Flir Si2a-PD

Industrial Fixed Acoustic Imaging Camera for Partial Discharge Detection

Key Features:

- Provides continuous 24/7 condition monitoring, enabling early detection of partial discharge (PD), corona, arcing, and other electrical anomalies to help prevent unplanned outages and improve operational safety.
- Detects, locates, assesses and classifies partial discharge, supporting safe inspections, integrates into Assetlink where multi-sensor data can be tagged to assets to provide a holistic summary about asset health.
- AI enhanced detection and analysis that delivers accurate results with minimal operator intervention and enables enterprise ready system integration and data management.

Main Applications:

- Early fault detection across transmission, distribution, and substation assets in electrical utility environments to reduce outages, emergency maintenance, and high cost failures.
- Continuous and permanent monitoring of medium and high voltage switchgear in industrial facilities to identify early stage partial discharge and prevent unplanned outages, safety risks, and costly downtime.
- Condition monitoring of gas insulated switchgear (GIS) to detect insulation degradation, moisture ingress, or contamination early and avoid catastrophic failures and expensive repairs.

Specifications

Acoustic Specifications	
Acoustic measurements	124 low-noise MEMS microphones, real-time sound visualization
Detection threshold	20kHz: -19.5 dB; 35 kHz: -11.2 dB; 50 kHz: -9.8 dB; 80 kHz: 12.2 dB; 100 kHz: 22.8 dB
Bandwidth	2–130 kHz
Directional resolution	From 1° up to 0.125°
Operating distance	From 0.3 m (1.0 ft) up to 200 m (656 ft)
PD type recognition	Surface or Internal Discharge, Positive and Negative Corona, Negative Corona, Floating Discharge
PRPD pattern recognition	Automatic
Severity assessment	Automatic AI-based severity assessment including recommended actions
Imaging and Optical	
Digital camera	12 MP Color
Camera field of view	75° diagonal
Video frame rate	Streaming: 15 fps; Snapshots: 30 fps
Video image resolution	960 × 540 streaming
Aspect ratio	16:9
Communication and Connectivity	
Network interfaces	M12 x-code 8-pin Ethernet, PoE IEEE 802.3at
Wireless connectivity	Wi-Fi 2.4 GHz / 5 GHz, IEEE 802.11 b/g/n/ac
Supported protocols	TCP/IP, RTSP MQTT, SMTP, FTP
Data transfer	Video streaming bandwidth: 7.5 Mbps (typical)
Firmware updates	Via configurator tool web interface
Digital I/O	2-pin output / 2-pin input
Current loop output	4–20 mA, 8 discrete levels (2 mA resolution)
System Integration and Event Handling	
API	HTTP, REST (documentation in the acoustic configurator tool)
Event Triggering	PD Severity / PD Type / dB SPL Threshold
Data Formats	
Export file	.nlz (compatible with Flir Thermal Studio)
Data messages	.json
Analysis and Reporting	
Offline	Flir Thermal Studio (desktop software)
Web Interface	Flir Assetlink platform, with built-in configurator
Power	
Primary power source	PoE+ Type 2 (30 W)
Power consumption	18 W typical, 25.5 W maximum
DC voltage range	42.5–57 V DC

Specifications subject to change. For the most up-to-date specifications, please visit flir.com.

For technical or sales support, please visit:

flir.custhelp.com

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Specifications, continued

Environmental Data	
Operating temperature range	-20°C to 50°C (-4°F to 122°F)
Storage temperature range	-20°C to 50°C (-4°F to 122°F)
Relative humidity	0–90% recommended
EMC	FCC CFR 47 Part 15 Subpart B Class B, FCC CFR47 Part 15 Subpart C/E, FCC Rule §15.207, §15.247(d), §15.407(b) EN 55032, EN 55035, EN 301 489-1/-17, EN 300 328, EN 301 893
Ingress protection	IP66
Safety	IEC 62368-1
Declaration of conformity	See: https://support.flir.com/resources/DoC
Physical Data	
Camera size	182 × 171 × 79 mm (7.2 × 6.8 × 3.1 in)
Camera weight	~ 1.4 kg (3.1 lb)
Mounting dimensions	VESA mount: 100 × 100 4 × M4, thread 10 mm
Warranty and Service	
Warranty	http://www.flir.com/warranty/

Shipping Information	
Packaging, type	Cardboard box
Packaging, contents	Camera Wi-Fi Antenna (Included with models that support Wi-Fi) Printed documentation including the username and password for log in to the web interface of the camera License card: Flir Si-series Plugin for Flir Thermal Studio, Perpetual license
Packaging, weight	1.8 kg (4 lb)
Packaging, size	362 × 230 × 109 mm (14.2 × 9.1 × 4.3 in)
EAN-13	Wi-Fi: 7332558036402 No Wi-Fi: 7332558036426
UPC-12	Wi-Fi: 845188034337 No Wi-Fi: 845188034351
Part number	Wi-Fi: T912643 No Wi-Fi: T912645

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