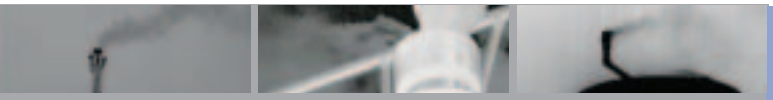
NEW! *Higher Sensitivity for Faster Inspections!*

FLIR SYSTEMS™

The Global Leader in Infrared Cameras

ThermaCAM® GasFindIR **LW**

INFRARED GAS IMAGING CAMERA
DETECTS SULFUR HEXAFLUORIDE



Take advantage of new technology to help protect the environment. The FLIR Systems™ ThermaCAM® GasFindIR™ LW infrared gas imaging camera enables utilities, manufacturers, and consultants to proactively diagnose leaks of Sulfur Hexafluoride SF_6 and other gases in electrical substations and equipment.

- Ergonomic, & Easy to Operate
- High-resolution 320 x 240 Viewfinder
- External Video Output
- Detects Other Gases in Addition to SF_6
- Helps Workers Spot SF_6 Gas Leaks Quickly & Safely from Ground
- Weighs Only 4.6 lbs. & is Powered by a Camcorder Battery
- Includes 50mm Lens (25mm and 100mm Optional)
- 320x240 Quantum Well Infrared Photo (QWIP) Detector

A Solution that Makes Sense

The integrity of more than 50,000 electrical substations across the U.S. has been compromised by age, weather, and other factors. As a result, highly-potent SF_6 gases are escaping from electrical transmission and distribution equipment at increasing rates. This has a huge economic and environmental impact.

Before FLIR Systems introduced the new GasFindIR LW technology, it was difficult for the utility industry to efficiently survey and find SF_6 gas leaks in substation equipment. Earlier methods of SF_6 detection required close or near contact using "sniffer" technology and probes. These methods can be time consuming or impractical for examining live high-voltage switchgear.

Save Time, Money, and the Environment

Now, with the help of the GasFindIR LW camera, utility companies and other organizations can search for SF_6 leaks across a range of substation equipment at safe distances without the need to interrupt power. Also, when utilities take advantage of the new GasFindIR LW technology, they can show consumers and the public they are part of the solution to help reduce greenhouse gases.

Capable of scanning large areas from the ground, the GasFindIR LW camera delivers real-time, high-resolution thermal images of gas leaks. Images can be recorded on the Personal Video Recorder (PVR) included with the GasFindIR LW camera and displayed on a standard TV. This makes documenting and reporting of affected areas easy and efficient for utility companies. As a result, professionals can scan more equipment in less time, which maximizes their investment in leak detection technology.

New and Advanced High Sensitivity Mode™ (HSM)

High Sensitivity Mode (HSM) is a new feature of the FLIR Systems GasFindIR camera. HSM uses advanced technology to enhance the presence of SF_6 and other gases against stationary backgrounds. The HSM feature makes the inspection process easier, faster, and more accurate for utility engineers and camera operators.

The GasFindIR LW camera takes advantage of a spectral filter that is optimized to detect SF_6 and other gases and vapors. Thermally, the camera's sensitivity is <35mK when FLIR's adaptive temporal filter is engaged. The GasFindIR LW weighs only 4.6 pounds and is powered by a camcorder battery. The GasFindIR LW enables thermographers to quickly and easily find SF_6 gas leaks from ground level—whether the leaks are a few feet or 40 feet away.

Did You Know?

Once released, SF_6 remains in the atmosphere for thousands of years and traps more heat than any other greenhouse gas. Early detection and repair of leaks is one way electric power systems are helping to protect the environment.

More than 80 electric power utilities are now part of The U.S. Environmental Protection Agency's SF_6 Emission Reduction Partnership for Electric Power Systems. The partnership was formed by the EPA and the electric power industry to identify and implement cost-effective solutions to reduce sulfur hexafluoride SF_6 emissions.

For more information about the program and ways to reduce SF_6 emissions, go to www.epa.gov/electricpower-sf6.

Why Detect SF_6?

SF_6 that escapes has a lifetime of 3,200 years. Over a 100-year period, SF_6 is 23,900 times more effective at trapping infrared radiation than an equivalent amount of carbon dioxide.

Because of its long lifespan and high potency, even a relatively small amount of SF_6 can have a significant impact on global climate change.

The most common use for SF_6 is as an electrical insulator in equipment that transmits and distributes electricity. Since the 1950s, the U.S. electric power industry has used SF_6 because of its dielectric strength and arc-quenching characteristics. SF_6 is used widely in gas-insulated substations, circuit breakers, and other switchgear.

Infrared imaging and SF_6

"Until now, it has been difficult or even impossible for the utility industry to conduct system-wide effective leak detection and repair programs. FLIR Systems new infrared gas imaging cameras can play a big role in reducing the effects of SF_6 greenhouse gas. To our knowledge, no other tool exists to quickly and easily see SF_6 leaks."

-- Paul Czerepuszko, Director, FLIR Systems.

ThermaCAM® GasFindIR LW Technical Specifications

Imaging Performance	
Field of view/min focus distance	11° with 50mm lens
Focus near	< 1m
Focusing	Manual
Thermal sensitivity (N.E.T.D)	35 mK @ 30° C
F-number	2.0
Detector	
Type	Focal Plane Array (FPA), QWIP, 320x240 pixels
Spectral Range	10-11 µm
Integration time	16 ms, user selectable
Power Input	
Voltage	6V
Power Consumption	<8W typ.
Physical Characteristics	
Weight (with battery and lens)	Approx. 4.6 lbs. (2kg)
Color	Black
Size with 50mm lens (LxHxW)	11.8" x 5.2"x 6" (300mm x 132mm x 152mm))
Interface	Tripod mounting UNC 1/4", rotation safe
Available Lenses	
Field of View	25 mm (22°) 50 mm (11°) 100 mm (5.5°)
Environmental	
Operating temperature range	-15° C to +40° C (+5° F to +104° F)
Storage temperature range	-30° C to +50° C (-22° F to +122° F)
Bump	40g, MIL-STD-810F
Vibration	7.15g, MIL-STD-810F
EMC	EN 50081-2 (Generic emission) EN 50082-2 (Generic immunity)
Humidity	20-80% (non condensing) IEC 359
Image Specifications	
Image storage	Hand-held personal video recorder, commercial, off-the-shelf
Image out	NTSC/RS-170
Camera control	RS-232, push-button on camera
Connectors/function	C-video, PAL, NTSC, and Serial RS-232
Frame rate	60 Hz/30 Hz, user selectable for cold/temperature environments

Camera includes:
320x240 QWIP High Performance FPA
50mm Lens with Lens Cover
Viewfinder
Auto Gain Control (AGC)
HSM
Intelligent Battery Charger
Battery, 3 each, LiOn
Video Cable
Hand Strap
Shipping/Carrying Case
Operating Manual
Personal Video Recorder (PVR) and Battery

The GasFindIR LW can be used for compressor cabinet inspections and examination of other switchgear in utility situations.

GasFindIR LW Camera is Lab Tested to Detect:
SF_6, Sulfur Hexafluoride
NH3, Anhydrous Ammonia
C6H7NO2, Ethyl Cyanoacrylate, "superglue"
ClO2, Chlorine Dioxide
C2H4O2, Acetic Acid, "Vinegar"
CCl2F2, Dichlorodifluoromethane, FREON-12
C2H4, Ethylene
C4H8O, Methyl ethyl ketone, MEK
Compounds Similar to Above (Too Dangerous to Test but Assumed Detectable)
Uranyl Fluoride
Bromomethane
Acetyl Chloride
Vinyl Chloride
Methyl Vinyl Ketone
Tetrahydrofuran
Vinyl Cyanide
Hydrazine
Furan

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www.goinfrared.com/gasfindirlw