



## Industrial Acoustic Imaging Camera for Partial Discharge Detection

# FLIR Si124-PD™

The FLIR Si124-PD is an easy-to-use, stand-alone system for detecting partial discharge problems in high voltage electrical systems. This lightweight, one-handed solution is designed to help maintenance, manufacturing, and engineering professionals identify issues up to 10 times faster than with traditional methods. Built with 124 microphones, the Si124-PD produces a precise acoustic image that visually displays ultrasonic information, even in loud industrial environments. The acoustic image is overlaid in real time on a digital camera picture, which allows the user to accurately pinpoint the source of the sound. Equipped with the FLIR Acoustic Camera Viewer cloud service, this smart tool automatically saves images to the cloud after they're captured. Users can then apply the FLIR Advanced Severity Assessment analysis to classify the severity of the issue and provide guidance on recommended actions to resolve the problem. Through a regular maintenance routine, the FLIR Si124-PD can help facilities save money on utility repairs.

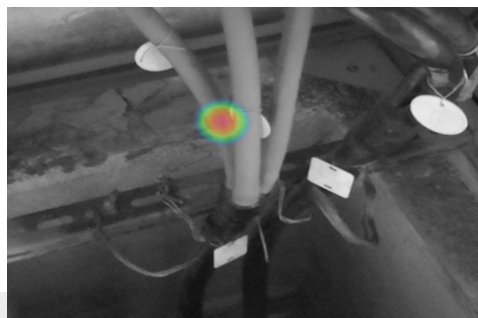
[www.flir.com/si124](http://www.flir.com/si124)



### FIND PARTIAL DISCHARGE PROBLEMS FASTER

Detect partial discharge and corona up to 10 times faster with ultrasonic imaging vs. traditional methods

- Locate problems precisely, even in loud industrial environments, thanks to high-resolution acoustic images and 124 built-in microphones
- Optimize staff time, as minimal training is required to use the Si124-PD
- View visual and sound images simultaneously
- Operate the lightweight camera with one hand and easily review images on-screen, even in bright, outdoor conditions



### IMPROVE RELIABILITY

Minimize equipment failures and downtime that result from partial discharge issues

- Analyze partial discharge pattern and classify problems to improve reliability of electrical systems
- Classify partial discharge type, including surface discharge, floating discharge, and discharge into air
- Evaluate frequency to determine the type and severity of discharge, allowing maintenance to be scheduled



### INSPECT EASILY

Locate, analyze, and classify discharge easily with this convenient, smart tool

- Safely detect problems from distances up to 130 m (430 ft)
- Upload, store, and back up data; create reports; and conduct deep analysis using FLIR Acoustic Camera Viewer cloud analytics
- View images in the cloud immediately after capture thanks to automatic upload feature
- Determine the level of threat from partial discharge with Advanced Severity Assessment software analytics

## SPECIFICATIONS

Acoustic specifications	
Acoustic measurement	124 low-noise MEMS microphones, real-time sound visualization
Sensitivity, accuracy	<-15 dB
Dynamic range	>120 dB (frequency-dependent)
Bandwidth	2 kHz to 35 kHz, adjustable range
Distance	From 0.3 m (1.0 ft) up to 130 m (430 ft)
Electrical discharge classification	<ul style="list-style-type: none"> <li>Negative corona</li> <li>Positive and negative corona</li> <li>Floating discharge</li> <li>Surface or internal discharge</li> </ul> PRPD pattern provided in FLIR Acoustic Camera Viewer cloud service
User interface	
Display	Size: 5 in, 800 × 480 Color: 24-bit RGB Brightness: 1000 cd/m <sup>2</sup> (adjustable)
Input device	Resistive touchscreen
Power On indicator	Red LED
Video image resolution	800 × 480
Video frame rate	25 fps
Acoustic image frame rate	30 fps
Zoom	2x digital zoom
Communication and data storage	
Wireless data transfer	Wi-Fi 2.4 GHz and 5 GHz IEEE 802.11.b/g/n/ac wireless LAN
Storage, internal	32 GB/2000 snapshots (typical) on non-removable SD card
Storage, external	8 GB/500 snapshots (typical) USB mass storage, provided with device
Power supply	
Nominal input voltage	12 V Max input: 15 V, 2.5 A
External battery	LiFePO 12 V 7 Ah, 84 Wh Usage: up to 7 h (depends on ambient conditions) Charge time: 4 to 6 h Max output: 13.8 V, 4.0 A
Battery charger	Input: 100-240 V AC, 50/60 Hz 1.3 A Max output: 14.6 V, 4.0 A
Internal battery (only for camera backup use)	Li-Ion 6 Wh

Environmental	
Operating and storage temperature range	Recommended: -10°C to 50°C (14°F to 122°F)
Operating and storage humidity	Recommended: 0 to 90%
Physical data	
Camera size	273 × 170 × 125 mm (10.7 × 6.7 × 4.9 in)
Camera weight	Camera: 980 g (2.2 lbs)
Battery size	90 × 145 × 65 mm (3.5 × 5.7 × 2.6 in)
Battery weight	985 g (2.2 lbs)
Total weight, incl. all accessories	2.9 kg (6.4 lbs)
Battery cord length	0.75 m (2.46 ft), extended 1.5 m (4.92 ft)
Included in the Box	
Contents	Camera, camera pouch, hand strap, USB memory stick, and battery with cable, charger, and pouch

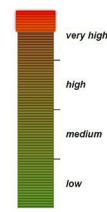
**Analysis parameters**

Distance:  m

Voltage:  kV

Location:

**Severity**



very high

high

medium

low

**Description:**

This is likely to be a very strong surface or internal discharge. Surface or internal discharges on cables, terminations, and joints will progress over time and might rapidly escalate to insulation breakdown.

**Recommendation:**

Immediate action. Visual inspection. Cleaning of polluted surfaces. Repair or replacement of the components.

Recognize PD issues and determine severity with FLIR Severity Assessment, included in the analysis software

Specifications are subject to change without notice. For the most up-to-date specs, go to [www.teledyneflir.com](http://www.teledyneflir.com)

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