

P/N: 59601-0102

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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 | |
|--|--|
| <p>The FLIR GF304 is an infrared camera for optical gas imaging (OGI) that visualizes and pinpoints leaks of refrigerant gases, without the need to shut down the operation. This portable camera also greatly improves operator safety, by detecting gases at a safe distance, and helps to protect the environment by tracing leaks of environmentally harmful gases.</p> <p>Refrigerant gases are found in, for example, the food, chemical/petrochemical, and automotive industries, as well as in air-conditioning systems.</p> | |
| Benefits: | |
| <ul style="list-style-type: none"> Improved efficiency: The FLIR GF304 reduces revenue loss by pinpointing even small gas leaks quickly and efficiently, and from a distance. It also reduces the inspection time by being able to scan a broad area rapidly without the need to interrupt the industrial process. 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 GF304 can also be used for temperature measurement, which makes it even more useful for predictive maintenance. Increased worker safety: The leak detection of gases can be performed in non-contact mode, and from a safe distance. This reduces the risk of the user being exposed to invisible and potentially harmful or explosive chemicals. With a FLIR GF304 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 a tiltable viewfinder, which facilitates its use over a full working day. Protecting the environment: Several refrigerant gases have a high global warming potential and are usually governed by regulations. Even small leaks can be detected and documented using the FLIR GF304 camera. | |
| <p>Detects the following refrigerant gases: R404A, R407C, R410A, R134A, R417A, R422A, R507A, R143A, R125, R245fa.</p> | |
| Licensing and classification | |
| 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. |
| Imaging and optical data | |
| 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.) |
| Lens identification | Automatic |
| F-number | 1.5 |



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| Imaging and optical data | |
|---------------------------|---|
| 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) |

| Detector data | |
|-------------------------|--|
| Detector type | Focal plane array (FPA), cooled QWIP |
| Spectral range | 8.0–8.6 μm |
| Detector pitch | 30 μm |
| Sensor cooling | Stirling Microcooler (FLIR MC-3) |
| Detects following gases | R404A, R407C, R410A, R417A, R422A, R507A, R143A, R125, R134A, R245fa |

| Electronics and data rate | |
|---------------------------|-------|
| Full frame rate | 60 Hz |

| Image presentation | |
|----------------------------|--|
| 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 |

| Image presentation modes | |
|--------------------------|---|
| Image modes | IR image, visual image, high sensitivity mode (HSM) |

| Measurement | |
|-------------------|--|
| Temperature range | –20°C to +250°C (–4°F to +482°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) |

| Measurement analysis | |
|---|--|
| 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 |
| Reflected apparent temperature correction | Automatic, based on input of reflected temperature |
| Measurement corrections | Reflected temperature, distance, atmospheric transmission, humidity, external optics |

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| Set-up | |
|--------------------------------------|---|
| 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 |
| Storage of images | |
| 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 |
| Geographic Information System | |
| GPS | Location data automatically added to every image from built-in GPS |
| Video recording in camera | |
| 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 |
| Video streaming | |
| 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"> • FLIR IR Camera Player • FLIR ResearchIR • FLIR Tools |
| Non-radiometric IR video streaming | RTP/MPEG4 |
| Digital camera | |
| Built-in digital camera | 3.2 Mpixels, auto focus, and two video lamps |
| Laser pointer | |
| Laser | Activated by dedicated button |
| Laser classification | Class 2 |
| Laser type | Semiconductor AlGaInP diode laser, 1 mW, 635 nm (red) |

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

| Composite video | |
|-----------------|------------------------------|
| Video out | Digital video output (image) |

| Power system | |
|--------------------------|---|
| Battery type | Rechargeable Li ion battery |
| Battery voltage | 7.2 V |
| Battery capacity | 4.4 Ah |
| Battery operating time | > 3 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 | 8.5 W typically |
| Start-up time | Typically 8 min. @ 25°C (+77°F) |

| Environmental data | |
|----------------------------------|--|
| 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"> • 73/23EEC • 2004/108/EC • 2002/95/EC • 2002/96/EC |
| EMC | <ul style="list-style-type: none"> • EN61000-6-4 (Emission) • EN61000-6-2 (Immunity) • FCC 47 CFR Part 15 class A (Emission) • EN 61 000-4-8, L5 |
| 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 |

| Physical data | |
|---|---|
| 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.) |
| 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 × W × H) | 284 × 169 × 161 mm (11.2 × 6.7 × 6.3 in.) |
| Cameras size, incl. lens (L × W × H) | 306 × 169 × 161 mm (12.0 × 6.7 × 6.3 in.) |
| Battery size (L × W × H) | 141 × 47 × 28 mm (5.5 × 1.8 × 1.1 in.) |

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| Physical data | |
|----------------------------------|---|
| 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"> • Infrared camera with lens • Battery charger • Battery, 2 ea. • Hard transport case • HDMI-DVI cable • HDMI-HDMI cable • Lens cap (2 ea.) • Lens cap (mounted on lens) • Memory card • Power supply, incl. multi-plugs • Printed documentation • Shoulder strap • USB cable • Wi-Fi USB micro adapter (depending on CE and FCC regulations regarding wireless equipment for your country) |
| 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)
- 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



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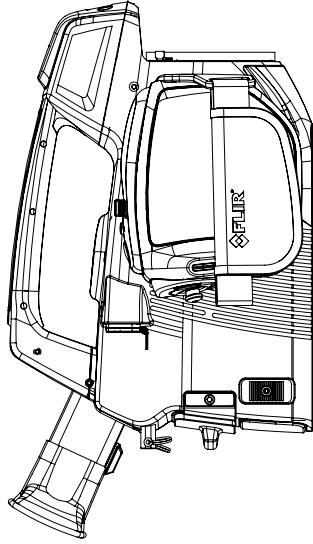
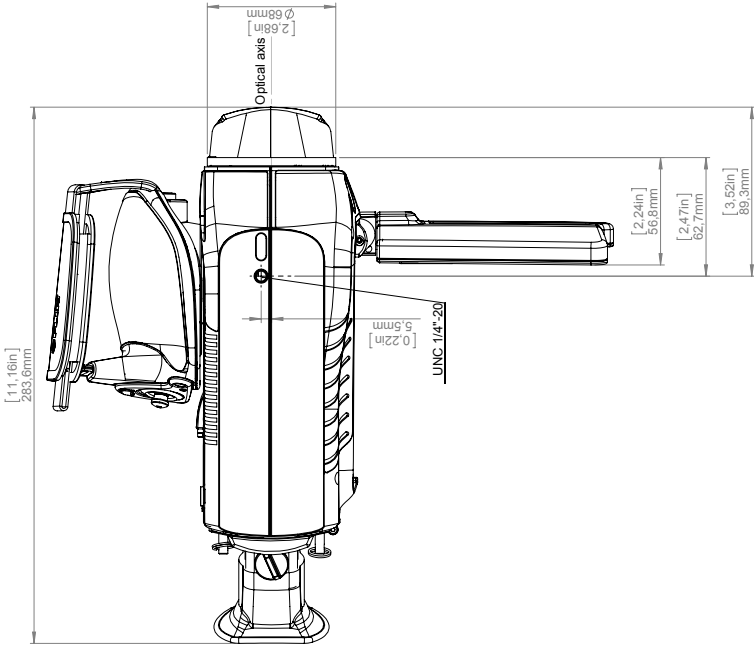
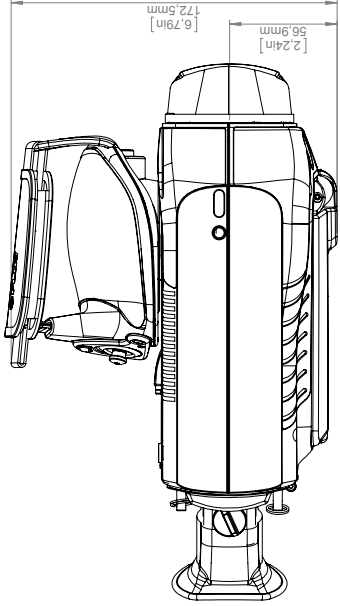
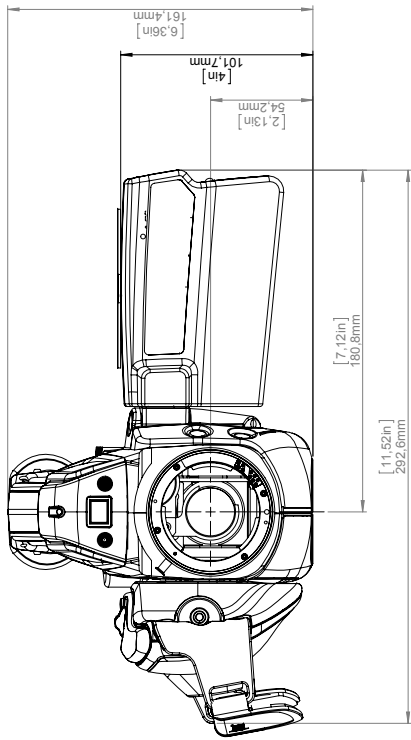
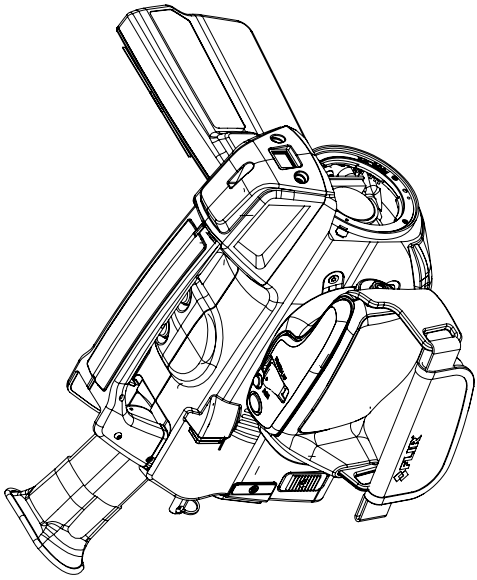
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- T199234; FLIR Atlas SDK for MATLAB
- T198567; ThermoVision™ System Developers Kit Ver. 2.6
- T198566; ThermoVision™ LabVIEW® Digital Toolkit Ver. 3.3

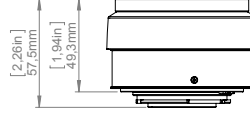
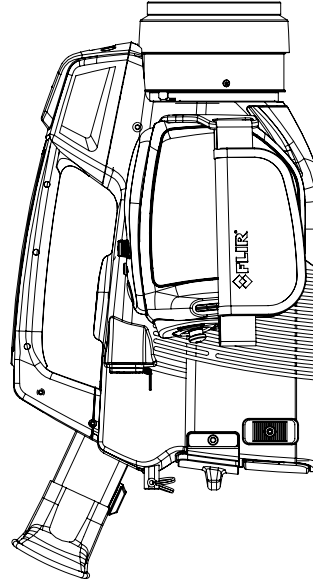
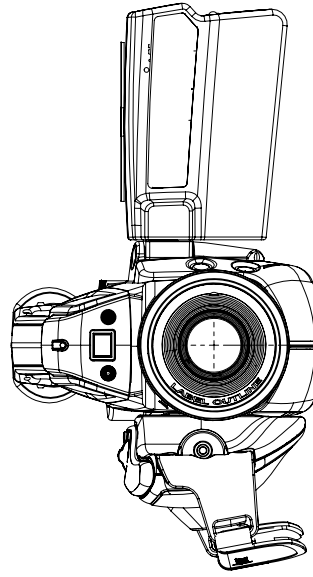
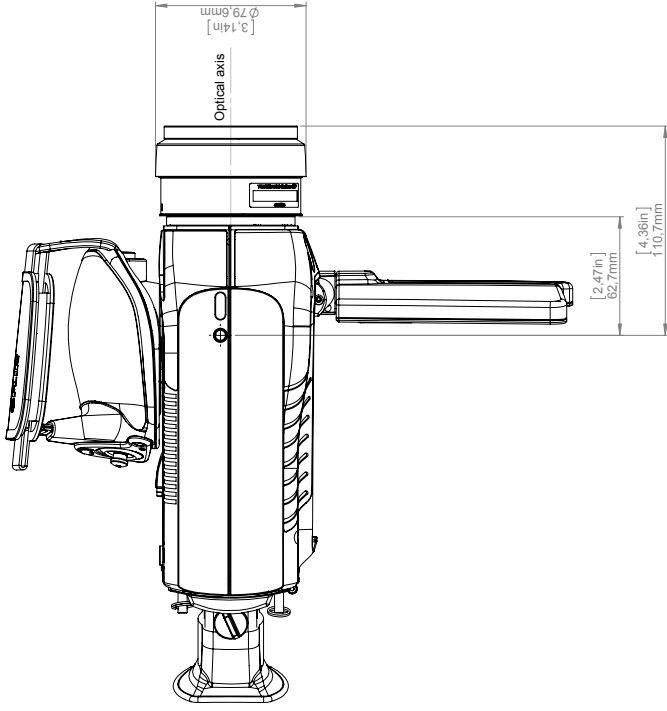
Camera housing



FLIR
 Size: A3
 Scale: 1:2
 Sheet: 1(5)
 Drawing No.: T127603

Modified: 2013-02-18
 Drawn by: R&D Thermography
 Checked: [blank]
 Description: 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



October 17, 2012 AQ125905

CE Declaration 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:

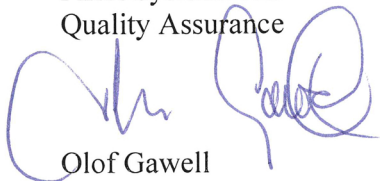
| | |
|-------------------------------|--|
| Directive 2004/108/EC; | Electromagnetic Compatibility |
| Directive 2006/95/EC; | “Low voltage Directive” (Power Supply) |
| Directive 2002/96/EC | Waste electrical and electronic equipment; WEEE (As applicable) |

Standards:

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

System(s): **FLIR GF3xx**

FLIR Systems AB
Quality Assurance



Olof Gawell
Director