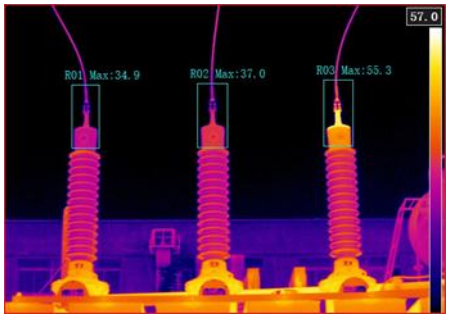
AT160

Acoustic Thermal Imaging Device

Introducing the AT160, a high-performance thermal and acoustic imaging solution with a 640x512 IR detector and 5.8" sunlight-visible display. It supports infrared, gas leak, partial discharge, and mechanical fault detection with a 162-digital MIC array for precise acoustic analysis.

Ensuring ±2°C accuracy and ±0.5°C uniformity, it offers a 0kHz-100kHz detection range up to 150m. Data is stored in .jpg and .png formats with full temperature details for efficient inspections.



Key Features

- **640x512 IR Resolution** – High-definition thermal imaging on a 5.8” display.
- **Multi-Detection** – Infrared, gas leaks, partial discharge, and mechanical faults.
- **High Accuracy** – ±2°C or ±2% temperature precision.
- **Uniform Measurement** – ±0.5°C full-screen accuracy.
- **Long-Range Acoustic Detection** – 0kHz-100kHz frequency, 0.3m-150m range.

Marley’s Lane,Drogheda,Co.Louth,Ireland
Tel:+353(41)9846786
Email:enquiry@satir.com
Website:www.satir.com

AT160 Specifications

Please be aware specifications can vary from time to time

Model	
Infrared parameters	
Detector resolution	640x512
Temperature resolution	<30mK(@30℃)
Spatial resolution	0.68 mrad(24° lens)； 1.31 mrad(48° lens)； 0.34 mrad(12° lens)； 0.17 mrad(6° lens)
Display	5.8" sunlight visible display screen, 1280x768
Touch Screen	Capacitive touch screen
Detector material	Uncooled detector
Working band	7.5~14μm
Standard lens	24°
Optional lens	48°/12°/6°
Depth of field	0.25 m~∞(48° lens/24° lens)； 1m~∞(12° lens)； 4 m~∞ (6° lens)
Lens rotation angle	≥130°
Camera recognition	Auto
Lens focusing method	Manual, automatic, electric
Image frame rate	30 Hz
Acoustic parameters	
Microphone	162 digital silicon MIC arrays
Frequency broadband	0kHz～100kHz
Distance	0.3-150m (Related to the size of the sound source signal)
Pseudo color mode	White and black, black and white, rainbow, iron red, red and black, fusion, rain, blue and red, etc
Sound intensity display	Highest point
Acoustic detection mode	Gas leakage detection mode, partial discharge detection mode
Audio-visual frequency	25Hz
Minimum leakage rate	The minimum detectable leakage at 0.5m and 0.6MPa is 0.078ml/s; At 1m and 0.5MPa, the minimum detectable leakage is 0.122ml/s
Sound intensity range	Lower limit:& lt;-15 dB； Upper limit:& gt;120 dB
PRPD map	Support
Acoustic sampling rate	200kHz
Gas leakage loss display	Support
Gas leakage display	Support
Gas leakage level display	Support
Partial discharge testing	Support
Partial discharge type recognition	Support
Acoustic measurement function	Support 2 measurement points and 2 measurement boxes
Temperature measurement parameters	
Standard Measuring range	-20°C~ 650°C

Optional Measuring range	+1000°C/+1500°C/+2000°C
Temperature measurement accuracy	±2℃ or 2% of readings
Visible light parameters	
digital camera	Built in 1300W pixel digital camera with LED light
Ranging laser parameters	
Laser ranging range	0.01m~40m
Laser ranging accuracy	±1cm or 1‰ of readings
Ranging laser parameters	
Laser alignment	Automatically display the position on the infrared image
Image display	
Palette	16 color palettes
Picture in Picture	Support displaying infrared image areas on visible light images
IMIX	support
Image Fusion	support
Isothermal line	support
Super-resolution	Support, 4X, 1280x1024 pixels
GPS	Built in GPS, automatically adding location information to the image
Audio visual mode	
Audio visual mode	Sound and image mode, infrared thermal imaging mode, and acoustic thermal hybrid mode
Wireless transmission	
WIFI	Support
4G	Support
Bluetooth	Supports Bluetooth earphones for recording and playback
USB transfer	
USB transfer	Use USB to transfer pictures from SD card in the machine to PC
Measurement and Analysis	
Measurement settings	Supports up to 18 points, 18 boxes, and 18 lines simultaneously, including maximum/minimum/average values
Full screen maximum/Minimum temperature	Support, automatically capture full screen highest/lowest temperature
Temperature difference	Automatically calculate temperature difference
Optical device transmission correction	Manual/automatic, based on signals from internal sensors
Radiometric correction	Automatic, input value based on emissivity
Atmospheric transmission correction	Automatic, based on input values of distance, atmospheric temperature, and relative humidity
User interface	
Text Annotation	Select text annotations from the preset list, which can be edited in the thermal imager
Voice annotation	Support voice annotation and store it along with the image
Image storage	
Storage method	32GB high-speed SD card (capable of storing over 10000 infrared images)
Infrared image format	. jpg (including full temperature data)/. png (including full temperature data)
Visible light image format	.jpg
Infrared video format	H.264

Video output	
Video output	HDMI
Video Outputs	Micro HDMI
Alarm	
Alarm method	Automatic sound and light alarm for the set temperature value/above/below/below
Power Supply System	
Battery type	Detachable rechargeable lithium battery
supply voltage	DC 12V
Battery operating time	At 25 ° C, for general use>3 hours
Charging method	Dual seat charger
Physical parameters	
weight	1.3kg (including battery, excluding lens)
size	192x173x116mm
Using environmental parameters	
operation temperature	-20°C~55°C
storage temperature	-40°C~70°C
Humidity (working and storage)	≤95%， non-condensing
inspection report	IP54
Tripod installation	UNC¼"-20

Scenario Applications