FLIR A655sc 80°

P/N: 55001-0305

Document identity

Publ. No.: 55001-0305
Release:
Commit: 38889
Language: en-US
Modified: 2016-12-09
Formatted: 2018-05-24

Website

http://www.flir.com

Customer support

http://support.flir.com

Disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply. Products described herein may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions.

General description
The FLIR A655sc is an excellent choice for those working in R&D and require the highest frame rates and 640 × 480 pixel resolution. When using the camera in R&D, it is highly recommended to use the FLIR ResearchIR software from FLIR Systems. The camera is equipped with a 80° lens.
Key features:
• Affordable. • 16-bit 640 × 480 pixel images at 50 Hz. • Start recording in FLIR ResearchIR using digital input. • Windowing mode: 640 × 240 pixels at 100 Hz or 640 × 120 pixels at 200 Hz.
Typical applications:
• Mid- or high-end industrial R&D.

Imaging and optical data	
IR resolution	640 × 480 pixels
Thermal sensitivity/NETD	< 0.03°C @ +30°C (+86°F) / 30 mK
Field of view (FOV)	80° × 64.4° (92.8° diagonal)
Minimum focus distance	65 mm (2.6 in.)
Focal length	6.5 mm (0.26 in.)
Spatial resolution (IFOV)	2.62 mrad
Lens identification	Automatic
F-number	1.0
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	• –40°C to +150°C (–40°F to +302°F) • 100 to +650°C (+212 to +1202°F)
Accuracy	±2°C (±3.6°F) or ±2% of reading

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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	• Control and image
USB, standard	USB 2 HS
USB, connector type	• USB Mini-B
USB, communication	TCP/IP socket-based FLIR proprietary
USB, image streaming	16-bit 640 × 480 pixels @ 25 Hz • 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
Ethernet, image streaming	16-bit 640 × 480 pixels @ 50 Hz 16-bit 640 × 240 pixels @ 100 Hz 16-bit 640 × 120 pixels @ 200 Hz • 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

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Digital input/output	
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	• 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	1.17 kg (2.58 lb.)
Camera size (L × W × H)	297 × 73 × 75 mm (11.7 × 2.9 × 3.0 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

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera with lens • Ethernet cable • FLIR ResearchIR Max 4 (licence only) • Hard transport case • Mains cable • Power cable, pig-tailed • Power supply • Printed documentation • USB cable
Packaging, weight	
Packaging, size	
EAN-13	7332558006054
UPC-12	845188006266
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

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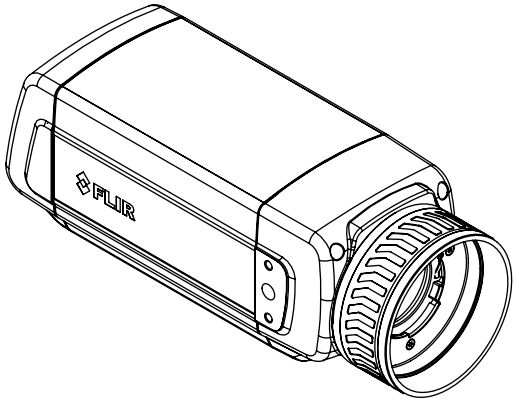
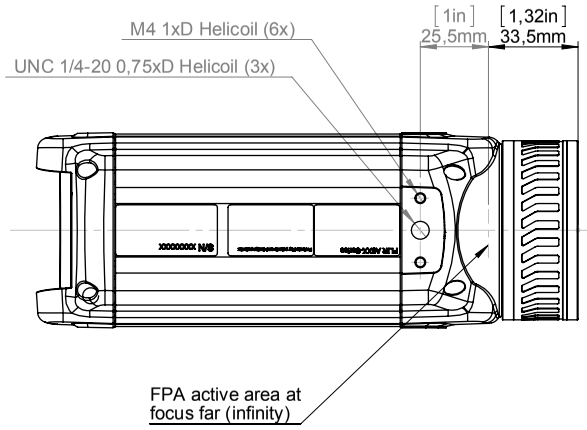
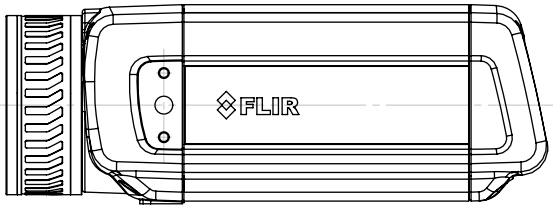
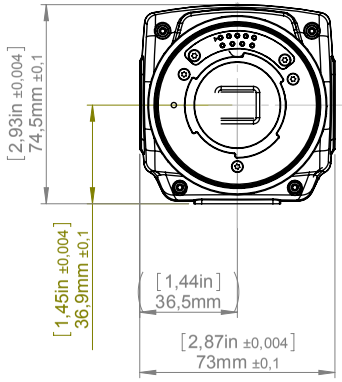
- T198065; IR lens, f=6.5 mm (80°) with case
- T198165; IR lens, f=88.9 mm (7°) with case and support for A6xx/A6xxsc
- T197896; High temperature option +300°C to 2000°C (+572°F to 3632°F)
- 1910400; Power cord EU
- 1910402; Power cord UK
- 1910401; Power cord US
- T911803; Power supply, 24 VDC, 2 A, 50 W
- T910922; Power supply, incl. multi plugs, for A3xx, A3xxsc, A6xx and A6xxsc
- 1910423; USB cable Std A <-> Mini-B
- 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
- T130007; Extended calibration cert A6xx/T6xx
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- T198697; FLIR ResearchIR Max + HSDR 4 (hardware sec. dev.)
- T199014; FLIR ResearchIR Max + HSDR 4 (printed license key)
- T199044; FLIR ResearchIR Max + HSDR 4 Upgrade (printed license key)
- 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)
- T198731; FLIR ResearchIR Standard 4 (hardware sec. dev.)
- T199012; FLIR ResearchIR Standard 4 (printed license key)
- T199042; FLIR ResearchIR Standard 4 Upgrade (printed license key)
- 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
- INST-EW-0165; Extended Warranty 1 Year for A6xx, A310ex, T640/bx, T650sc, T660
- INST-EWGM-0165; Extended Premier Warranty 1 Year for A300f, A310ex, A310f, A310f, A315f, A6xx, B/T400 mkI, T10xx
- INST-GM-0155; Calibration incl General Maintenance for A300f, A310ex, A310f, A310pt, A315f, A6xx, P6xx, T10xx

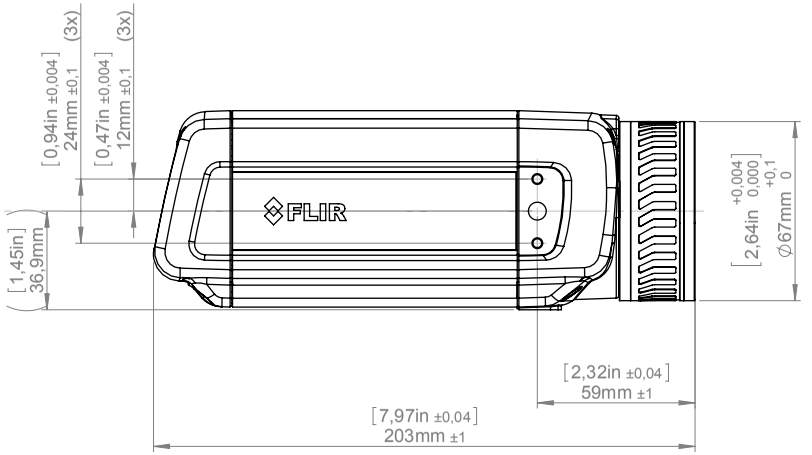
Camera housing

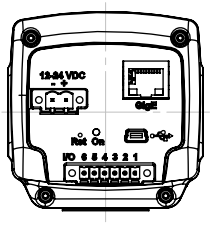












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Basic dimensions FLIR A/SC 6xx

Size	Scale	Sheet
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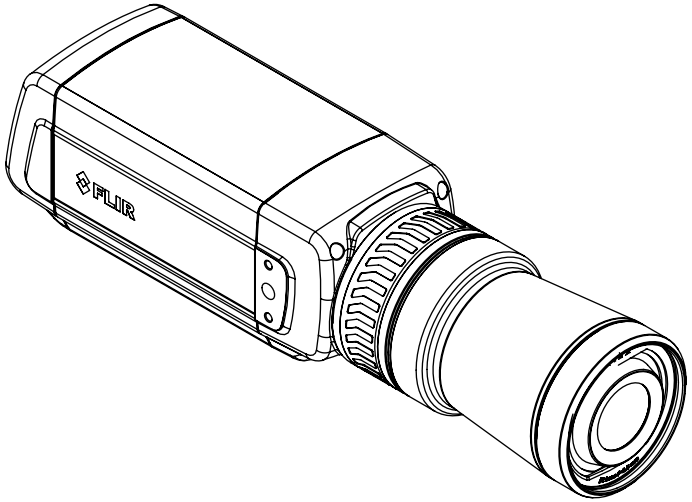
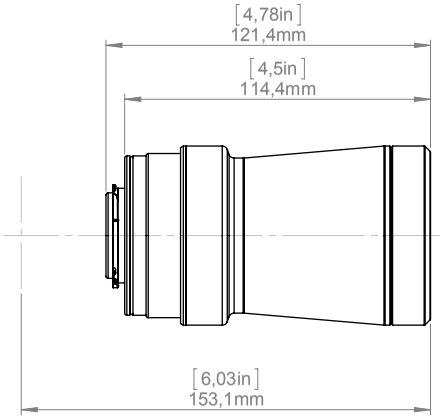
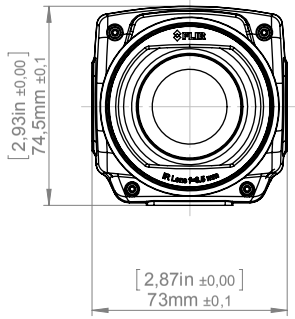
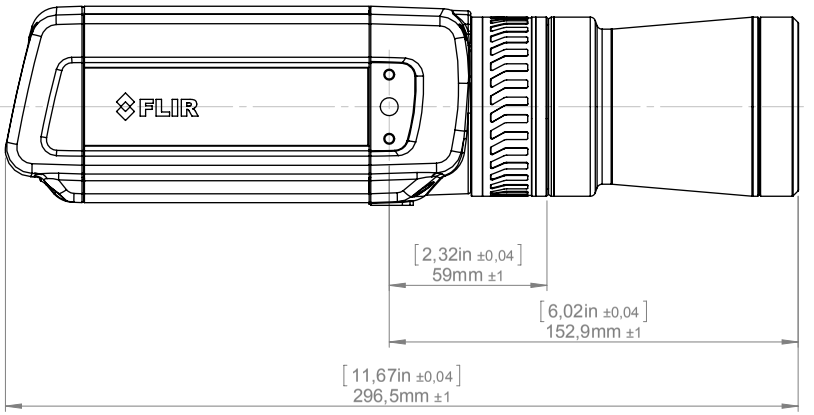
Drawing No.	Size
T126925	A

Camera with Lens IR f=6,5 mm (80°)









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Size	Scale	Sheet
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Drawing No.	Size
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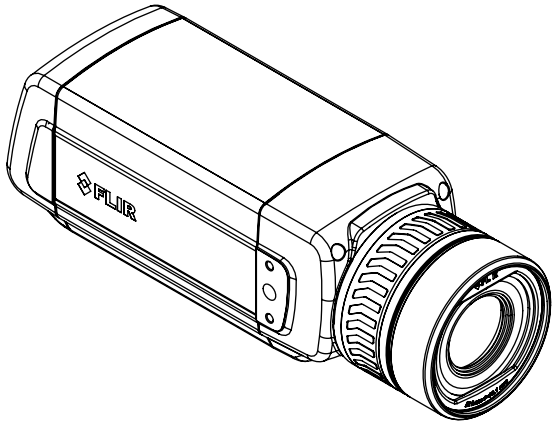
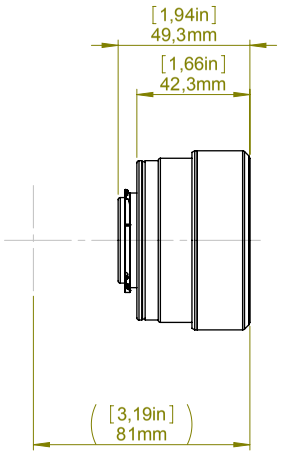
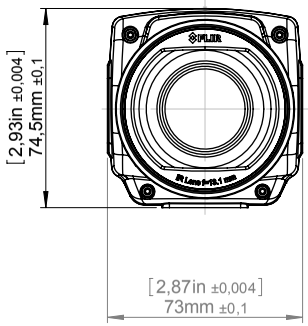
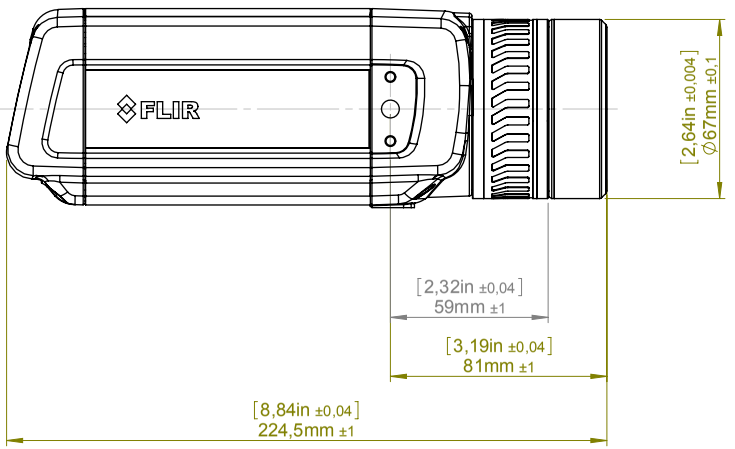
Camera with Lens IR f=13,1 mm (45°)









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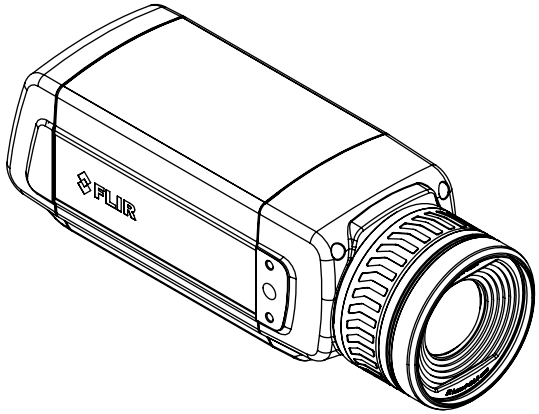
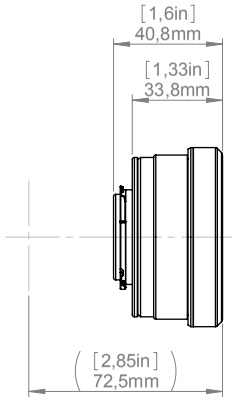
Size	Sheet
A3	3(9)

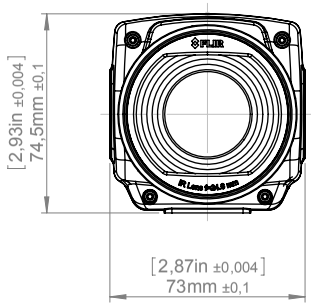
Scale 1:2

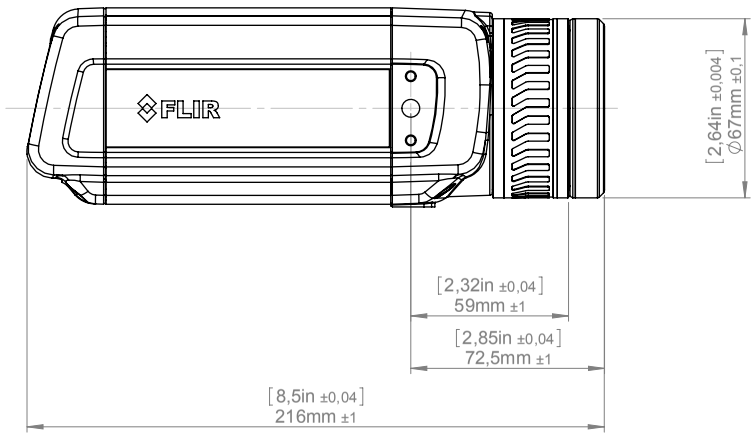
Drawing No.	Size
T126925	A

Camera with Lens IR f=24,6 mm (25°)









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Size	Scale	Sheet
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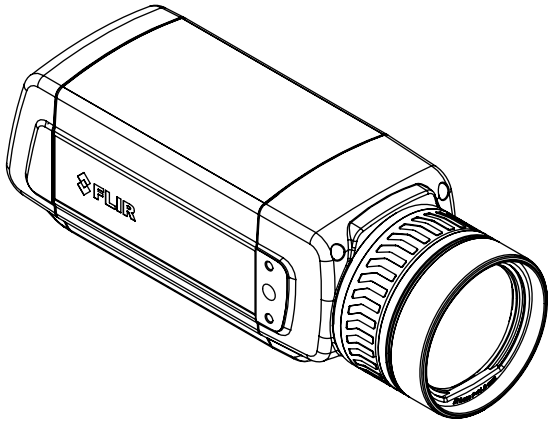
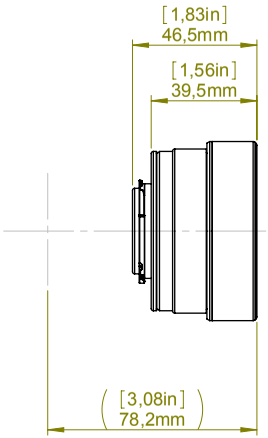
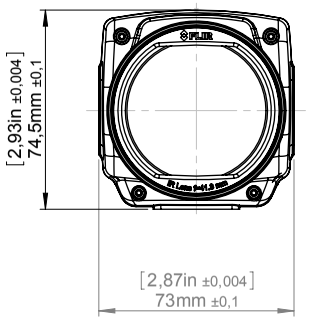
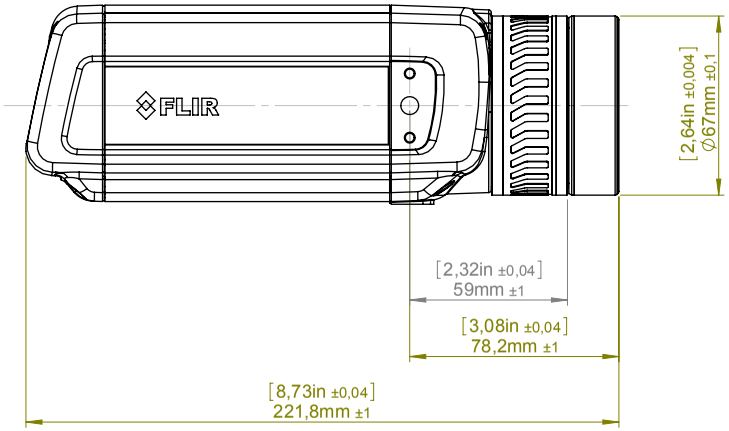
Drawing No.	Size
T126925	A

Camera with Lens IR f=41,3 mm (15°)









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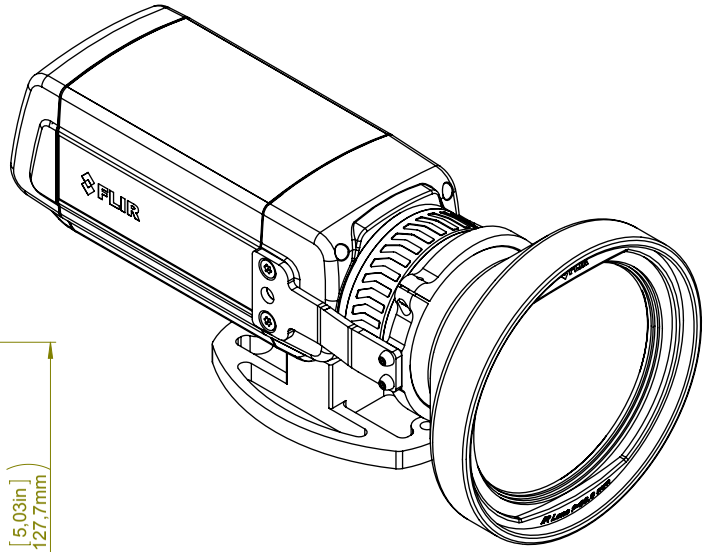
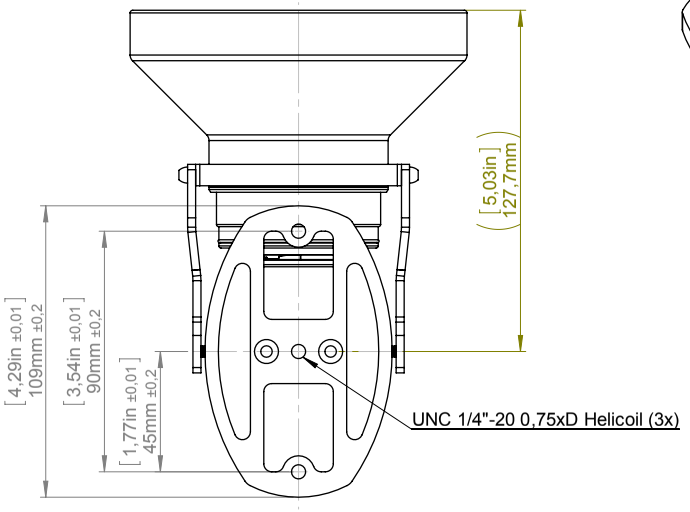
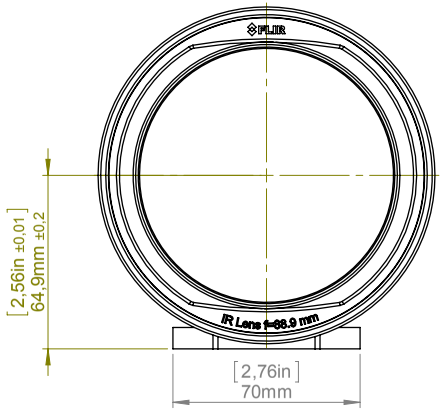
Size A3 | Scale 1:2 | Sheet 5(9)

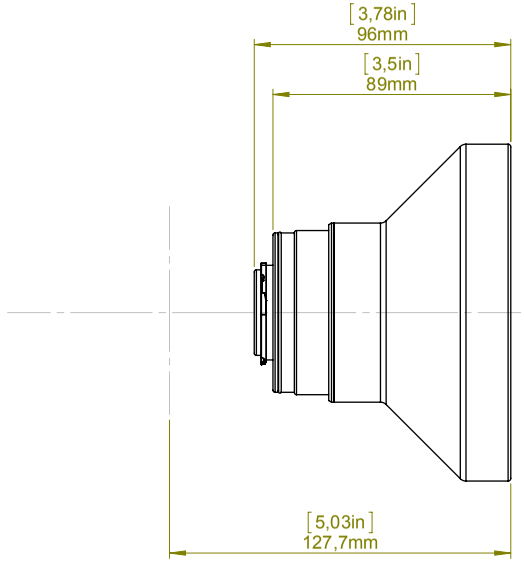
Drawing No. T126925 | Size A

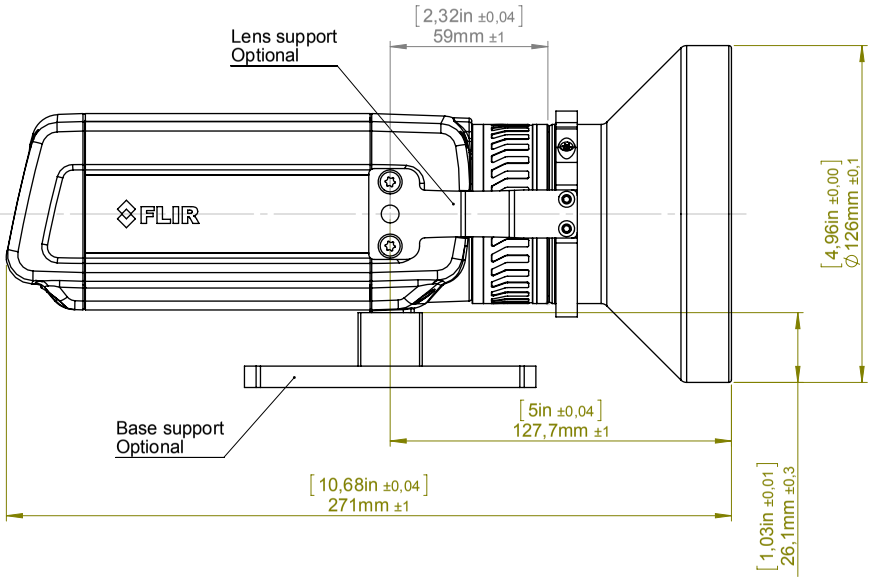
Camera with Lens IR f=88,9 mm (7°) incl support











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Size	Scale	Sheet
A3	1:2	6(9)

Drawing No.	Size
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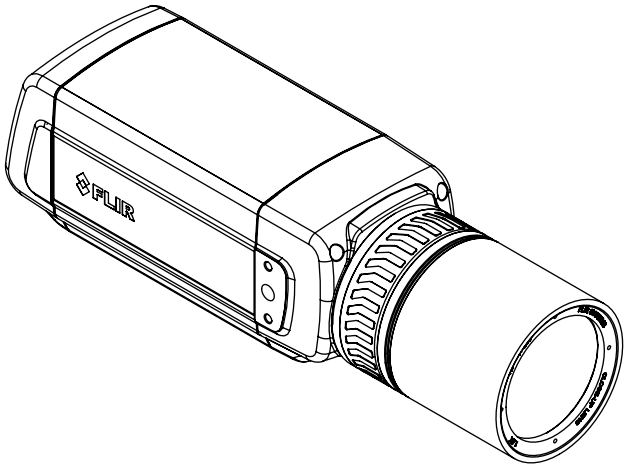
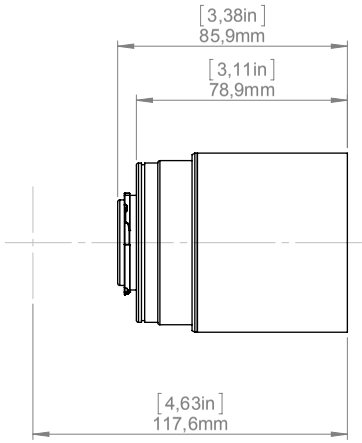
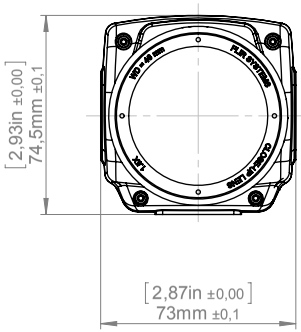
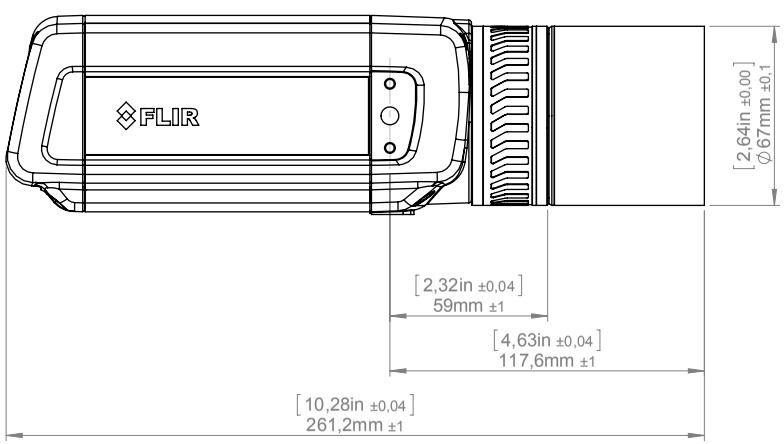
Camera with Close-up lens 1,5X (25 µm)









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Size	Sheet
A3	7(9)

Scale 1:2

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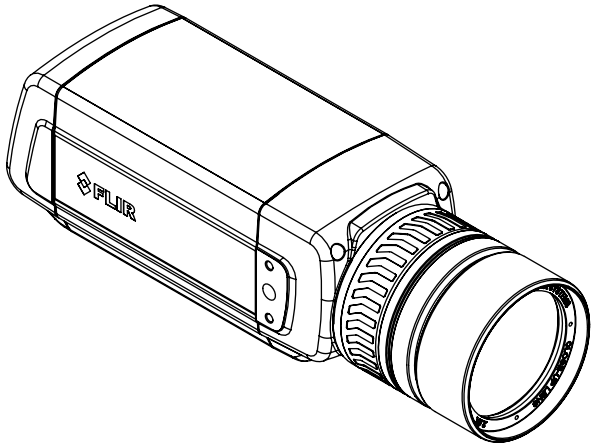
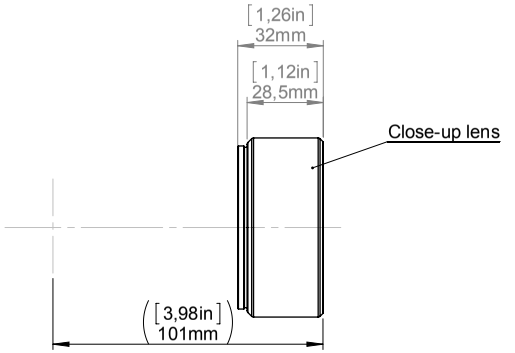
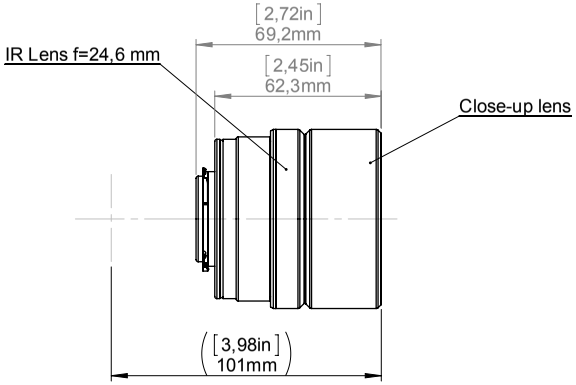
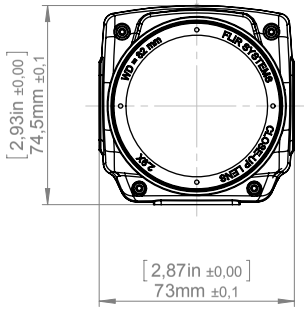
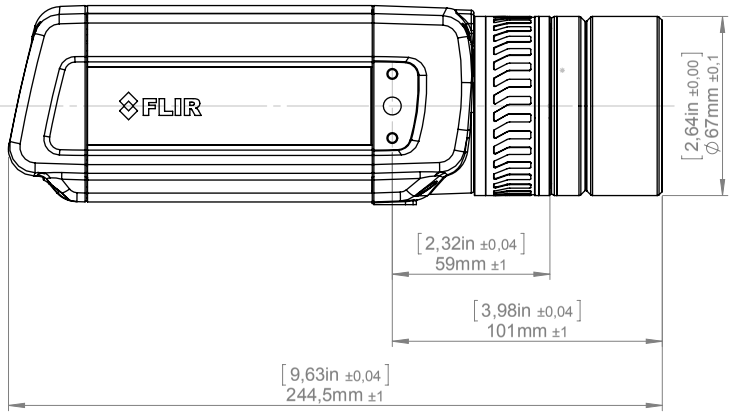
Camera with Close-up lens 2,9X (50 µm)











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Size A3

Scale 1:2

Sheet 8(9)

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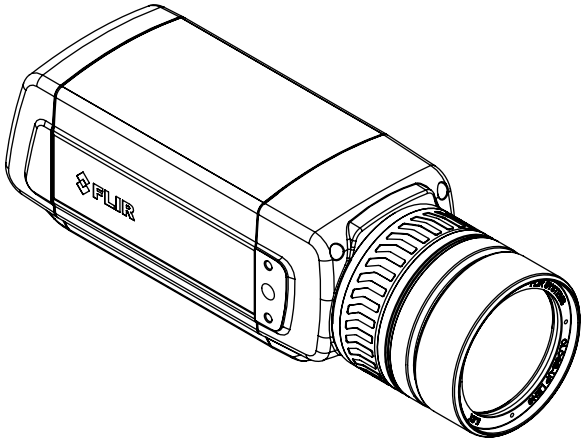
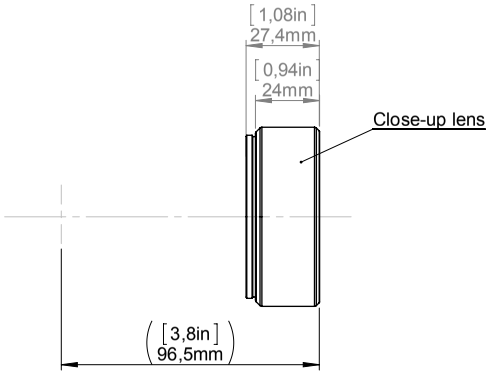
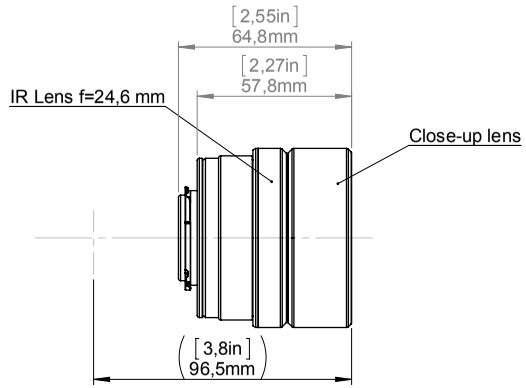
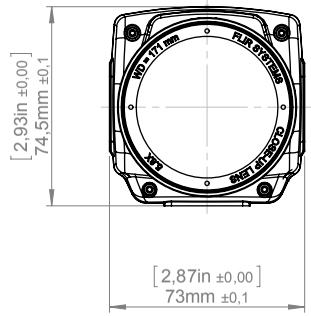
Size A

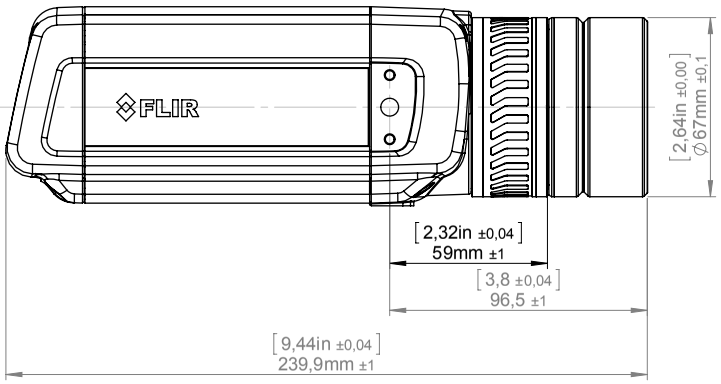
Camera with Close-up lens 5,8X (100 µm)











For additional dimensions see page 1

Modified	Check	Drawn by
2012-04-18	CAHA	R&D Thermography

Denomination

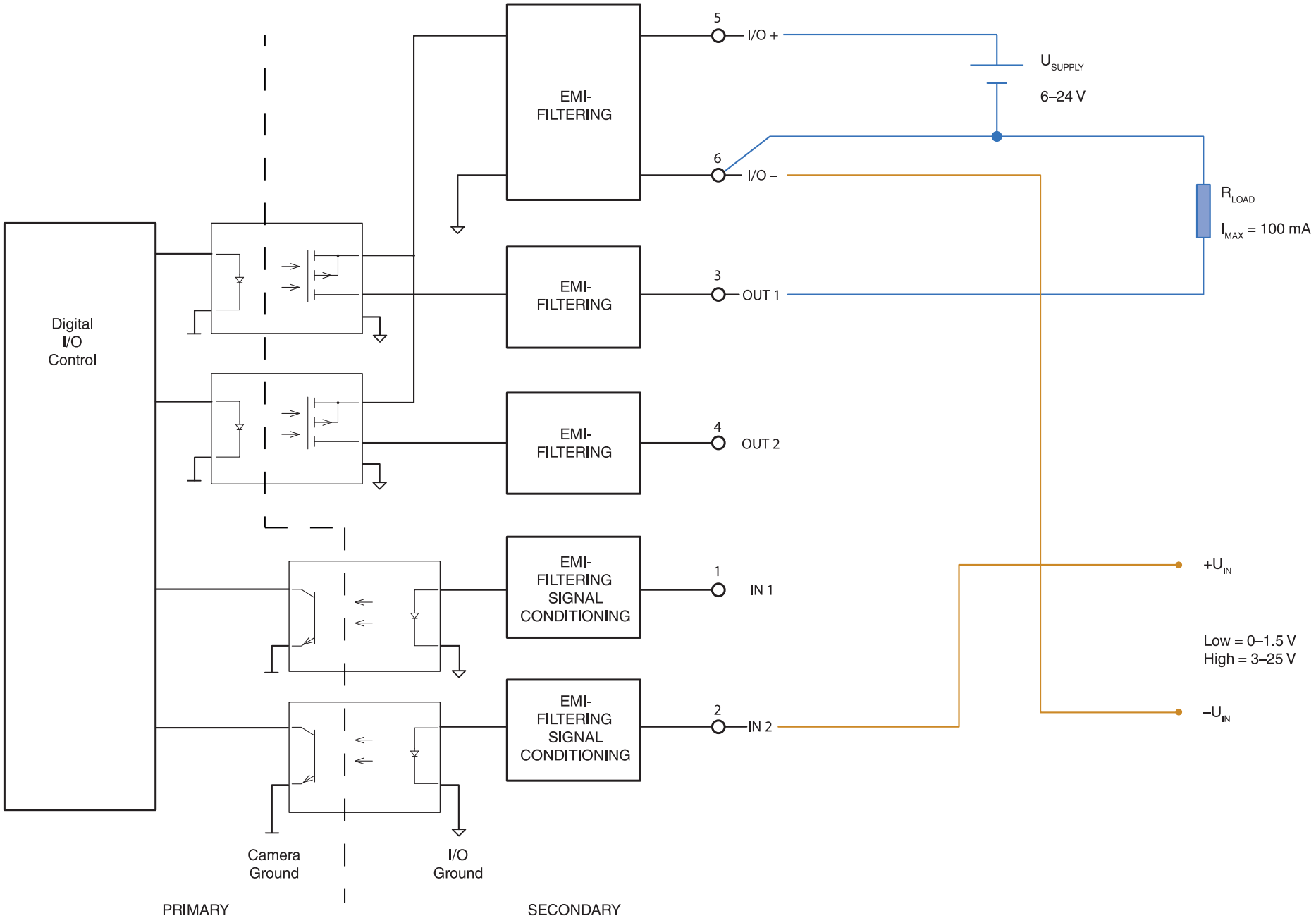
Basic dimensions FLIR A/SC 6xx

Size	Sheet
A3	9(9)

Scale 1:2

Drawing No.	Size
T126925	A

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



FLIR SYSTEMS AB

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

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