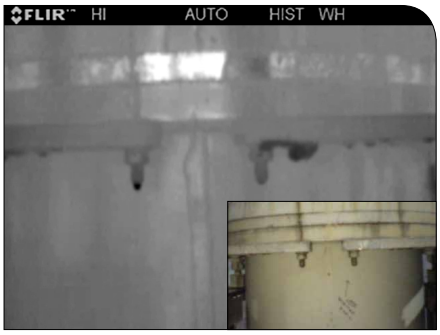
FLIR GF306

SF_6 Optical Gas Imaging Camera

The FLIR GF306 is an optical gas imaging camera that visualizes and pinpoints SF_6 and other gas emissions without the need to shut down operations. This portable, non-contact system allows you to quickly scan wide areas for leaks, so you can begin repairs sooner.

Sulfur Hexafluoride (SF_6) is used in the electric power industry as an insulator and quenching medium for gas-insulated substations and circuit breakers. These facilities have thousands of connections and fittings that need regular inspection, but more than 80% of a gas leaks occur in less than 1% of those components. As a result, crews spend more than 99% of their time inspecting safe, non-leaking parts.

The FLIR GF306 reduces revenue loss by detecting gas leaks efficiently, at a safe distance away from high-voltage areas.



Visible vs. OGI image of SF_6 leak

SF_6 leaking from the bushing of a gas circuit breaker

Ammonia (NH_3) gas escaping from pipes

Visualize SF_6 and Many Other Gases

Invisible gases look like smoke through the lens of the GF306, making even the smallest emissions easy to see. Unlike a traditional "sniffer", the camera allows you to survey large areas quickly and effectively and see into spaces that are difficult to reach with non-contact measurement tools. The GF306 is capable of detecting not only SF_6, but several other gases including Anhydrous Ammonia (NH_3), and Ethylene (C_2H_4).

Optical Gas Imaging and Thermography in One

The GF306 accurately measures temperatures up to 500°C as well as detects gas. Integrate this camera into your facility's predictive maintenance program for benefits beyond leak detection.

Meet EPA Regulations

One pound of SF_6 has the same global warming impact of 24,000 pounds of CO_2. It has an atmospheric lifespan of 3,200 years, so even small amounts of SF_6 can have a significant impact on global climate change.

The US Environmental Protection Agency includes optical gas imaging as an accepted leak detection technique in its Greenhouse Gas Reporting Rule.

FLIR-Partner: ITEMA GmbH

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Specifications

Model	GF306
Detector Type	Focal plane array, cooled QWIP
Spectral Range	10.3 – 10.7 µm
Resolution	320 x 240 pixels
Detector Pitch	30 µm
NETD/Thermal Sensitivity	< 15 mK @ +30°C (+86°F)
Sensor Cooling	Stirling Microcooler (FLIR MC-3)
Electronics / Imaging	
Image Modes	IR image, visual image, High Sensitivity Mode (HSM)
Frame Rate (Full Window)	60 Hz
Dynamic Range	14-bit
Video Recording / Streaming	Real-time non-radiometric recording: MPEG4/H.264 (up to 60 min./clip) to memory card Real-time non-radiometric streaming: RTP/MPEG4
Visual Video	MPEG4 (25 min./clip) to memory card
Visual Image	3.2 MP from integrated visible camera
GPS	Location data stored with every image
Camera Control	Remote camera control via USB
Measurement	
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)
File Storage	
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
Optics	
Camera f/number	f/1.5
Available Fixed Lenses	14.5° (38 mm), 24° (23 mm)
Focus	Automatic (one touch) or manual (electric or on the lens)
Image Presentation	
On-Camera Display	Built-in widescreen, 4.3 in. LCD, 800 x 480 pixels
Automatic Gain Control	Continuous/manual, linear, histogram
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
Zoom	1-8x continuous, digital zoom
General	
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)
Encapsulation	IP 54 (IEC 60529)
Bump / Vibration	25 g (IEC 60068-2-27) / 2 g (IEC 60068-2-6)
Power	AC adapter 90-260 VAC, 50/60 Hz or 12 V from a vehicle
Battery System	Rechargeable Li-ion battery
Weight w/ Battery & Lens	2.48 kg (5.47 lb.)
Size (L x W x H) w/ Lens	305 × 169 × 161 mm (12.0 × 6.7 × 6.3 in.)
Mounting	UNC 1/4"-20

The gases FLIR's GF306 can detect include:

- Sulphur Hexafluoride
- Anhydrous Ammonia
- Ethylene
- Ethyl Cyanoacrylate ("Superglue")
- Chlorine Dioxide
- Acetic Acid
- FREON-12
- Methyl Ethyl Ketone (MEK)

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