# ◆FLIR®

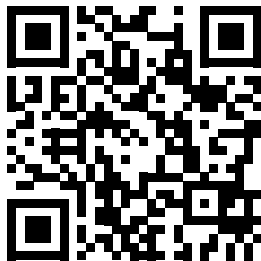# FLIR Si2-Pro™
## Industrial Acoustic Imaging Camera for Partial Discharge Detection, Pressurized Leak Detection and Mechanical Fault Detection

## 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, 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

www.flir.com/Si2-Pro

## SPECIFICATIONS

| FLIR Si2-Pro | |
|---|---|
| Acoustic measurement | 124 low-noise MEMS microphones, real-time sound visualization |
| Detection threshold | 20 kHz: -7 dB SPL<br>35 kHz: 4 dB SPL<br>50 kHz: 10 dB SPL<br>80 kHz: 36 dB SPL<br>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<br>Resistive touch screen, TFT LCD, MIPI DSI |
| Integrated flashlight | LEDs, two modes: ON / OFF |
| Analysis and Reporting | |
| Online | FLIR Acoustic Camera Viewer (cloud service)<br>https://acousticviewer.flir.com |
| 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<br>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) |

For more information and to find your local support number, visit:
**FLIR.com/contact/instruments-support**

## SPECIFICATIONS, CONT.

| | |
|---|---|
| Storage, internal | 128 GB (SD card) |
| Storage, external | USB 8 GB, Cloud storage capacity is unlimited |
| Image annotations | Image tags and comments |
| **Power Supply** | |
| Camera power input | Nominal input voltage: 12 V DC<br>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<br>Usage: Up to 2.5 h (depends on ambient conditions & usage, needs to be retested and confirmed with final product)<br>Charge time: approx. 2 h<br>Max output: 16.8 V DC, 5 A |
| Battery charger | Input: 19-26 V DC, 2.8 A<br>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, ETSI EN 300 328, ETSI EN 301 893 |
| Ingress protection | IP54 |
| Safety | IEC 62368-1 |
| Declaration of conformity | See: https://support.flir.com/resources/DoC |
| **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 |

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

| | |
|---|---|
| **Warranty and Service** | |
| Warranty | http://www.flir.com/warranty/ |
| **Shipping Information** | |
| Packaging, type | Cardboard box |
| Packaging, contents | • Camera<br>• Battery (2 ea)<br>• Battery charger<br>• Power cable (4 ea)<br>• Neck strap<br>• Hard transport case<br>• License card: FLIR Si-series Plugin for FLIR Thermal Studio, Perpetual license<br>• Printed documentation<br>• 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 |

For more information and to find your local support number, visit:
**FLIR.com/contact/instruments-support**

Revised 05/09/24
FLIR_Si2-Pro_datasheet-USL-24-0111