



# ThermaCAM™ P640 24° Package

**P/N: 30901-0102**

**Copyright**

© 2017, 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.: 30901-0102

Release:

Commit: 29700

Language: en-US

Modified: 2015-10-16

Formatted: 2017-02-24

**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](mailto:exportquestions@flir.com) with any questions.

General description	
ThermaCAM P640 is the highest performing infrared inspection system available. With its state of the art technology, including 640x480 detector resolution and unique ergonomic design it is the natural choice for professional thermographers that want the most efficient instrument producing professional results. The camera is equipped with the standard 24° lens.	
<ul style="list-style-type: none"><li>• Image resolution 640x480</li><li>• Sensitivity 60 mK</li><li>• Large high resolution 5.6" flip-out LCD</li><li>• Tilttable high resolution viewfinder</li><li>• High performance lenses with USM technology</li><li>• 1-8 times continuous zoom with pan</li><li>• Rotatable handle for convenient operation</li><li>• Built-in digital camera with target illuminator</li><li>• Standard temperature range -40°C to 500°C</li><li>• Real time radiometric storage to built-in RAM</li><li>• Periodic storage</li><li>• Voice and text annotation</li><li>• MPEG-4 streaming to PC using USB or FireWire</li><li>• Programmable buttons</li><li>• User profiles</li></ul>	
Imaging and optical data	
IR resolution	640 × 480 pixels
Thermal sensitivity/NETD	60 mK @ +30°C (+86°F)
Field of view (FOV)	24° × 18°
Minimum focus distance	0.3 m (1.0 ft.)
Focal length	38 mm (1.5 in.)
Spatial resolution (IFOV)	0.65 mrad
Lens identification	Automatic
F-number	1.1
Image frequency	30 Hz
Focus	Automatic or manual (electric or on the lens)
Digital zoom	1–8× continuous
Panning	Panning on frozen image
Digital image enhancement	Adaptive digital noise reduction
Detector data	
Detector type	Focal Plane Array (FPA), uncooled microbolometer
Spectral range	7.5–13 μm
Image presentation	
Display	Built-in widescreen, 5.6 in. LCD, 1024 × 600 pixels
Viewfinder	Built-in, tilttable LCD, 800 × 600 pixels
Automatic image adjustment	Continuous/manual; linear or histogram based
Automatic image adjustment, type	Standard or histogram based from image content
Manual image adjustment	Level/span/max/min
Image presentation modes	
Infrared image	Full IR-image with selected color scale
Visual image	Full color visual image
Reference image	Shown together with live IR image



# ThermaCAM™ P640 24° Package

P/N: 30901-0102

© 2017, FLIR Systems, Inc.

#30901-0102; r. /29700; en-US

<b>Measurement</b>	
Object temperature range	-40°C to +120°C (-40°F to +248°F) 0°C to +500°C (+32°F to +932°F)
Accuracy	±2°C (±3.6°F) or ±2% of reading
<b>Measurement analysis</b>	
Spotmeter	10
Area	5 boxes or circles with max./min./average
Profile	1 live line (horizontal or vertical)
Automatic hot/cold detection	Max/Min temp. value and position shown within box, circle or on a line
Isotherm	2 with above/below/interval
Difference temperature	Delta temperature between measurement functions or reference temperature
Reference temperature	Manually set or captured from any measurement function
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 or selected from editable materials list
Emissivity table	Emissivity table of predefined and editable materials
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
External optics/windows correction	Automatic, based on inputs of optics/window transmission and temperature
<b>Alarm</b>	
Measurement function alarm	Audible/visual alarms (above/below) on any selected measurement function
<b>Set-up</b>	
Set-up commands	Configurable measurement tools menu; configure information to be shown in image; 2 Programmable buttons; user profiles; local adaptation of units, language, date and time formats
<b>Storage of images</b>	
Storage media	Removable memory card Built-in RAM memory for burst recording
Image storage mode	IR/visual images, simultaneous storage of IR and visual images. Visual image is automatically associated with corresponding IR image.
Periodic image storage	Every 10 seconds up to 24 hours
File formats	Standard JPEG, 14 bit measurement data included
File formats, visual	Standard JPEG, automatically associated with corresponding thermal image



# ThermaCAM™ P640 24° Package

P/N: 30901-0102

© 2017, FLIR Systems, Inc.

#30901-0102; r. /29700; en-US

<b>Image annotations</b>	
Voice	60 seconds stored with the image
Text	Predefined text or free text from PDA (via IrDA) stored with the image
Image description	Free text from PDA using IrDA
Image marker	4 on IR or visual image
<b>Video recording in camera</b>	
Radiometric IR-video recording	Real-time to built-in RAM, transferable to memory card.
Non-radiometric IR-video recording	MPEG-4 to memory card
<b>Video streaming</b>	
Non-radiometric IR-video streaming	MPEG-4 to PC using USB or FireWire
<b>Digital camera</b>	
Built-in digital camera	1.3 Mpixel, full color / exchangeable lens
Video lamp	Built-in video lamp
<b>Laser pointer</b>	
Laser	Activated by dedicated button
Laser classification	Class 2
Laser type	Semiconductor AlGaInP diode laser, 1 mW, 635 nm (red)
<b>Data communication interfaces</b>	
FireWire	Radiometric IR video streaming output Non radiometric IR video streaming output File transfer to and from PC
FireWire, standard	IEEE 1394, 100/200/400 Mbps
FireWire, connector type	6/6 IEEE 1394 connector
IrDA	Infrared communications for text comments from PDA
SD Card	Two card slots
Audio	Headset connection for voice annotation of images
Audio, connector type	4-pole 3.5 mm jack
<b>USB</b>	
USB	<ul style="list-style-type: none"> <li>• USB-A: Connect external USB device (e.g. memory stick)</li> <li>• USB Mini-B: Data transfer to and from PC / streaming MPEG-4</li> </ul>
USB, standard	USB 1.1 Full speed (12 Mbps)
USB, connector type	<ul style="list-style-type: none"> <li>• USB-A connector</li> <li>• USB Mini-B connector</li> </ul>
<b>Composite video</b>	
Video out	Composite video output
Video, standard	CVBS (ITU-R-BT.470 PAL/SMPTE 170M NTSC)
Video, connector type	Standard RCA connector



# ThermaCAM™ P640 24° Package

P/N: 30901-0102

© 2017, FLIR Systems, Inc.

#30901-0102; r. /29700; en-US

<b>Power system</b>	
Battery type	Rechargeable Li Ion battery
Battery voltage	7.2 V
Battery capacity	4.4 Ah
Battery operating time	> 3 hours at 25°C (+68°F) and typical use
Charging system	In camera (AC adapter or 12 V from a vehicle) or 2-bay charger
Charging time	2.5 h to 95% capacity, charging status indicated by LED's
External power operation	AC adapter 90–260 VAC, 50/60 Hz or 12 V from a vehicle (cable with standard plug, optional)
Power management	Automatic shutdown and sleep mode (user selectable)

<b>Environmental data</b>	
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 68-2-30/24 h 95% relative humidity +25°C to +40°C (+77°F to +104°F)
EMC	<ul style="list-style-type: none"><li>• EN 61000-6-2:2001 (Immunity)</li><li>• EN 61000-6-3:2001 (Emission)</li><li>• FCC 47 CFR Part 15 Class B (Emission)</li></ul>
Encapsulation	IP 54 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)

<b>Physical data</b>	
Camera weight, excl. lens and battery	1.13 kg (2.49 lb.)
Camera weight, incl. lens and battery	1.8 kg (4.0 lb.)
Battery weight	0.24 kg (0.52 lb.)
Camera size, excl. lens (L × W × H)	282 × 144 × 147 mm (11.1 × 5.7 × 5.8 in.)
Cameras size, incl. lens (L × W × H)	324 × 144 × 147 mm (12.8 × 5.7 × 5.8 in.)
Battery size (L × W × H)	141 × 47 × 28 mm (5.5 × 1.8 × 1.1 in.)
Battery charger size (L × W × H)	158 × 122 × 25 mm (6.2 × 4.8 × 1.0 in.)
Tripod mounting	UNC ¼"-20
Housing material	Magnesium
Grip material	TPE Thermoplastic Elastomer Plastics

<b>Shipping information</b>	
List of contents	<ul style="list-style-type: none"><li>• IR camera, carrying case, protective cap for camera, shoulder strap, 2 batteries, charger, power supply, power supply cord, manual, Quick reference card, headset, video cable, Firewire cable (4/6), Firewire cable (6/6), USB cable, SD-card adapter connects via USB to PC, FLIR QuickReport</li></ul>

### Supplies & accessories:

- 1196683; Close-up IR lens 0.5X, f = 75 mm (fits 24° IR lens) for ThermaCAM and FLIR 600 series
- 1196745; High temperature option +2000°C/+3632°F



## ThermaCAM™ P640 24° Package

---

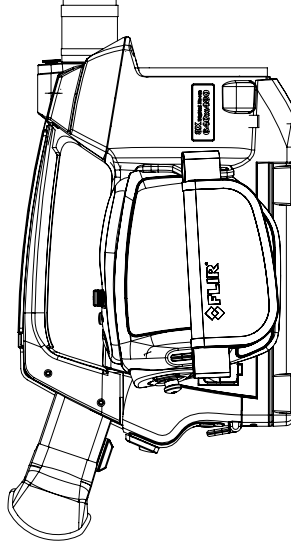
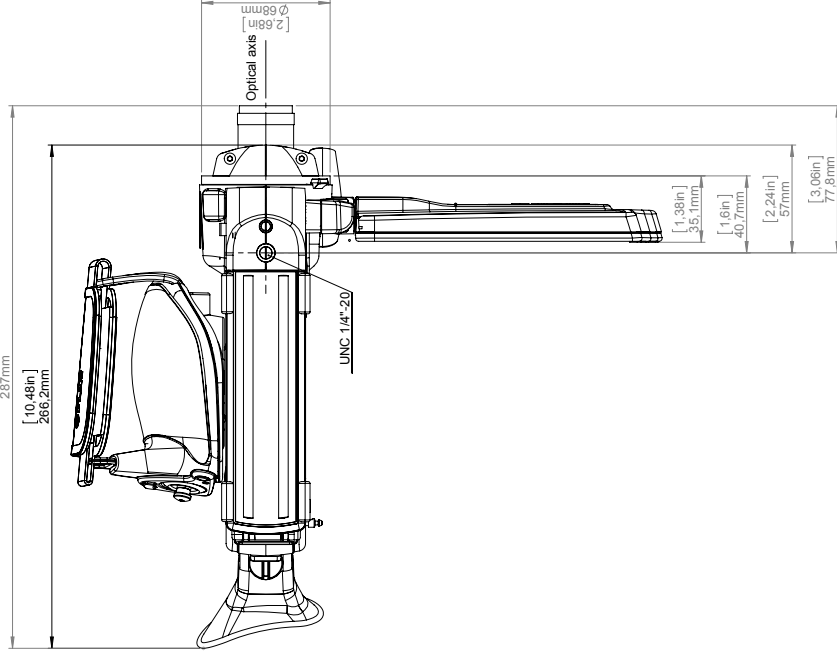
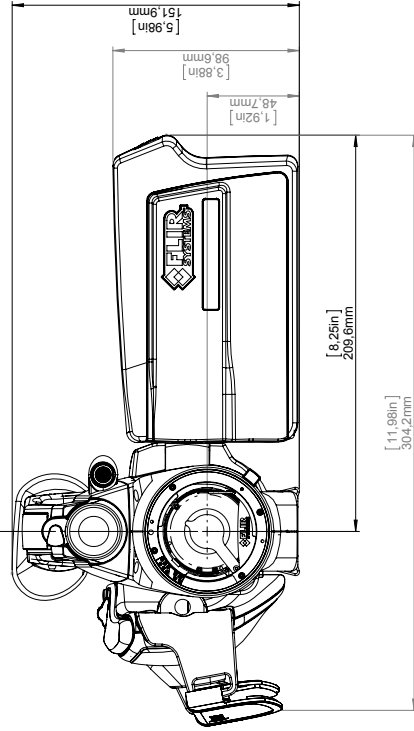
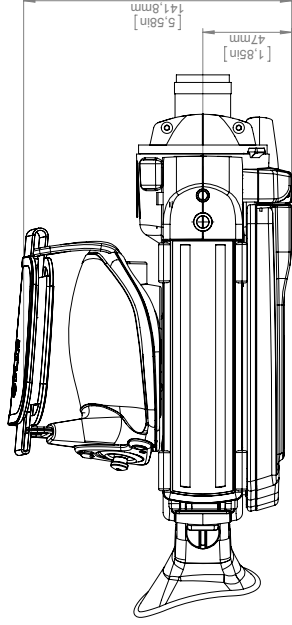
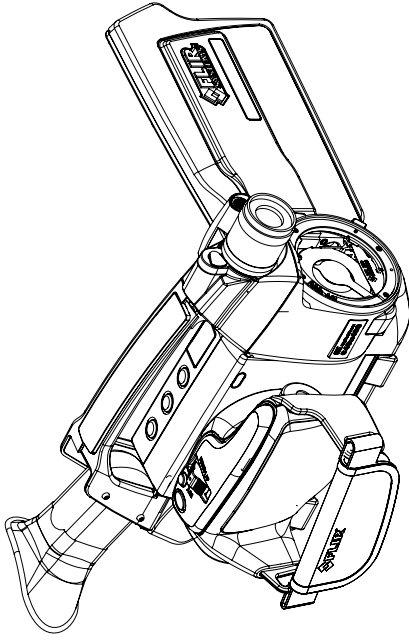
**P/N: 30901-0102**

© 2017, FLIR Systems, Inc.

#30901-0102; r. /29700; en-US

- 1196744; High temperature option +1500°C/+2732°F
- T198509; Cigarette lighter adapter kit, 12 VDC, 1.2 m/3.9 ft.
- 1910484ACC; Video cable, RCA <-> RCA, 2.0 m/6.6 ft.
- 1910483ACC; FireWire cable 4/6, 2.0 m/6.6 ft.
- 1910482ACC; FireWire cable 6/6, 2.0 m/6.6 ft.
- T197921; Option for P/B6xx: Radiometric IR-video streaming using FireWire
- T198508; Headset, 3.5 mm plug

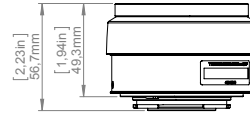
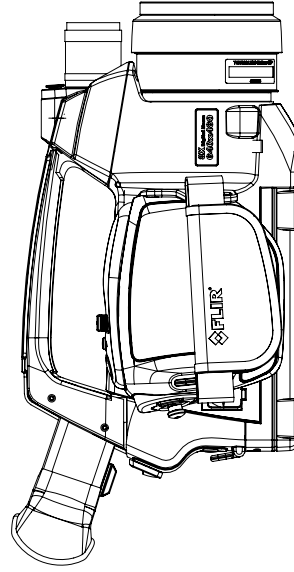
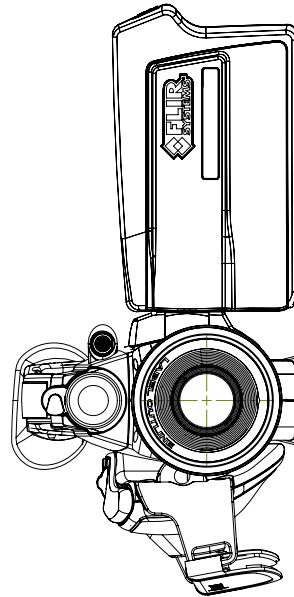
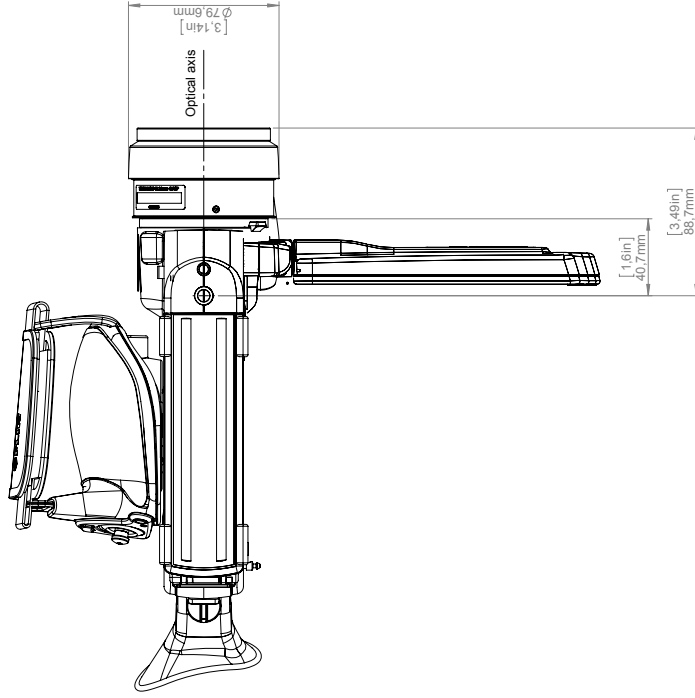
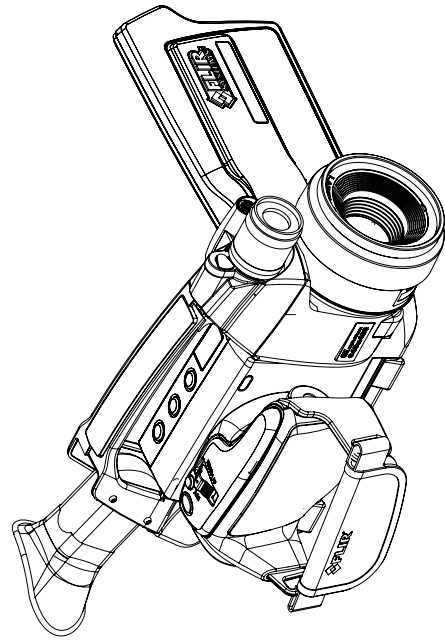
# Camera housing



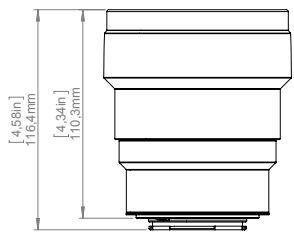
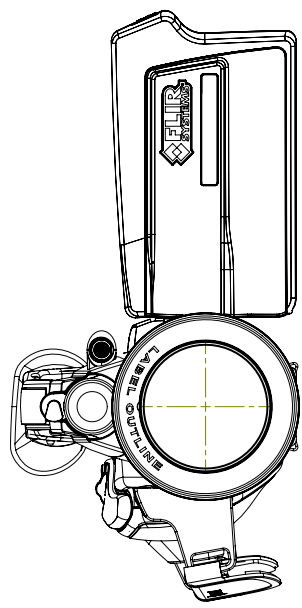
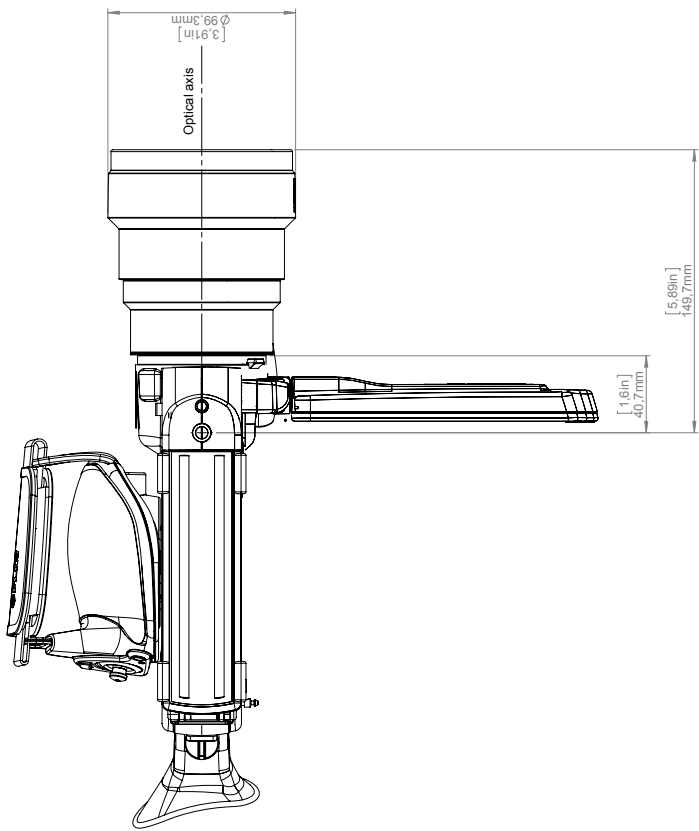
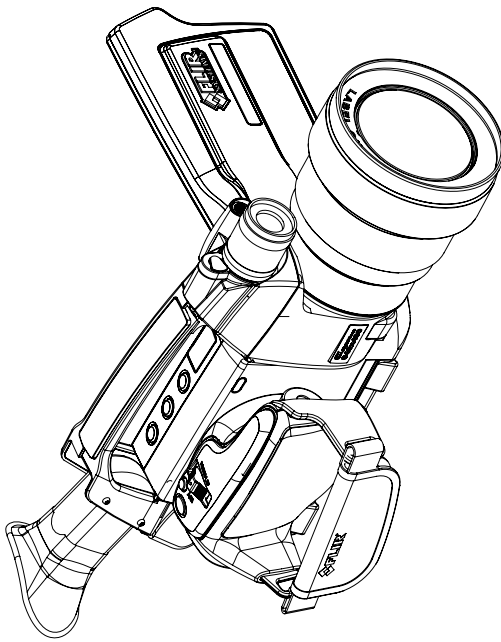
Modified 2012-04-19	Check CAHA	Drawn by R&D Thermography	Size A3	Scale 1:2	Sheet 1(7)
Denomination			Drawing No. 1125460	Size B	

Basic dimensions FLIR P6xx

Camera with Lens IR f=38 mm (24°)  
 Camera with Lens IR f=19 mm (45°)



**Camera with Lens IR f=76 mm (12°)**



© 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.

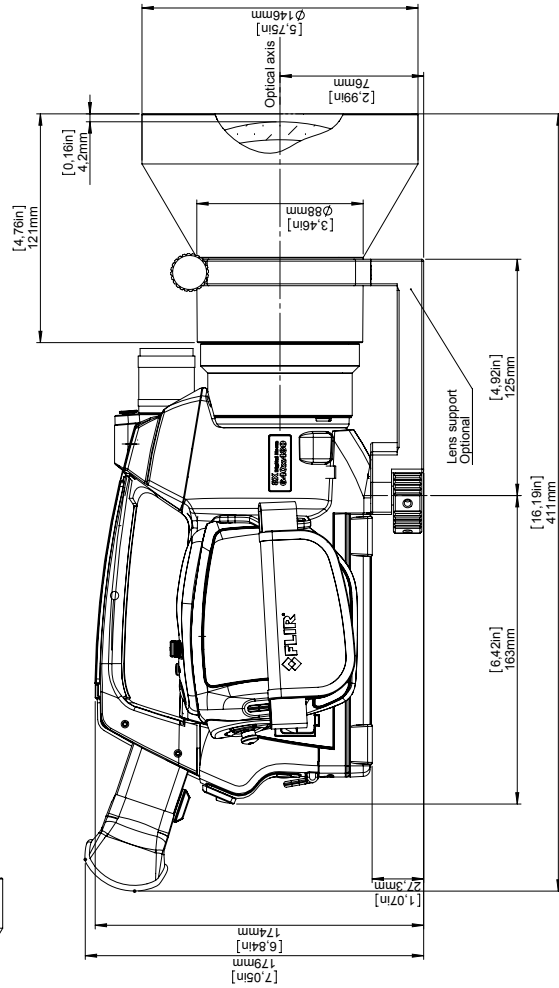
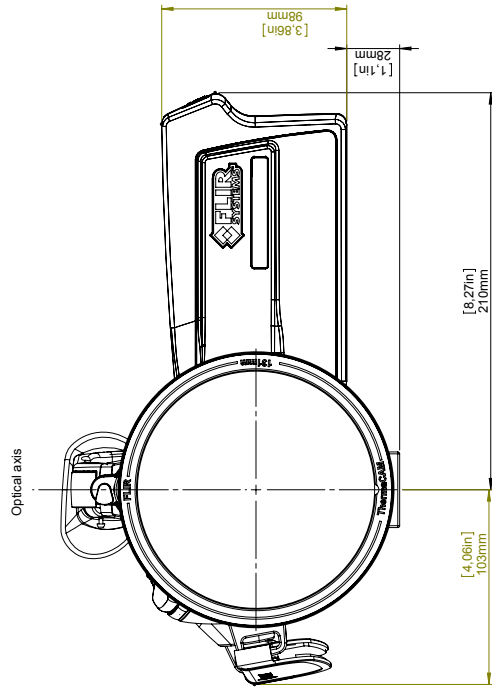
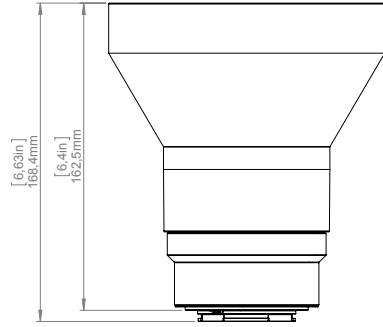
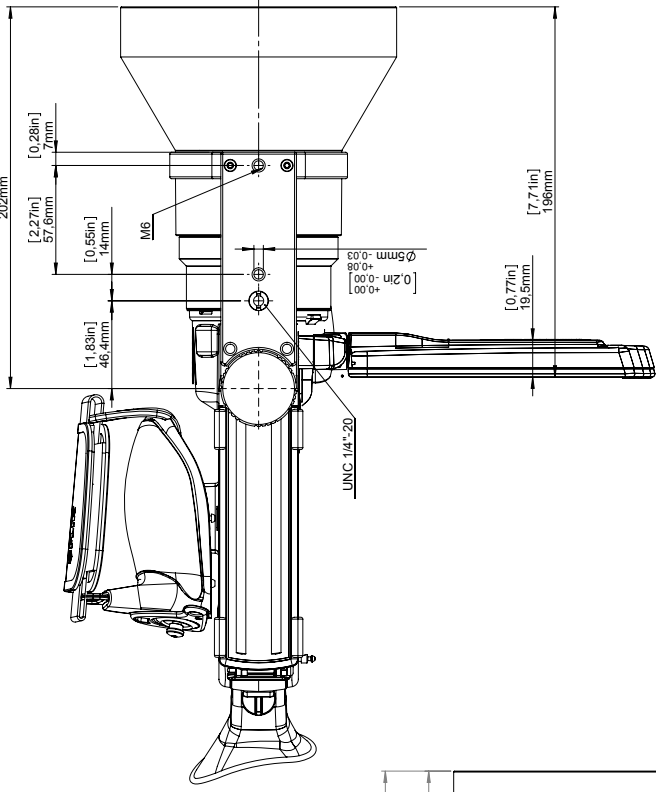
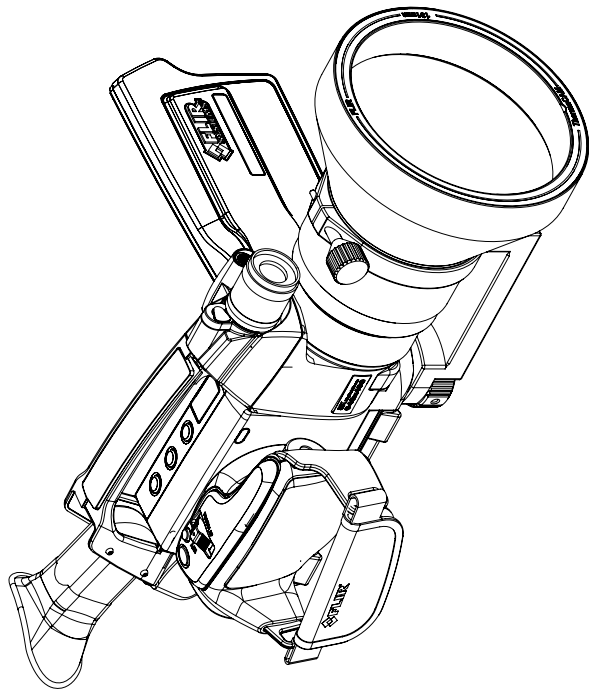
For additional dimensions see page 1

Modified	2012-04-19	Check	CAHA	Drawn by	R&D Thermography	Size	A3
Denomination						Scale	1:2
						Sheet	3(7)
						Drawing No.	I125460
						Size	B

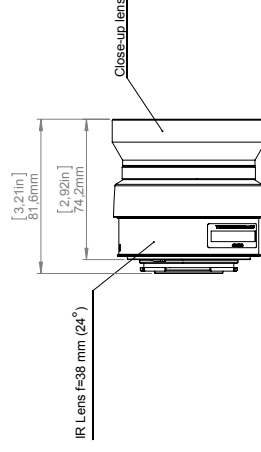
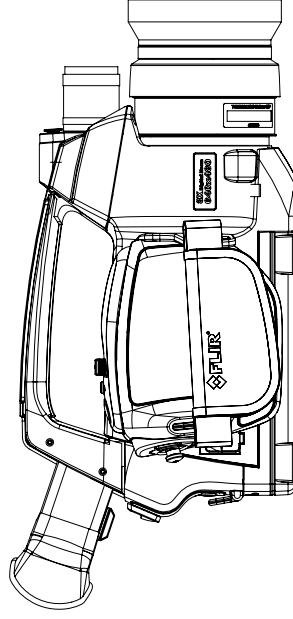
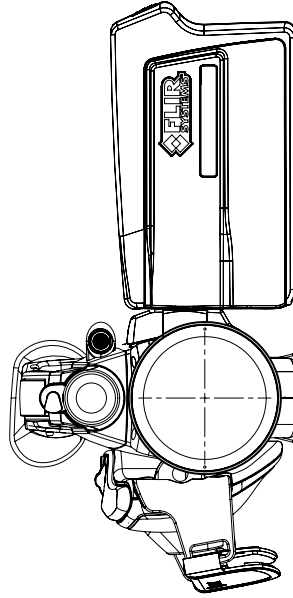
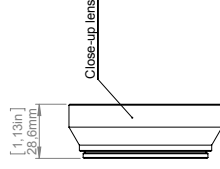
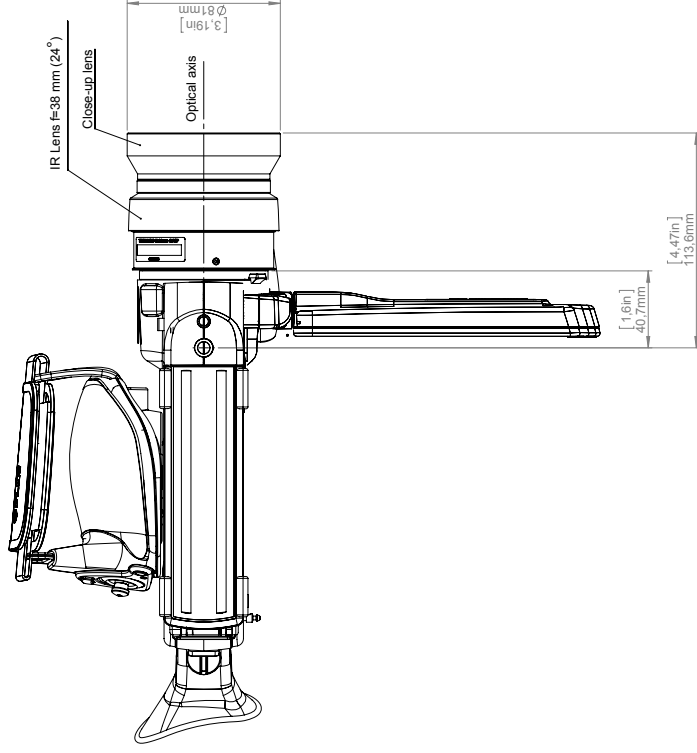
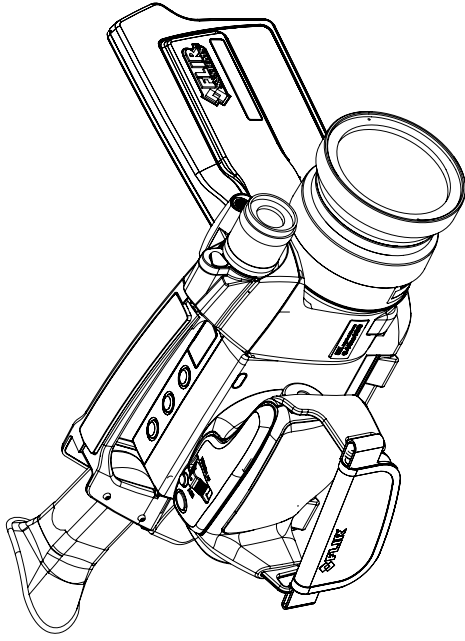


**Basic dimensions FLIR P6xx**

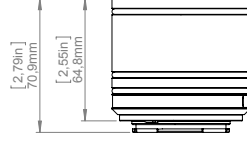
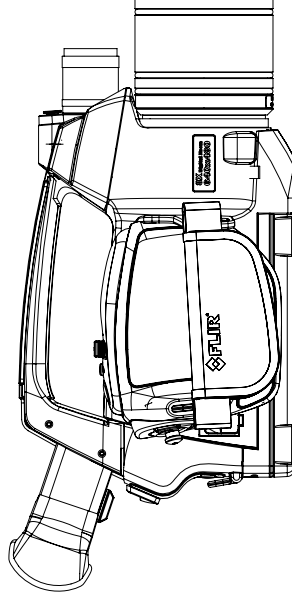
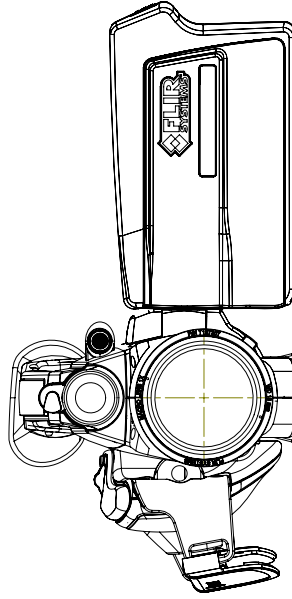
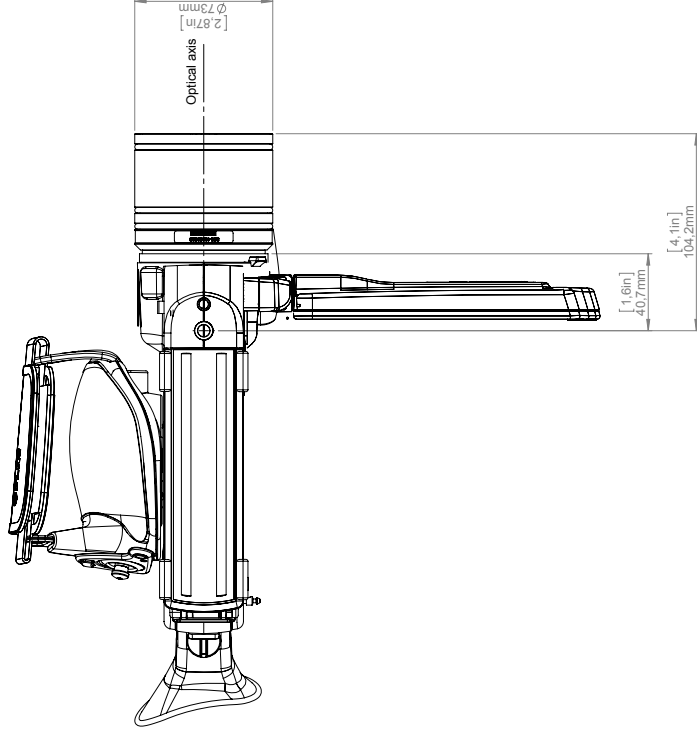
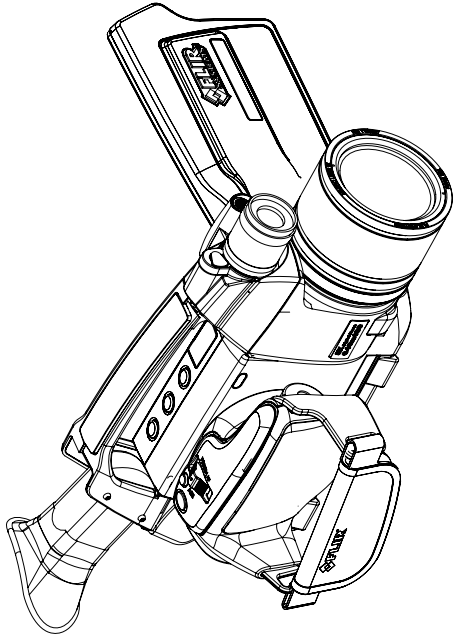
# Camera with Lens IR f=131 mm (7°) incl support



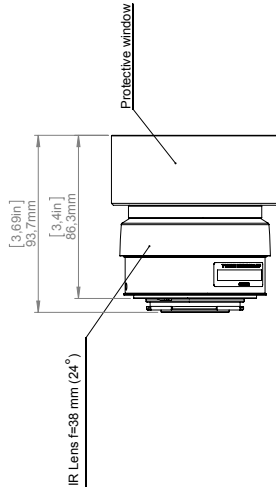
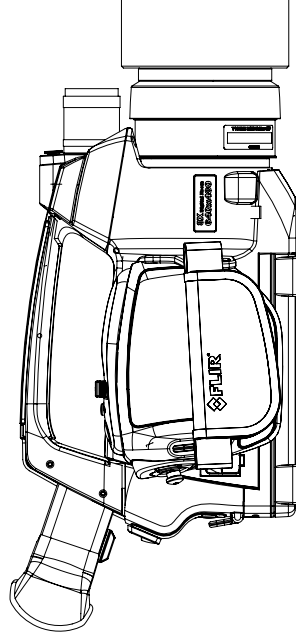
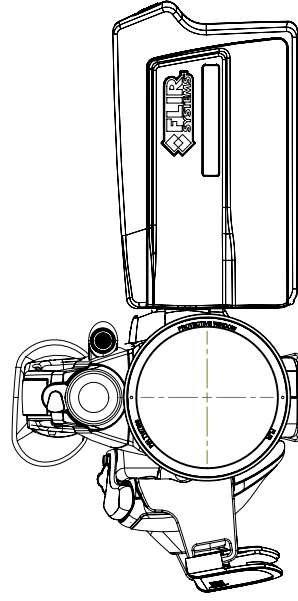
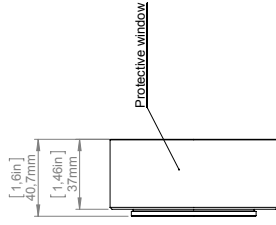
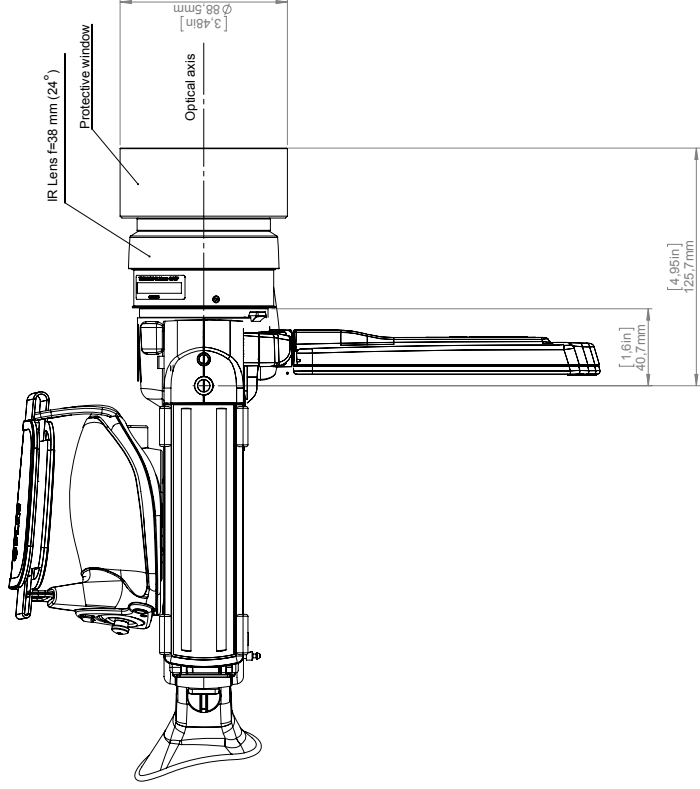
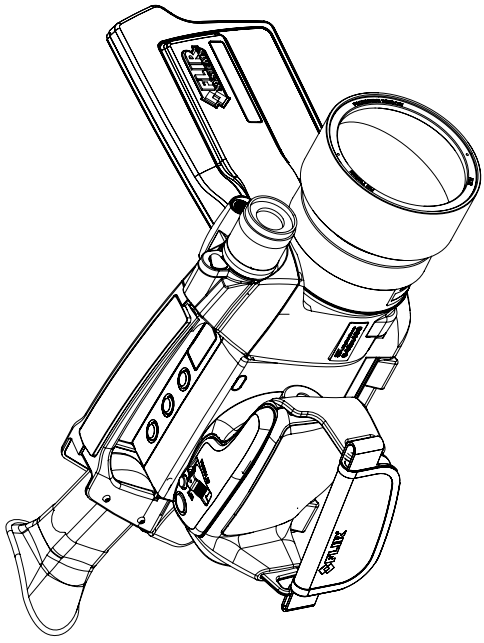
**Camera with Close-up lens 0.5X f=75 mm (fits 24° IR lens)**



**Camera with Macro lens 1X (25 µm)**



# Camera with Protective window



For additional dimensions see page 1

Modified: 2012-04-19  
 Drawn by: CAHA  
 Check: CAHA  
 Drawn by: R&D Thermography  
 Denomination:

Size: A3  
 Scale: 1:2  
 Sheet: 7(7)  
 Drawing No.: I125460  
 Size: B

Basic dimensions FLIR P6xx