

FLIR A615 windowing 80°

P/N: 55001-0105

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Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

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| General description | |
|---|--|
| <p>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.</p> <p>The camera is equipped with a 80° lens.</p> | |
| 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) | 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 |



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| 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, 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 <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 |



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| 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 | 1.17 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 | <ul style="list-style-type: none"> Infrared camera with lens Ethernet cable Mains cable Power cable, pig-tailed Printed documentation USB cable Utility CD-ROM |
| Packaging, weight | 3.8 kg (8.4 lb.) |
| Packaging, size | 370 × 190 × 630 mm (14.6 × 7.5 × 24.8 in.) |
| EAN-13 | 7332558004760 |



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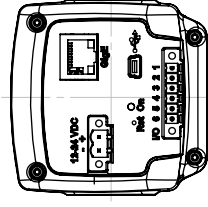
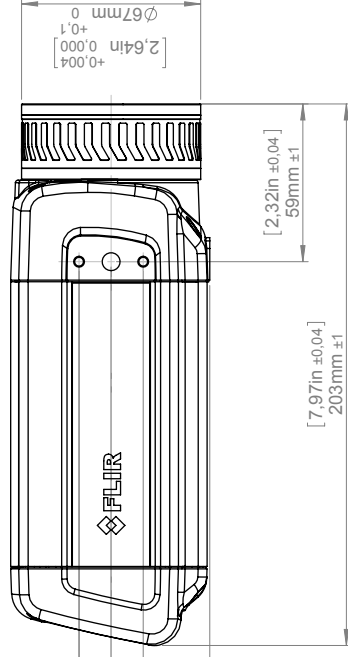
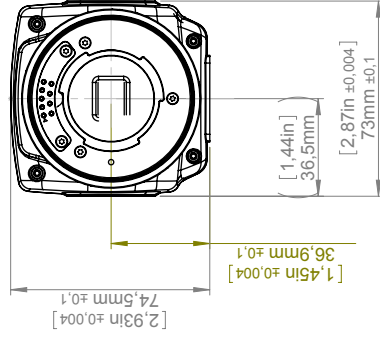
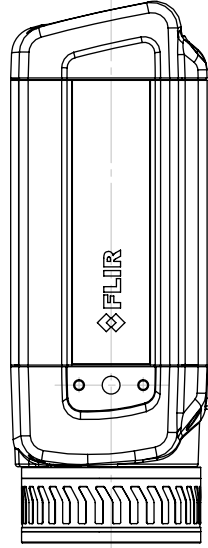
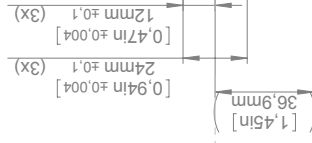
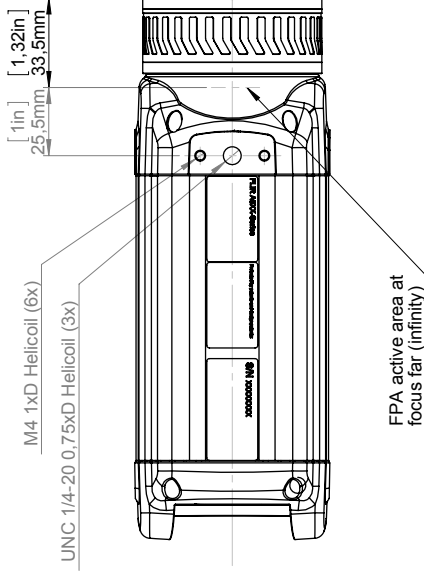
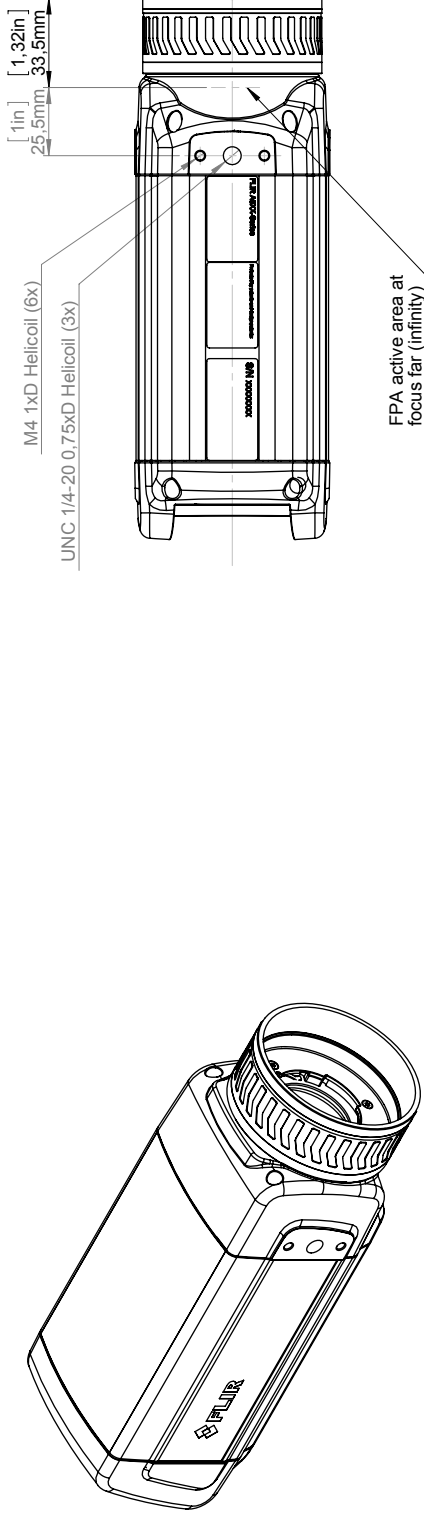
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| Shipping information | |
|----------------------|--------------|
| UPC-12 | 845188004712 |
| Country of origin | Sweden |

Supplies & accessories:

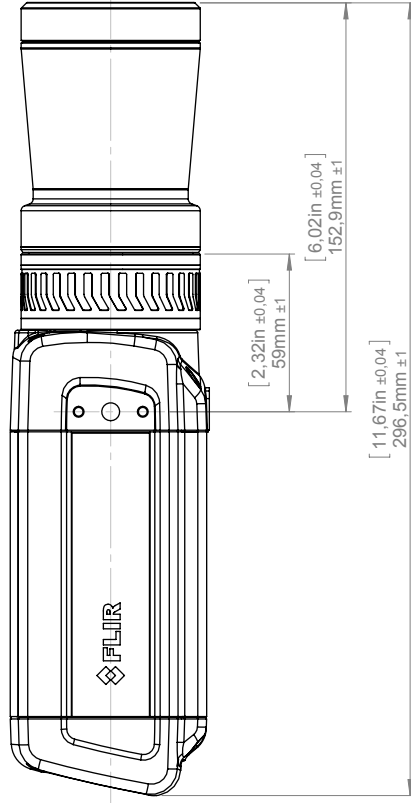
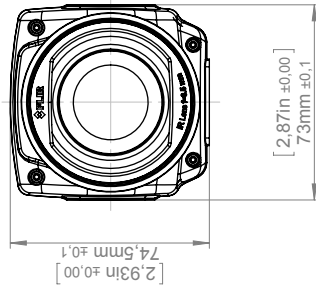
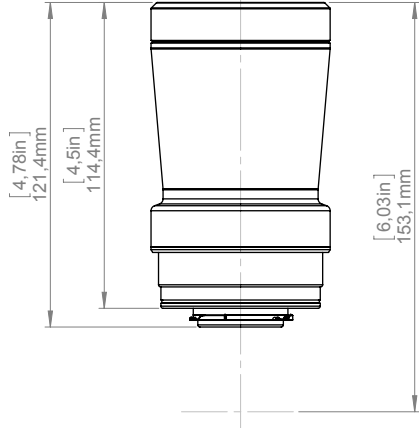
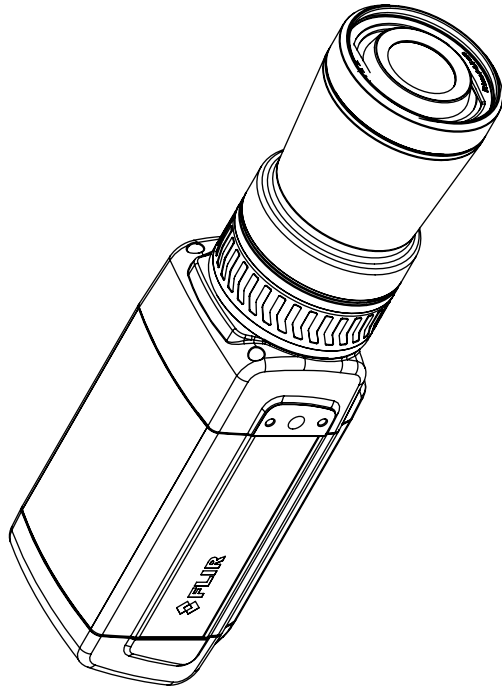
- T197914; IR lens, f=41.3 mm (15°) with case
- T197922; IR lens, f=24.6 mm (25°) with case
- T197915; IR lens, f=13.1 mm (45°) with case
- T198065; IR lens, f=6.5 mm (80°) with case
- T198165; IR lens, f=88.9 mm (7°) with case and support for A6xx/A6xxsc
- T197896; High temperature option +300°C to 2000°C (+572°F to 3632°F)
- 1910400; Power cord EU
- 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)
- 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 mkl, T10xx
- INST-GM-0155; Calibration incl General Maintenance for A300f, A310ex, A310f, A310pt, A315f, A6xx, P6xx, T10xx

Camera housing



| | | | |
|--|---------------|------------------------------|------------------------|
| Modified 2012-04-18 | Check CAHA | Drawn by R&D Thermography | FLIR |
| Denomination Basic dimensions FLIR A/SC 6xx | | | Size A3 |
| | | | Scale 1:2 |
| | | | Sheet 1(9) |
| | | | Drawing No. T126925 |
| | | | Size A |

Camera with Lens IR f=6,5 mm (80°)

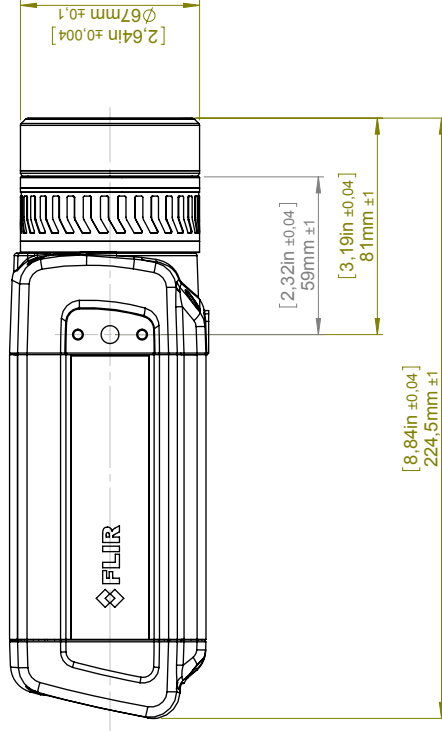
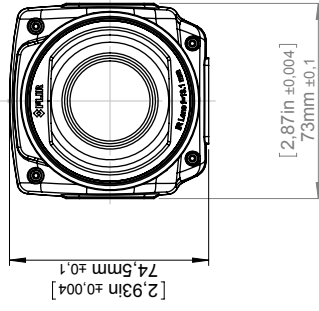
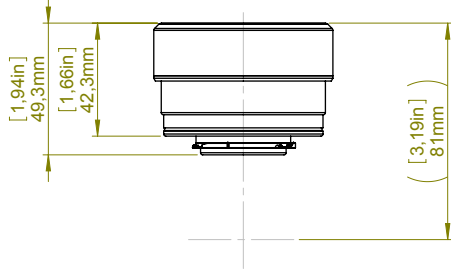
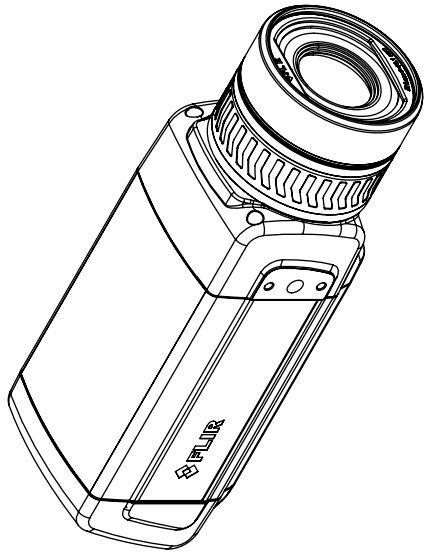


For additional dimensions see page 1

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| Denomination Basic dimensions FLIR A/SC 6xx | | | Scale 1:2 | Drawing No. T126925 |
| | | | Size A | |



Camera with Lens IR f=13,1 mm (45°)



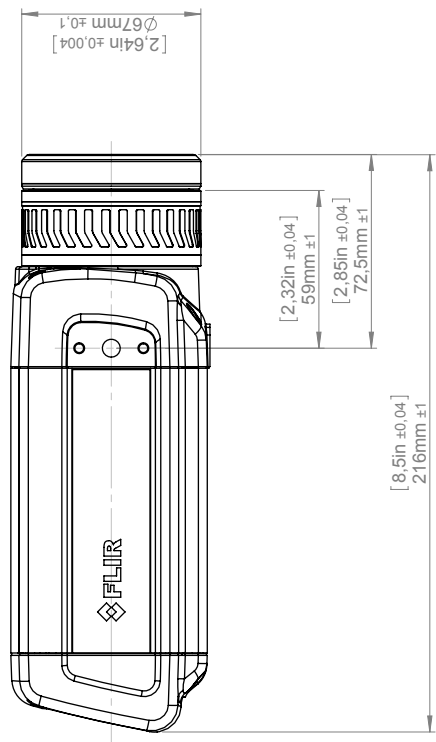
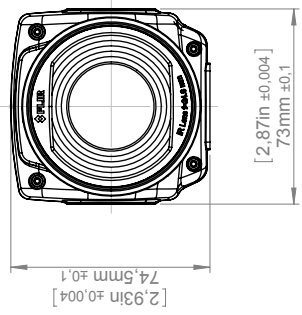
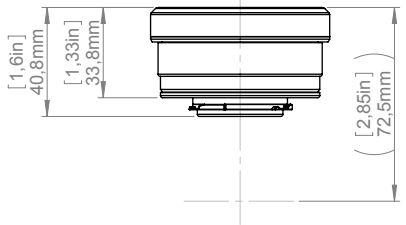
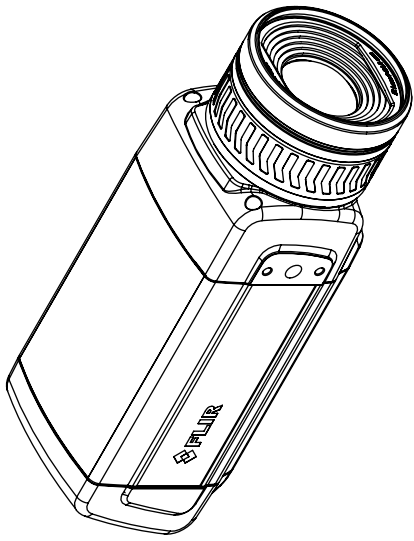
For additional dimensions see page 1

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|--|---------------|------------------------------|--------------|------------------------|-----------|
| Modified 2012-04-18 Denomination | Check CAHA | Drawn by R&D Thermography | Size A3 | Sheet 3(9) | Size A |
| Basic dimensions FLIR A/SC 6xx | | | Scale 1:2 | Drawing No. T126925 | |



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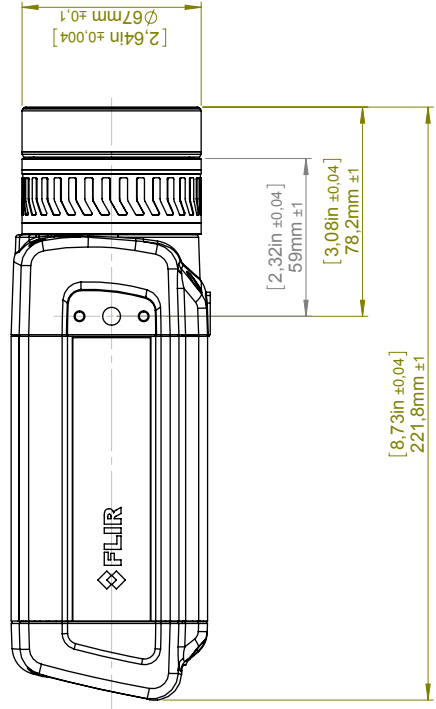
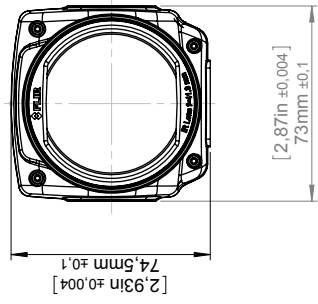
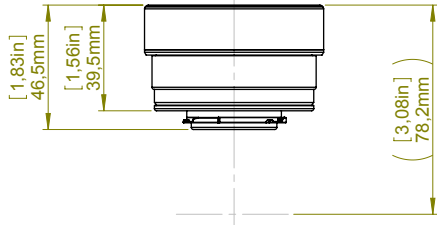
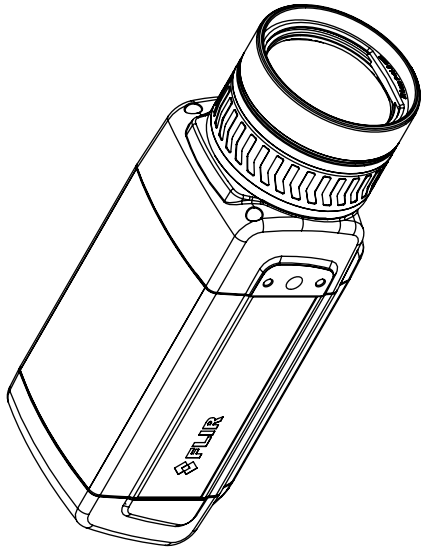
Camera with Lens IR f=24,6 mm (25°)



| | | | |
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| For additional dimensions see page 1 | | | |
| Modified 2012-04-18 | Check CAHA | Drawn by R&D Thermography | FLIR® |
| Denomination | | Size A3 | Sheet 4(9) |
| Basic dimensions FLIR A/SC 6xx | | Scale 1:2 | Drawing No. T126925 |
| | | | Size A |

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Camera with Lens IR f=41,3 mm (15°)



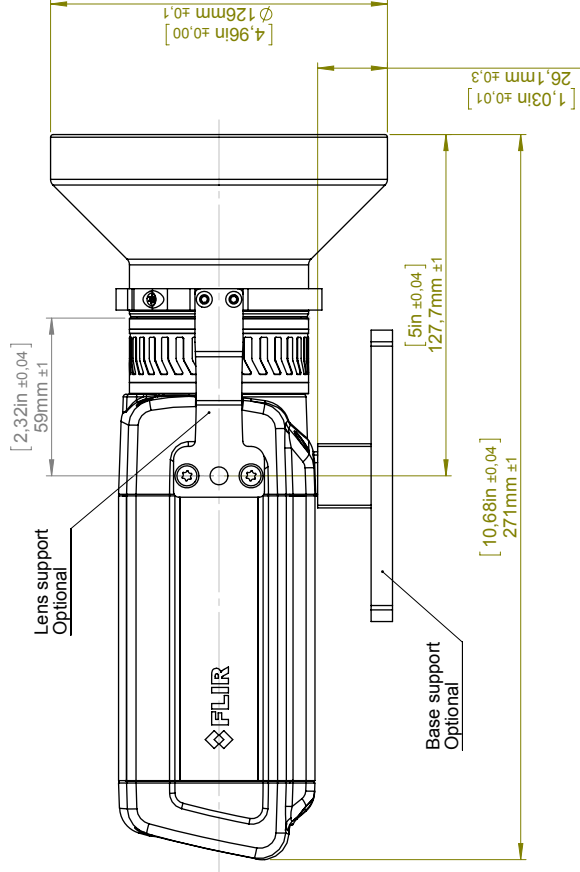
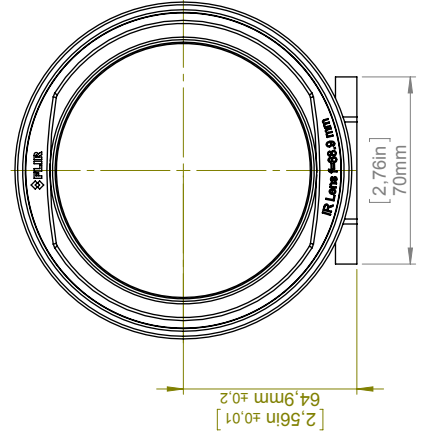
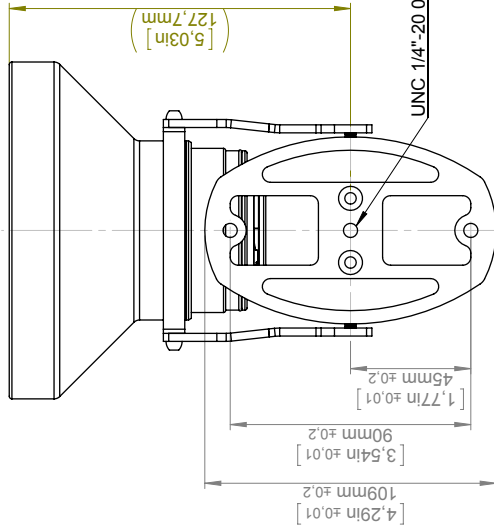
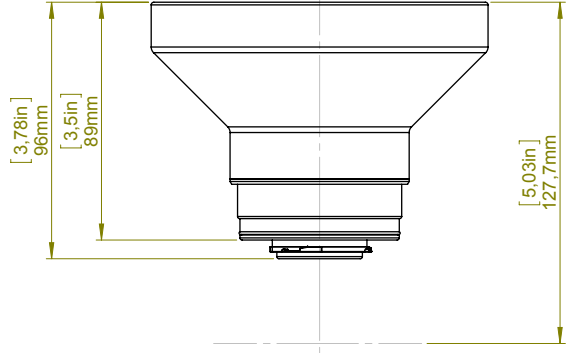
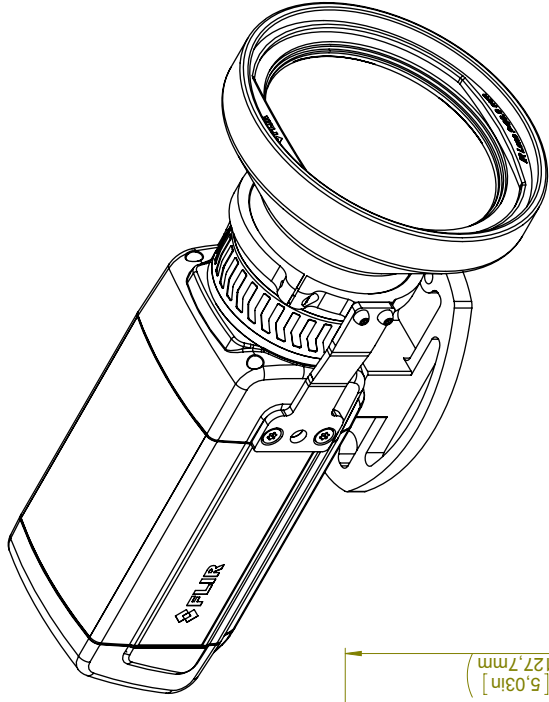
For additional dimensions see page 1

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|--|---------------|------------------------------|--------------|------------------------|
| Modified 2012-04-18 | Check CAHA | Drawn by R&D Thermography | Size A3 | Sheet 5(9) |
| Denomination Basic dimensions FLIR A/SC 6xx | | | Scale 1:2 | Drawing No. T126925 |
| | | | Size A | |



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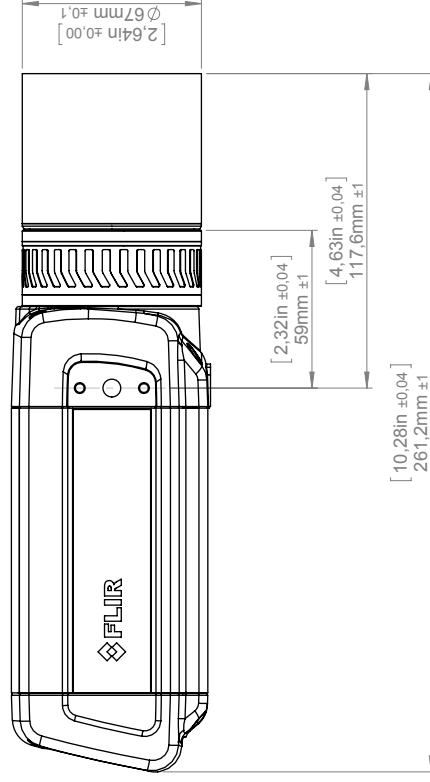
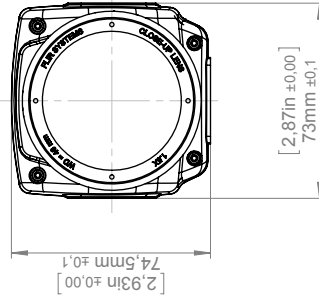
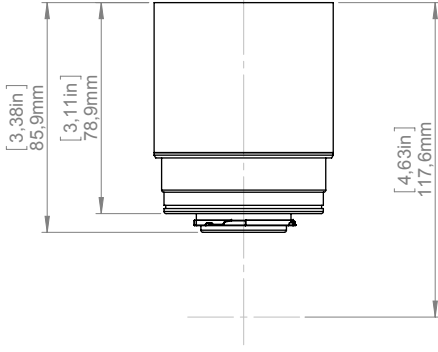
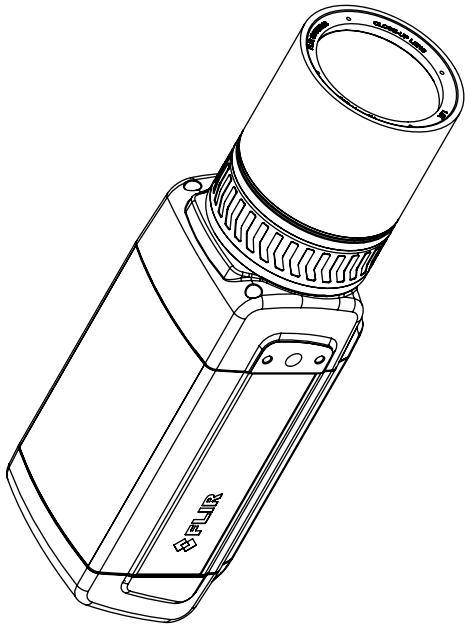
Camera with Lens IR f=88,9 mm (7°) incl support



For additional dimensions see page 1

| | | | | | |
|--------------------------------|------------|-------|------|----------|------------------|
| Modified | 2012-04-18 | Check | CAHA | Drawn by | R&D Thermography |
| Denomination | | | | | |
| Basic dimensions FLIR A/SC 6xx | | | | | |
| Size | A3 | | | | |
| Scale | 1:2 | | | | |
| Drawing No. | T126925 | | | | |
| Sheet | 6(9) | | | | |
| Size | A | | | | |

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



For additional dimensions see page 1

Modified 2012-04-18
Denomination

Check CAHA

Drawn by R&D Thermography

Size A3

Scale 1:2

Sheet 7(9)

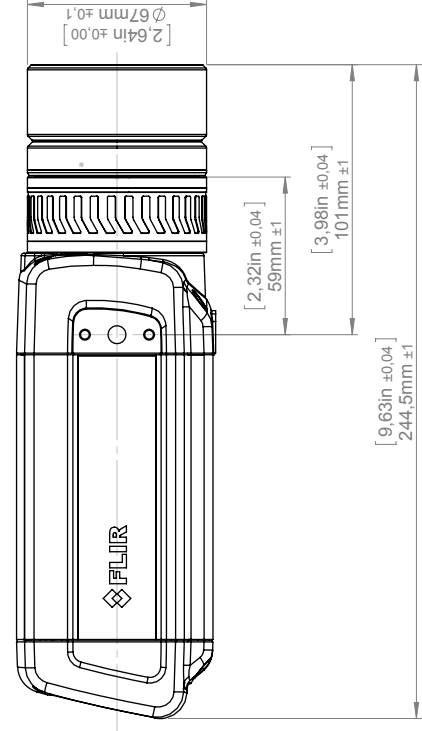
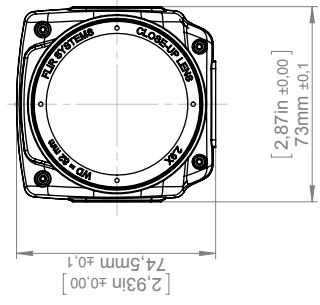
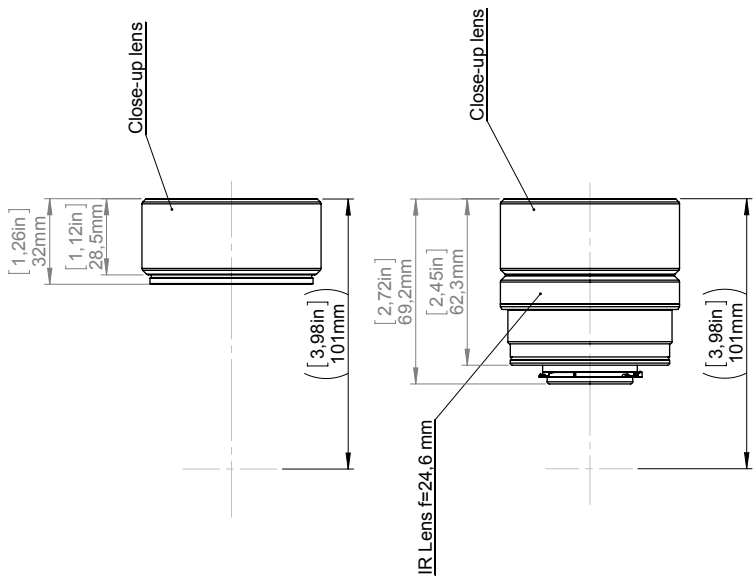
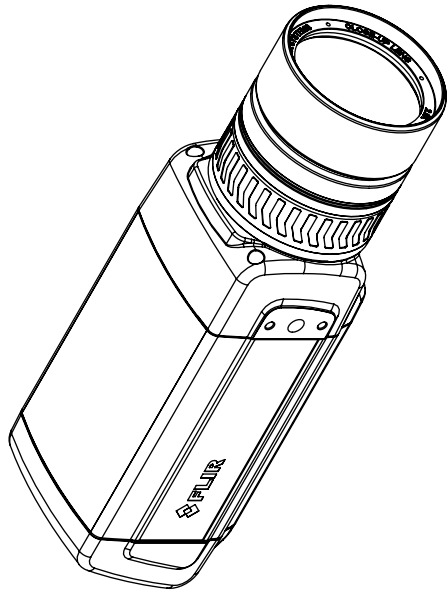


Basic dimensions FLIR A/SC 6xx

Drawing No. T126925

Size A

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

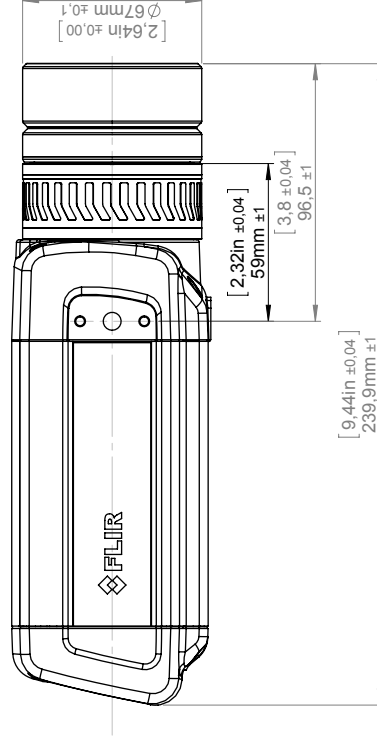
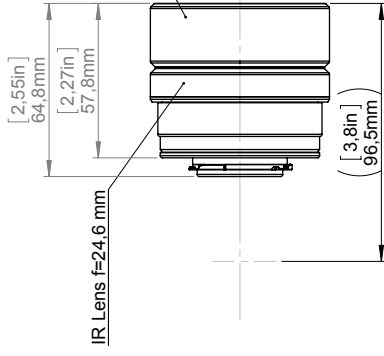
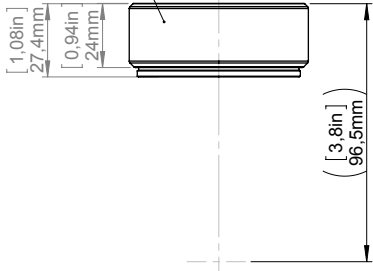
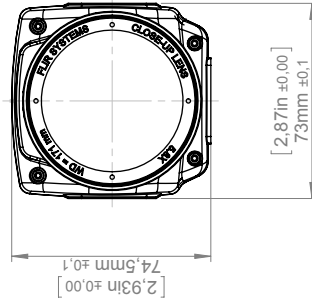
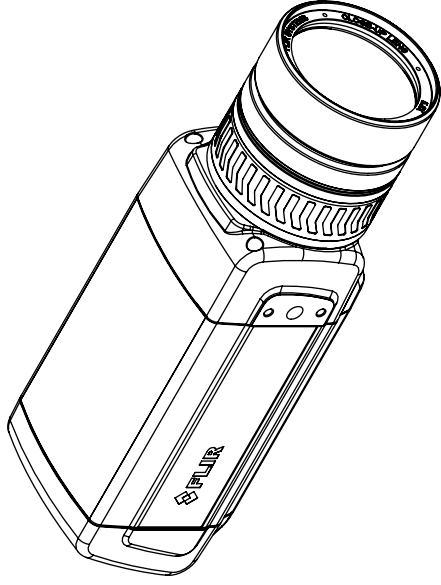


For additional dimensions see page 1

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|--------------------------------|------------|-------|------|----------|------------------|---------|---|
| Modified | 2012-04-18 | Check | CAHA | Drawn by | R&D Thermography | | |
| Denomination | | | | | | | |
| Size | A3 | | | | Sheet | 8(9) | |
| Scale | 1:2 | | | | Drawing No. | T126925 | |
| Basic dimensions FLIR A/SC 6xx | | | | | | Size | A |

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



| | | | | | | | |
|--------------------------------|--|--|--|---------------|------------------------------|--------------------------------------|--|
| Modified 2012-04-18 | | | | Check CAHA | Drawn by R&D Thermography | For additional dimensions see page 1 | |
| Denomination | | | | FLIR® | | | |
| Basic dimensions FLIR A/SC 6xx | | | | Size A3 | Sheet 9(9) | Size A | |
| | | | | Scale 1:2 | Drawing No. T126925 | | |

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

