



GAS IMAGING TECHNOLOGY, LLC



Sherlock[®]FE

Remote Stack & Flare Gas Analysis System



Sherlock is a battery operated imaging spectrometer that has been designed for gas imaging and analysis. Sherlock has been field tested at numerous petrochemical, refining and processing plants around the world. The Sherlock FE was designed for monitoring the emissions of gases from stacks and unburned gases from flares. Other applications include flare efficiency analysis, process control, environmental monitoring of smog and acid rain producing gases as well as greenhouse gases, for all types of

industries: oil, gas, chemical, power generation, mining, pulp & paper, just to name a few.

Sherlock is based on patented IMSS spectral imaging¹ technology that has been proven for several Department of Defense related applications. Now, this technology is available for applications in the commercial market and has been developed for several applications related to gas imaging and analysis.

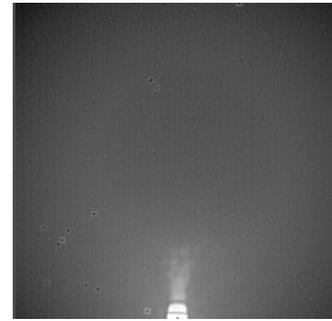
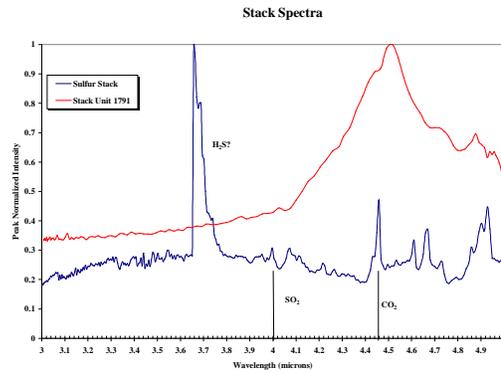
Sherlock's ability to image and monitor emissions from stacks is displayed in the images below (taken remotely of stacks on the right and a flare on the left, as examples of a typical Sherlock Image and the resultant spectra). The enclosed flare, as imaged on the left, has a large CO₂ emission as indicated by the broad spike in the red spectra. The stack, as imaged on the right, is releasing what appears to be H₂S (a deadly gas) into the atmosphere as indicated by the blue spectra. Sherlock can be used to monitor numerous stacks in a plant from a single remote location, thus saving considerable cost in stack emission monitoring as well as flare analysis.

Sherlock can also be used for flare and stack efficiency analysis. Remotely monitoring the gas emission ratios could provide information to determine the efficiency of the process. Real-time feedback via an Ethernet connection to the process controllers enables adjustment for maximum efficiency, thus saving added costs by reducing the use of unnecessary fuel oil. In this manner, the Sherlock FE can be used for continuous emissions monitoring and efficiency analysis.

¹ U. S. Patent numbers: 5,479,258; 5,867,264; 6,680,778

Gas Imaging Technology

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Sherlock remotely monitoring stack emissions and flares

Specifications

Sherlock Mechanical Characteristics

Weight	15 pounds without battery 19 pounds with battery
Size	12(L) x 7(W) x 8(H) inches
Power	12 volt battery or AC

Sherlock FE Optical Characteristics

Spectral Range	3 to 5 microns
F number	f/2.5 at 3 microns
Focal Length	75 mm at 3 microns
Instantaneous Field of View	0.4 mrad
Field of View	7.3° x 5.5°
Spatial Resolution	340 x 240 pixels

Basic Sherlock Includes

1. Embedded software
2. Electrical Interfaces - Ethernet, RS232, NTSC, S-Video, USB
3. User Interface - Push button allowing one hand operation
4. Small LCD Video Display (640 x 480 pixel display)
5. Sun Shield
6. Embedded Digital Video Clip Recording
7. Standard 12 volt battery
8. Battery Charger/AC supply
9. Shipping Pelican Case
10. All Necessary Cables
11. HyPAT software for post processing and gas quantification
12. Two day training at manufacturer's facility

Accessories

1. Tripod ¼-20 Threaded Mount
2. Easy Rig pneumatic harness for easy caring when using in the field for many hours
3. Extra Batteries
4. Small Portable VCR

Specifications can change without notice

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