

P/N: 55001-0104

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Website

<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:

- 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:

- 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

P/N: 55001-0104

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Imaging and optical data	
Image frequency	50 Hz (100/200 Hz with windowing)
Focus	Automatic or manual (built in motor)
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	±2°C (±3.6°F) or ±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, SNMP, 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

P/N: 55001-0104

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Ethernet	
Ethernet, communication	TCP/IP socket-based FLIR proprietary and GenICam protocol
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)
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.)

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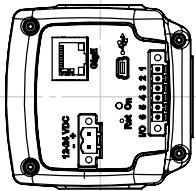
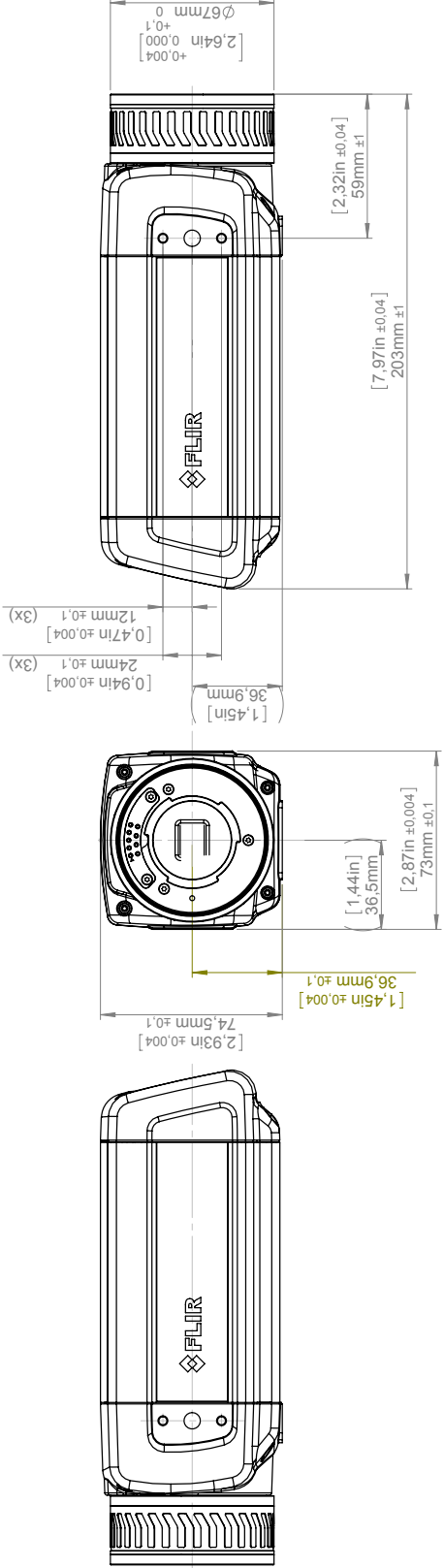
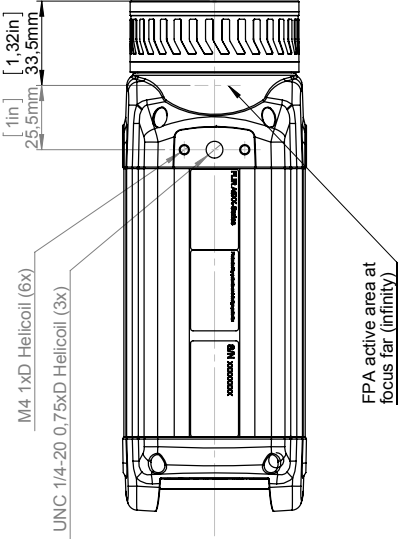
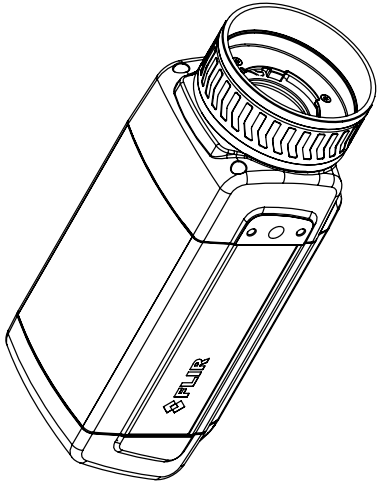
Physical data	
Tripod mounting	UNC ¼"-20 (on three sides)
Base mounting	2 × M4 thread mounting holes (on three sides)
Housing material	Aluminum
Comments to physical data	Outline dimensional drawings and STEP files can be found at http://support.flir.com

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 • Utility CD-ROM
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
- T198065; IR lens, f=6.5 mm (80°) with case
- T198165; IR lens, f=88.9 mm (7°) with case and support for A6xx/A6xxsc
- T197896; High temperature option +300°C to 2000°C (+572°F to 3632°F)
- 1910400; Power cord EU
- 1910401; Power cord US
- 1910402; Power cord UK
- T910922; Power supply, incl. multi plugs, for A3xx, A3xxsc, A6xx and A6xxsc
- T911182; Power supply for A3xx f, IP66
- 1910423; USB cable Std A <-> Mini-B
- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- 1910586ACC; Power cable, pigtailed
- T197871ACC; Hard transport case for A3xx/A6xx series
- T197870ACC; Cardboard box for A3xx/A6xx series
- T126889ACC; Filter holder for A6xx lenses
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- DSW-10000; FLIR IR Camera Player
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- T198567; ThermoVision™ System Developers Kit Ver. 2.6
- T198566; ThermoVision™ LabVIEW® Digital Toolkit Ver. 3.3

Camera housing



Modified
2012-04-18

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Drawn by
R&D Thermography

Size
A3

Scale
1:2

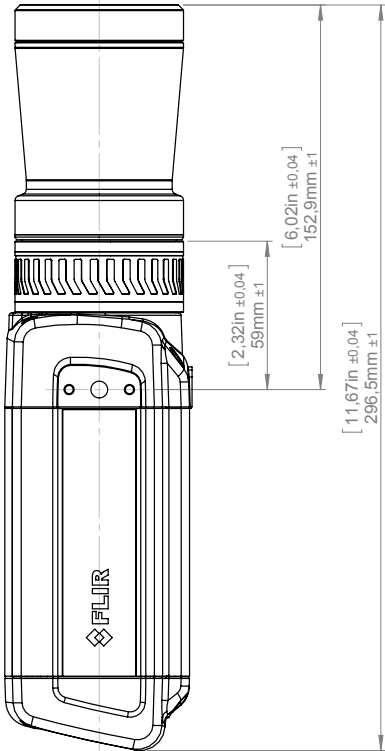
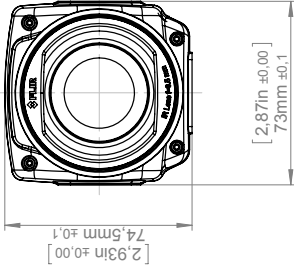
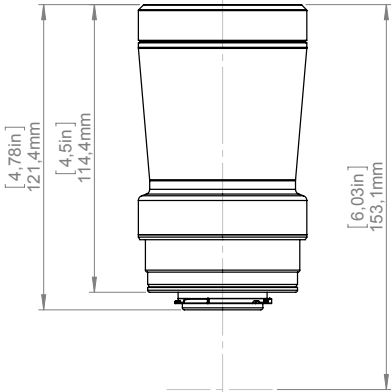
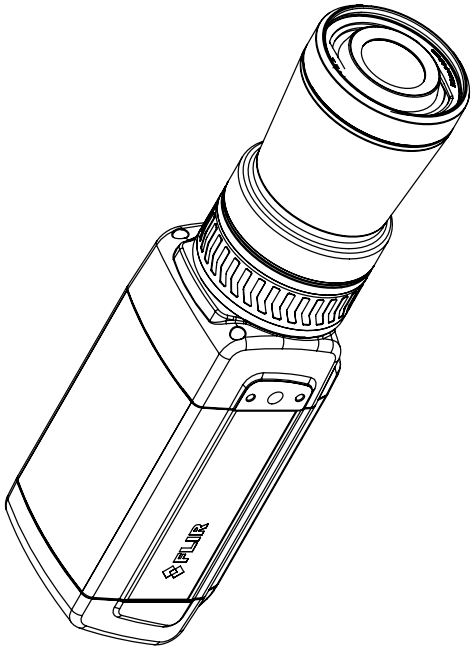
Drawing No.
T126925


Sheet
1(9)

Size
A

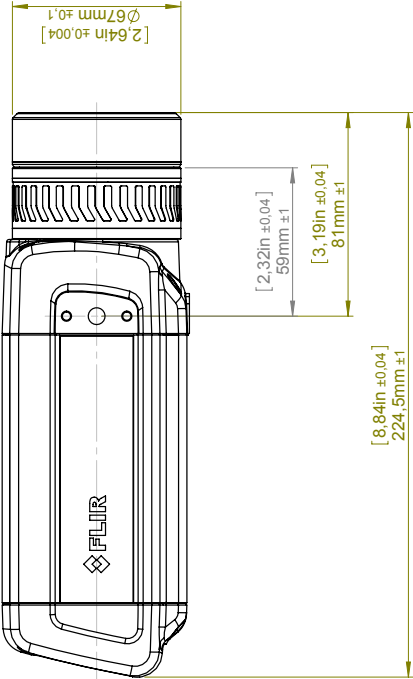
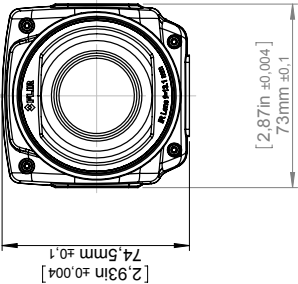
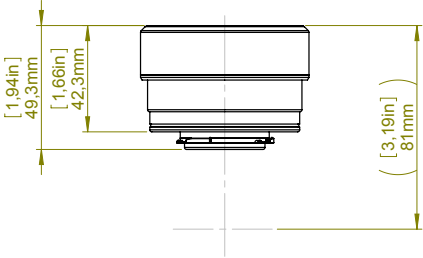
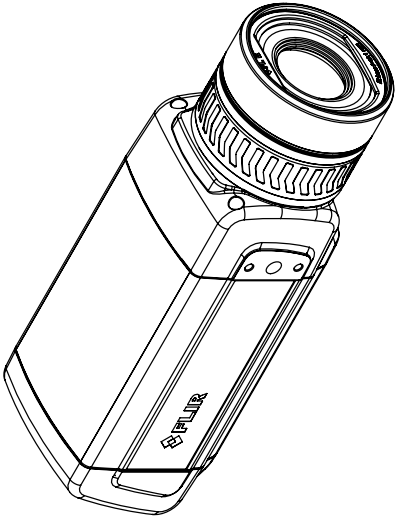
Basic dimensions FLIR A/SC 6xx

Camera with Lens IR f=6,5 mm (80°)



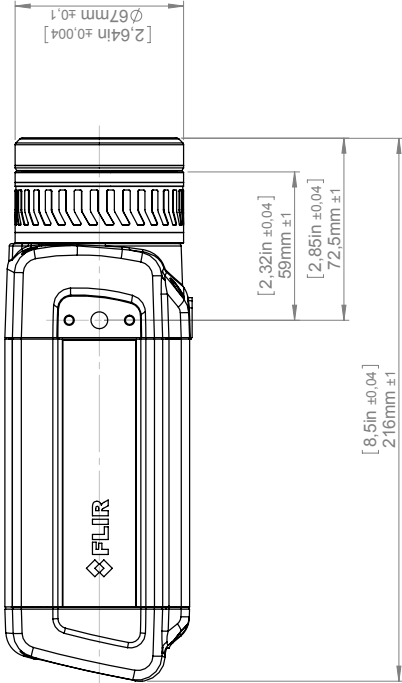
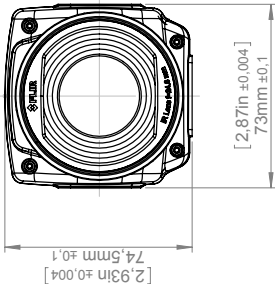
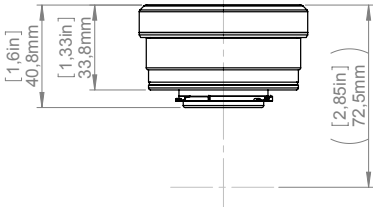
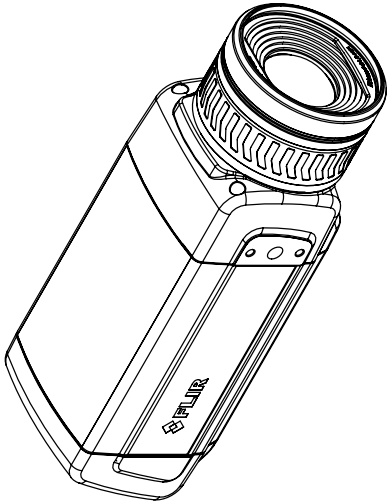
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Denomination			
Basic dimensions FLIR A/SC 6xx			
Size A3			
Scale 1:2			Sheet 2(9)
Drawing No. T126925			Size A

Camera with Lens IR f=13,1 mm (45°)



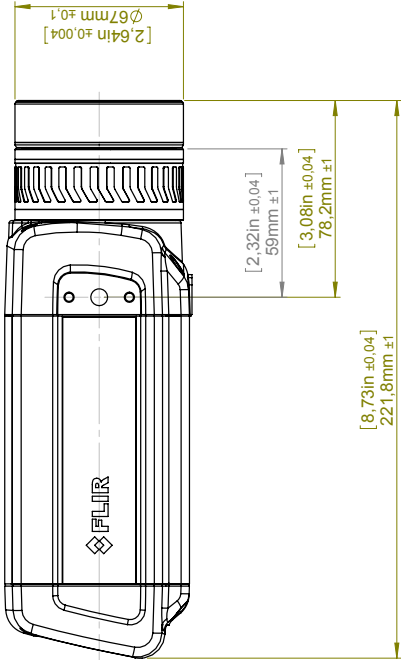
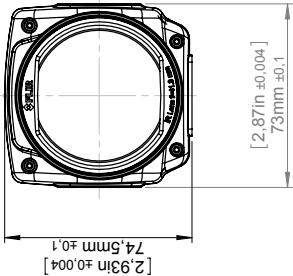
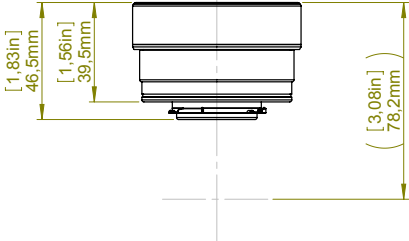
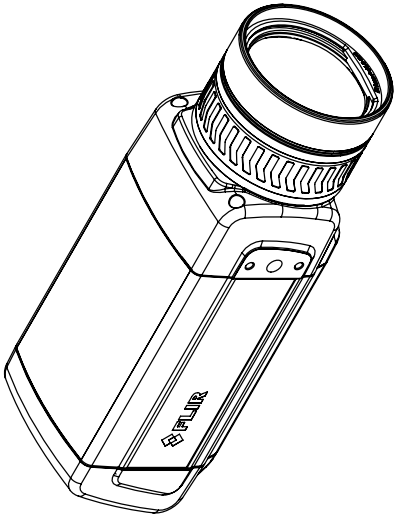
For additional dimensions see page 1			
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Denomination		Size A3	Sheet 3(9)
Basic dimensions FLIR A/SC 6xx		Scale 1:2	Size A
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Camera with Lens IR f=24,6 mm (25°)



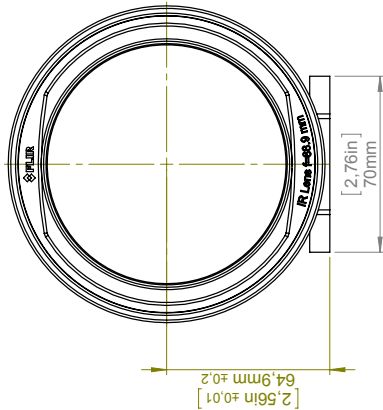
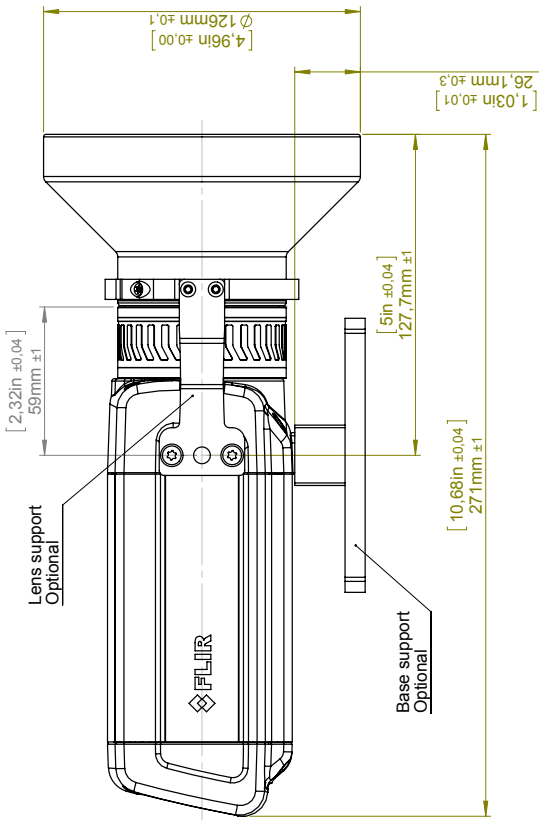
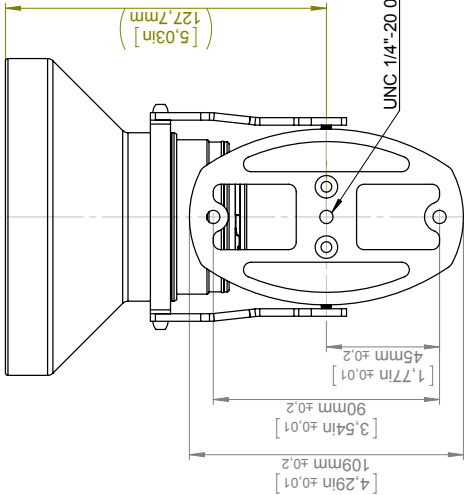
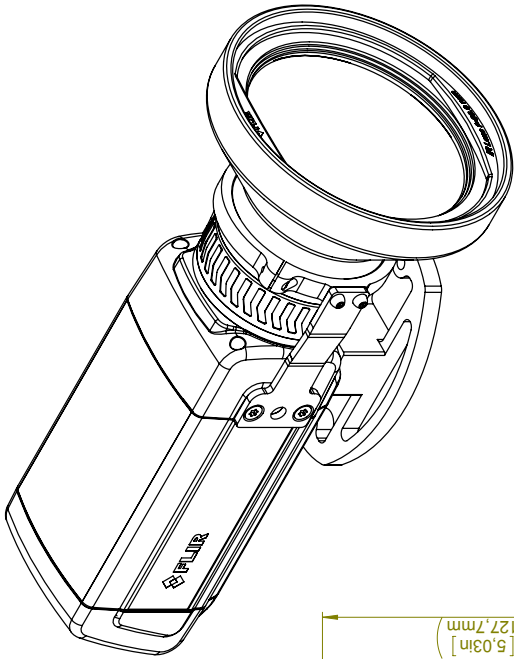
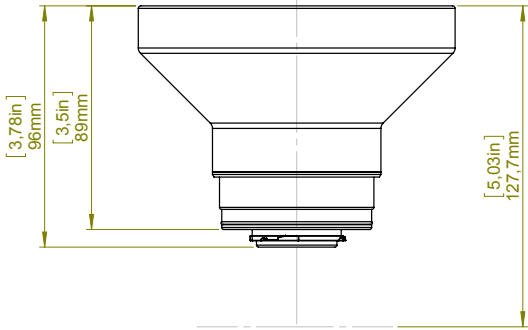
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Denomination		Size A3	Sheet 4(9)
Basic dimensions FLIR A/SC 6xx		Scale 1:2	Size A
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Camera with Lens IR f=41,3 mm (15°)



For additional dimensions see page 1			
Modified 2012-04-18	Check CAHA	Drawn by R&D Thermography	
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Basic dimensions FLIR A/SC 6xx		Scale 1:2	Size 5(9)
		Drawing No. T126925	Size A

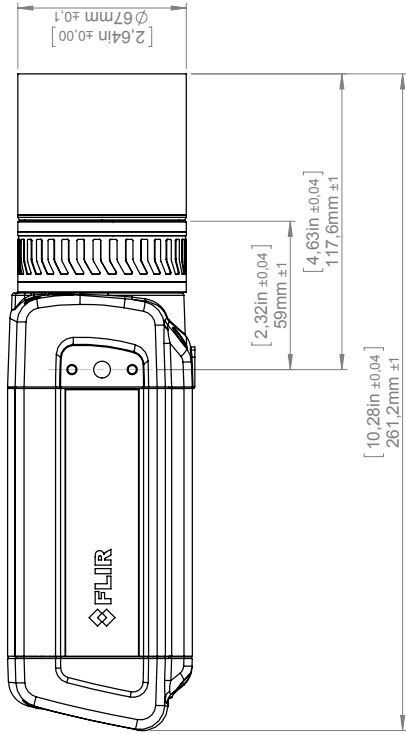
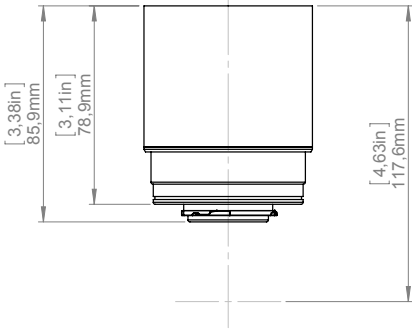
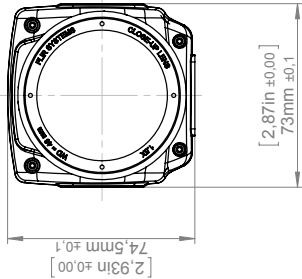
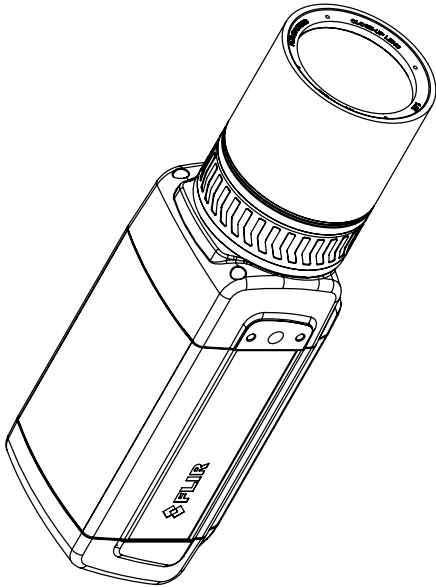
Camera with Lens IR f=88,9 mm (7°) incl support



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For additional dimensions see page 1			
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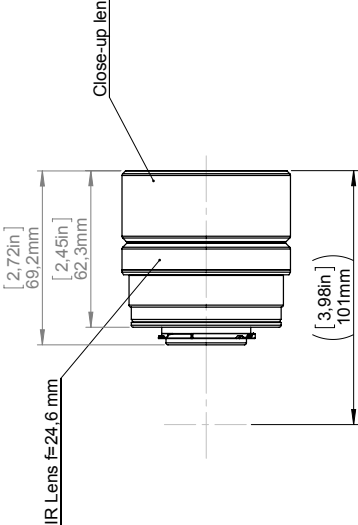
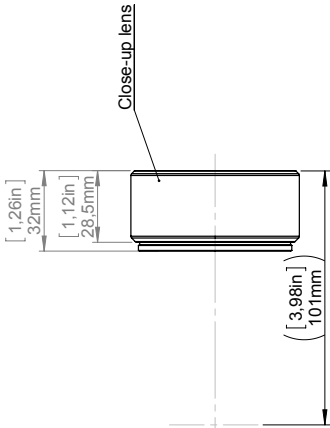
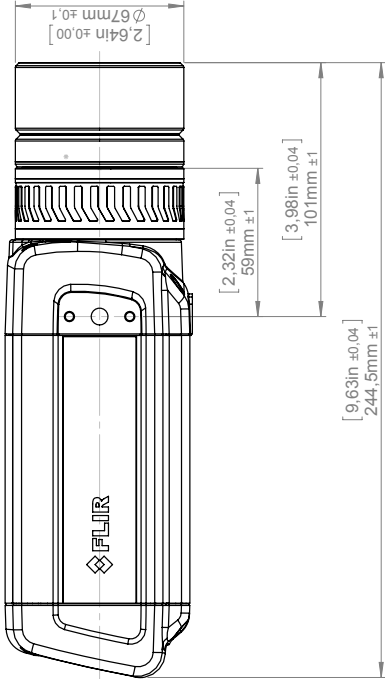
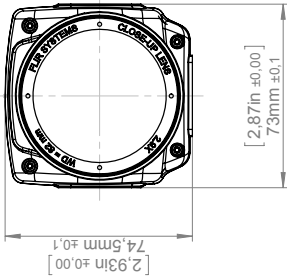
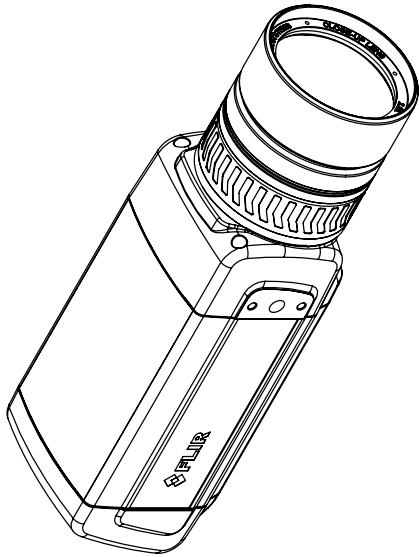
Camera with Close-up lens 1,5X (25 µm)



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Basic dimensions FLIR A/SC 6xx		Scale 1:2	Size A
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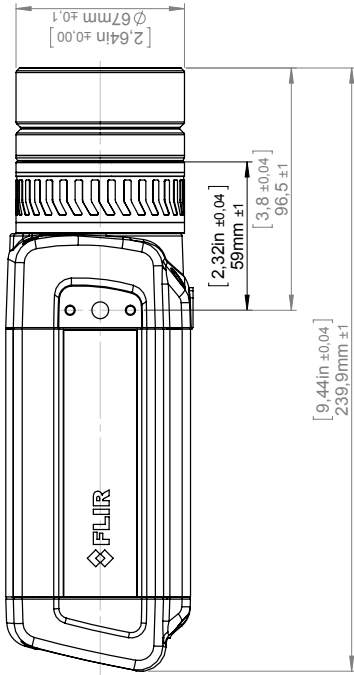
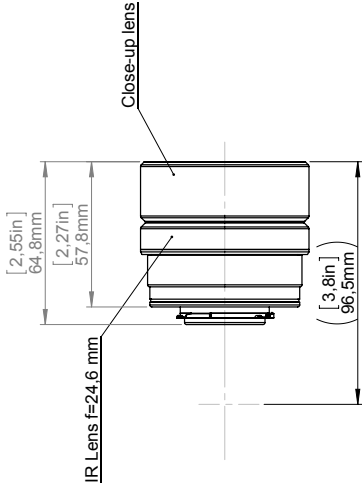
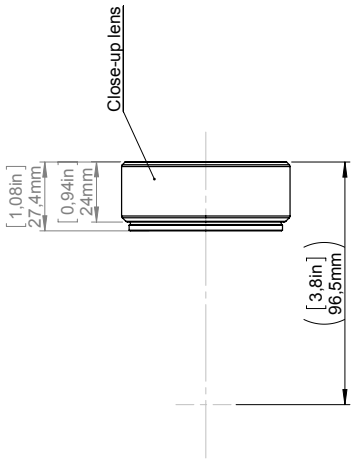
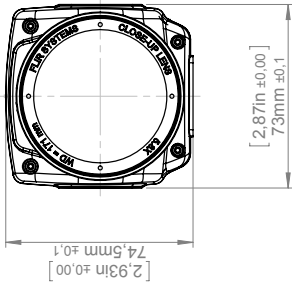
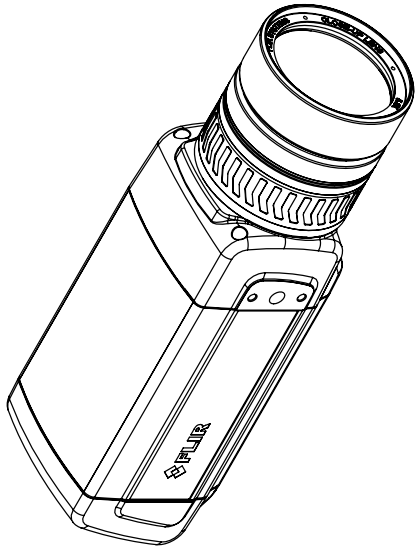
Camera with Close-up lens 2,9X (50 µm)



IR Lens f=24.6 mm

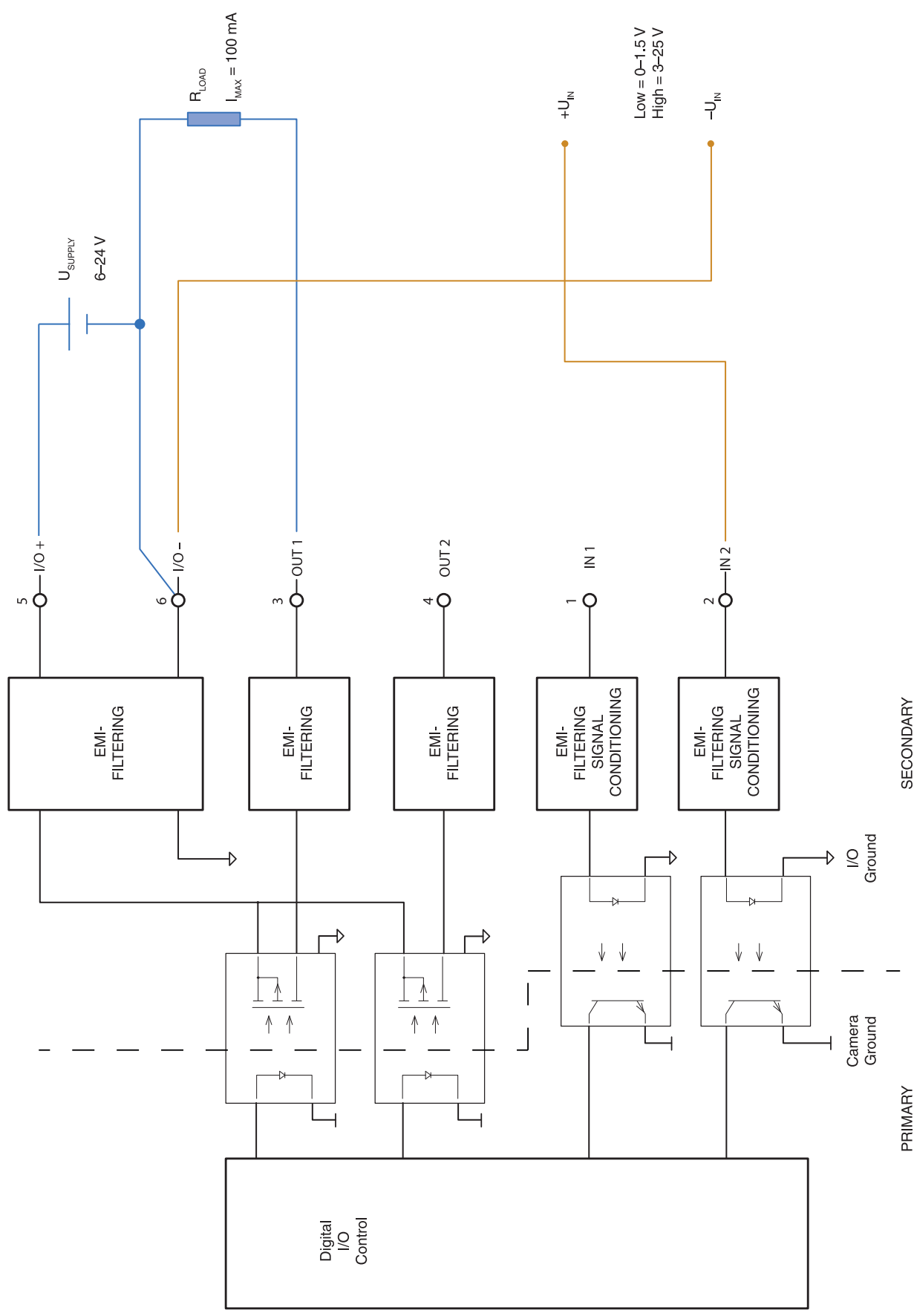
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Denomination		Size A3	Sheet 8(9)
Basic dimensions FLIR A/SC 6xx		Scale 1:2	Size A
		Drawing No. T126925	

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



For additional dimensions see page 1			FLIR®		
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Denomination Basic dimensions FLIR A/SC 6xx			Drawing No. T126925		
			Size A		

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



November 2, 2010 AQ105668

CE Declaration of Conformity

This is to certify that the Systems listed below have been designed and manufactured to meet the requirements, as applicable, of the following EU-Directives and corresponding harmonising standards. The systems consequently meet the requirements for the CE-mark.

Directives:

Directive 2004/108/EC;	Electromagnetic Compatibility
Directive 2006/95/EC;	“Low voltage Directive” (Power Supply)
Directive 2002/96/EC	Waste electrical and electronic equipment; WEEE (As applicable)

Standards:

Emission:	EN 61000-6-3;	Electro magnetic Compatibility Generic standards - Emission
Immunity:	EN 61000-6-2;	Electro magnetic Compatibility; Generic standards - Immunity
Safety (Power Supply):	EN 60950;	(Or other) Safety of information technology equipment

Systems: **FLIR SC6XX series** (fixed cameras)
FLIR A6XX series (fixed cameras)

FLIR Systems AB
Quality Assurance

Olof Gawell
Director