SPECTRAL ENGINES
MEMBER OF THE NYNOMIC GROUP

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NIRONE®
LABSCANNER DEVICES

We designed the world´s most smartest and smallest spectral sensor to make material sensing easier. The NIRONE LabScanner Devices offer excellent performance fully comparable for the measurement of accurate reference data collections. The high-quality reference data sets serve as the foundation for developing robust models for the NIRONE Scanner Devices.

A complete LabScanner set consists of eight specially selected LabScanner Devices.

HIGH-PERFORMANCE AND COMPACT LABSCANNER DEVICE

Key Benefits

- High-tech spectral LabScanner sensors integrated into a small package
- Available in four categories of a special selection (for a complete LabScanner Set)
- Each category of a LabScanner sensor defines a dedicated production range
- True near-infrared means better sensitivity and specificity

Example Applications

With our solutions and services, data models can be developed for many materials. For example:

- Pharmaceuticals composition analysis (Pharma Security)
- Anti-counterfeiting
- Textile and plastics identification
- Forensics applications like narcotics detection
- Moisture analysis
- Agriculture applications like soil, grain, feed, dairy analysis

Advanced Technology

The NIRONE LabScanner Devices use the integrated NIRONE sensor with the patented Micro-Electro-Mechanical Systems (MEMS) Fabry-Perot Interferometer, which is a fully programmable optical filter:

- To ensure the development of high performance and very robust models for the standard NIRONE Scanner Devices, a Set of eight NIRONE LabScanner Devices in four different categories is needed.
- The LabScanner Devices are a special selection of sensors in four different categories, reflecting the relevant production parameters, to cover with one complete Set of eight LabScanner Devices the whole production range of the standard NIRONE Scanner Devices.
- The LabScanner Device are only produced on demand for our LabScanner Sets or as spare parts, with different Scanner housing colour and branding, to mark them clearly as Labscanner Devices.
- For producing spare parts for the LabScanner, an internal procedure will be started to identify the LabScanner Devices which needs to be replaced, for a perfect fitting selection of the spare parts.

Introduction

A compact and versatile material composition scanner system specifically designed for fast, accurate and reliable reference data collection. Through a set sensor modules powered by machine learning, the LabScanner enables the collection of representative laboratory data and delivers it in a low-cost, portable platform.

Technology

The core of the LabScanner system are eight of our near-infrared spectral sensors combined with cloud connectivity to facilitate fast mass data management. NIR-spectrometers are widely used in many fields to measure material content and have a proven track record in getting highly accurate measurement data in laboratory conditions - but in case of NIRONE sensors in a small, robust, inexpensive way.

Technical Specifications

SPECIFICATIONS	VALUE
Product	LabScanner Devices
Wavelength range	1.55 – 1.95 µm
Wavelength resolution (typical FWHM)	15 – 21 nm
Detector type	Single element extended InGaAs
Illumination source	2 tungsten vacuum lamps
Bulb life	> 40,000 hrs *
Categories	cat1, cat2, cat3, cat4
Temperature response	< 0.1 nm/°C
Temperature range	+10 °C to +50 °C (non condensing)
Optical interface	Micro reflection optics
Power consumption	max. 500 mA at 5V
Electrical interface	Supply voltage 5V USB-C connector (USB 2.0 standard)
Battery	3.7V, 700 mAh, rechargeable
Size (W x L x H)	82 x 82 x 27 mm
Weight	160 g

* Specified by lamp manufacturer for ideal laboratory conditions. Lifetime may shorten as a result of shock, vibration, and extreme temperatures. Lifetime can be extended by using lower than 100% drive level.

SPECTRAL ENGINES® GMBH
Weisskirchener Str. 2-6
61449 Steinbach, GERMANY
sales@spectralengines.com
+49 6171 286 9760

WWW.SPECTRALENGINES.COM

SPECTRAL ENGINES