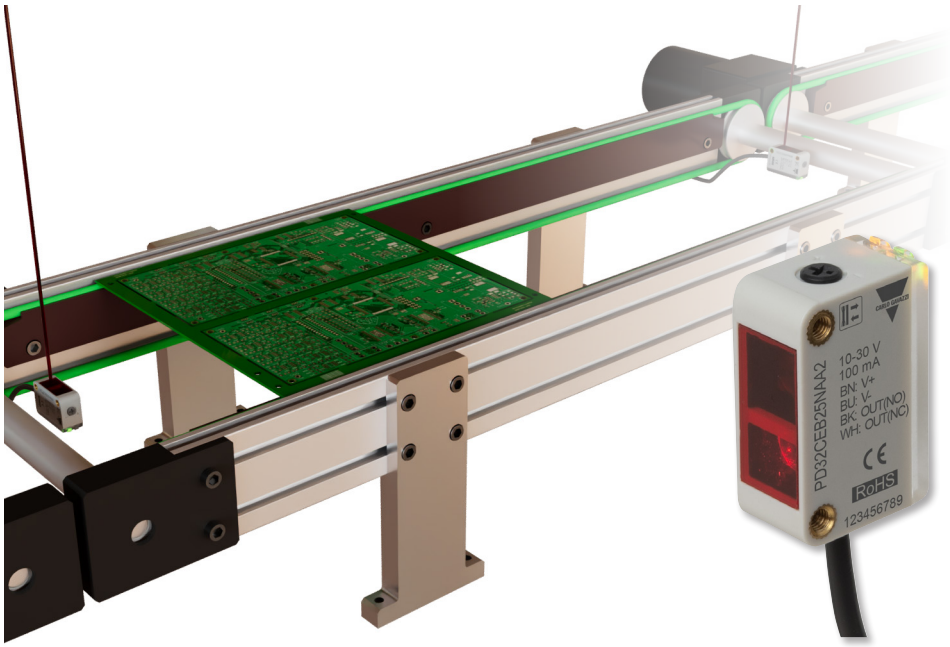
Application note



Subject:
Detecting objects on conveyors - e.g. PCBs on buffer conveyors

Industry:
Conveyors, Semiconductors

Product:
PD32CEB25...

Customer:
OEMs, System integrators

CUSTOMER NEED

Buffer conveyors are used between machines operating at different speeds, such as an SMD pick-and-place machine and a soldering oven, to ensure a continuous production flow.

An input sensor detects the incoming PCB and starts the conveyor. The PCB is then transferred to the output position, where a second sensor signals the downstream equipment that the board is ready for processing. Once the PCB is transferred to the next machine, the conveyor stops and waits for the next board.

Since PCBs can vary in color, surface finish and reflectivity, reliable detection requires a sensor capable of handling different material characteristics without compromising performance.

OUR SOLUTION

The PSD32CEB25... photoelectric background suppression sensor combines a multiturn sensitivity adjustment with a dual-detector design based on differential detection.

This technology is optimized for reliable detection of PCBs with varying colors, textures and reflective properties, ensuring stable operation in conveyor applications.

BENEFITS

- Reliable detection of PCBs with different colors and surface finishes.
- Differential measurement technology enhances the distinction between foreground objects and the background.
- The triangulation principle provides sharper and more accurate switching performance than conventional line-array solutions.
- The extended receiving element minimizes the blind zone, enabling detection at shorter distances and improving installation flexibility.
- Stable and repeatable operation in demanding electronics manufacturing environments.