OPTOSKY
Spectroscopy Solutions

Datasheet

Methane Leak Monitor Thermal Imager

GF320

Features

- Specially designed for the safety application of petrochemical and natural gas industries, fully considering the actual needs of customers
- Using cooling detectors to accurately detect the leakage of methane and VOCs
- High sensitivity, able to detect smaller leaks
- Support multiple image modes of infrared and visible light, support gas enhanced display
- Temperature measurement and laser ranging, support GPS to obtain real-time geographic information
- Equipped with a large-size touch screen, easy to operate, better human-computer interaction experience
- Built-in audio and video storage device, support mobile phone/computer access
- Good portability, replaceable battery, prolong working time
- Rugged, high reliability, protection class IP65, suitable for harsh weather and environment Environmental utilization

Application

Offshore platforms

Refinery

Liquefied Natural Gas LNG Shipping Terminal

compressor station

Biogas Power Plant

Natural gas wellheads and natural gas processing plants

Description

Methane is commonly found in the exploitation of petroleum,coal and natural gas resources and in chemical production. It is an important fuel and chemical raw material, and is also the main source of natural gas.Due to the inability to effectively monitor and alarm gas leakage, leakage and explosion hazards are prone to occur in the process of gas exploitation, LNG transportation and storage. Therefore,several accidents have occurred in recent years, causing casualties and property losses; In the fields of petroleum, coal mining, chemical production, and biogas application, safety accidents caused by gas leakage also occur from time to time, seriously threatening the lives and property safety of personnel.

In order to avoid and reduce the losses caused by gas leakage to the greatest extent, it is becoming increasingly important to develop real-time methane gas detection and leakage monitoring technologies.

GF320 gas leak detection thermal imager is a non-contact portable gas leak detection instrument carefully developed by Optosky using infrared radiation imaging technology, which can accurately find dozens of VOCs (volatile organic gases) such as methane by imaging Leak point, real-time and intuitive positioning of gas leak point and accurate temperature measurement in image mode, to achieve rapid detection of equipment, facilities and environmental safety.

GF320 can detect gas leakage from a safe distance, which greatly guarantees the safety of operators. In addition, the machine can also track some gases that are harmful to the environment, which has safety and environmental benefits.

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1. Parameter

GF320 specification parameter	
Thermal imager	
Thermal sensitivity	<15mK@20℃
Close focal length	<0.5meters
Angle of view	23.6°*19° @23mm lens
Electronic zoom	X1/X2/X4
Focusing method	manual
Detectable gas	Methane, ethane, propane, butane, hexane, heptane, octane, ethylene oxide, propylene oxide, ethylene, propylene, butene, pentene, butadiene, isobutylene, styrene, methanol, propylene Alcohol, isopropanol, benzene, toluene, ethylbenzene, xylene, propionaldehyde, butanone, acetic acid and other VOCs gases
Detector	
Detector type	HgCdTe Cooled Infrared Detector
Resolution	320*256
Pixel pitch	30um
Refrigerating machine	R5058
Cooling time	≤8min@20℃
Gas Detection Sensitivity	0.001ml/s
Corresponding band	3.2±0.1um~3.5±0.1um
Image display	
Display screen	6-inch color touchable LCD screen, 1080×1920 pixels
Frame rate	30HZ
Dimming	Linear/Histogram/Mixed three modes
Image orientation	Horizontal/vertical/diagonal flip
Image control	Local zoom, freeze, screenshot
Image algorithm	Non-uniformity correction, adaptive dynamic range compression, intelligent image enhancement
Digital camera	5 million pixel CMOS, with LED light
Viewfinder	800*600 pixels
Built-in digital video camera	VGA, fixed focus, PAL analog video
Image mode	Infrared, visible light, enhanced infrared
Gas enhanced display	Gas Enhanced Mode

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Image adjustment	Automatic/manual adjustment of contrast and brightness;
Video and Audio Recording	Digital video recorder built-in, connected to PC via USB/HDMI
Snapshot function	On each video, a snapshot of the first frame will be recorded to a JPG file with the same video name
Storage	64GB
GPS	Built-in, accuracy ≤ 3M, low power consumption, external equipment, accuracy < 3M, real-time display of location latitude and longitude on the display
Communication method	WiFi，Bluetooth，USB、HDMI
Temperature measurement	
Temperature range	0℃~500℃
Temperature measurement accuracy	±1%or±1.5℃
Laser Ranging	
Laser function	Support laser pointing and distance measurement, distance measurement range 150M
Power input	
Voltage	12VDC
Power	20W
Power supply	Removable Li-ion rechargeable battery
Battery life	not less than 3 hours
Software	
System	android
Main functions of the software	1. Chinese operation interface, which can be operated by buttons and touch screen at the same time; 2. Fusion of visible light image and infrared image; 3. Automatically mark the gas leakage point; 4. Support automatic/manual adjustment of image contrast and brightness; 5. Support simultaneous recording of infrared video and visible light video, voice data can be recorded at the same time; 6. The instrument has a temperature measurement mode, and the temperature measurement mode has its own isotherm temperature analysis function; 7. The instrument has the functions of laser indication and distance measurement, and can display distance information on the screen; 8. GPS positioning: the display can display real-time latitude and longitude information; 9. Report wizard or template function: prompt operation or use template to help create analysis report; 10. Support to connect with mobile terminal through wifi, and can view and download videos remotely; 11. Support gas leakage alarm, low battery alarm and fault alarm, etc.;
Physical parameters	

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Weight	4.2KG
Color	Gray-black
Size	230*110*130mm
Interface	Standard 1/4" internal thread interface (tripod)
Environmental parameters	
Operating temperature range	-20℃~50℃
Storage temperature range	-40℃~70℃
Temperature and humidity	Temperature -40℃~+60℃, humidity 95%
Explosion-proof grade	Not lower than Ex ic nc IIC T4 Gc
Degree of protection	IP65 (IEC60529), dustproof, anti-spray water
Anti-jamming	ETSI EN 300 489328,FCC Part 15,247,
Impact resistance	25g(IEC60068-2-29)
Safety	EN/UL/CSA/PSE 60950-1
Anti-vibration	2g(IEC60068-2-6)
Other Accessories	
Communication wiring	HDMI cable, USB TypeC data cable
Battery	2 batteries, charger, charging cable
Lens	Fixed focus lens 23mm/F1.5
Hood	optional
Other	Dedicated Bluetooth headset, standard SD card and card reader, carrying strap, carrying case

2. GF320 Physical map

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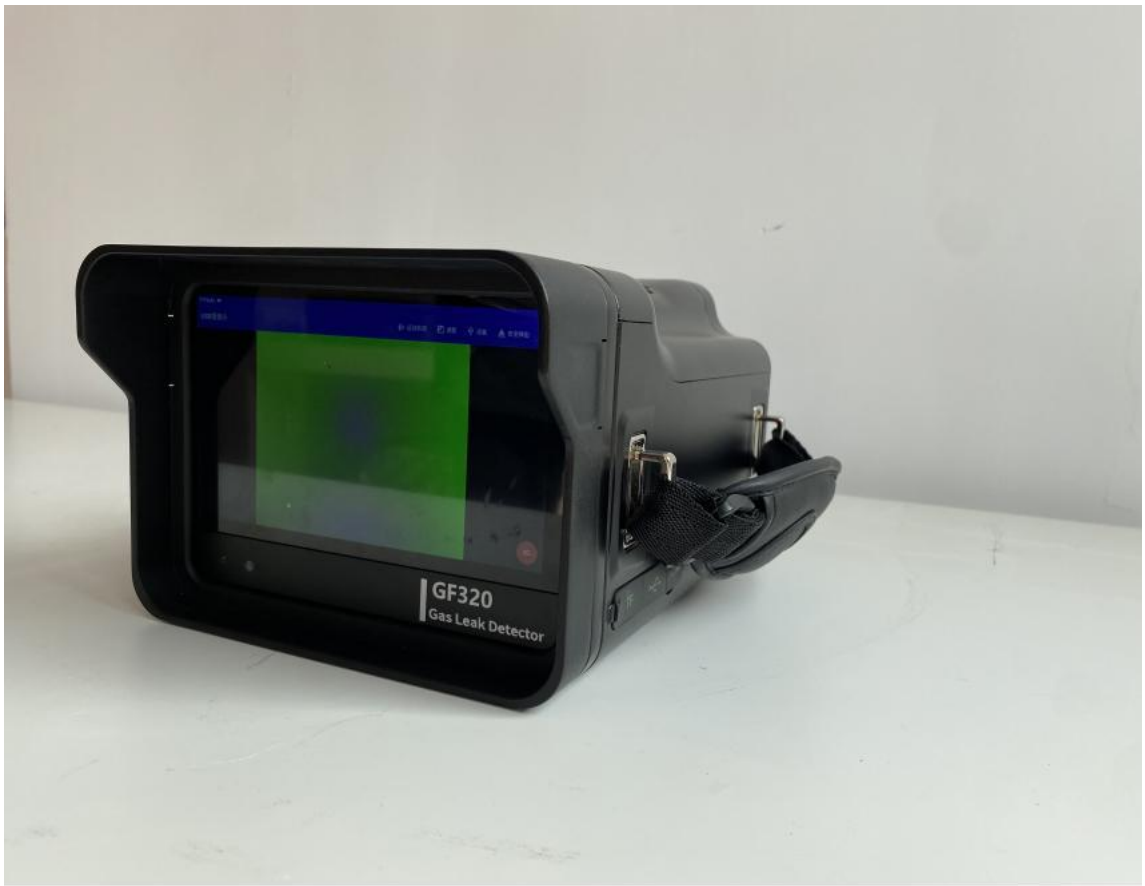

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