

OVERVIEW

KSF-320 - Gas Thermal Imaging Camera is equipped with cooled detector (QWIP, NETD<25mk) to scan large areas rapidly and pinpoint the gas leaks location accurately, also monitors and inspects the equipments that are difficult to reach with contact measurement tools. It is a multifunctional device for gas leakage detection and thermograph applications. KSF-320 provides safe & efficient inspection at long distance without shutting systems down. Camera produces the crisp thermal image and accurate temperature reading of numerous objects to you, is also packed with SD card to store thermal images and voice annotation, for the computer analysis.



TYPICAL APPLICATIONS:

- » **Electric Power Industry:** Detect and visualize the SF6 and other harmful gases leaks and thermal imaging status from the insulation electrical equipments, machines and high-voltage equipment switchgear; Failure diagnose.
- » **Petrochemical Industry:** oil pipeline check, material interface detection, heat leakage, insulation structure and power equipment detection.
- » **Fire Protection:** forest fire protection and latent fire source search, self-ignition prevention and detection of special material, electric fire precaution detect.
- » **Medical Application:** Accurately measures human body temperature and analyzes temperature field distribution.
- » **Building Industry:** humidity, air leakage and insulation defects detection.
- » **Other Applications:** Research and development industry, automation industry, and preventive maintenance, etc.



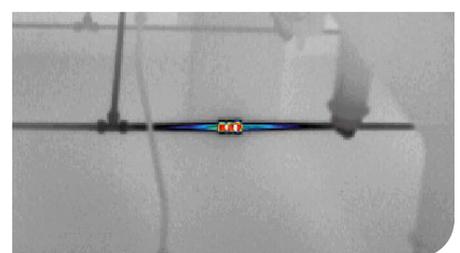
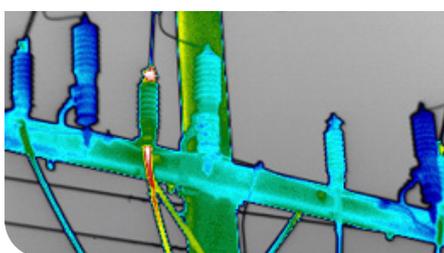
FEATURES:

- » Cooled QWIP detector, sensitivity <math><0.025^{\circ}\text{C}</math>, pinpoint gas leaks location quickly,
- » SF6 Detection accuracy $\leq 0.001\text{ml/s}$
- » Dual-application: Gas leakage detection and thermograph application,
- » Temperature range: $-20\sim 500^{\circ}\text{C}$,
- » Inspection without interrupted process,
- » Interchangeable lenses available,
- » Built-in 5.0 MP digital camera,
- » Folding and 270° rotatable display



GAS LEAKAGE DETECTION:

SF6, Furan, NH3, MEK, Cyanoacrylate, Chlorine, Dioxide, Acetyl Chloride, Hydrazine, Allyl Bromide, Allyl Chloride, Vinyl, Allyl Fluorid, Methyl Bromide, EA, Tetrahydrofuran, Silane, Acetic Acid, Freon-12, Chloroethylene, Acrolein, Propylene, Acrylonitrile, Vinethene, Trichloroethylene, Uranium Fluoride, etc.



SPECIFICATIONS

Detector Data

Detector type	Cooled QWIP
Resolution	320x256
Pixel pitch	30 µm
Spectral range	10.3 10.7µm, wave crest 10.55 µm
Sensitivity/NETD	<25mK @ 30°C
FOV/Min focus	10°× 7.5° / 0.5m Standard 20° x 15° / 0.25m Optional
Spatial resolution (IFOV)	0.55mrad (10°× 7.5°)

Image Performance

Image frequency	60Hz
Focus	Manual
Digital zoom	1~8 Continuous
Visual camera	5.0 mega pixel
Spotlight	10cd/m²

Image Display

Viewfinder	0.6" color OLED, with magnification
Image display	5" , 270° tiltable LCD, 800×480
Auto image adjustment	Linear or histogram based
Manual image adjustment	Level/Span
Image modes	Thermal image, visual image, High Sensitivity Mode

Measurement

Temperature range	-20°C~500°C
Temperature accuracy	±2°C or ±2% of reading
Measuring calibration	Auto/Manual
Spotmeter	10 moveable spots
Area	5 adjustable boxes with max/min/ average temp
Line profile	Horizontal/vertical
Emissivity correction	Variable from 0.01~1.0, or correct the emissivity by predefine values
Alarm	Voice and Color
Color palettes	12 palettes (incl. Iron, rainbow, black hot, white hot)
Image adjustment	Auto/Manual brightness and Contrast adjustment
Set-up commands	Date/Time, temperature units °C/°F/°K, Language
Background temperature correction	Automatic, base on input background temperature
Atmospheric transmissivity correction	Automatic, base on input reflection environment temperature, distance, relative humidity, atmospheric transmission and external optical parameters
Multiple language menu	10 languages (English, French, Italian, German, Spanish, Portuguese, Russian, Korean Japanese, Simplified Chinese & Traditional Chinese)

Image Storage

Detector type	8G Micro SD(2 pcs), 32G optional
IR image format	Single frame, JPG format, 16-bit measurement data included
Visual image format	Single frame, JPG format, visual images auto correlation with infrared images
Storage type	Manual/Auto single frame image storage, continuous visible and IR image
Periodic image storage	10 seconds to 24 hours
Voice annotation	40s voice annotation, stored as image/video
Video storage	High definition video stored in SD card (MPEG-4/H.264 format), recording time up to 4 hour for per video

Laser Pointer

Grade/Type	Class II, 1mW/635nm red
------------	-------------------------

Power System

Battery	Li-ion, chargeable and replaceable
Operating time	2 hours continuous operating (Normal temperature)
Charging system	Intelligent charger, AC adapter or car adapter
External power	12V
Power saving	Yes

Environmental Data

Operating temp. range	-15°C~+40°C
Storage temp. range	-30°C~+60°C
Humidity	≤95% (non-condensation)
Electromagnetic compatibility	EN61000-6-4 & EN61000-6-2 FCC47CFR Part15 class A EN61000-4-8, L5
IP level	IP54 (IEC60529)
Shock	25G, IEC60068-2-29
Vibration	2G, IEC60068-2-6

Physical Data

Camera weight	≤2.4 kg (incl. battery and standard lens)
Camera size (L×W×H)	306mm × 140mm × 162mm

Data Communication Interface

UCB	Radiometric images transfer to and from PC
Video output	CVBS
Audio output	Yes
Power	Yes
Size of screw nut on tripod	1/4" _20

Gases Detection

Sulfur Hexafluoride (SF6), Ammonia (NH3), Cyanoacrylate, chlorine dioxide, acetic acid, freon-12, methyl ethyl ketone(MEK), etc.

Packing

Thermal imaging camera with Standard lens, 2 Batteries, Batter charger, Adapter, SD card, SD card reader, CD-ROM, Warranty extension card or Registration card, Calibration certificate