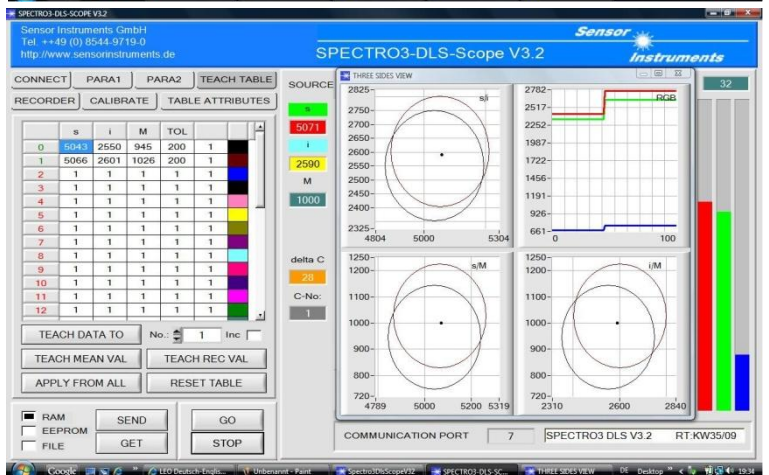
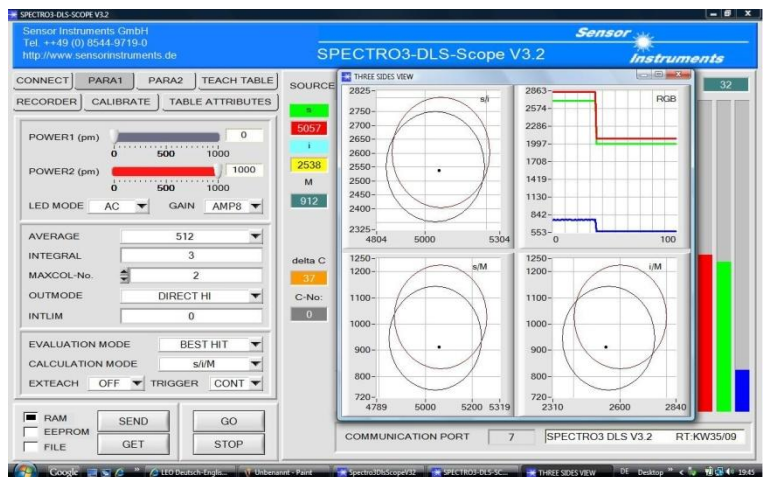
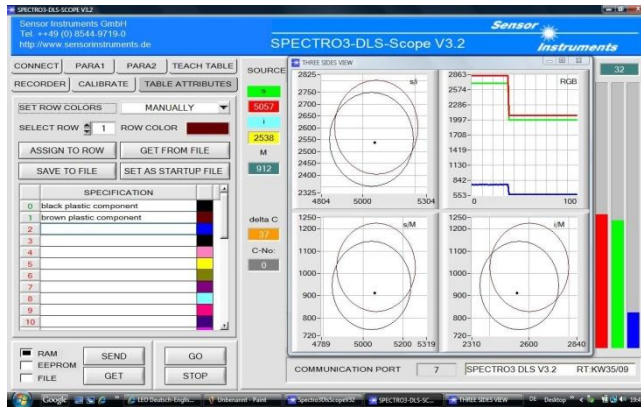
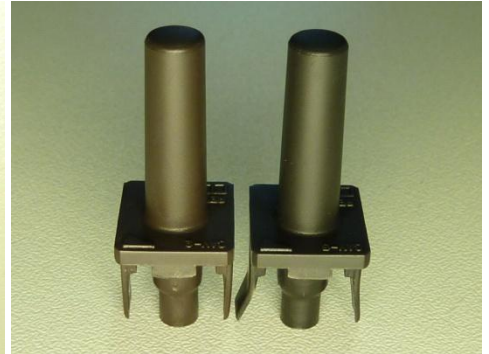
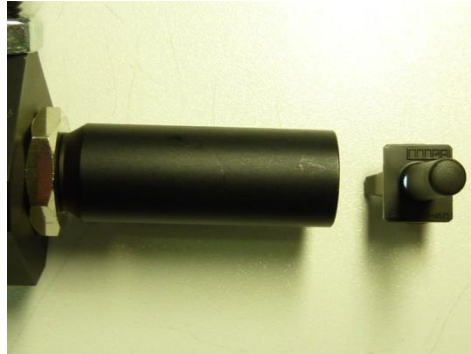




1. Color differentiation of brown and black plastic parts at a distance of 11 mm

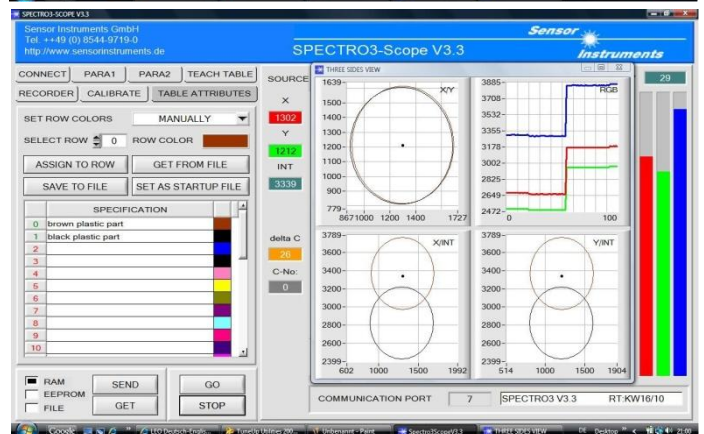
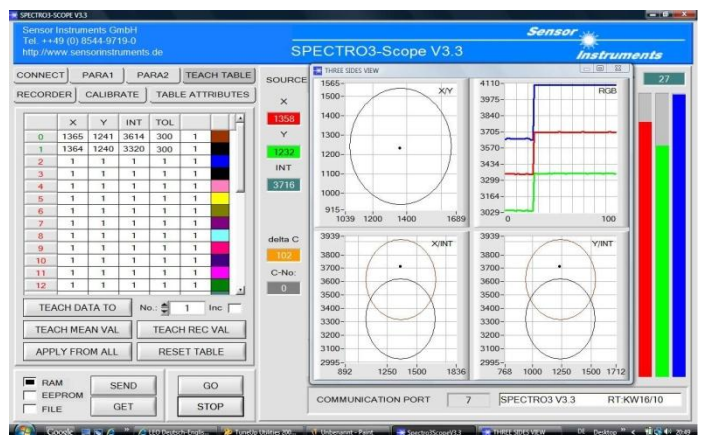
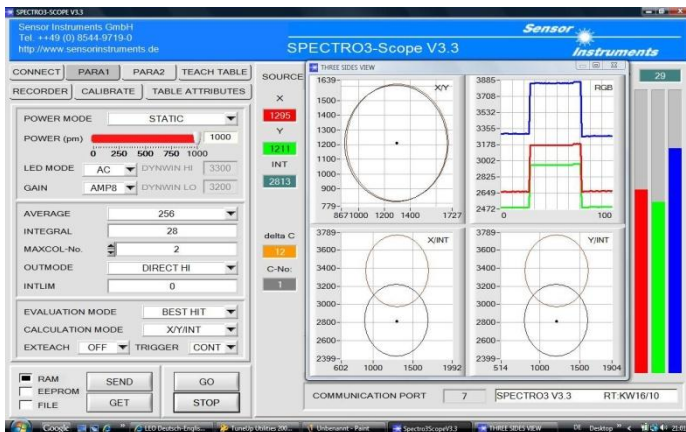
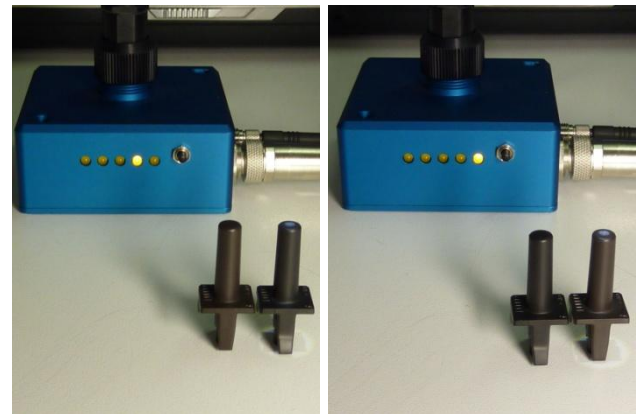
The two different plastic components should be distinguished. Both parts are dark and slightly glossy, even observed by human eye it's not an easy job to detect the difference between dark brown and black. The plastic parts were tested with a color sensor type **SPECTRO-3-FIO-VISUV** in connection with an optical

fiber type **R-S-A2.0-(2.5)-1200-67°** and the optical frontend **KL-3-A2.0**. Instead of the **SPECTRO-3-FIO-VISUV** it is also possible to use a **SPECTRO-3-FIO-CL**. The distance to the object is approximately 11mm. At this distance the white light spot has a diameter of around 1.5mm. As shown in the screen shots the two different plastic parts could be distinguished properly.



2. Color differentiation of brown and black plastic parts at a distance of 115 mm

In addition to 1 the brown and black plastic components should be detected and distinguished at a distance of 115mm. For this task a color sensor type **SPECTRO-3-FIO-CL** in connection with an optical fiber type **R-S-A2.0-(2.5)-1200-67°** and the optical frontend type **KL-M34/62** is used. The distance from the optical frontend to the plastic part is in this case approximately 115mm. The white light spot size is around 2mm, thus the spot covers about half of the diameter of the object. As shown in the screenshots the dark brown plastic part can be properly distinguished from the black plastic part.



3. Color differentiation of a gray and black plastic part at a distance of 28 mm

The gray plastic parts should be separated from the black plastic parts. For the investigations a color sensor type **SPECTRO-3-FIO-CL** in connection with an optical fiber type **R-S-A2.0-(2.5)-1200-67°** and an optical frontend type **KL-M18-A2.0** is used.

The distance between the frontend and the object is around 28 mm. As shown in the screenshots there is a proper differentiation between the black and the gray plastic part possible.

