

P/N: 42901-1101

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Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

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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 (9 Hz) 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 9 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 requiring 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	9 Hz
Focus	Automatic or manual (built in motor)

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Detector data	
Detector type	Focal plane array (FPA), uncooled microbolometer
Spectral range	7.5–13 μm
Detector pitch	25 μm
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 × 240 pixels @ 9 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

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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	<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	7332558003381
UPC-12	845188003135
Country of origin	Sweden

Supplies & accessories:

- 1196961; IR lens, f = 30 mm, 15° incl. case
- 1196960; IR lens, f = 10 mm, 45° incl. case
- T197215; Close-up 4× (100 µm) incl. case

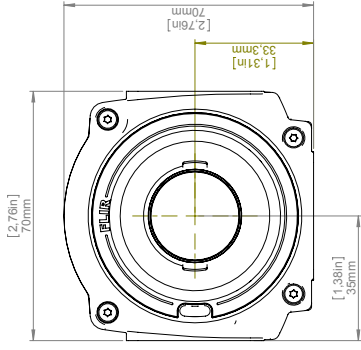
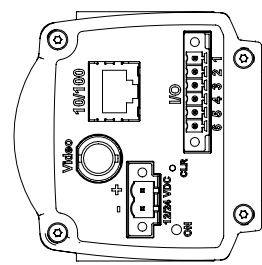
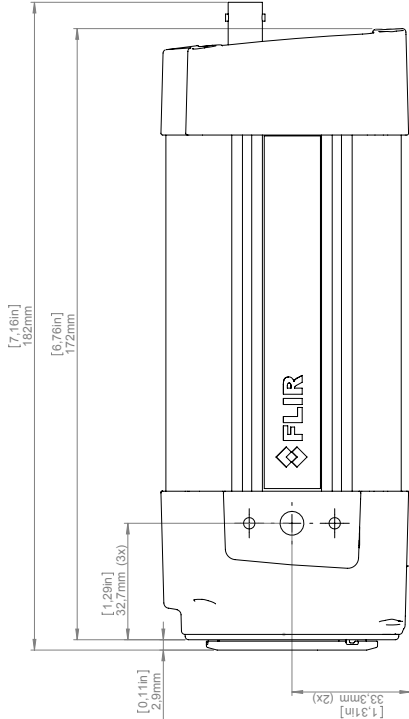
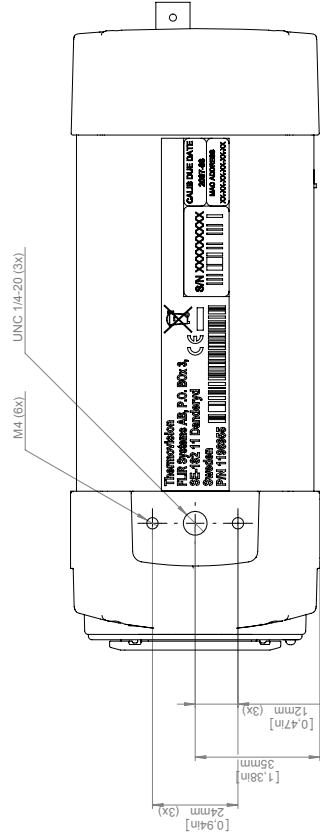
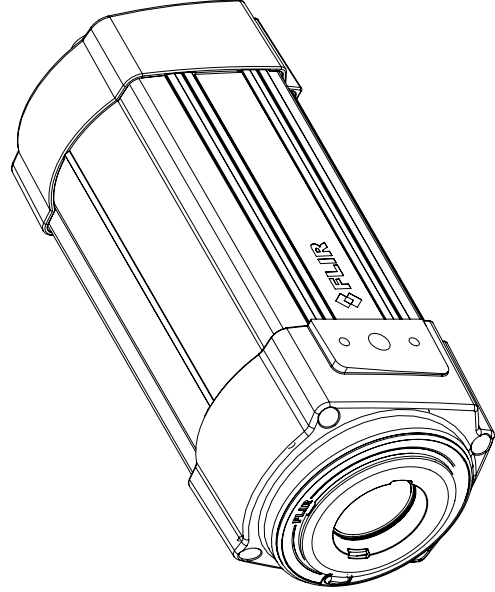
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- T197214; Close-up 2× (50 µm) incl. case
- T197407; IR lens, 76 mm (6°) with case and mounting support for A3xx, A3xxsc
- T197411; IR lens, 4 mm (90°) with case and mounting support for A3xx, A3xxsc
- T197415; Close-up 1× (25 µm) incl. case and mounting support for A3xx, A3xxsc
- T197000; High temp. option +1200°C (+2192°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
- 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
- T197871ACC; Hard transport case for A3xx/A6xx series
- T197870ACC; Cardboard box for A3xx/A6xx series
- 61301-0002; Fixed Housing for A3xx 25°/45°/90°
- 61301-0001; Fixed Housing for A3xx 7°/15°
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- DSW-10000; FLIR IR Camera Player
- APP-10002; FLIR Tools Mobile (Android Application)
- 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 with built-in IR lens f=18 mm (25°)



Modified
2012-04-18

Check
CAHA

Drawn by
R&D Thermography

Size
A3

Scale
1:1

Sheet
1(8)

Denoting No.
T125002

Size
A

Basic dimensions FLIR A3xx/SC3xx

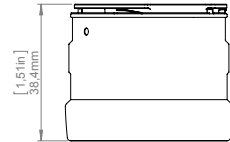
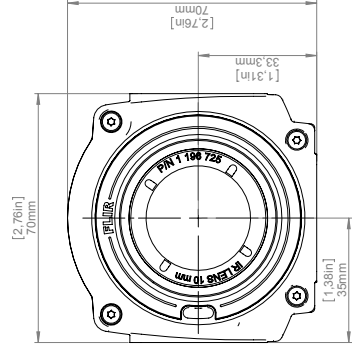
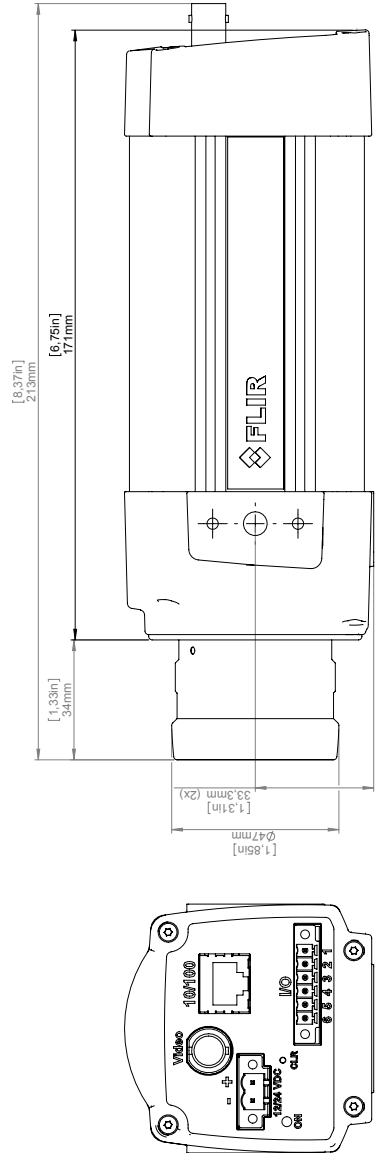
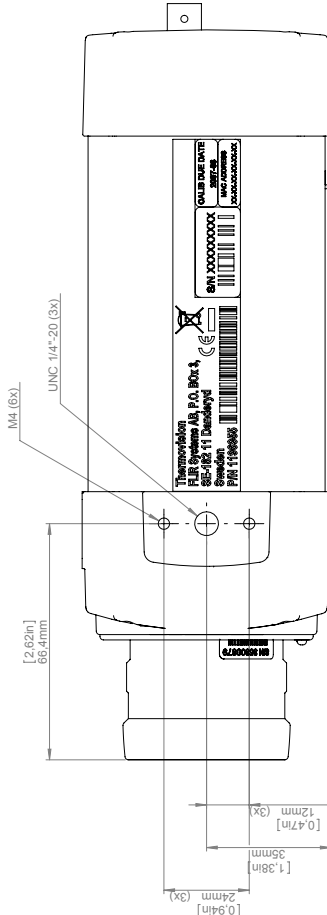
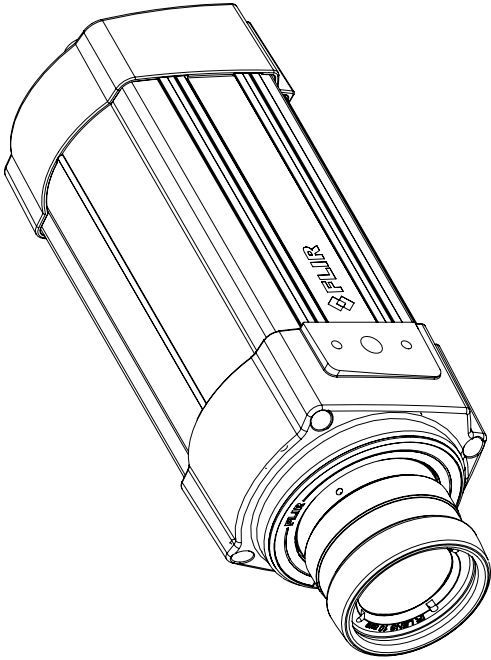
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1	2	3	4	5	6	7	8	9	10
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Camera with Lens IR f=10 mm (45°)



For additional dimensions see page 1

Model	Check	Drawn by	FLIR
2012-04-18	CAHA	R&D Thermography	
Denomination			
Size	A3	Scale	1:1
Sheet	3(e)	Drawing No.	T125002
Size	A		

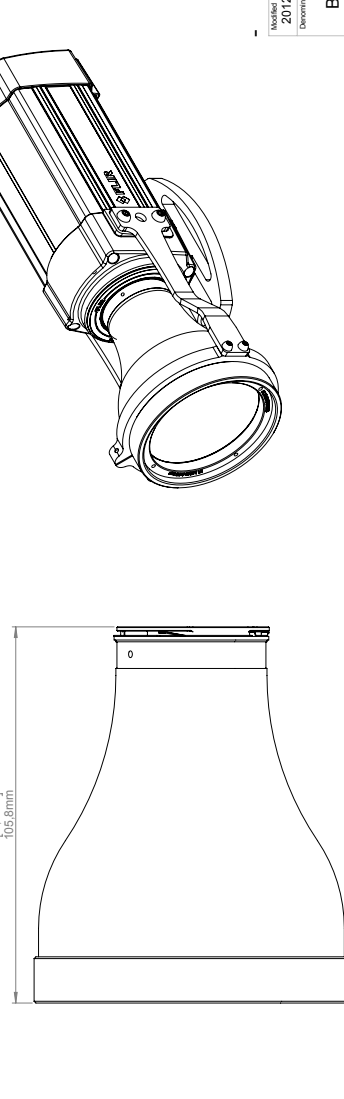
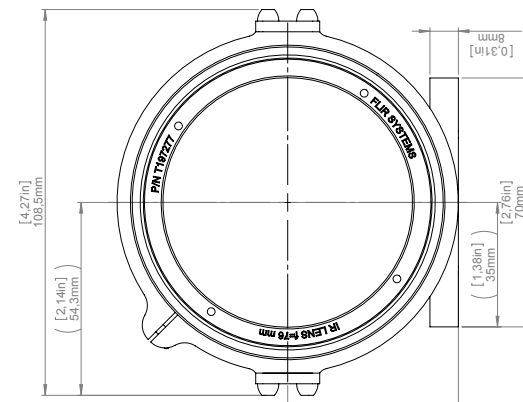
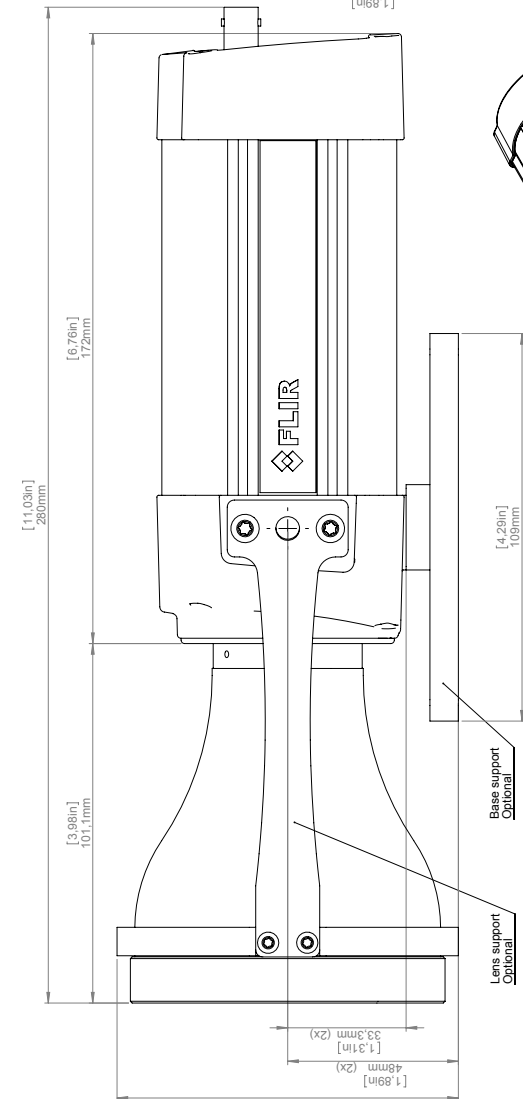
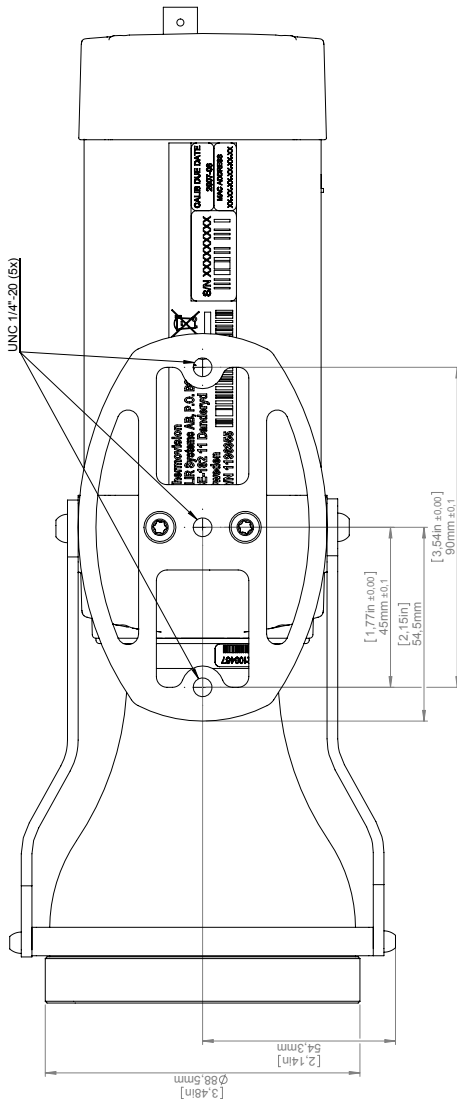
Basic dimensions FLIR A3xx/SC3xx

[illegible]

Modified 2012-04-18	Check CAHA	Drawn by R&D Thermography	 FLIR
Denomination			
Basic dimensions FLIR A3xx/SC3xx			Size A3
			Scale 1:1
			 Sheet 4(6)
			Drawing No. T125002
			Size A

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



For additional dimensions see page 1

Model	2012-04-18	Check	CAHA	Drawn by	R&D Thermography	Size	A3	Sheet	5(6)
Denomination	Basic dimensions FLIR A3xx/SC3xx					Scale	1:1	Drawing No.	T125002



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Camera with Close-up lens 2X (50 μm)

Front View Dimensions:

- WD = 33mm [1.31in]
- Object plane
- 24mm (3x) [0.94in]
- 12mm (3x) [0.47in]
- 35mm [1.38in]
- 2.48in [63.2mm (3x)]
- UNC 1/4"-20 (3x)
- M4 (6x)

Side View Dimensions:

- 1.2in [30.5mm]
- 8.25in [209.5mm]
- 6.76in [172mm]

Top View Dimensions:

- 33.3mm (2x) [1.31in]
- 2.17in [55mm]
- 70mm [2.76in]
- 33.3mm [1.31in]
- 2.76in [70mm]
- 35mm [1.38in]

Bottom View Dimensions:

- 35.2mm [1.39in]

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- 35.2mm [1.39in]

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Camera with Close-up lens 2X (50 μm)

Front View Dimensions:

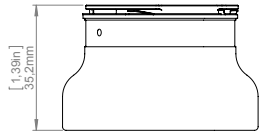
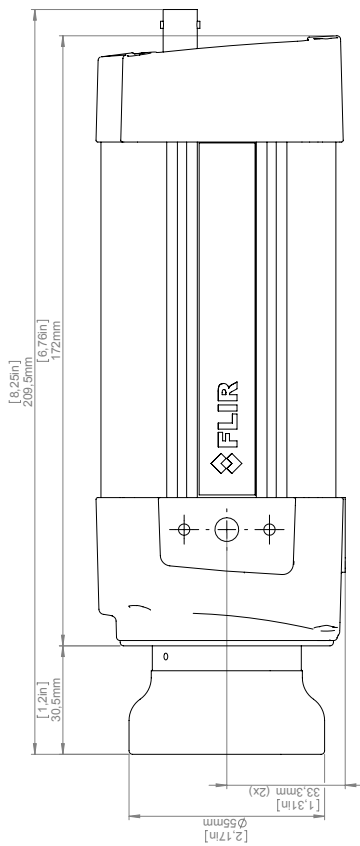
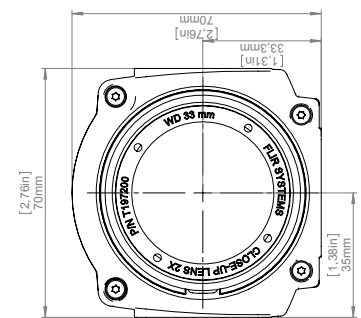
- WD = 33mm [1.31in]
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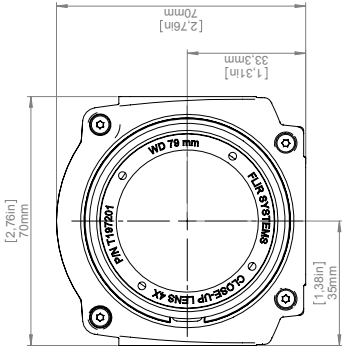
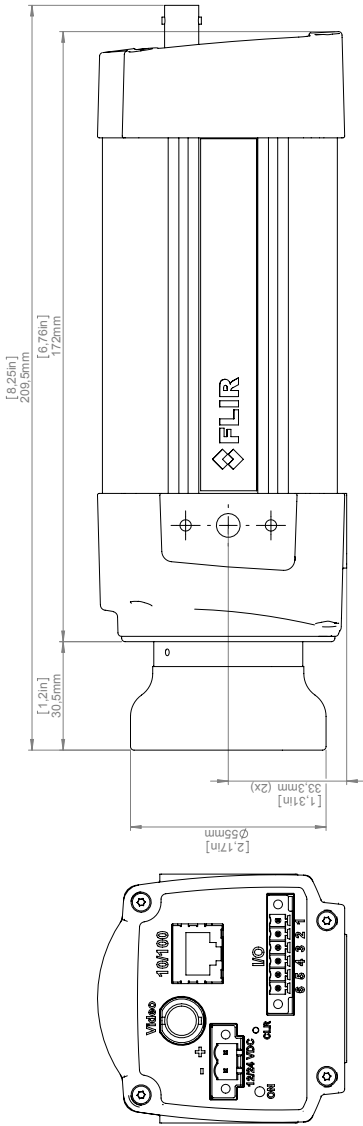
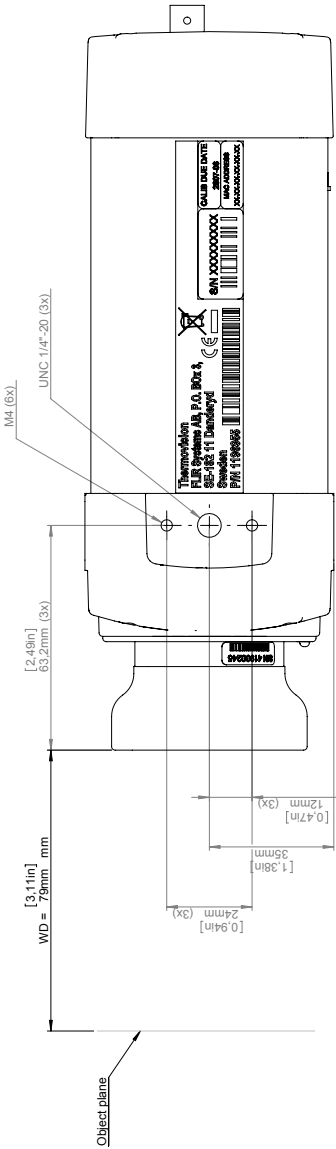
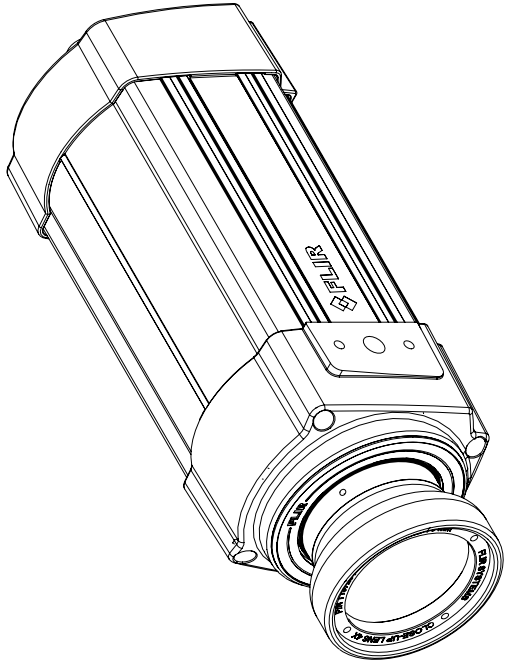
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- 33.3mm (2x) [1.31in]
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Modified 2012-04-18	Check CAHA	Drawn by R&D Thermography	Size A3	Scale 1:1	Sheet (76)	Sheet Size A
Basic dimensions FLIR A3xx/SC3xx						
-			Drawing No. T125002			

Camera with Close-up lens 4X (100 µm)

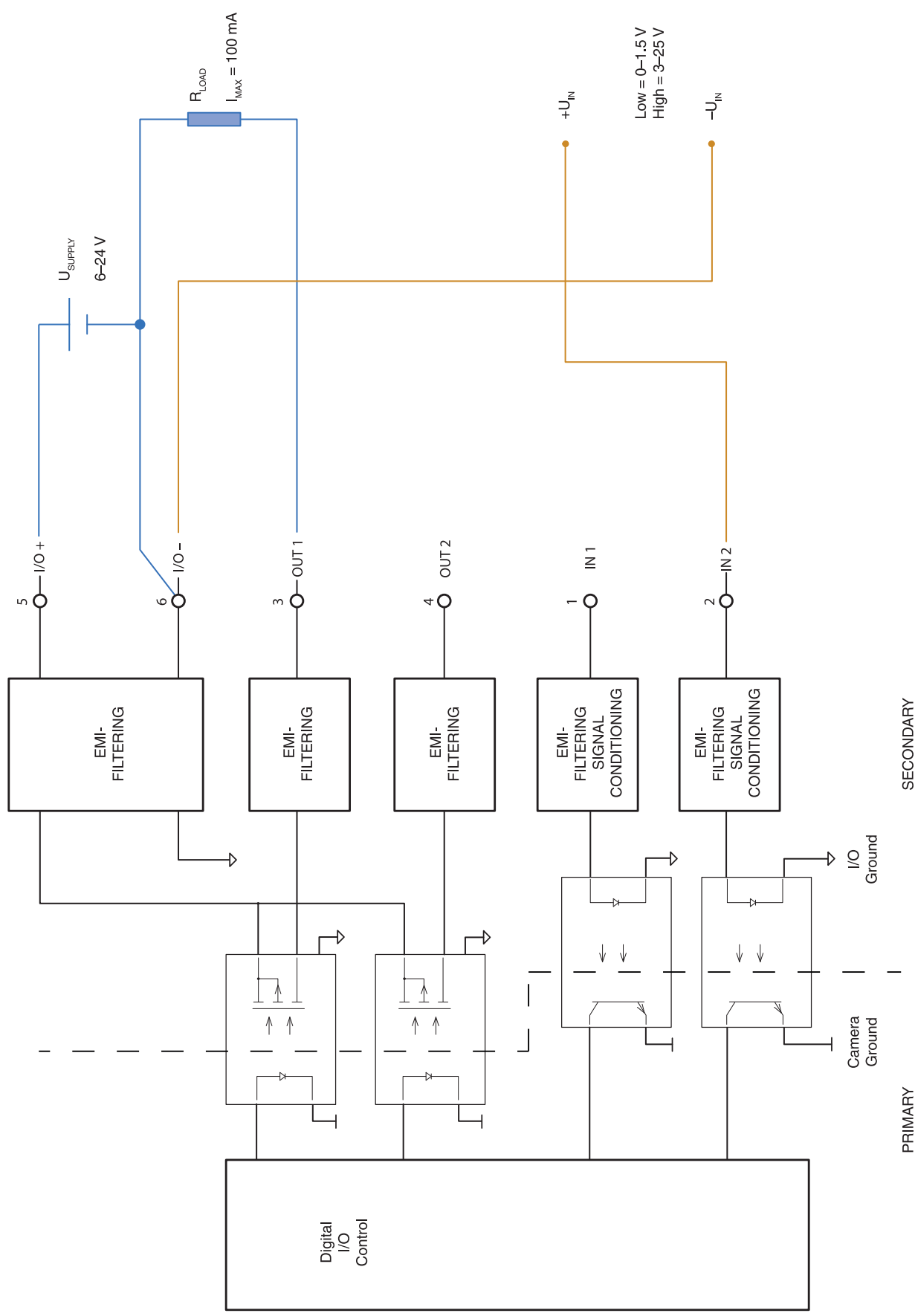


For additional dimensions see page 1

Model	Check	Drawn by	FLIR
2012-04-18	CAHA	R&D Thermography	
Denomination			
Size	A3		
Scale	1:1		
Sheet	8(e)		
Drawing No.	T125002		
Size	A		

Basic dimensions FLIR A3xx/SC3xx

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



October 28, 2011

AQ115813

Certificate of Conformity

This is to certify that the System listed below has 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:

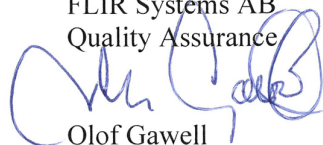
Directive 2004/108/EC;	Electromagnetic Compatibility
Directive 2006/95/EC;	"Low voltage Directive" (Power Supply)
Directive 2002/96/EC	Waste electrical and electronic equipment; WEEE (As applicable)

Standards:

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

System: FLIR A3xx Series

FLIR Systems AB
Quality Assurance



Olof Gawell
Director

The Forward Looking Infrared Company