

## P/N: 44201-0102

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### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

### Disclaimer

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<b>General description</b>	
<p>The FLIR GF306 is an infrared camera for optical gas imaging (OGI) that visualizes and pinpoints gas leaks—especially of sulfur hexafluoride (SF<sub>6</sub>) and ammonia—without the need to de-energize high-voltage equipment or shut down the operation. The portable camera also greatly improves operator safety by detecting emissions at a safe distance, and helps to protect the environment by tracing leaks of environmentally harmful gases.</p> <p>SF<sub>6</sub> is used in the electric power industry as an insulator and quenching medium for gas-insulated substations and circuit breakers. The gas is also used in magnesium production and semiconductor manufacture. Ammonia is produced in ammonia plants, and is used mainly for the production of fertilizers.</p>	
<b>Benefits:</b>	
<ul style="list-style-type: none"> <li>• <b>Improved efficiency:</b> The FLIR GF306 reduces revenue loss by pinpointing even small gas leaks quickly and efficiently, and from a distance. It also reduces inspection time by allowing a broad area to be scanned rapidly and without the need to de-energize components in the high-voltage area. The wireless connectivity of the camera allows you to connect to smart phones or tablets for the wireless transfer of images or the remote control of the camera. The FLIR GF306 can also be used for temperature measurement, which makes it even more useful for the predictive maintenance of high-voltage equipment.</li> <li>• <b>Increased worker safety:</b> OGI allows gas leaks to be detected in a non-contact mode and from a safe distance. This prevents electrical exposure to personnel working in a high-voltage area. With a GF306 gas imaging camera, it is easy to scan areas of interest that are difficult to reach with conventional methods. The camera is ergonomically designed, with a bright LCD and tiltable viewfinder, which facilitates its use over a full working day.</li> <li>• <b>Protecting the environment:</b> SF<sub>6</sub> is a well-known greenhouse gas that causes harm to the environment, and is usually governed by regulations. SF<sub>6</sub> has a global warming potential 24 000 times higher than carbon dioxide. Even small leaks can be detected and documented using the FLIR GF306 camera.</li> </ul>	
<p>Detects the following gases: sulfur hexafluoride, acetyl chloride, acetic acid, allyl bromide, allyl chloride, allyl fluoride, ammonia, bromomethane, chlorine dioxide, ethyl cyanoacrylate, ethylene, furan, hydrazine, methylsilane, methyl ethyl ketone, methyl vinyl ketone, propenal, propene, R-134a, tetrahydrofuran, trichloroethylene, uranyl fluoride, vinyl chloride, vinyl cyanide, vinyl ether.</p>	
<b>Licensing and classification</b>	
License information	Interchangeable lens version of the FLIR GF3XX series requires US Department of State License and will be subject to limitations on resale, except inside US. Allow a minimum of 90 days after application submittal for approval.
<b>Imaging and optical data</b>	
IR resolution	320 × 240 pixels
Thermal sensitivity/NETD	<15 mK @ +30°C (+86°F)
Field of view (FOV)	24° × 18°
Minimum focus distance	0.3 m (1.0 ft.)
Focal length	23 mm (0.89 in.)

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<b>Imaging and optical data</b>	
Lens identification	Automatic
F-number	1.5
Focus	Automatic (one touch) or manual (electric or on the lens)
Zoom	1–8× continuous, digital zoom
Digital image enhancement	Noise reduction filter, high sensitivity mode (HSM)
<b>Detector data</b>	
Detector type	Focal plane array (FPA), cooled QWIP
Spectral range	10.3–10.7 μm
Detector pitch	30 μm
Sensor cooling	Stirling Microcooler (FLIR MC-3)
Detects following gases	Sulfur Hexafluoride (SF6), Acetyl Chloride, Acetic Acid, Allyl Bromide, Allyl Chloride, Allyl Fluoride, Ammonia (NH3), Bromomethane, Chlorine Dioxide, Ethyl Cyanoacrylate, Ethylene, Furan, Hydrazine, Methylsilane, Methyl Ethyl Ketone, Methyl Vinyl Ketone, Propenal, Propene, R 134a, Tetrahydrofuran, Trichloroethylene, Uranyl Fluoride, Vinyl Chloride, Vinyl Cyanide, Vinyl Ether
<b>Electronics and data rate</b>	
Full frame rate	60 Hz
<b>Image presentation</b>	
Display	Built-in widescreen, 4.3 in. LCD, 800 × 480 pixels
Viewfinder	Built-in, tiltable OLED, 800 × 480 pixels
Automatic image adjustment	Continuous/manual; linear or histogram based
Manual image adjustment	Level/span
<b>Image presentation modes</b>	
Image modes	IR image, visual image, high sensitivity mode (HSM)
<b>Measurement</b>	
Temperature range	–40°C to +500°C (–40°F to +932°F)
Accuracy	±1°C (±1.8°F) for temperature range (0°C, to +100°C, +32°F to +212°F) or ±2% of reading for temperature range (>+100°C, >+212°F)
<b>Measurement analysis</b>	
Spotmeter	10
Area	5 boxes with max./min./average
Profile	1 live line (horizontal or vertical)
Difference temperature	Delta temperature between measurement functions or reference temperature
Reference temperature	Manually set or captured from any measurement function
Emissivity correction	Variable from 0.01 to 1.0 or selected from editable materials list



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<b>Measurement analysis</b>	
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
Measurement corrections	Reflected temperature, distance, atmospheric transmission, humidity, external optics
<b>Set-up</b>	
Menu commands	Level, span Auto adjust continuous/manual/semi-automatic Zoom Palette Start/stop recording Store image Playback/recall image
Color palettes	Iron, Gray, Rainbow, Arctic, Lava, Rainbow HC
Set-up commands	1 programmable button, overlay recording mode, local adaptation of units, language, date and time formats
<b>Storage of images</b>	
Storage media	Removable SD or SDHC memory card , two card slots
Image storage capacity	> 1200 images (JPEG) with post process capability per GB on memory card
Image storage mode	IR/visual images Visual image can automatically be associated with corresponding IR image
Periodic image storage	Every 10 seconds up to 24 hours
File formats	Standard JPEG, 14 bit measurement data included
<b>Geographic Information System</b>	
GPS	Location data automatically added to every image from built-in GPS
<b>Video recording in camera</b>	
Radiometric IR video recording	*.seq video clips to memory card (7.5 and 15 Hz).
Non-radiometric IR video recording	MPEG4 (up to 60 minutes/clip) to memory card. Visual image can automatically be associated with corresponding recording of non-radiometric IR video.
Visual video recording	MPEG4 (25 minutes/clip) to memory card
<b>Video streaming</b>	
Radiometric IR video streaming	Full dynamic to PC using USB cable or to mobile devices using Wi-Fi. PC software capable of displaying the video stream include the following: <ul style="list-style-type: none"> <li>• FLIR IR Camera Player</li> <li>• FLIR ResearchIR</li> <li>• FLIR Tools</li> </ul>
Non-radiometric IR video streaming	RTP/MPEG4
<b>Digital camera</b>	
Built-in digital camera	3.2 Mpixels, auto focus, and two video lamps

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<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>USB</b>	
USB	<ul style="list-style-type: none"> <li>• USB-A: Connect external USB device</li> <li>• USB Mini-B: Data transfer to and from PC</li> </ul>
USB, standard	USB Mini-B: 2.0 high speed

<b>Composite video</b>	
Video out	Digital video output (image)

<b>Power system</b>	
Battery type	Rechargeable Li ion battery
Battery voltage	7.2 V
Battery capacity	4.4 Ah
Battery operating time	> 2 hours at 25°C (+77°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)
DC operation	10.8 to 16 V DC, polarity protected (proprietary protected)
Power	12.5 W typically
Start-up time	Typically 10 min. @ 25°C (+77°F)

<b>Environmental data</b>	
Operating temperature range	–20°C to +40°C (–4°F to +104°F)
Storage temperature range	–30°C to +60°C (–22°F to +140°F)
Humidity (operating and storage)	IEC 68-2-30/24 h 95% relative humidity +25°C to +40°C (+77°F to +104°F) (2 cycles)
Directives	<ul style="list-style-type: none"> <li>• 73/23EEC</li> <li>• 2004/108/EC</li> <li>• 2002/95/EC</li> <li>• 2002/96/EC</li> </ul>
EMC	<ul style="list-style-type: none"> <li>• EN61000-6-4 (Emission)</li> <li>• EN61000-6-2 (Immunity)</li> <li>• FCC 47 CFR Part 15 class A (Emission)</li> <li>• EN 61 000-4-8, L5</li> </ul>
Encapsulation	IP 54 (IEC 60529)
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)
Safety	Power supply: EN/UL/IEC 60950-1

<b>Physical data</b>	
Camera weight, excl. lens and battery	1.94 kg (4.27 lb.)
Camera weight, incl. lens and excl. battery	2.24 kg (4.94 lb.)

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Physical data	
Camera weight, incl. lens and battery	2.48 kg (5.47 lb.)
Battery weight	0.24 kg (0.52 lb.)
Camera size, excl. lens (L x W x H)	284 x 169 x 161 mm (11.2 x 6.7 x 6.3 in.)
Cameras size, incl. lens (L x W x H)	306 x 169 x 161 mm (12.0 x 6.7 x 6.3 in.)
Battery size (L x W x H)	141 x 47 x 28 mm (5.5 x 1.8 x 1.1 in.)
Battery charger size (L x W x H)	158 x 122 x 25 mm (6.2 x 4.8 x 1.0 in.)
Tripod mounting	UNC ¼"-20
Housing material	Aluminum, magnesium
Grip material	TPE thermoplastic elastomers

Shipping information	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none"> <li>• Infrared camera with lens</li> <li>• Battery charger</li> <li>• Battery, 2 ea.</li> <li>• Hard transport case</li> <li>• HDMI-DVI cable</li> <li>• HDMI-HDMI cable</li> <li>• Lens cap (2 ea.)</li> <li>• Lens cap (mounted on lens)</li> <li>• Memory card</li> <li>• Power supply, incl. multi-plugs</li> <li>• Printed documentation</li> <li>• Shoulder strap</li> <li>• USB cable</li> <li>• Wi-Fi USB micro adapter (depending on CE and FCC regulations regarding wireless equipment for your country)</li> </ul>
Packaging, weight	
Packaging, size	400 x 190 x 510 mm (15.7 x 7.5 x 20.1 in.)

### Supplies & accessories:

- T197386; IR lens, 24° with case for GF304, GF306
- T197384; IR lens, 14.5° with case for GF304, GF306
- T197692; Battery charger, incl. power supply with multi plugs
- T910814; Power supply, incl. multi plugs
- T198511; Li-Ion Battery pack 7.4V 33Wh
- T199367ACC; Battery Li-ion 7.2 V, 4.4 Ah, 32 Wh
- T199183ACC; Battery
- T911650ACC; Memory card SD Card 8 GB
- 1910423; USB cable Std A <-> Mini-B
- T198509; Cigarette lighter adapter kit, 12 VDC, 1.2 m/3.9 ft.
- T910815ACC; HDMI to HDMI cable 1.5 m
- T910816ACC; HDMI to DVI cable 1.5 m
- T197555; Hard transport case for FLIR GF3xx-Series
- T951387; Wi-Fi USB micro adapter
- T198586; FLIR Reporter Professional (license only)
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- T198585; FLIR VideoReport
- DSW-10000; FLIR IR Camera Player
- APP-10002; FLIR Tools Mobile (Android Application)
- 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)



## FLIR GF306 24°

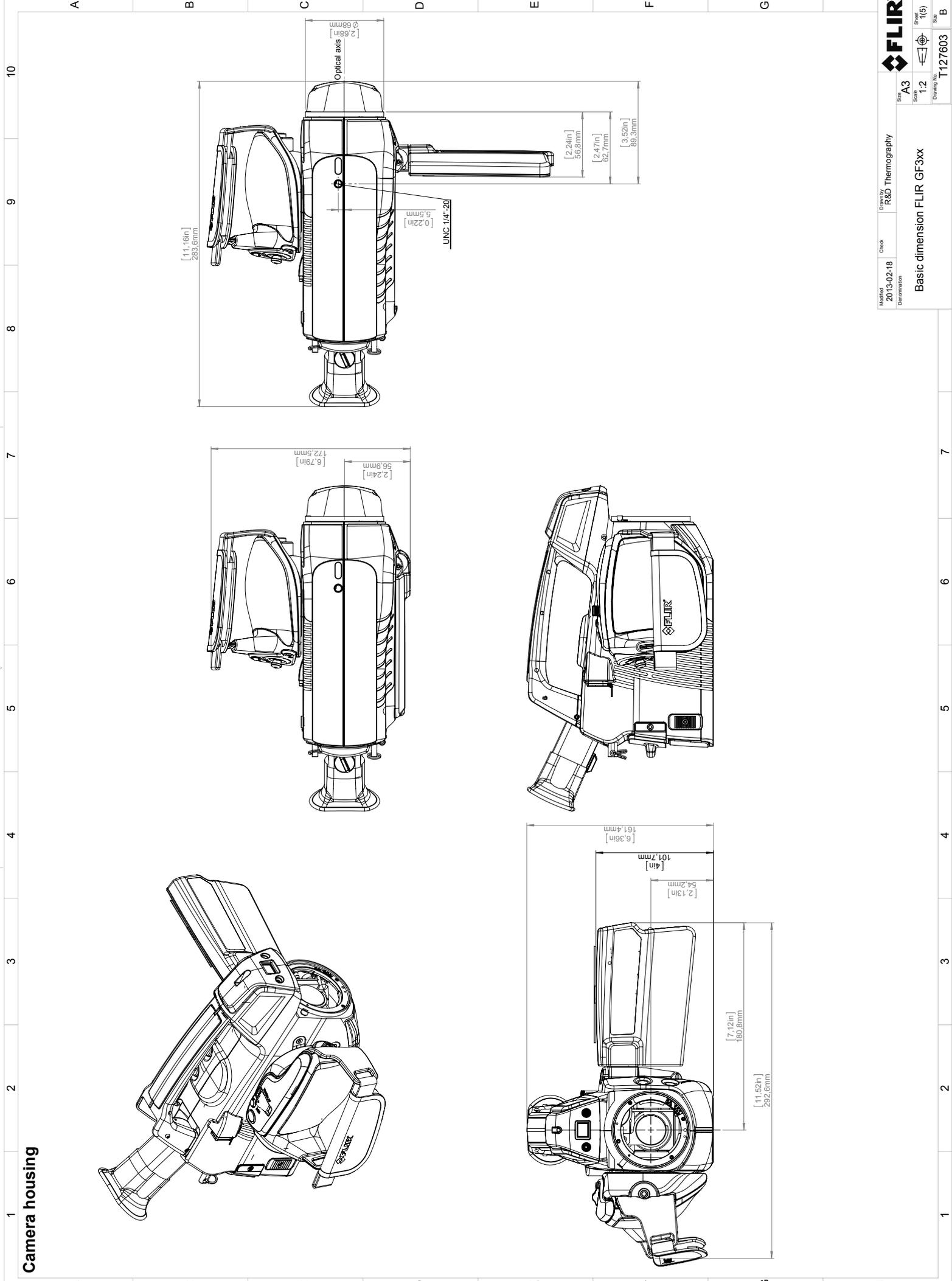
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- T198696; FLIR ResearchIR Max 4 (hardware sec. dev.)
- T199013; FLIR ResearchIR Max 4 (printed license key)
- T199043; FLIR ResearchIR Max 4 Upgrade (printed license key)
- T198731; FLIR ResearchIR Standard 4 (hardware sec. dev.)
- T199012; FLIR ResearchIR 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



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**FLIR**

Size: **A3**

Scale: **1:2**

Sheet: **1(5)**

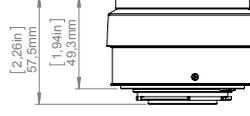
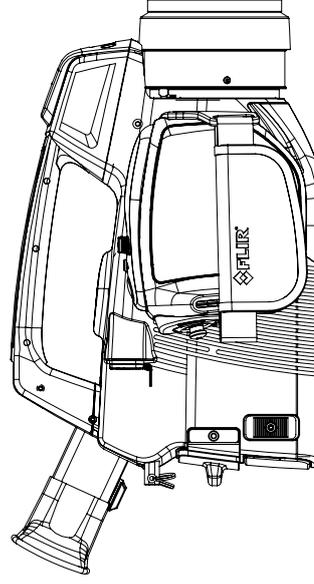
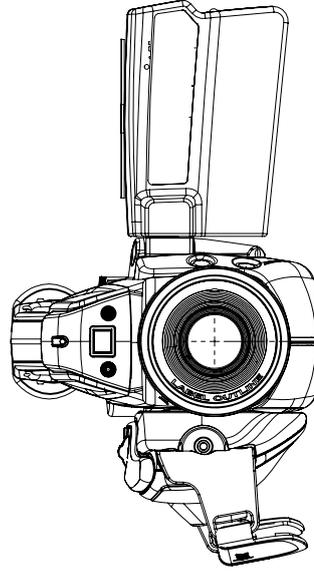
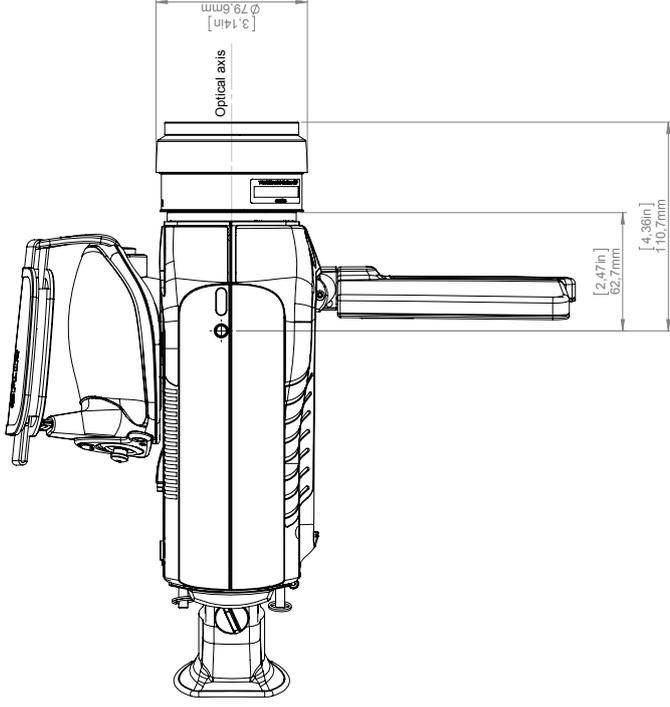
Drawing No.: **1127603**

Modified: **2013-02-18**

Check: **Drawn By: R&D Thermography**

Denomination: **Basic dimension FLIR GF3xx**

**Camera with Lens IR f=23 mm (24°)  
Camera with Lens IR f=38 mm (14,5°)**



For additional dimensions see page 1

Modified	Drawn by	Size	
2013-02-18	R&D Thermography	A3	
Drawn by	Check	Scale	
2013-02-18		1:2	
Drawn by	Check	Drawing No.	
		1127603	

**Basic dimension FLIR GF3xx**

