FLIR

FLIR GF77a

FLIR brings its low-cost optical gas imaging solution to the industrial automation market with the GF77a: an uncooled thermal camera that's spectrally filtered for methane and other industrial gases. This camera provides oil and gas facilities, gas transportation terminals, and power generation plants with continuous, autonomous leak detection. While it's small and lightweight, the FLIR GF77a is packed with FLIR-patented features such as High Sensitivity Mode (HSM), as well as open architecture allowing third-party analytic solution integration for visual confirmation of leak. The FLIR GF77a can help companies throughout the oil and gas industry better maintain valuable capital equipment, avoid product loss, meet emissions reduction metrics, and ensure safer work practices.

www.flir.com/gf77a
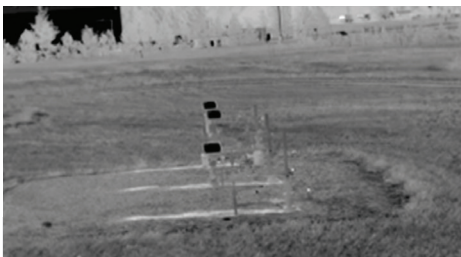
DEPENDABLE, AFFORDABLE FIXED OGI SOLUTION
Uncooled camera offers many FLIR industry-leading features for continuous monitoring applications

- Increase leak detectability by activating FLIR-patented High Sensitivity Mode (HSM)
- Remote motorized focus ensures a crisp image and measurement accuracy for objects at different distances
- See more with dual-streaming capabilities from thermal plus built-in digital cameras
- Simple third-party integration thanks to open architecture

DESIGNED TO VISUALIZE INDUSTRIAL GASES
Spectrally-filtered to detect gases, improving worker safety and leak location identification

- Continuously monitor for methane emissions so you can begin repairs immediately
- Visualize gases in specified spectrum while also reducing false negatives of gases that absorb in another wavelength
- Temperature-calibrated for added use in thermography, fire detection, and worker safety
- Install multiple units across a facility to maximize leak detection with fewer in-person inspections

ADVANCED FEATURES FOR UNMATCHED CONNECTIVITY
State-of-the-art technology allows simple integration to meet existing industrial needs

- Connects to a network for continuous, autonomous leak detection
- RTSP and GigE compliant for flexibility to meet many industrial communication needs
- ONVIF compliant to ease integration with standard security and NVR solutions
- Compressed radiometric image streaming saves network bandwidth and allow multiple outputs simultaneously

SPECIFICATIONS

Image and Optical Data

IR resolution	320 × 240 (76,800) pixels
Thermal resolution/NETD	<25 mk at 30°C (86°F)
Gas sensitivity/NECL	CH_4 (<100 ppm × m), N_2O (<75 ppm × m), C_3H_8 (<400 ppm × m); ΔT = 10°C, distance = 1 m
Spatial resolution (IFOV)	1.4 mrad/pixel
Image frequency	30 Hz
Field of view (FOV)	25° lens: 25° × 19°, 6° lens: 6.4° × 4.9°
Focal length	25° lens: 18 mm, 6° lens: 74 mm
Minimum focus distance	0.3 m (0.98 ft) for 25° lens; 5 m (16.4 ft) for 6° lens
Focus	One-shot contrast, motorized, manual

Detector data

Focal plane array/spectral range	Uncooled microbolometer / 7 - 8.5 µm
Detector pitch	25 µm

Visual imaging and optical data (optional)

Visual resolution	2592 × 1944 pixels
Visual focus and FOV	Fixed, 67.2° diagonal
Video lamp	Built-in LED light

Measurement

Object temperature range	-20°C to 70°C (-4°F to 158°F)
Accuracy	±5°C (±9°F) for ambient temperature 15°C to 35°C (59°F to 95°F) and object temperature above 0°C (32°F)
Measurement corrections	Global object parameters
Correction options	Atmospheric, optics transmission, emissivity, reflected apparent temperature, external optics/window

Ethernet

Web interface	Yes
Ethernet connector type	M12 8-pin X-coded, female
Ethernet communication	GigE Vision ver. 1.2, Client API GenICam compliant, TCP/IP socket-based FLIR proprietary
Ethernet image streaming	Yes
Ethernet power	Power over Ethernet, PoE IEEE 802.3af class 3
Ethernet protocols	IEEE 1588, ONVIF-S, SNMP, TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, sftp (server), FTP (client) SMTP, DHCP, MDNS (Bonjour), uPnP

Image streaming

Image streaming	RTSP Protocol	GVSP (GigE Vision)
Unicast	Yes	Yes
Multicast	Yes	Yes
Multiple image streams	Yes (for ONVIF, 1 stream only)	No

Video streaming

Video streaming	RTSP Protocol	GVSP (GigE Vision)
Image source 0	Visual, IR, MSX®, 640 × 480 pixels	
Contrast enhancement	FSX®, histogram equalization (IR only)	
Overlay	With, without	
Encoding	H.264 / MPEG4 / MJPEG	Uncompressed
Image source 1	Visual, 1280 × 960 pixels	-
Overlay	No	-
Encoding	H.264 / MPEG4 / MJPEG	-

Radiometric streaming

Radiometric streaming	RTSP Protocol	GVSP (GigE Vision)
Image source	IR, 320 × 240 pixels	
Pixel format	MONO 16	
Encoding	Compressed JPEG-LS, FLIR radiometric	Uncompressed, signal linear, temperature linear, FLIR radiometric

Digital input/output

Connector type	M12 Male 12-pin A-coded (shared with ext. power)
Digital input	2× opto-isolated, Vin (low) = 0–1.5 V, Vin (high) = 3–25V
Digital output	3× opto-isolated, 0–48 VDC, max. 350 mA (derated to 200 mA at 60°C). Solid-state opto relay, 1× dedicated as fault output (NC)

Power system

Connector type	M12 Male 12-pin A-coded (shared with Digital I/O)
General	PoE or External
Power consumption	6.8 W at 24 V DC typical, 7.0 W at 48 V DC typical, 7.3 W at 48 V PoE typical
External voltage	Allowed range = 18-56 VDC, 8 W max

	Pan and Tilt (Optional)	Wi-Fi
Connector	M8 A-coded, male	Female RP-SMA
Serial communication	RS232 and RS485 exclusively	-
Standard	Pelco D	IEEE802.11a/b/g/n
Connection type	-	Peer to peer (ad hoc) or infrastructure (network)

Physical data

Encapsulation	IP 54 (IEC 60529) IP66 with accessory
Weight	0.82 kg (1.8 lbs)
Size (L × W × H)	123 × 77 × 77 mm (4.84 × 3.03 × 3.03 in)

For a complete list of specifications, go to www.flir.com/gf77a

FLIR® | The World's Sixth Sense®