1. Underfilling control of SMD LEDs

The level of transparent casting compound in SMD LEDs should be controlled with a view to underfilling. For this purpose a contrast sensor type **SPECTRO-1-FIO** in connection with an optical through beam fiber type **D-S-A2.0-(2.5)-1200-67°** and an optical front end type **KL-3**, which is connected at the transmitter side, are used. The optical fiber head at the receiver side is arranged under an angle of -60° to the vertical axis and the **KL-3** under an angle of +60° to the vertical axis. The distance of the optical fiber receiver head to the SMD LED is around 15mm, whereas the distance of the **KL-3** frontend to the object is approximately 11mm. The spot size at this distance is about 1mm in diameter. A proper detection of underfilling of the transparent casting compound is possible, as shown in the screen shots.