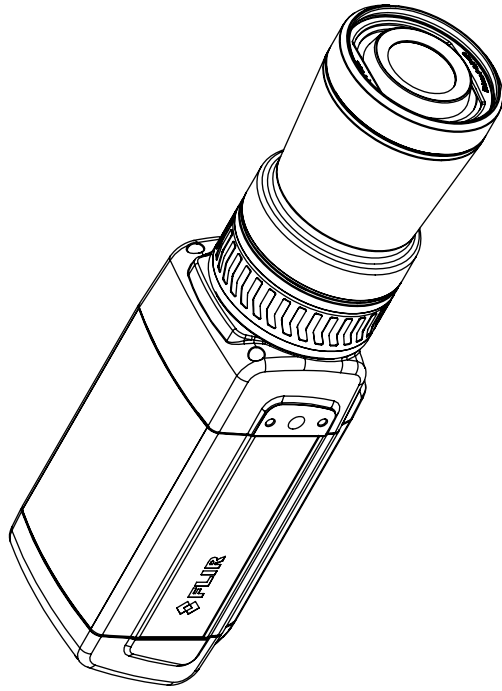
Camera housing



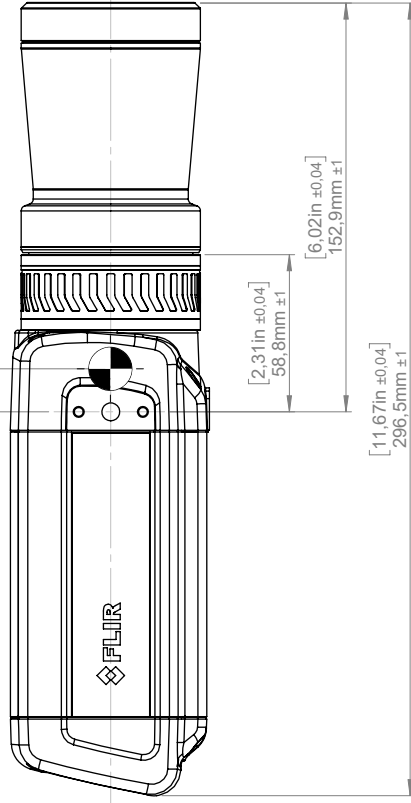
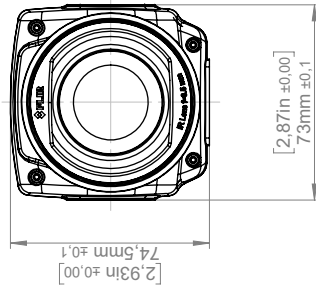
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Basic dimensions FLIR A/SC 6xx							
Scale 1:2							
Size B							

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Camera with Lens IR f=6,5 mm (80°)



[0,63in ±0,20]
16mm ±5

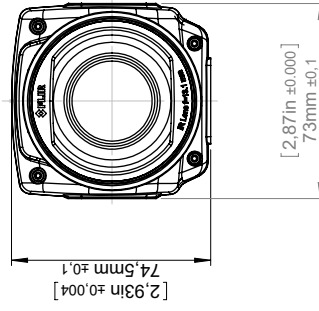
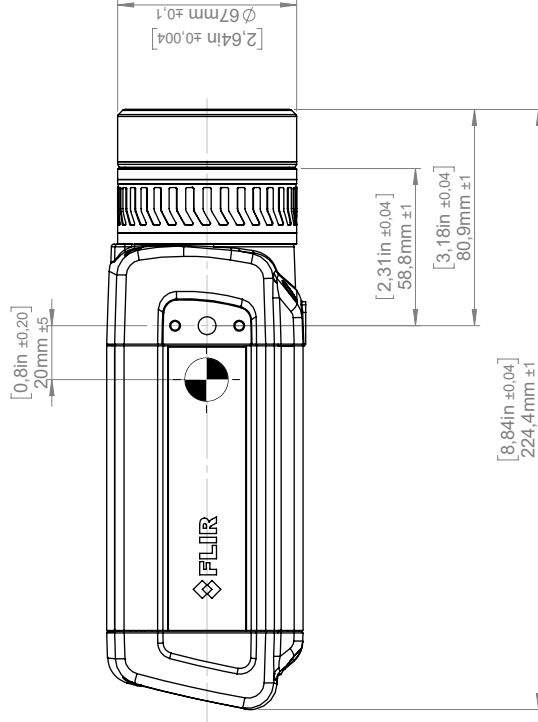
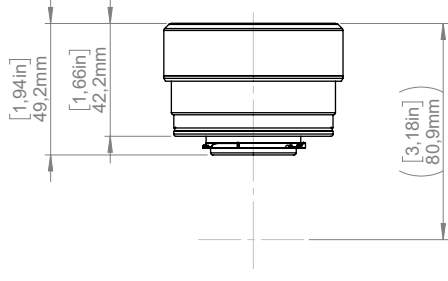
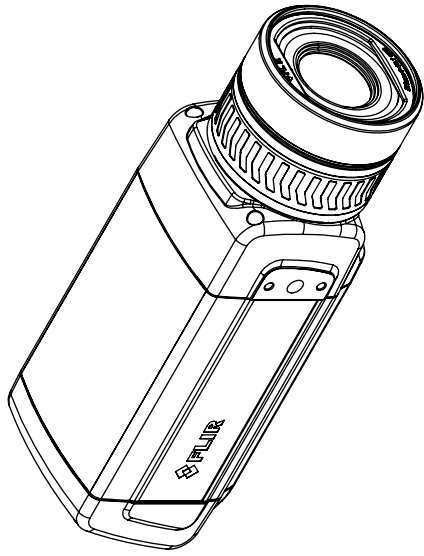


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Camera with Lens IR f=13,1 mm (45°)

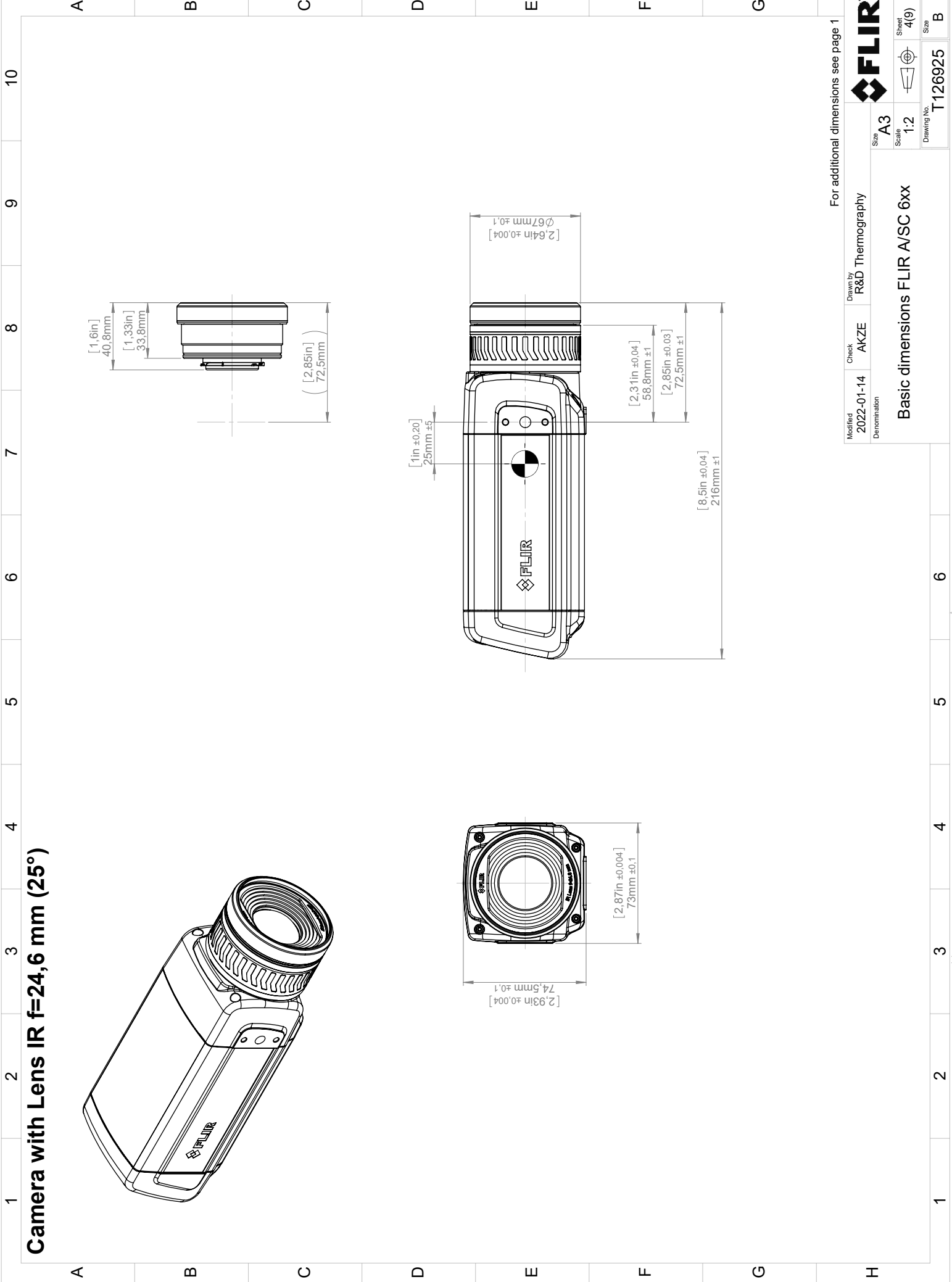
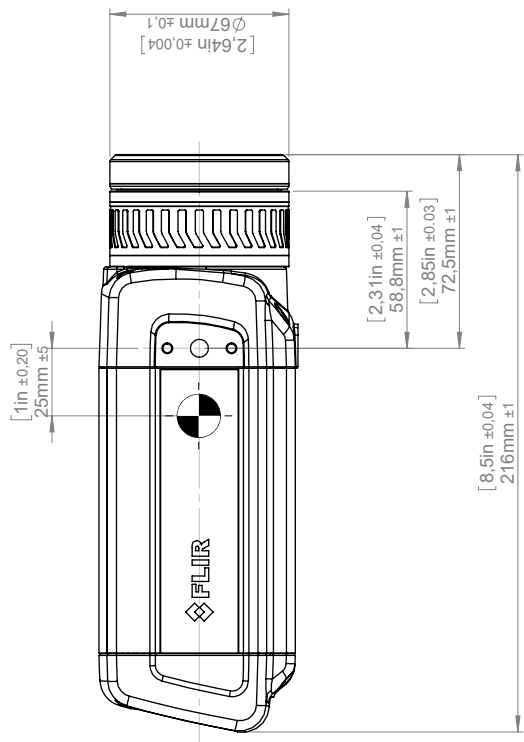
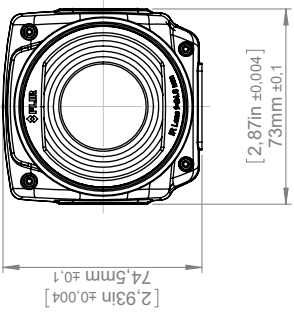
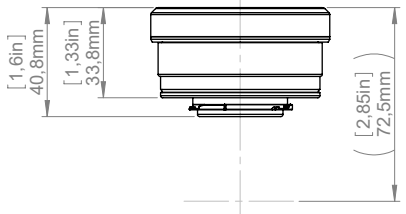
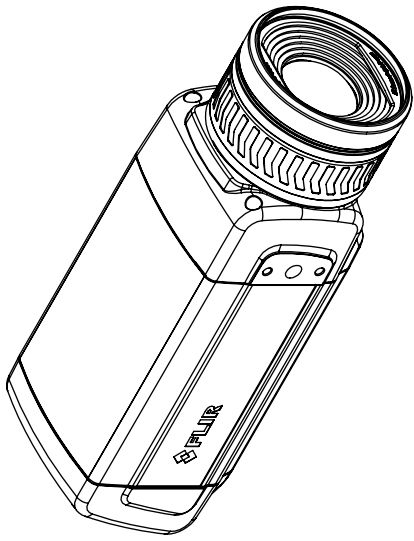


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Camera with Lens IR f=24,6 mm (25°)



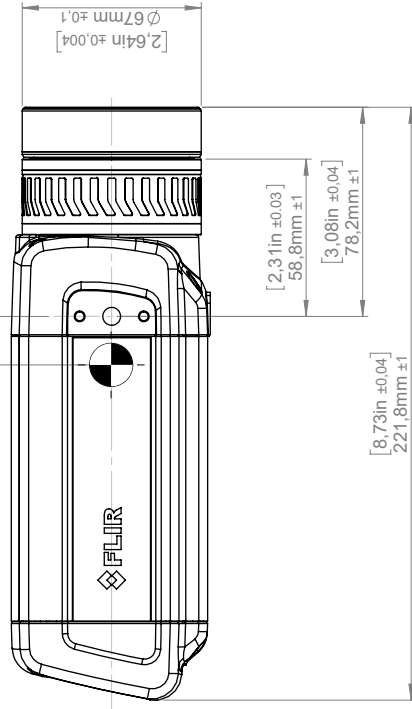
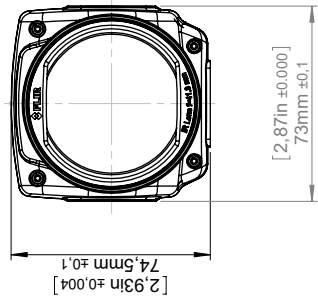
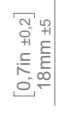
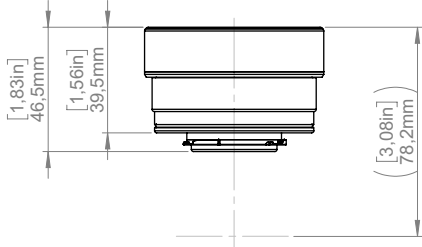
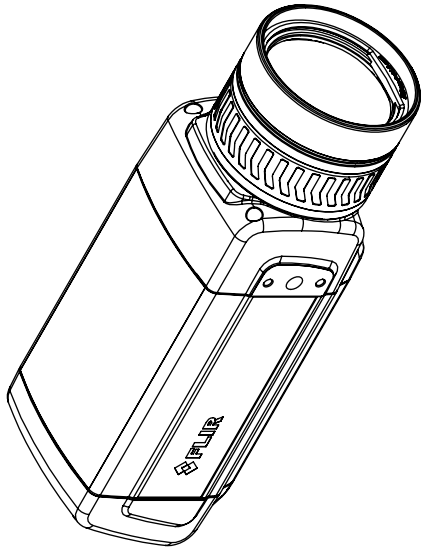
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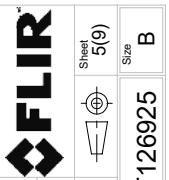
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Camera with Lens IR f=41,3 mm (15°)



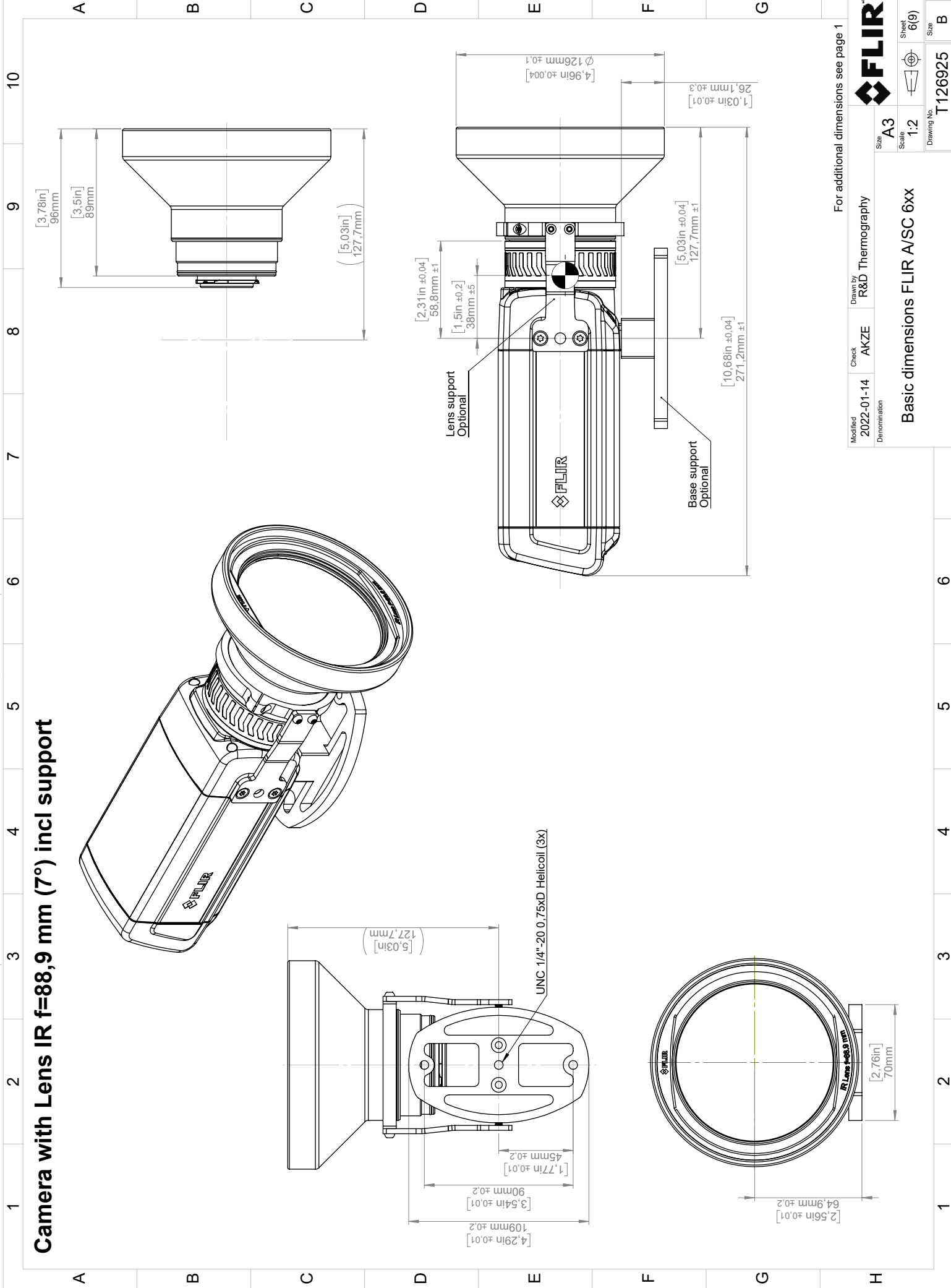
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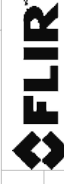
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Camera with Lens IR f=88,9 mm (7°) incl support



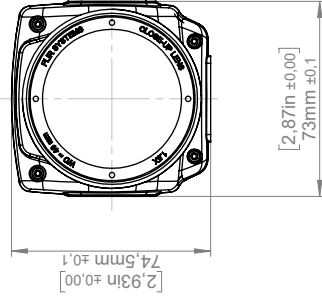
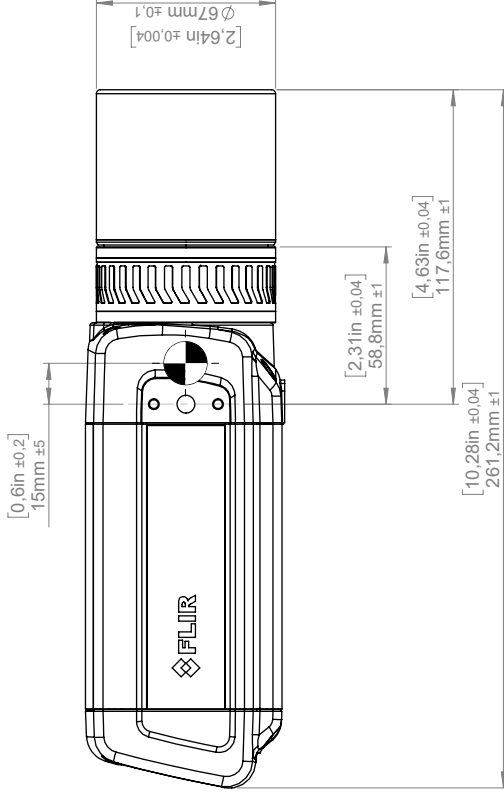
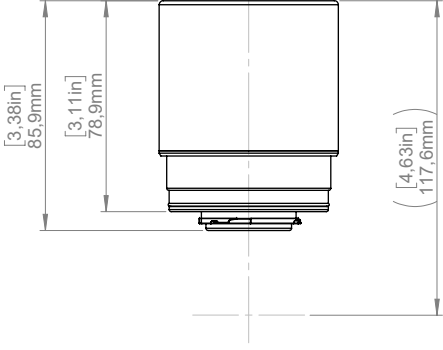
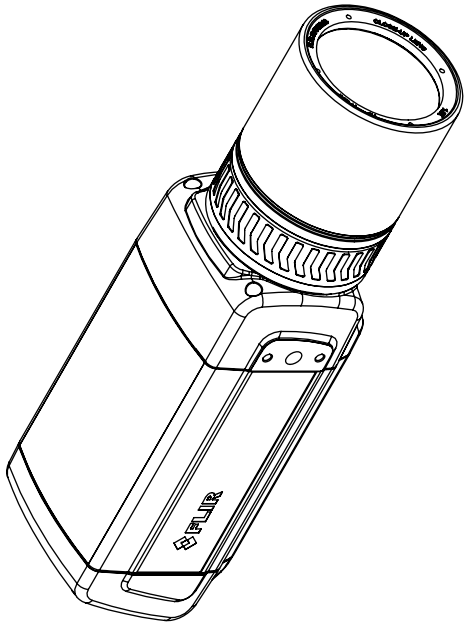
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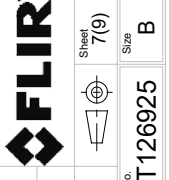
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Camera with Close-up lens 1,5X (25 µm)



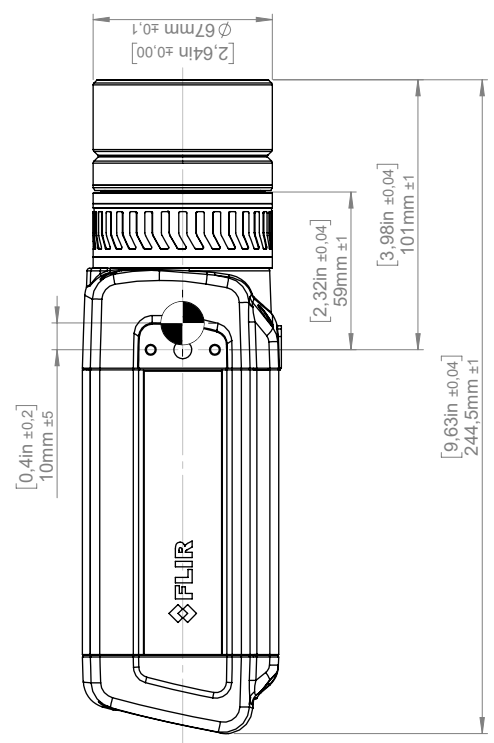
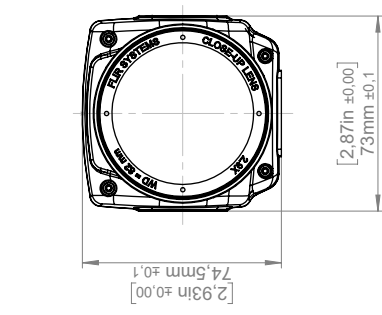
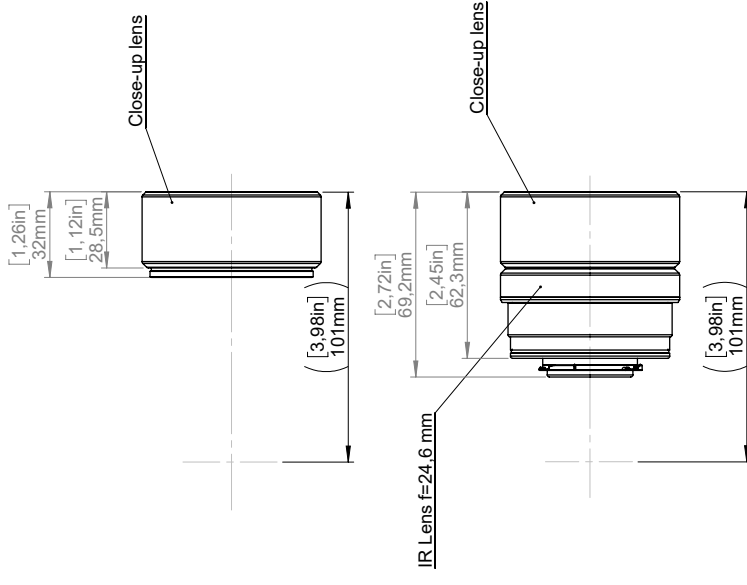
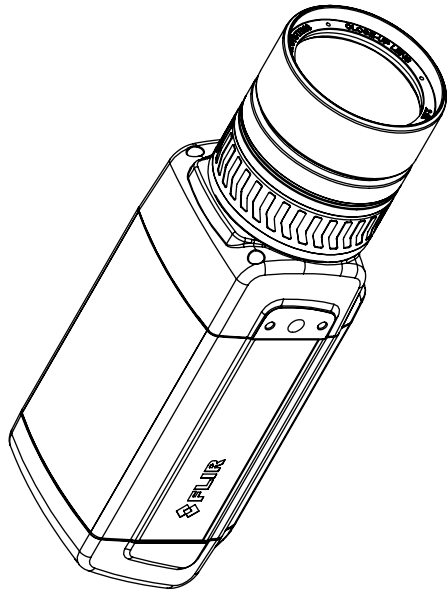
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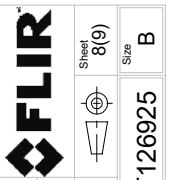


Basic dimensions FLIR A/SC 6xx

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

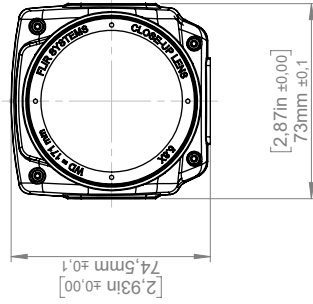
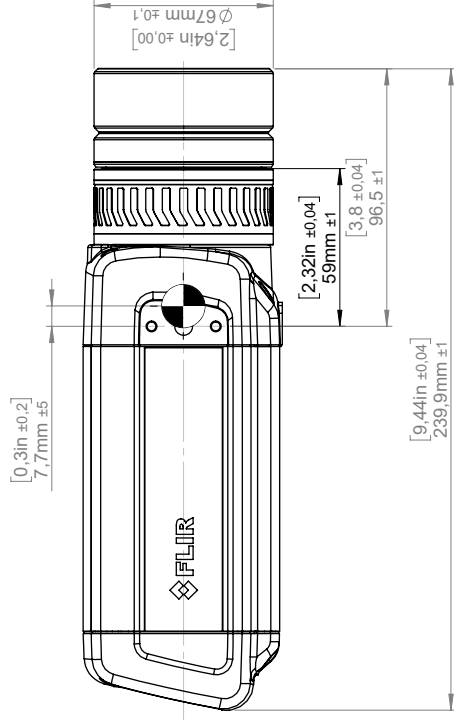
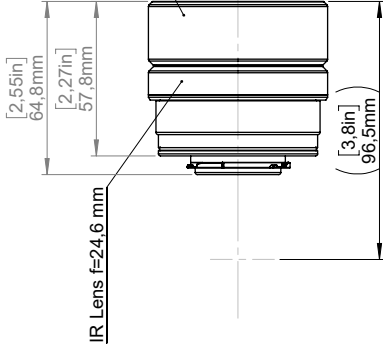
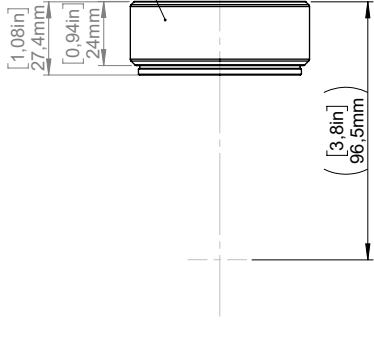
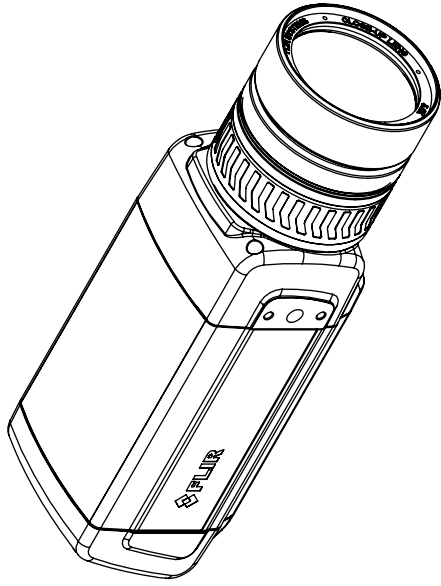


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Camera with Close-up lens 5,8X (100 μm)



For additional dimensions see page 1

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Denomination

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Size A3

Scale 1:2

Sheet 9(9)

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Size B

Basic dimensions FLIR A/SC 6xx

Digital I/O connection diagrams for FLIR A3xx/A6xx series

