



1. Inline edge detection of a white label on a white diaper

During the assembly of diapers, the presence as well as the position of the label must be controlled. The right edge of the label should be located in a certain range. Therefore the possible other edges must be ignored. Due to the fact, that the LCC sensors ignore either the rising or falling edges, this depends on the mounting of the LCC, the allowed range can be adjusted with two trigger sensors, e.g. **C-LAS-LR-OP2**, whereas one of the laser trigger sensors is opening the **active window** and the other is closing this **active range**. The two trigger signals will be switched to the LCC sensor, the task of the LCC sensor is, to look to an edge inside the active range, once detected an edge, a digital signal with a certain pulse length will be send to the output. The laser trigger sensors are using the contrast between the diaper and the background (brown - yellow conveyor belt). To avoid any fail triggering due to the pattern in the label (dots) the laser spot isn't a dot but a line (3mm x 0.1mm), thus a proper detection of the falling edge is possible, even if the laser spot will be spread out from the diaper material. The production speed of the labels is approximately 0.5m/s, it is recommended to use a **LCC-40-CYL** at a distance of 40mm to the label. The test results are shown in the attached screen shots. The detected edge lies at 100, so that the threshold is adjusted to 125. The NORM-value of the LCC from the normal surface lies between 160 and 135. The selected pulse length is 100ms and the LCC is working in the DYN laser power mode.

