FLIR Si2-Pro™

Industrial Acoustic Imaging Camera for Partial Discharge Detection, Pressurized Leak Detection and Mechanical Fault Detection

Key Features:

- Mechanical fault detection for early identification of bearing problems, preventing costly downtime

- Quantify leak rate and cost of industrial gas and compressed air leaks, to prioritize repair and calculate savings

- On-camera and in-software severity assessment and type classification of partial discharge (PD) issues

- Automatic frequency tuning, 8x zoom, 12 MP digital camera, GPS data integration, IP54 rating, and a QR code reader

- Fleet management functionality for efficient tool usage and maintenance across large-scale operations

Main Applications:

- Ideal for routine inspections and preventative maintenance in various industrial settings

- Ensures adherence to safety standards by identifying potential hazards in bearings and gas systems

- Aids in managing and reducing operational costs through early leak detection and analysis

- Mechanical fault mode to detect faulty bearings to help plan repairs and avoid downtime

SPECIFICATIONS

Acoustic Measurement	
Detection threshold	20 kHz: -7 dB SPL 35 kHz: 4 dB SPL 50 kHz: 10 dB SPL 80 kHz: 36 dB SPL 100 kHz: 51 dB SPL
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)
Severity assessment	Automatic AI-based severity assessment including recommended actions onboard camera
Leak localization and detection	Automatic leak recognition including estimated leak size and annual cost
Leak rate detection threshold	0.0032 l/min from 2.5 m, 0.0044 l/min from 6 m
Supported gases	Compressed air, hydrogen, CO_2, methane, natural gas, helium, argon, ammonia
Other acoustic analysis modes	Mechanical fault detection
Imaging & Optical	
Digital camera	12 MP color

Camera field of view	75° diagonal
Video frame rate	Camera: 60 fps / Acoustic image: 30 fps / Screen: 70 fps
Zoom	8x Digital zoom
Video image resolution	1280 × 720
User Interface	
Display	Size: 5 in. 1280 × 720 Resistive touch screen, TFT LCD, MIPI DSI
Integrated flashlight	LEDs, three modes off, normal and bright
Analysis and Reporting	
Online	FLIR Acoustic Camera Viewer (cloud service)
Offline	FLIR Thermal Studio (desktop software)
Communication and Data Storage	
Data transfer	Wi-Fi 2.4 GHz and 5 GHz IEEE 802.11.b/g/n/ac wireless LAN USB memory stick
Camera software update	Automatic Over The Air (OTA) wireless update or via USB connection
Still image format	.nlz and .jpg
Video recording & format	Up to 5 minutes (.nlz format)

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SPECIFICATIONS, CONT.

(continued)	
Storage, internal	128 GB (SD card)
Storage, external	USB 8 GB, Cloud storage capacity is unlimited
Image annotations	GPS, image tags and comments
Power Supply	
Camera power input	Nominal input voltage: 12 V DC Max input: 17 V DC , 3.3 A (limited)
Battery	Li-Ion rechargeable battery pack (RRC 2054):14.4 V DC, 3.45 Ah, 49.68 Wh Usage: Up to 2.5 h (depends on ambient conditions & usage, needs to be retested and confirmed with final product) Charge time: approx. 2 h Max output: 16.8 V DC, 5 A
Battery charger	Input: 19-26 V DC, 2.8 A Max output: 17.4 V DC, 4.8 A
Environmental Data	
Operating temperature range	-10°C to 50°C (14°F to 122°F)
Storage temperature range	-20°C to 50°C max -20°C to 25°C recommended (determined by the battery)
Relative humidity	0-90% recommended
EMC	CFR47 FCC Part 15 Subpart B
Radio	CFR47 FCC Part 15 Subpart C/E, ETSI EN 301 489-1/-17/-19, ETSI EN 300 328, ETSI EN 301 893
Protection class	IP54
Safety	IEC 62368-1
Declaration of conformity	
Physical Data	
Camera size	288 mm × 182 mm × 159 mm (11 in × 7 in × 6 in)
Camera weight	~ 1.2 kg
Battery size	85 mm × 77 mm (RRC2504)

Battery weight	~ 0.25 kg
Total weight (camera + battery)	~ 1.45 kg
Warranty and Service	
Warranty	
Shipping Information	
Packaging, type	Cardboard box
Packaging, contents	• Camera • Battery (2 ea) • Battery charger • Power cable (4 ea) • Neck strap • Hard transport case • License card: FLIR Si-series Plugin for FLIR Thermal Studio, Perpetual license • Printed documentation • USB memory stick
Packaging, weight	6 kg (13 lb)
Packaging, size	490 mm × 365 mm × 190 mm (19.3 in × 14.4 in × 7.5 in)
EAN-13	7332558033036
UPC-12	845188030179
P/N	T912340

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