

P/N: 48001-1101

Copyright

© 2019, FLIR Systems, Inc.

All rights reserved worldwide. Names and marks appearing herein are either registered trademarks or trademarks of FLIR Systems and/or its subsidiaries. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners.

Document identity

Publ. No.: 48001-1101

Commit: 35207

Language: en-US

Modified: 2016-04-27

Formatted: 2019-11-11

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 A315 has features and functions that make it the natural choice for anyone who uses PC software to solve problems and for whom 320 × 240 pixel resolution is sufficient. 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.

Key features:

- Affordable.
- GigE compliant.
- GenICam compliant.
- Trigg/synchronization/GPIO.
- 16-bit 320 × 240 pixel images at 60 Hz, signal, temperature linear, and radiometric.
- Compliant with any software that supports GenICam, including National Instruments IMAQ Vision and Stemmers Common Vision Blox.
- Lenses: 25° included, 15° and 45° optional.

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 | 320 × 240 pixels |
| Thermal sensitivity/NETD | < 0.05°C @ +30°C (+86°F) / 50 mK |
| Field of view (FOV) | 25° × 18.8° |
| Minimum focus distance | 0.4 m (1.31 ft.) |
| Focal length | 18 mm (0.7 in.) |
| Spatial resolution (IFOV) | 1.36 mrad |
| Lens identification | Automatic |
| F-number | 1.3 |
| Image frequency | 60 Hz |
| Focus | Automatic or manual (built in motor) |

Detector data

| | |
|----------------|--|
| Detector type | Focal plane array (FPA), uncooled microbolometer |
| Spectral range | 7.5–13 μm |

P/N: 48001-1101

© 2019, FLIR Systems, Inc.

#48001-1101; r. 35207; en-US

| Detector data | |
|---|--|
| Detector pitch | 25 μ m |
| Detector time constant | Typical 12 ms |
| Measurement | |
| Object temperature range | <ul style="list-style-type: none"> -20 to +120°C (-4 to +248°F) 0 to +350°C (+32 to +662°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 |
| 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 320 \times 240 pixels @ 60 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 |

P/N: 48001-1101

© 2019, FLIR Systems, Inc.

#48001-1101; r. 35207; en-US

| 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 40 (IEC 60529) |
| Shock | 25 g (IEC 60068-2-27) |
| Vibration | 2 g (IEC 60068-2-6) |

| Physical data | |
|-------------------------|---|
| Weight | 0.7 kg (1.54 lb.) |
| Camera size (L × W × H) | 170 × 70 × 70 mm (6.7 × 2.8 × 2.8 in.) |
| Tripod mounting | UNC ¼"-20 (on three sides) |
| Base mounting | 2 × M4 thread mounting holes (on three sides) |
| Housing material | Aluminum |

| 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 • Utility CD-ROM |
| Packaging, weight | |
| Packaging, size | 495 × 370 × 192 mm (19.5 × 14.6 × 7.6 in.) |
| EAN-13 | 7332558003374 |
| UPC-12 | 845188003128 |
| Country of origin | Sweden |

Supplies & accessories:

- 1196961; IR lens, f=30 mm, 15° incl. case
- 1196960; IR lens, f=10 mm, 45° incl. case
- T197407; IR lens, 76 mm (6°) with case and mounting support for A3xx, A3xxsc
- T197411; IR lens, 4 mm (90°) with case and mounting support for A3xx, A3xxsc
- T197415; Close-up 1× (25 μm) incl. case and mounting support for A3xx, A3xxsc
- T129252; Special temperature range -20 to +700 deg C
- T129253; Special temperature range -20 to +500 deg C
- T129254; High temperature measurement option -20 to +2000 deg C
- T130151; Special temperature range -20 to +2000 deg C
- T130152; Special temperature range +200 to +1200 deg C
- 1910400; Power cord EU
- 1910402; Power cord UK

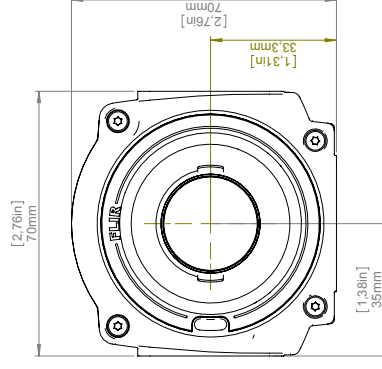
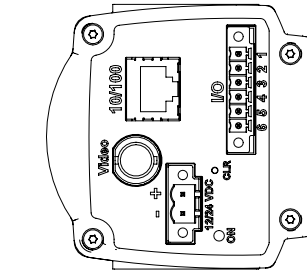
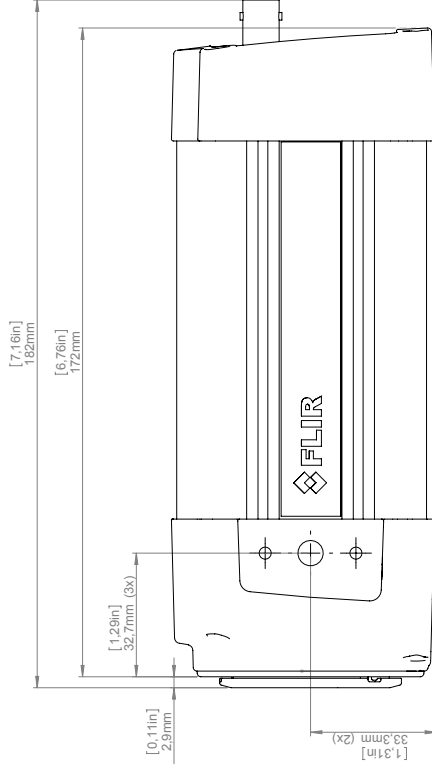
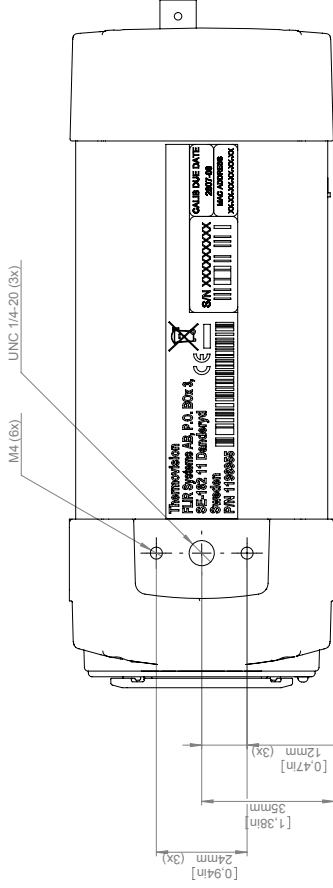
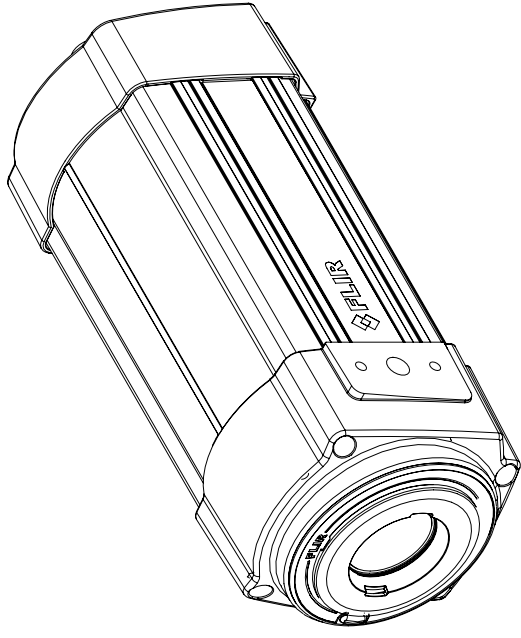
P/N: 48001-1101

© 2019, FLIR Systems, Inc.

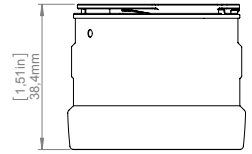
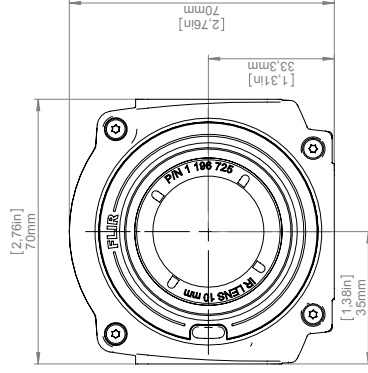
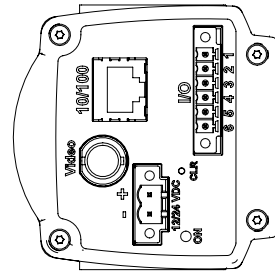
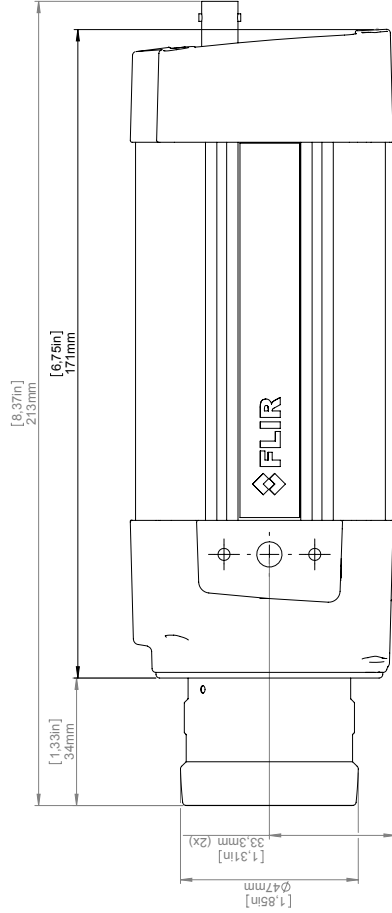
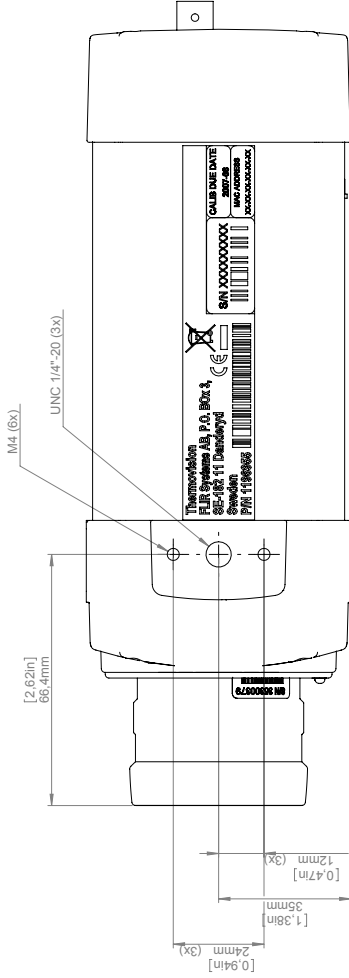
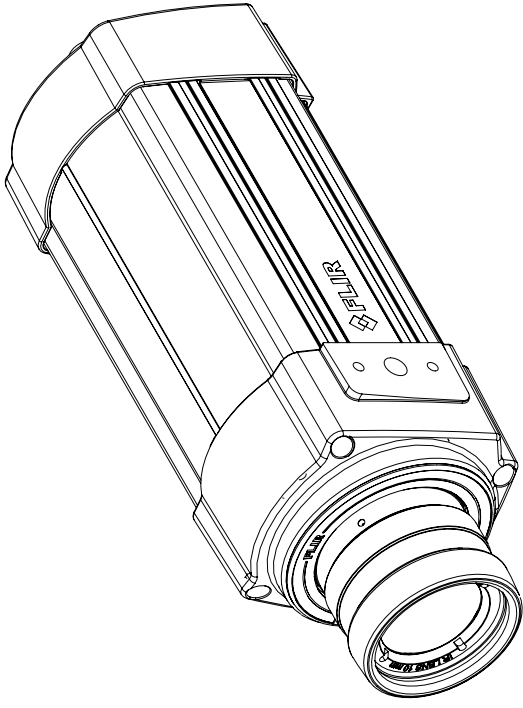
#48001-1101; r. 35207; en-US

- 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
- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T911307ACC; Ethernet cable, CAT6, 2 m/6.6 ft, 1 screw connector
- 1910586ACC; Power cable, pigtailed
- T197870ACC; Cardboard box for FLIR A3xx/A6xx series
- T197871ACC; Hard transport case for FLIR A3xx/A6xx series
- 61301-0002; Fixed Housing for A3xx 25°/45°/90°
- 61301-0001; Fixed Housing for A3xx 7°/15°
- T199722; ThermoVision EFD, max. 2 cameras
- T199724; ThermoVision EFD, max. 4 cameras
- 500-1120-00; Pedestal Mount Assy, f-series
- 500-1121-00; Small Pole Adapter Assy, f-series
- 500-1123-00; Wall Mount Assy, f-series
- T197214; Close-up 2× (50 µm) incl. case
- T197215; Close-up 4× (100 µm) incl. case
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio, Perpetual license
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- APP-10002; FLIR Tools Mobile (Android Application)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- 4220499; FLIR Research Studio - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio - Perpetual License (online activation)
- 4220646; FLIR Research Studio - Perpetual License (USB dongle)
- T198567; ThermoVision™ System Developers Kit Ver. 2.6
- T198566; ThermoVision™ LabVIEW® Digital Toolkit Ver. 3.3
- INST-EW-0150; Extended Warranty 1 Year for A3xx, T4xx mkII
- INST-EWGM-0155; Premium Service Package for A3xx, T4xx mkII, T530
- INST-GM-0145; General Maintenance Package for A3xx, T3/4xx

Camera with built-in IR lens f=18 mm (25°)

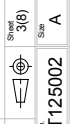


Camera with Lens IR f=10 mm (45°)

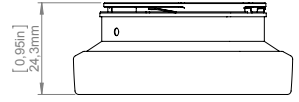
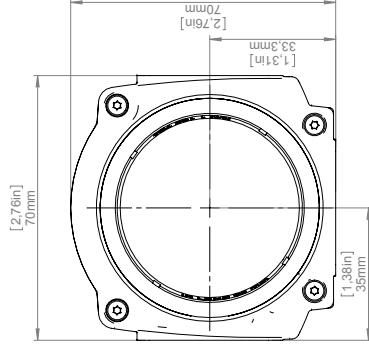
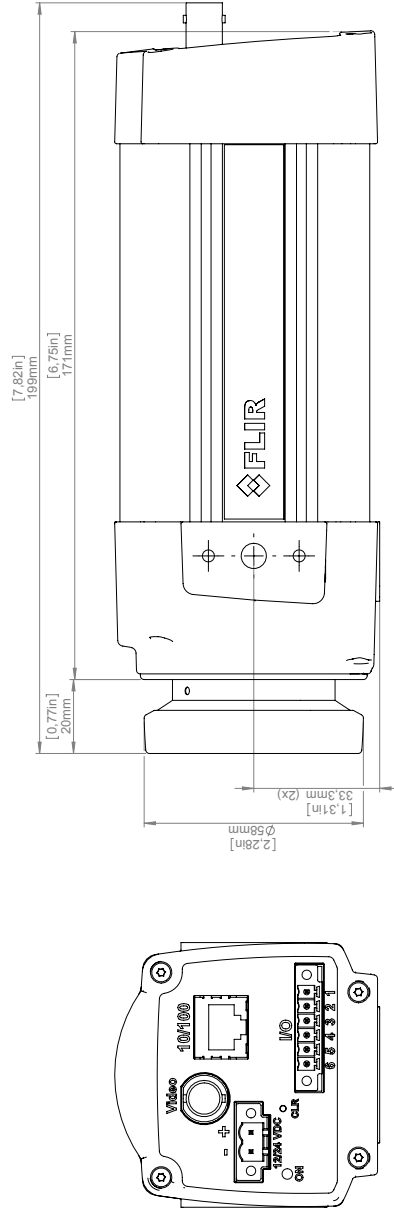
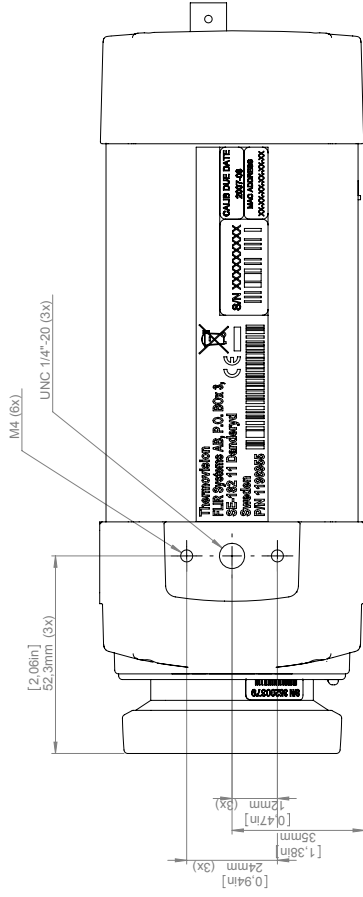
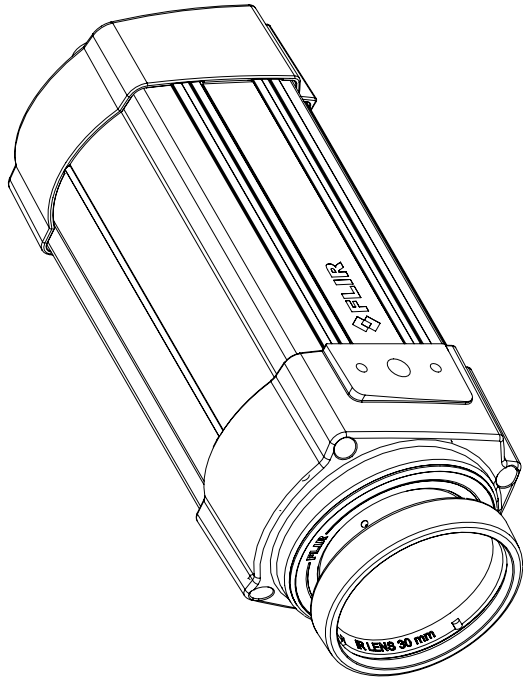


For additional dimensions see page 1

| | | | | | |
|--|---------------|------------------------------|----------------------|--------------|---------------|
| Modified 2012-04-18 | Check CAHA | Drawn by R&D Thermography | Size A3 | Scale 1:1 | Sheet 3(8) |
| Denomination Basic dimensions FLIR A3xx/SC3xx | | | Drawn No. T125002 | Scale A | |



Camera with Lens IR f=30 mm (15°)

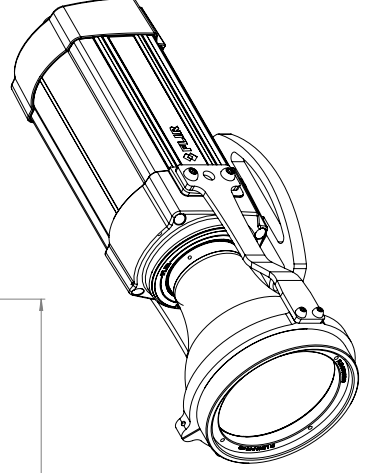
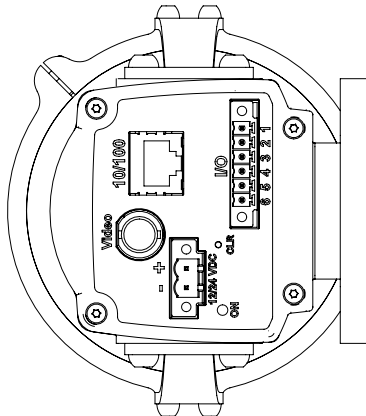
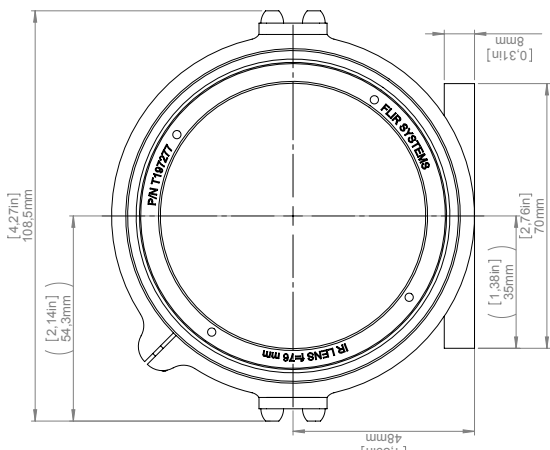
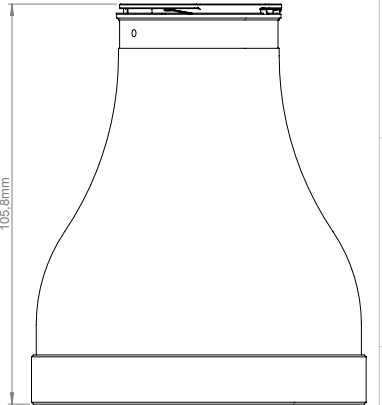
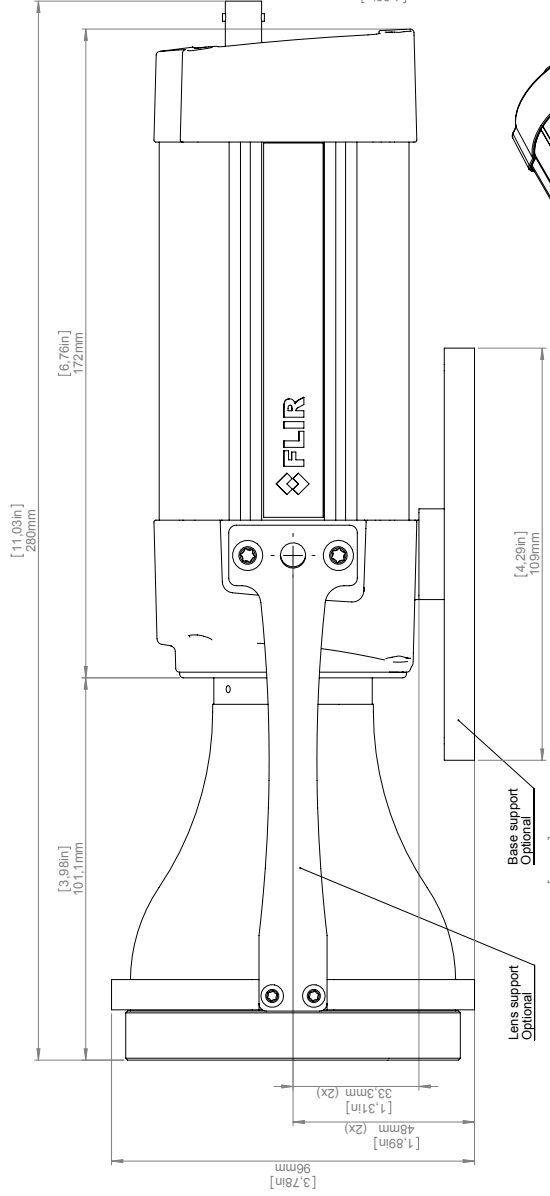
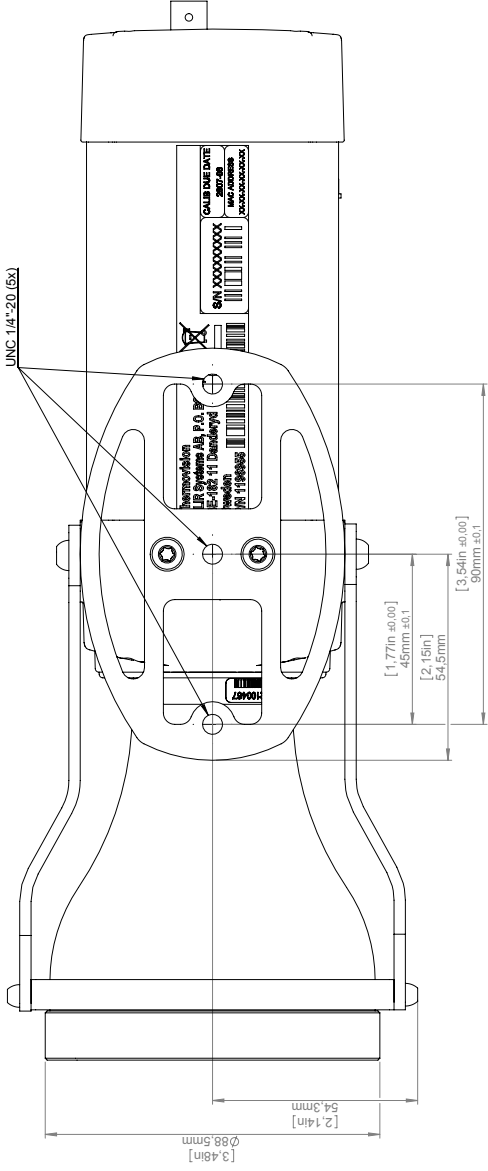


For additional dimensions see page 1

| | | | | | |
|--|---------------|------------------------------|----------------------|--------------|----------------|
| Modified 2012-04-18 | Check CAHA | Drawn by R&D Thermography | Size A3 | Scale 1:1 | Sheet #4(8) |
| Denomination Basic dimensions FLIR A3xx/SC3xx | | | Drawn No. T125002 | Scale A | |



Camera with Lens IR f=76 mm (6°) incl support



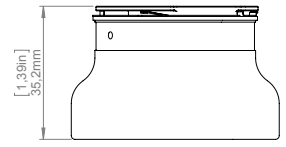
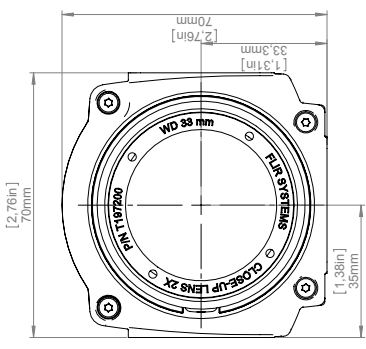
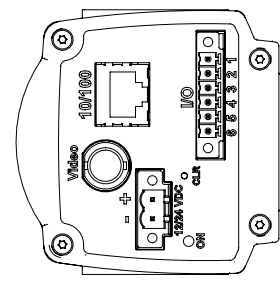
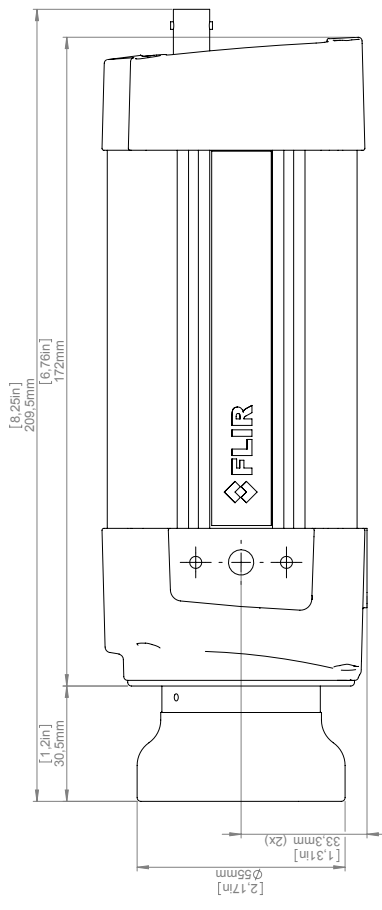
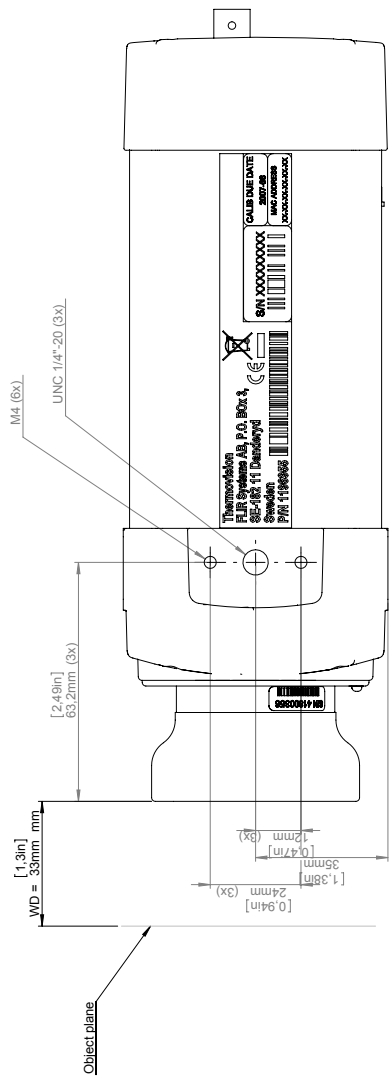
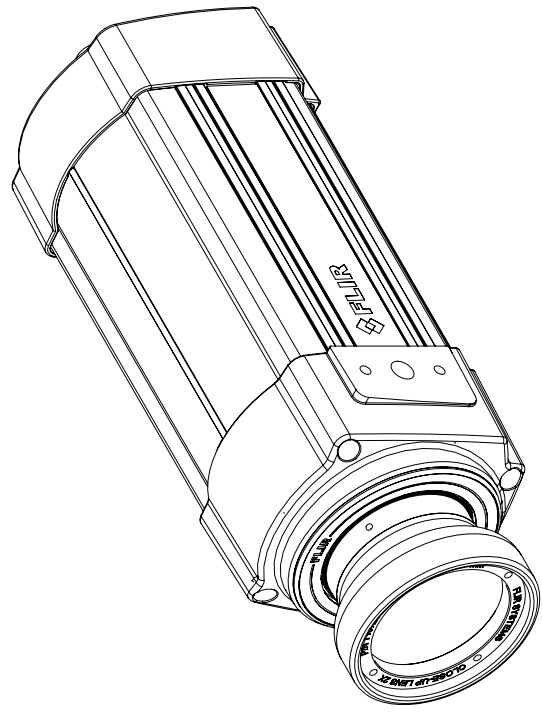
For additional dimensions see page 1

| | | | | | | | | | | | | | |
|------------|------------|-------|------|----------|------------------|------|----|-------|-----|-------|------|-------------|---------|
| Modified | 2012-04-18 | Check | CAHA | Drawn by | R&D Thermography | Size | A3 | Scale | 1:1 | Sheet | 5(8) | Size | A |
| Denotation | | | | | | | | | | | | Drawing No. | T125002 |

Basic dimensions FLIR A3xx/SC3xx

© 2012 FLIR Systems, Inc. All rights reserved worldwide. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from FLIR Systems, Inc. Specifications subject to change without further notice. Dimensional data is based on nominal values. Products may be subject to regional market considerations. License procedures may apply. Product may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions. Diversion contrary to US law is prohibited.

Camera with Close-up lens 2X (50 μm)



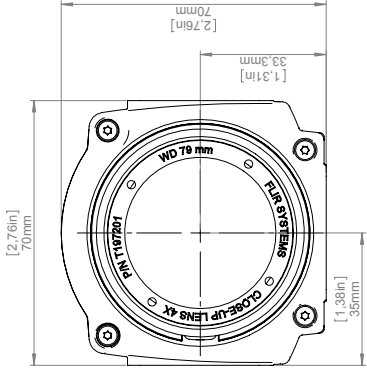
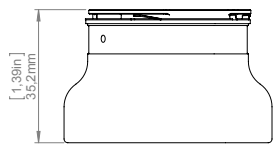
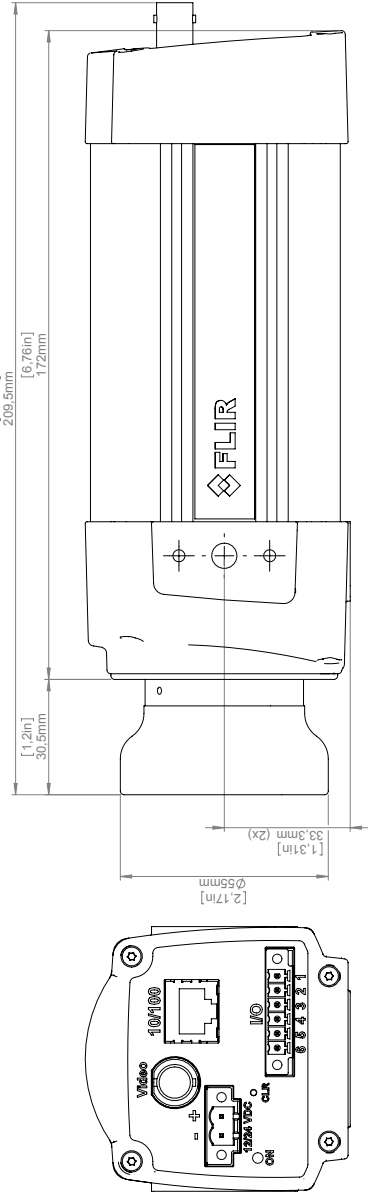
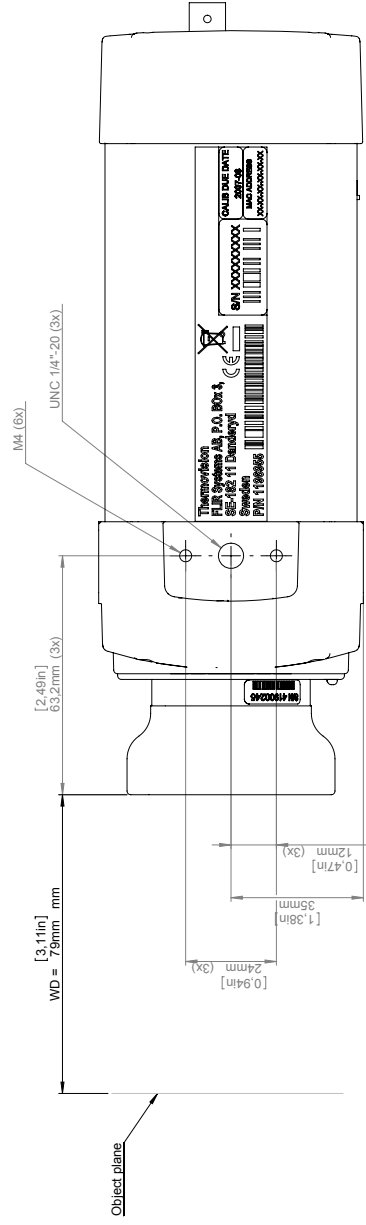
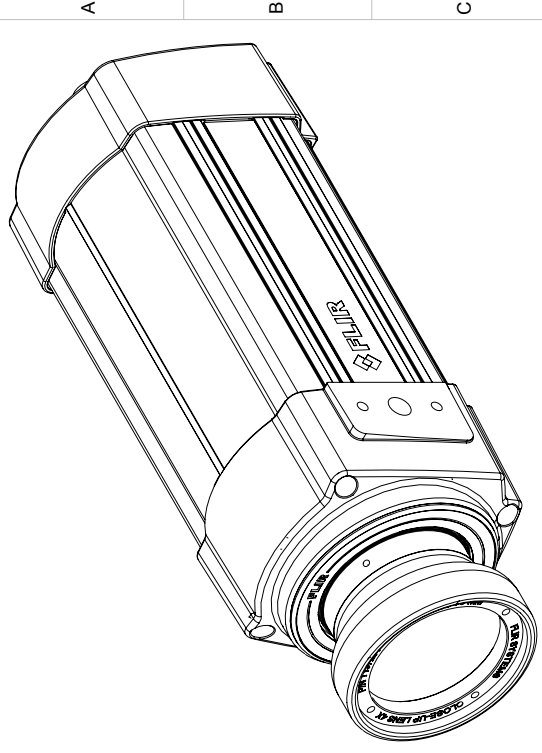
For additional dimensions see page 1

| | | | | | | | | | | | | | | | |
|------------|------------|-------|------|----------|------------------|------|----|-------|-----|-------|------|-----------|----------------------------------|------|---|
| Modified | 2012-04-18 | Check | CAHA | Drawn by | R&D Thermography | Size | A3 | Scale | 1:1 | Sheet | 7(8) | Drawn No. | T125002 | Size | A |
| Denotation | | | | | | | | | | | | | Basic dimensions FLIR A3xx/SC3xx | | |



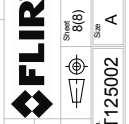
© 2012 FLIR Systems, Inc. All rights reserved worldwide. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from FLIR Systems, Inc. Specifications subject to change without further notice. Dimensional data is based on nominal values. Products may be subject to regional market considerations. License procedures may apply. Product may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions. Diversion contrary to US law is prohibited.

Camera with Close-up lens 4X (100 μm)

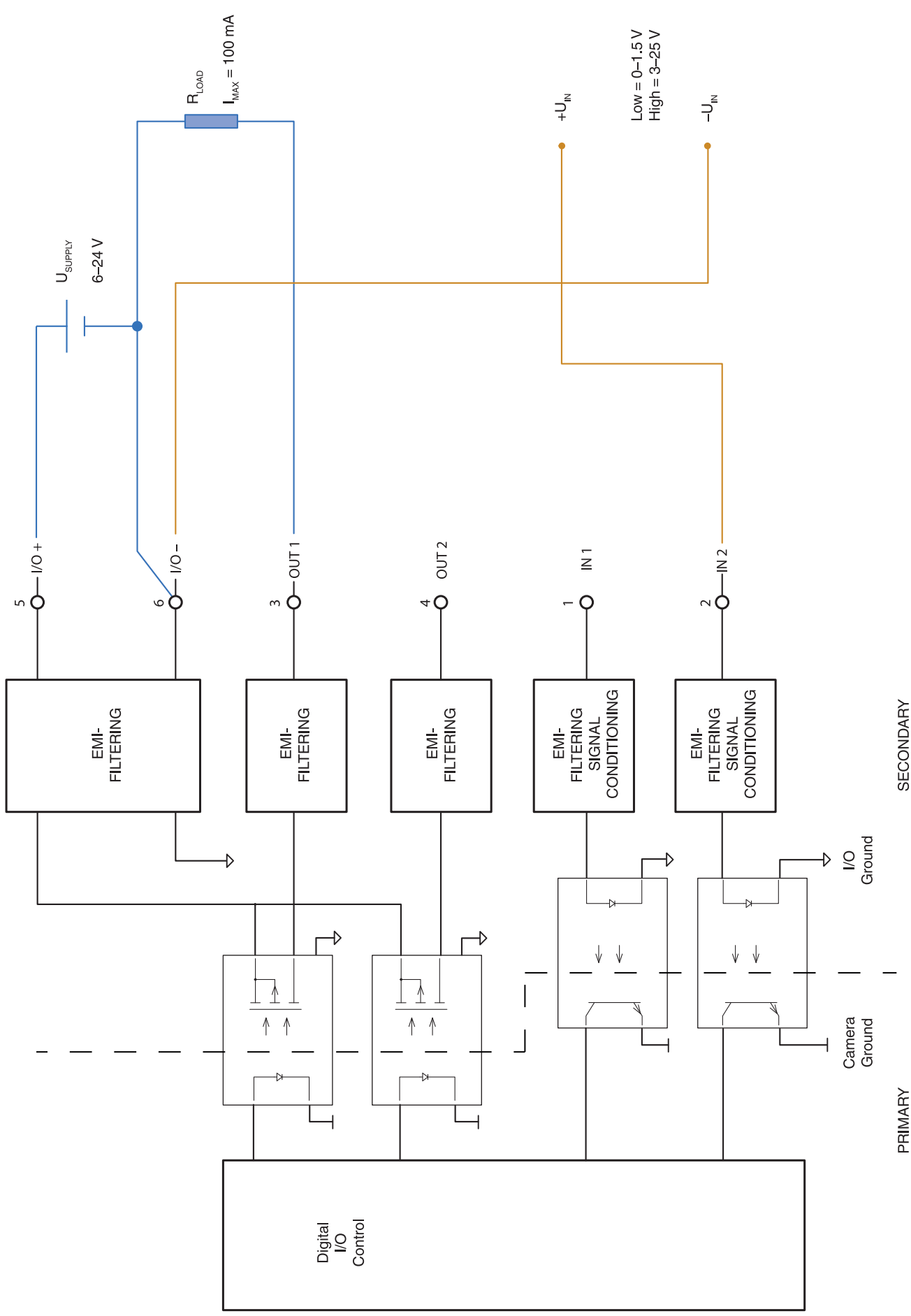


For additional dimensions see page 1

| | | | | | | | | | | | | | |
|----------------------------------|------------|-------|------|----------|------------------|------|----|-------|-----|-------|------|-----------|---------|
| Modified | 2012-04-18 | Check | CAHA | Drawn by | R&D Thermography | Size | A3 | Scale | 1:1 | Sheet | 8(8) | Size | A |
| Denomination | | | | | | | | | | | | Drawn No. | T125002 |
| Basic dimensions FLIR A3xx/SC3xx | | | | | | | | | | | | | |



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





The World's Sixth Sense™

April 24, 2017 Täby, Sweden

AQ320234

CE Declaration of Conformity – EU Declaration of Conformity

Product: FLIR A3XX -series including A3XXSC

Name and address of the manufacturer:

FLIR Systems AB
PO Box 7376
SE-187 15 Täby, Sweden

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration: FLIR A3XX -series including A3XXSC.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Directives:

| | | |
|-----------|------------|---|
| Directive | 2014/30/EU | Electromagnetic Compatibility |
| Directive | 2014/35/EU | Low Voltage Directive (Power Supply) |
| Directive | 2012/19/EU | Waste electrical and electric equipment |

Standards:

| | | |
|------------------------|-------------------|---|
| Emission: | EN 61000-6-3:2006 | Electromagnetic Compatibility Generic standards – Emission |
| Immunity: | EN 61000-6-2:2005 | Electromagnetic Compatibility Generic standards – Immunity |
| Safety (Power supply): | EN 60950-1 | Information technology equipment |

FLIR Systems AB

Quality Assurance

Lea Dabiri
Quality Manager