



FLIR GF-Series

# FLIR GF320

Infrared camera for gas leak detection and electrical inspections

*The new FLIR GF320 is a revolutionary infrared camera capable of finding Methane emissions or other Volatile Organic Compounds (VOC). It is unbeatable for detecting even the smallest gas leaks.*

- Real-time visualization of even very small amount of gas leak thanks to the Excellent High Sensitivity Mode [ $<25\text{mK}$ ]
- Measures temperatures from  $-40\text{ }^{\circ}\text{C}$  to  $+350\text{ }^{\circ}\text{C}$  with  $\pm 1\text{ }^{\circ}\text{C}$  accuracy
- Built-in Video Recording, Digital Camera, Laser pointer
- Embedded GPS Data helps to identify the precise locations of non-compliance
- High performance LCD & Tilttable high resolution viewfinder delivers bright and vivid image in poor lighting environment or under sunlight
- Lightweight (2.4kg) and robust design
- User-Inspired Ergonomics: Rotating Handle, Direct Access Buttons
- Dual use, detects gas leaks and carries out electrical inspections.



## Visualized gas leak in real-time

FLIR GF320 can scan large areas rapidly and pinpoint leaks in real time. It is ideal for monitoring plants that it is difficult to reach with contact measurement tools. Literally thousands of components can be scanned per shift without the need to interrupt the process. It reduces repair downtime and provides verification of the process. And above all it is exceptionally safe, allowing potentially dangerous leaks to be monitored from several meters away.

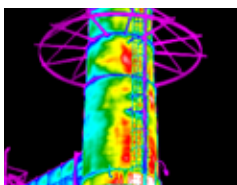
## Multi-purposes in gas leak detection

FLIR GF320 will significantly improve your work safety, environmental and regulatory compliance, not to mention helping to improve the bottom line by finding leaks that essentially decrease profits.

Detects the following gases:

- |                |             |             |
|----------------|-------------|-------------|
| • Benzene      | • MEK       | • Butane    |
| • Ethanol      | • MIBK      | • Ethane    |
| • Ethylbenzene | • Octane    | • Methane   |
| • Heptane      | • Pentane   | • Propane   |
| • Hexane       | • 1-Pentene | • Ethylene  |
| • Isoprene     | • Toluene   | • Propylene |
| • Methanol     | • Xylene    |             |

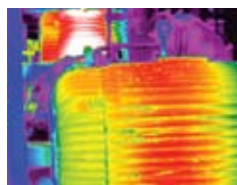
## Applications:



Gas leak detection in oil refineries



Natural gas



Power generation



Petrochemical & chemical industries



The sniffer is detecting gas but unable to trace its source, whereas this thermal image shows the leak source clearly on the left.



Tilttable, Flip-out 4.3" High Contrast Color LCD allows you to view targets more safely from any angle, and avoid eye strain after long time.



Automatic (one Touch) and Manual Focus w/ 8 to 1 Continuous Digital Zoom helps you to deliver the perfect picture at ease.

# FLIR GF320 Technical Specifications

Imaging and optical data	
Field of view (FOV) / Minimum focus distance	24° x 18° / 0.3 m
Lens identification	Automatic
F-number	1.5
Thermal sensitivity/NETD	<25 mK @ +30°C
Focus	Automatic (one touch) or manual (electric or on the lens)
Zoom	1–8× continuous, digital zoom
Digital image enhancement	Noise reduction filter, scene based NUC, High Sensitivity Mode (HSM)
Focal Plane Array (FPA) / Spectral range	Cooled InSb / 3–5 µm
IR resolution	320 × 240 pixels
Detector pitch	30 µm
Sensor cooling	Stirling Microcooler (FLIR MC-3)
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 modes	IR-image, visual image, High Sensitivity Mode (HSM)
Measurement	
Temperature range	–40 to +350°C
Accuracy	±1°C for temperature range (0°C to +100°C) or ±2% of reading for temperature range (Above +100°C)
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
Set-up	
Menu commands	Level, span Auto adjust continuous/manual/semi-automatic Zoom Palette Start/stop recording Store image Playback/recall image
Set-up commands	Local adaptation of units, language, date and time formats
Web interface	Admin camera setup and viewing IR images
Storage of images	
Image storage type	Removable SD or SDHC Memory Card, two card slots
Image storage capacity	> 1200 images (JPEG) with post process capability (4 GB SDHC card)
Image storage mode	IR/visual images. Visual image is automatically associated with corresponding IR image.
File formats	Standard JPEG, 14 bit measurement data included
GPS	Location data automatically added to every image from built-in GPS
Video recording and streaming	
Digital camera video recording	RTP/H.264 (25 minutes/clip) to memory card
Non radiometric IR-video recording	MPEG/H.264 (60 minutes/clip) to memory card. Visual image can automatically be associated with corresponding recording of non radiometric IR-video
Non radiometric IR-video streaming	RTP/H.264
Digital camera	
Built-in digital camera	3.2 Mpixel, auto focus, and two video lamps
Digital camera video recording	MPEG/H.264 (25 minutes/ clip) to memory card
Laser pointer	
Laser	Activated by dedicated button
Data communication interfaces	
USB	USB-A: Connect external USB device (e.g. memory stick) USB Mini-B: Data transfer to and from PC
USB, standard	USB 2.0 High Speed HDMI (Image)
Power system	
Battery type	Rechargeable Li Ion battery
Battery voltage	7.2 V
Battery operating time	> 3 hours at 25°C 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
Start-up time	Stirling cool down: < 5 min. @ 25°C

Environmental data	
Operating temperature range	–20°C to +50°C
Storage temperature range	–30°C to +60°C
Humidity (operating and storage)	IEC 68-2-30/24 h 95% relative humidity +25°C to +40°C (2 cycl)
Directives	73/23EEC, 89/336/EEC, 2002/95/EC, 2002/96/EC
EMC	EN61000-6-3 (Emission) EN61000-6-2 (Immunity) FCC 47 CFR Part 15 class B (Emission) EN 61000-4-8, L5 EN/UL/CSA 60950-1
Encapsulation	IP 54 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Physical data	
Camera weight, incl. lens and battery	2.4 kg
Battery weight	0.24 kg
Cameras size, incl. lens (L × W × H)	305 × 169 × 161 mm
Tripod mounting	Standard, 1/4"–20
Housing material	Aluminium, Magnesium
Grip material	TPE Thermoplastic Elastomers

Scope of delivery	
Packaging, contents	
Infrared camera	
Standard Lens, 24" (Si)	
Hard transport case	
Lens cap (mounted on lens)	
Lens cap (2 ea., backside of lens and opening on camera body)	
Strap for lens cap, 2 ea.	
Shoulder strap	
Batteries 2 ea. (1 of the batteries inside camera)	
Charger	
Power supply	
Power supply cord	
HDMI- HDMI cable	
HDMI- DVI cable	
USB cable	
SD card	
SD card adapter (connects via USB to PC)	
Getting Started Guide (printed)	
FLIR QuickReport (TM mark) PC software CD-ROM	
FLIR VideoReport (TM mark) PC software CD-ROM	
Video Report 1.0 with manual on CD	
System Calibration Certificate	
Warranty extension card or Registration card	



\*All FLIR GF300 Series (fixed lens) requires U.S. Department of Commerce license.

\*All interchangeable lens versions of FLIR GF300 Series requires U.S. Department of State license.

For more details and update information regarding above, please contact our FLIR office/ authorized distributors.

**FLIR Systems Australia Pty Ltd**  
10 Business Park Drive  
Notting Hill VIC 3168  
Australia  
Ph: (03) 9550 2800  
Fax: (03) 9558 9853  
Email: [info@flir.com.au](mailto:info@flir.com.au)



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