# FLIR GFx320 24° fixed lens

## P/N: 74902-0102

**Website**

http://www.flir.com

**Customer support**

http://support.flir.com

| General description |
|---|
| The FLIR GFx320 is an infrared camera for optical gas imaging (OGI) in explosive atmospheres that visualizes and pinpoints leaks of methane and other volatile organic compounds (VOCs), without the need to 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. |
| The FLIR GFx320 is used in industrial settings such as oil refineries, natural gas processing plants, offshore platforms, chemical/petrochemical industries, and biogas and power generation plants. |

| Benefits: |
|---|

- Certified for use in an explosive atmosphere.
- Improved efficiency: The FLIR GFx320 reduces revenue loss by pinpointing gas leaks quickly and efficiently, and from a distance. It also reduces the inspection time by allowing a broad area to be scanned rapidly and without the need to interrupt the industrial process. The FLIR GFx320 is also used for temperature measurement, which makes it even more useful for predictive maintenance.
- Increased worker safety: OGI allows gas leaks to be detected in a 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 GFx320 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.
- Protecting the environment: Several VOCs are dangerous to human health or cause harm to the environment, and are usually governed by regulations. Even small leaks can be detected and documented using the FLIR GFx320 camera.

| Detects the following gases: benzene, ethanol, ethylbenzene, heptane, hexane, isoprene, methanol, MEK, MIBK, octane, pentane, 1-pentene, toluene, xylene, butane, ethane, methane, propane, ethylene, propylene. |
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| 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.) |
| F-number | 1.5 |
| Focus | Manual focus |
| Zoom | 1–8× continuous, digital zoom |
| Digital image enhancement | Noise reduction filter, high sensitivity mode (HSM) |

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| Detector data | |
|---|---|
| Detector type | Focal plane array (FPA), cooled InSb |
| Spectral range | 3.2–3.4 µm |
| Detector pitch | 30 µm |
| Sensor cooling | Stirling Microcooler (FLIR MC-3) |
| Detects following gases | Benzene, Ethanol, Ethylbenzene, Heptane, Hexane, Isoprene, Methanol, MEK, MIBK, Octane, Pentane, 1-Pentene, Toluene, Xylene, Butane, Ethane, Methane, Propane, Ethylene, Propylene |

| 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 +350°C (–4°F to +662°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<br>• Auto adjust continuous/manual/semi-automatic<br>• Zoom<br>• Palette<br>• Start/stop recording<br>• Store image<br>• Playback/recall image |
| Color palettes | • Iron<br>• Gray<br>• Rainbow<br>• Arctic<br>• Lava<br>• 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 |
| Image storage capacity | 2000 images (JPEG) with post process capability per GB on memory card |
| Image storage mode | • IR/visual images<br>• 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.<br>• 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. PC software capable of displaying the video stream include the following:<br>• FLIR IR Camera Player<br>• FLIR ResearchIR<br>• FLIR Tools |
| Non-radiometric IR video streaming | RTP/MPEG4 |

| Digital camera | |
|---|---|
| Built-in digital camera | 3.2 Mpixels, auto focus, and two video lamps |

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| Laser pointer | |
| --- | --- |
| Laser | Activated by dedicated button |
| Laser classification | Class 2 |
| Laser type | Semiconductor AlGaInP diode laser, 1 mW, 635 nm (red) |

| USB | |
| --- | --- |
| USB | 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 (+68°F) and typical use |
| Battery charging | 2–bay charger or AC adapter 90–260 VAC, 50/60 Hz or 12 V from a vehicle (cable with standard plug, optional) |
| Charging time | 2.5 h to 95% capacity, charging status indicated by LED's |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| DC operation | 8 to 15.3 V DC, polarity protected (proprietary protected) |
| Power | 8.5 W typically |
| Start-up time | Typically 7 min. @ 25°C (+77°F) |

| Environmental data | |
| --- | --- |
| Operating temperature range | –20°C to +50°C (–4°F to +122°F) |
| Ambient temperature range (certification range for explosive atmospheres) | –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) |
| Explosive (hazardous) environment | <ul><li>IEC 60079-0:2011</li><li>IEC 60079-11:2011</li><li>IEC 60079-15:2010 (partial)</li><li>IEC 60079-28:2015</li><li>BS EN 60079-0:2012</li><li>BS EN 60079-11:2012</li><li>BS EN 60079-15:2010</li><li>BS EN 60079-28:2015</li><li>ANSI/ISA-12.12.01-2013</li><li>CSA 22.2 No. 213</li><li>ATEX directive 2014/34/EU</li></ul> |
| Low voltage | 73/23/EEC |
| RoHS | 2011/65/EU |
| WEEE | 2012/19/EU |

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| Environmental data | |
| --- | --- |
| EMC | • The Electromagnetic Compatibility (EMC) Directive 2014/30/EU<br>• EN61000-6-4 (Emission)<br>• EN61000-6-2 (Immunity)<br>• FCC 47 CFR Part 15 class A (Emission)<br>• 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 | EN/UL/IEC 60950-1 |

| Physical data | |
| --- | --- |
| Camera weight, incl. battery | 2.72 kg (6.00 lbs.) |
| Camera weight, excl. battery | 2.50 kg (5.51 lbs.) |
| Battery weight | 0.21 kg (0.47 lbs.) |
| Camera size (L × W × H) | 245 × 166 × 164 mm (9.6 × 6.5 × 6.4 in.) |
| Battery size (L × W × H) | 141 × 43 × 28 mm (5.5 × 1.7 × 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 | Aluminum, magnesium, silicone |

| Certifications | |
| --- | --- |
| Compliance | • ATEX/IECEx, Ex ic nC op is IIC T4 Gc II 3 G<br>• ANSI/ISA-12.12.01-2013, Class I Division 2<br>• CSA 22.2 No. 213, Class I Division 2 |

| Shipping information | |
| --- | --- |
| Packaging, type | Cardboard box |
| List of contents | • Battery charger<br>• Battery, 2 ea.<br>• Hand strap<br>• Hard transport case<br>• HDMI-DVI cable<br>• HDMI-HDMI cable<br>• Infrared camera with lens<br>• Lens cap (mounted on lens)<br>• Lens cap strap<br>• Memory card<br>• Neck strap<br>• Power supply, incl. multi-plugs<br>• Printed documentation<br>• Screwdriver TX20<br>• USB cable |
| EAN-13 | 7332558012567 |
| UPC-12 | 845188013714 |

- T911881ACC; Camera bag and harness, GF series
- T197692; Battery charger, incl. power supply with multi plugs
- T910814; Power supply, incl. multi plugs
- T199183ACC; Battery Li-ion 7.2 V, 4.4 Ah, 32 Wh
- 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

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- T910816ACC; HDMI to DVI cable 1.5 m
- T199466ACC; Hard transport case for FLIR GFx3xx and GF6xx series
- QL320-FIELD-KIT; FLIR QL320 Accessory Field Kit
- 4224488; FLIR QL320 Quantitative OGI Tablet
- 4224489; FLIR QL320 Quantitative OGI Tablet (Regulatory pricing)
- T129728ACC; Hand strap
- T129739ACC; Lens cap
- T129867ACC; Lens cap strap
- T129729ACC; Neck strap
- 4214231; FLIR QL320, Pouch
- 4225679; FLIR QL320, Extended high capacity battery (7.8 Ah)
- 4214168; FLIR QL320, Standard Battery (3.95 Ah)
- 4226768; FLIR QL320, X Strap
- T911309ACC; Screwdriver TX20
- T130007; Extended Calibration Certificate
- INST-EW-0230; Extended Warranty 1 Year for GF3xx, GFX320, G300pt, GF620, SC670X
- INST-EWGM-0210; Premium Service Package for A6604, GF3xx-series, GFX320, G300pt, GF620, GasFindIR HSX, GasFindIR LW, SC4000
- INST-GM-0180; General Maintenance Package for G300pt, GFX320, GF620

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