



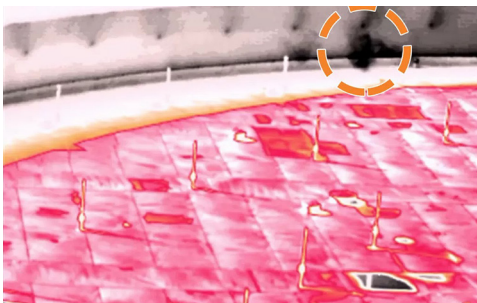
OPTICAL GAS IMAGING PAYLOAD FEATURING THERMAL BY FLIR®

GIS-320



FLIR is the exclusive global distributor of the Workswell GIS-320 optical gas imaging (OGI) payload for mobile platforms, including unmanned aerial systems and ground vehicles (UAS/UGV). Featuring Thermal by FLIR, this gas imaging system is the perfect solution for safely detecting methane as well as more than 200 hydrocarbons and VOC emissions resulting from oil and gas production, transportation, and use. The GIS-320 is built around a FLIR cooled infrared detector that provides industry-leading gas detection capabilities and the sensitivity needed to comply with the US EPA 0000a methane rule. When operated from a central location, the GIS-320 can detect leaks in hard to reach areas or inspect wellheads spread out over large areas in a single pass, making this OGI system a valuable addition to any leak detection and repair (LDAR) program.

www.flir.com/gis-320



GAS DETECTION FROM A SAFE DISTANCE

Reduce health and safety risks by adding the GIS-320 to LDAR programs

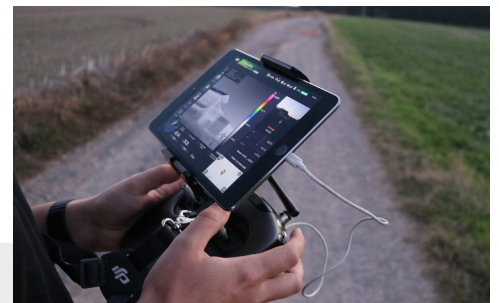
- Discover hidden gas leaks with 320 × 240 pixel IR resolution and <15 mK temperature sensitivity
- Record both visible video and thermal video with up to 10x optical zoom (visual camera)
- Visualizes more than 200 gases including methane, benzene, and ethylene
- High sensitivity, cooled FLIR detector with a spectral range between 3.2–3.4 μm



SEAMLESS INTEGRATION WITH UAS/UGV PLATFORMS

Remotely inspect wellheads, pipelines, tank batteries, and more

- Link to popular RC control systems with industry-standard connections
- Simple integration using industry standard input/output, including HDMI, SBUS, CAN, and GPS-MavLINK
- Compatible with Gremsy T7 or ¼-20 threaded mounts



COMPLY WITH EMISSION STANDARDS

Identify uncontrolled leaks that lead to costly remediation and harm the environment

- Meet inspection sensitivity standards with the integrated, 0000a-certified FLIR G300a camera
- See small leaks with the noise reduction filter and FLIR-patented High Sensitivity Mode (HSM)
- Verify leak location by displaying visible and thermal spectrum images simultaneously
- Set up and begin inspecting faster with the standard FLIR OGI system interface

SPECIFICATIONS

Imaging and Optical Data		GIS-320	
IR resolution		320 × 240 pixels	
Thermal sensitivity		<15 mK @ 30°C (86°F)	
Field of view		23 mm lens: 24° × 18° 38 mm lens: 14.5° × 10.8°	
Minimum focus distance		14.5° lens: 0.5 m (1.6 ft) 24° lens: 0.3 m (1 ft)	
Focal length		23 mm or 38 mm	
F-number		1,5	
Focus		Automatic motorized focus	
IR camera zoom		1-8x continuous digital zoom	
Digital camera zoom		10x optical zoom with vibration compensation	
Detector Data			
Detector type		Focal Plane Array (FPA), cooled InSb	
Spectral range		3.2 – 3.4 μm	
Sensor cooling		Sterling microcooler	
Image Presentation and Frame Rate			
Frequency		60 Hz	
Full Frame Rate		To be determined	
Image adjustment		Automatic, manual, or moving span (NUC control adjustable)	
Image Modes		IR only, VIS only, Picture in Picture with optical zoom, High Sensitivity Mode (HSM)	
Digital image enhancement		Noise reduction filter, High Sensitivity Mode (HSM)	
Special GAS detection mode		Yes, real-time as well as software visualization	
Measurement and Analysis			
Temperature range		-20°C to 350°C (-4°F to 662°F)	
Measurement functions		Max temperature, min temperature, center temperature	
Gases		200+ VOCs including: benzene, ethanol, ethyl-benzene, heptane, hexane, isoprene, methanol, MEK, MIBK, octane, pentane, 1-pentene, toluene, m-xylene, butane, methane, propane, ethylene, ethylene oxide, propylene	
Digital Visual Camera			
Visual resolution		1920 × 1080 pixels (Full HD)	
Camera features		1/3" sensor, auto white balance, wide dynamic range, blacklight compensation, exposure and gamma control	
Focus		Autofocus with direct focus zoom synchronization	
View angle		Ultra zoom 6.9°, extra wide 58.2°, focal 33.0 mm – 3.3 mm	
Remote Control and Video Output			
10-pin digital port		S.BUS, CAN bus (compatible with DJI M600 and A3 controllers), MavLink External GPS connectivity and external trigger	
Ethernet port (RJ-45)		Future connectivity	
USB 2.0 port		Keyboard connection for in-house control	
Video Output		Digital HDMI 720p (1280 × 720 px), Aspect ratio 16:9, Micro HDMI	
USB image and video streaming		Image: 16-bit 320 × 240 pixels at 30 Hz Video: 640 × 480 pixels at 30 Hz	

Memory and Data Recording	
Image file format	Radiometric JPEG images and digital camera JPEG Full HD Radiometric TIFF
Radiometric IR video recording	Radiometric full-frame IR recording (raw data recording in 30 Hz) Digital camera H.264 encode video HD recording
GPS tagging	MavLink External GPS A3 DJI compatible via CAN bus interface
Storage Media	Internal high-speed SSD 256GB for image and video recording External slot for Micro SD card & USB 2.0 for USB stick for taking images
Software and SDK	
Desktop software	Advanced thermal analysis and reporting SW including in the package
Additional Features	
Input supply voltage	9 – 36 VDC, Coaxial 2 × 6.4 mm, outer shell - GND
Power dissipation (avg.)	18 W
Operating temperature	-15°C to 50°C (-4°F to 122°F)
Mounting	4 × 1/4-20 UNC thread
Camera size	201 × 150 × 101 mm (7.9 × 5.9 × 4.0 in)
Weight	<1.6 kg (3.5 lb)

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com

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20-1535-INS-OGI-GIS-320 Datasheet-USA



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