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NEW PRODUCT



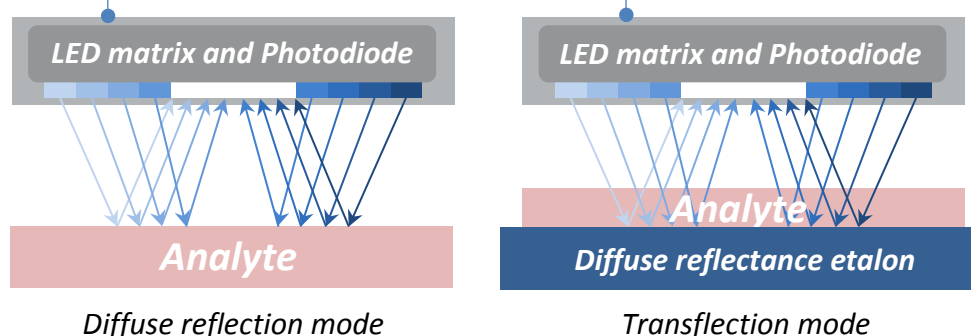
## LED MINISPECTROMETER LMS-R for 1.3-2.4 $\mu\text{m}$ spectral range

LMS-R LED Minispectrometer is our very new ultra compact, lightweight instrument for spectral analysis in the near-infrared range 1.3 – 2.4  $\mu\text{m}$ . It enables very fast and simple measurement procedure of various samples – solids, liquids, powders.

NEAR  
MID-IR  
LED  
technology



The main part of the device is the optical block comprised of **12 near-infrared LEDs** with different emission peaks (~1.31, 1.45, 1.51, 1.55, 1.66, 1.76, 1.84, 1.94, 2.06, 2.16, 2.21, 2.36) and a wideband photodiode.



LEDs are turned on one by one and irradiate the analysed sample. Emission reflected back from the sample is captured by the photodiode, converted into electrical signals that are further processed by the electronic block and the software.

### Main technical parameters:

- wavelength range: 1.3-2.4  $\mu\text{m}$ ;
- reflectance-based spectral measurement;
- measurement speed: 1 s;
- USB-powered:
  - input voltage: max. 5.25 V;
  - input power: max. 2.5 W;
- sizes: 60x42x42 mm;
- weight: 130 g;

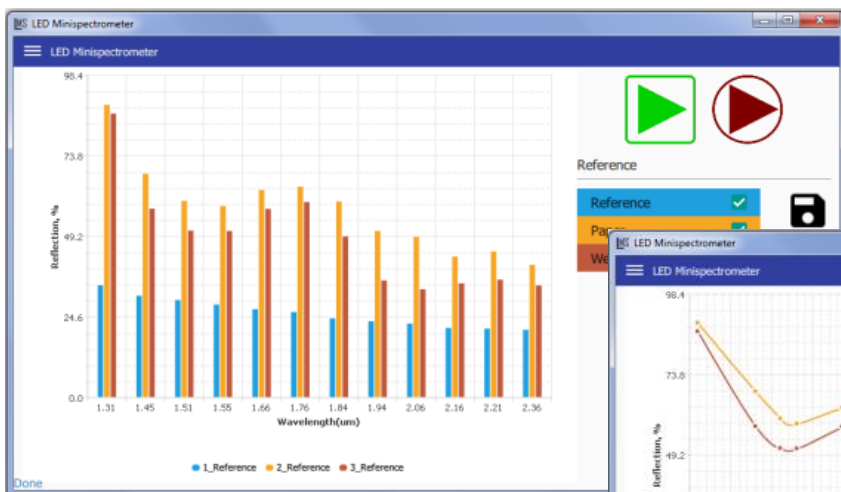
### Delivery package contents:

- Minispectrometer.
- Diffuse reflectance etalon.
- USB flash drive with a software and etalon calibration data file.
- Package-case.

# LED MINISPECTROMETER

## LMS-R for 1.3-2.4 $\mu\text{m}$ spectral range

### Software interface:



Measurement results displayed as histograms

Operation with the minispectrometer is arranged via the special software provided with the device. It enables fast data acquisition, display and storage.



Measurement results displayed as spectral curves

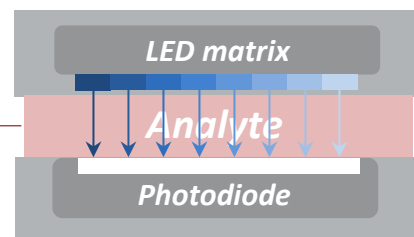
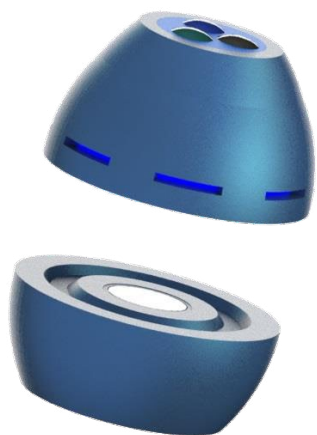
### Range of applications:

- express analysis of food (for example, defining deviations from the normal parameters judged by the absorption properties of the analysed sample);
- analysis of biomaterials for medical purposes (for example, concentration of sugar in blood, urine etc.);
- moisture control (for example, moisture control of paper, wood, constructional materials etc);
- water concentration measurement in cut-oil and oil products; etc.

### UNDER DEVELOPMENT: LED Minispectrometer for transmission mode measurement

The new device will operate in the near IR spectral range from 1.3 to 2.4  $\mu\text{m}$  utilizing a multi-element LED matrix and a wideband photodiode. Battery power supply and wireless connection with a smartphone, tablet or PC via Bluetooth will be arranged. New minispectrometer modification is oriented mainly for the analysis of liquids and flat film materials.

NEAR-MID-IR LED technology



Transmission mode

We are open to consider your specific tasks and arrange joint development work under custom instruments based on our devices.