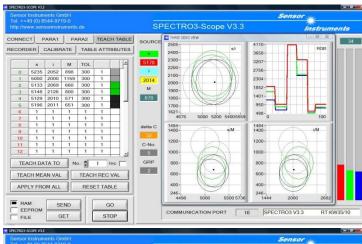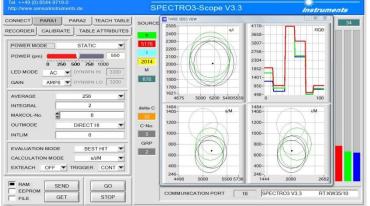## 1. Color differentiation of three different colored spiral springs

Three different colored spiral spring types should be differentiated. At the position where it should be controlled the position of the coil spring is accidentally oriented. At this a color sensor type **SPECTRO-3-FIO-JR** in connection with an optical fiber type **R-S-R2.1-(6x1)-1200-67°** and an optical front end type **KL-8-R2.1** are used. The distance from the optical front end to the spiral spring is approximately 15mm and the size of the white light spot around 4mm x 0.7mm. As shown in the screen shots a proper differentiation of the spiral spring types is possible.