QUICK GUIDE
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SPECTRAL ENGINES
MEMBER OF THE NYNOMIC GROUP

NIRONE Sensor Evaluation Kit – **QUICK GUIDE**

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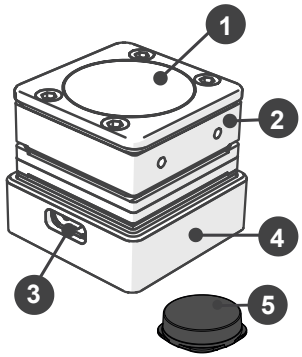
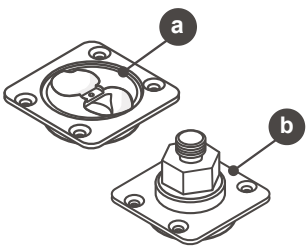




1. Sensor optics: Micro reflection optics (a) or SMA connector (b)
2. Sensor
3. Micro-B USB connector
4. USB interface board
5. White reference target

Quick Guide

Thank you for purchasing a NIRONE Sensor Evaluation Kit (EVK).

Spectral Engines' NIRONE Sensors use patented Micro Electro Mechanical System (MEMS) Fabry-Perot Interferometer enabling fast and reliable measurements. NIRONE Sensors work at the true near infrared (NIR) spectral range from 1100 to 2450 nm which means better sensitivity and specificity in material sensing applications.

The NIRONE Evaluation Kit provides a good starting point for technology evaluation and application studies. You can control the Sensor Evaluation Kit through a PC with our user-friendly SensorControl software.

The Evaluation Kit includes:

- NIRONE Sensor
- USB interface board
- Micro-B USB cable
- White reference target
- Micro reflection optics
- SMA connector
- SensorControl software

Safety Information

Please read these guidelines carefully. Not following them may be dangerous or against local laws and regulations. For further info, please read the complete user manual from www.spectralengines.com/support/nironesensor

Warning!

When you make measurements, ensure that the sample completely covers the NIRONE Sensor light source. The lamp can emit light near the infrared range. Risk of dazzling.

Warning!

The sensor may warm up during long uninterrupted use. Do not touch the sensor during long periods of use. Never use the Sensor EVK without its front optics.

Warning!

The Sensor EVK contains a lens made of glass. This lens can break, if the sensor is dropped on a hard surface or receives a substantial impact. If the lens breaks, do not touch the glass parts or attempt to remove the broken lens from the sensor. Stop using the sensor until the lens is replaced by qualified service personnel. Please contact a distributor or dealer.

Warning!

Your sensor and its accessories are not toys. They may contain small parts. Keep them out of reach of children.

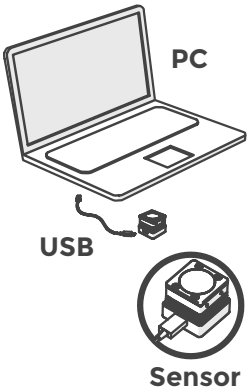
Important!

The intended use of NIRONE Sensor is to measure spectra from various materials. Do not use the sensor for anything other than its intended use.

Getting Started

To get started with NIRONE Sensor EVK, proceed as follows:

1. Install the SensorControl software from www.spectralengines.com/support/nironesensor/downloads

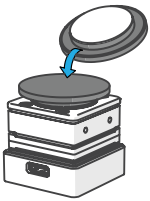


2. Connect NIRONE Sensor to your computer.

Measuring the Reference Signal

Always measure the reference signal at the start of a new set of measurements.

1. Connect the NIRONE Sensor EVK with SensorControl software.
2. Select Settings and set the desired Measurement settings.
3. Set the Lamp intensity 0%.
4. Measure the dark signal, select Dark. With Micro reflection optics you can use the Auto lamp with dark substraction mode.
5. Set the lamp intensity 100%.
6. Place the White reference target on NIRONE Sensor, white part downwards.



7. On SensorControl, select Reference button.

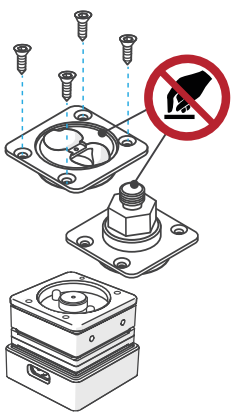
Measuring a Sample

1. Place the sample on NIRONE Sensor.
2. Examine the results in SensorControl software.

Find more detailed instructions from www.spectralengines.com/support/nironesensor

Changing the Optics

1. Remove the four screws with a Torx 6 screwdriver
2. Lift the optic carefully.
3. Mount the new optic carefully without touching the lens.
4. Tighten the screws carefully with a 0.3 Nm torque.



Maintenance

- Handle your sensor and accessories with care. The following suggestions help you keep your sensor operational.
- Keep the sensor dry. Humidity and all types of liquids or moisture can contain minerals that corrode electronic circuits.
- Do not use or store the sensor in dusty or dirty areas.
- Do not store the sensor in high temperatures. High temperatures may damage the sensor.
- Do not store the sensor in cold temperatures. When the sensor warms to its normal temperature, moisture can form inside the sensor and damage it.
- Do not attempt to disassemble the sensor. The warranty is not valid, if the sensor has been disassembled.
- Unauthorized modifications may damage the sensor.
- Do not drop, knock, or shake the sensor. Rough handling can break it.
- Only use a soft, clean, dry cloth to wipe the surface of the sensor.
- Keep the sensor away from magnets or magnetic fields.

Important!

If the White reference target becomes dirty or damaged, reference measurements are corrupted and the sensor measurement results in reflectance/absorption are unreliable.

Cleaning the Sensor

Occasionally the sensor optics need cleaning. Use compressed air to blow out any dirt from the lens. The compressed air must be clean and bottled, otherwise oil or water may end up on the lens.

Important!

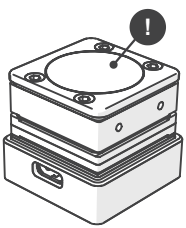
Only use oil and moisture-free compressed air in a spray can for the lens.

Warning!

Do not use excessive air pressure to clean up the lens.

If you want to wipe the lens to remove greasy stains, use isopropanol alcohol lens cleaner fluid.
Proceed as follows:

1. Tip a small amount of isopropanol alcohol on a non-linting cloth.
2. Wipe the lense to remove the dirt.



Keep the sensor optics clean.

Technical Specifications

SPECIFICATION	VALUE
Illumination source	2 tungsten vacuum lamps
Bulb life	> 40,000 hrs
Operation temperature range	+10–+50 °C (non-condensing)
Power consumption	1.1 W (peak), < 300 mW (nominal)
Optical interface	Micro reflection optics or SMA connector
Electrical interface	USB 2.0 Micro B connector
Size (W x L x H)	25 x 25 x 17.5 mm without optics
Weight	With micro reflection optics 31 g With SMA connector 38 g
Connection	USB 2.0 Full Speed compatible
System requirements	PC, Windows® 7, 8, 10 or latest version, USB port

Support

For more information on NIRONE Sensor EVK, see:
www.spectralengines.com/support/nironesensor

Warranty

This product is covered by a limited warranty. To obtain warranty service, please contact your authorized dealer or distributor from whom you purchased the product. Please confirm the warranty terms and the applicable return policies prior to returning the product.

Do not attempt to disassemble the sensor. The warranty is not valid, if the sensor has been disassembled.

Warranty information:
www.spectralengines.com/support/warranty

Disclaimer

Important!

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