

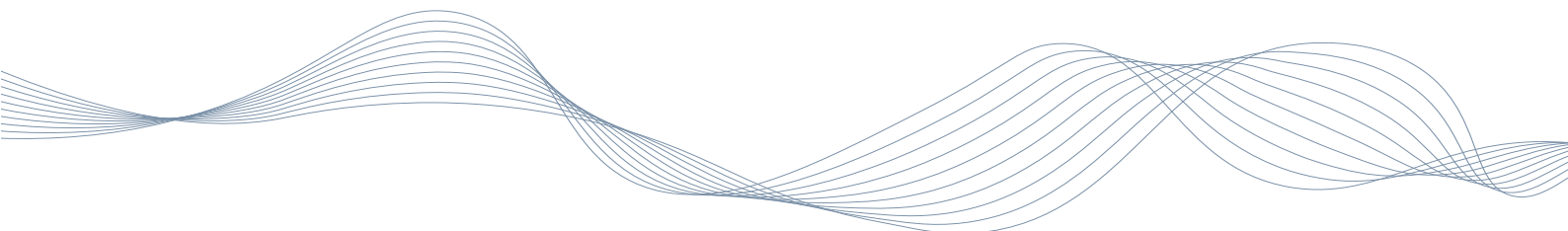
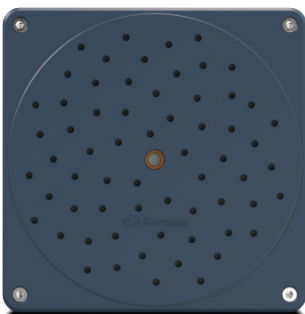
Sorama L642

SORAMA PRODUCT SPECIFICATION SHEET JANUARY 2025 V.1

The Sorama L642 is designed to detect even the smallest unwanted emissions (leaks) in hazardous environments, as well as detecting early anomalies in mechanical systems and high voltage systems (partial discharge). Powerful A.I. onboard computing enables you to check the mechanical health of any operating system.

Faster than traditional systems, the Sorama L642 reduces the time a service team is exposed in hazardous environments. The measurements and data output can be easily integrated in any customer ERP/MMS via API (e.g. sound maps, AI classification events).

- > All-in-one acoustic monitoring
- > Leak Inspection
- > Partial Discharge Inspection
- > Mechanical Inspection
- > Visual light camera integrated



Sorama L642

INVENTORY

| | |
|-------------------|---|
| Sorama L642 | 1 |
| Quick start guide | 1 |

PHYSICAL PROPERTIES

| | | |
|-------------|---|-----------|
| Size | 170 x 170 x 65 mm 6.7 x 6.7 x 2.6 inch | L x W x D |
|-------------|---|-----------|

| | |
|---------------|-------------------|
| Weight | 0.85 kg 1.7 Lb |
|---------------|-------------------|

| | |
|--------------|---|
| Power | PoE(+) port 100-240V AC, max 25W IEEE 802.3af for Sorama L642 and L642v IEEE 802.3at for L642+ and L642v+ |
|--------------|---|

| | |
|-----------------|--|
| Mounting | Vesa 10 mounting (backplate) UNC 1/4-20X5/8 female (tripod) |
|-----------------|--|

STORAGE

| | |
|-----------------|-------------|
| Internal | Approx. 7Gb |
|-----------------|-------------|

CAMERA

| | |
|-------------------------------|------|
| Video/image resolution | 720p |
|-------------------------------|------|

| | |
|-----------------------------|----------------------------|
| Camera field of view | 65 degrees \pm 3 degrees |
|-----------------------------|----------------------------|

| | |
|--------------------------|-----------|
| Camera resolution | 640 x 480 |
|--------------------------|-----------|

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MICROPHONES

| | | |
|-----------------------------------|---------------------|---------------------|
| Type | MEMS | Digital bottom port |
| SNR (A-weighted, at 1 kHz) | 64 dB for 94 dB SPL | @ 1kHz |
| Sensitivity | -26 dBFS +/- 1.5dB | At 1 kHz, 94 dB SPL |
| Acoustic overload point | 120 dB SPL | At 1 kHz, <10% THD |

MEASUREMENT FEATURES

| | |
|--------------------------------|------------------------------|
| Frequency range | 10 Hz - \approx 60kHz |
| Frequency resolution | 59Hz @ 60kHz, 110Hz @ 120kHz |
| Beamforming (far field) | Up to 60kHz |
| Operating distance | 0.5m to 120m* |

DATA FORMATS

| | |
|------------------------------|---------------------------|
| Audio | .wav (audio verification) |
| Image | .jpeg |
| Video (L642 V and V+) | .mjpeg; .mkv; .webm |

* Depends on environmental conditions.

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API FUNCTIONALITY

| | | |
|--|---|---|
| Rest API | Sorama API Documentation | https://dev.sorama.eu/api-docs/ |
| Enabling multiple acoustic measurements | Running in the background e.g. 24/7 inspection. | |
| Customize actions | Configure events & alarms through the API | |
| Areas of Interest | Set your areas of interest including specific AI models | |

LEAK INSPECTION

On device leak inspection can be used to determine a type of leak in a pressurized system and estimate the leak's size. This capture mode is always subjected to environmental conditions. Depending on these conditions (distance, environmental noise), values such as leak rate should be seen as indicative. Estimated flow based on distance and noise in the environment from field-testing:

| | | |
|--------------------------|------------|------------------------|
| Quiet environment | 0.3m to 5m | 0.02l/min to 0.1l/min |
| | 5m to 10m | 0.1l/min to 0.2l/min |
| Noisy environment | 0.3m to 5m | 0.05l/min to 0.15l/min |
| | 5m to 10m | 0.15l/min to 0.3l/min |

PARTIAL DISCHARGE INSPECTION

On device partial discharge can be used to find and identify defects in High Voltage (HV) assets. Defects can include voids, gaps, splits, physical sharp points, imperfections or discharges in the open air on/within HV assets. The defect itself discharges as it is not able to insulate the voltage applied across it.

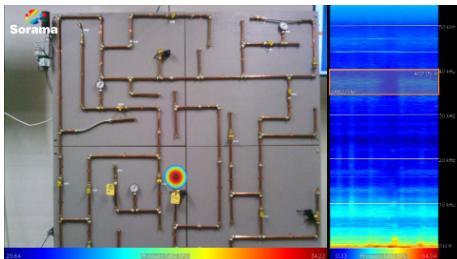
How this defect behaves over time can be made insightful with a phase-resolved partial discharge plot (PRPD). PRPD is a powerful tool used for analysing and diagnosing PD activity within HV insulation systems.

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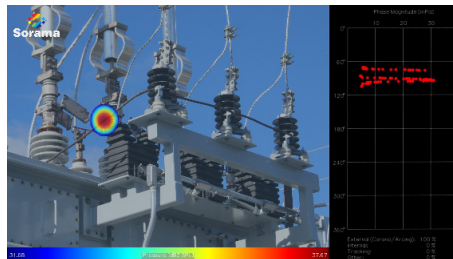
MECHANICAL INSPECTION

On device mechanical inspection tools can be used to identify and detect early faults in machines and assets (faulty or worn-out bearings, pump cavitation, faulty or worn-out rollers etc) over time.

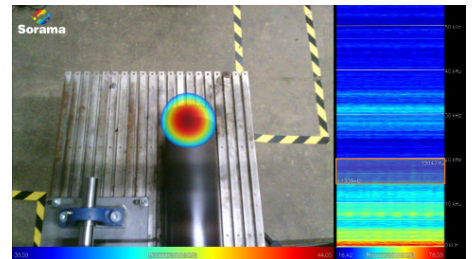
Train the device on healthy machines or assets so that faults that can occur over time can be detected in advance. This allows for preventive maintenance of equipment and assets in order to keep them running and prevent any costly unplanned downtime from unexpected equipment failure.



Leak Inspection



Partial Discharge Inspection



Mechanical Inspection