

# miRoGun4.0

Handheld NIR-Measuring system with Wi-Fi Data-Transmission

With the handheld NIR-spectrometer it is possible to identify plastic coming from the household, packaging, used engineering electronics and automotive application field. It allows direct analysis of non-carbonblack colored plastic parts like films, foils, granules, solid, foamed and other materials like carpets and textiles. For plastic identification the device is just held on the surface of the sample and the measurement starts by pressing the pistol trigger or yellow LED-button. Single or circular scans can be done within Milliseconds.



The portable unit contains a fully equipped database for thermoplastics, foils and textiles based on neural network models as well as a user-definable database. Every user can individually define up to 1 million plastic spectra in free-to-create groups and differentiations. The operation is easily done with icons on the 4,3"-colored touchscreen. An integrated touchpen eases the input. With USB or Wi-Fi connection a communication with an external computer can be done for result monitoring and data exchange.

With the external trigger cable and an unscrewed pistol grip, a remote operation of the miRoGun4.0 is possible e.g. as a desktop unit.



The miRoGun4.0 is equipped with newest Li-Ion battery technology. The operation time can be further enhanced by an additional powerbank, which can be easily fixed on the backside. The device can be operated with one hand only and can be safely carried by a wrist strap. The unit is delivered in an Alu-suitcase with all necessary accessories and test tools.

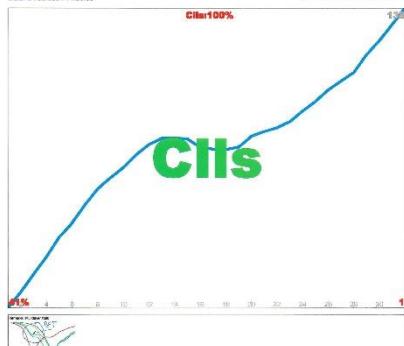
Following polymer types are in the database:

PA6/PA66 \* PA12 \* PE \* PP \* PS \* ABS \* PPO \* SAN \* PET \* PBT \* PMMA \* PC \* PC+ABS \* PC+PET \* POM \* PVC \* PLA \* PVC+ABS \* PE+PET \* PE+PA \* PP+PET \* Cellulose

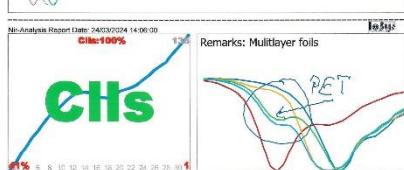
Following carpets/textiles are in the library:

PA \* PP \* Polyester \* Cotton \* Poly-Cotton \* Acrylic \* Silk \* Wool \* Acetate

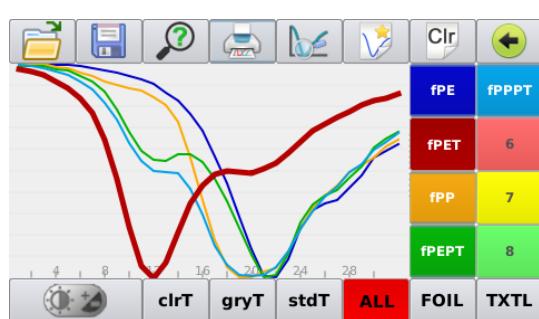




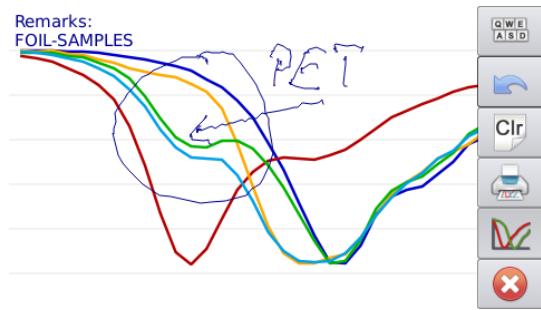
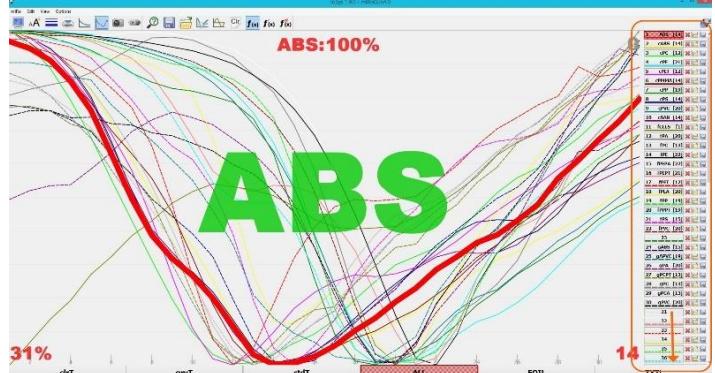
An integrated touchpen enables the input of hand-written or graphic comments for the printout of the measuring protocols. An individual company logo of each user can be loaded in the external software.



The external software enables the transmission and display of the data on the PC via USB or Wi-Fi. It allows the analysis, comparison and storage of all measured spectra on the PC, also individual printouts of the measuring report with comments. In the Analyse-mode up to 80 different spectra can be displayed at once in different colors!



The unique way of displaying the transformed NIR-spectra on the color LCD-touch-screen allows easy look and control of the results and the comparison with other polymer, carpet/textile materials.



For plastic identification the unit is pressed on the surface of the sample and is measured by pressing the trigger button. Single measurements can be made as well as online (circular) measurements with a fixed trigger key.



The miRoGun4.0 unit can be operated as well as a desktop instrument. Thus small particles less than 1 mm can be placed easily in the center of the measuring head being in the optical focus.

10x freely programmable LEDs of the unit enable also an overview of the results from this side.



Set LED/Relays for Net	
1 LOW, PA, PA6x, PA12	2 LOW, PP, PPPT
3 LOW, PE, PEPA, PEPT	4 LOW, ABS, SAN
5 LOW, PS, PPO	6 ---, PBT, PET
7 ---, PC, PCA, PCPT	8 ---, POM
9 ---, PMMA	10 ---, PVC, APVC

- \* Plastics of municipal and industrial origin, textiles, fibers and carpets – also in form of solids, granules, flakes or films
- \* Measuring in Milliseconds in single or circular mode
- \* Easy operation via Touchscreen Icons
- \* Measurement flakes and granulates less than 1 mm
- \* 10 programmable LEDs at the top side for quick indication
- \* Detailed spectra view possible at the units colour touchscreen
- \* User-definable database with up to 1 million spectra
- \* Battery operation of more than 24 h possible
- \* Enhancement of battery operation by powerbank
- \* Data transmission to PCs and printers via USB or Wi-Fi
- \* Included software for spectra evaluation on the external PC
- \* Direct remote printing on connected printers with handwritten and graphic comments
- \* Individual company logos can be included in the printouts
- \* Tele-maintenance via Internet enabled

For foils and transparent materials a small ceramic plate (finger-ring, acting like a mirror) must be placed behind the parts to reflect back the NIR light into the measuring head for better data evaluation.

