

3-D sensor system for controlled access applications

The CAN-capable 3D TOF (time of flight) sensor system from Sensotek (Germany) ensures that persons securely pass a gate area. The CiA-member (CAN in Automation) company currently develops a CANopen-based solution.

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3-D TOF sensor system (Source: Sensotek)

While the transition control in access applications, it must be ensured that passengers can securely pass as freely as possible from the air side into the land side. The sensors have to detect that persons move in the right way and not in the opposite direction. With the one-way sensor system, it is possible to protect a passage width of up to 1,4 m against reverse traffic. Recommended mounting height ranges from 1,8 m to 2,4 m. Due to the functional principle, the system is independent of environmental influences. The security gate uses one 3D camera in the direction detection mode to monitor the lock area. If a person moves in the wrong direction, an alarm signal is emitted. Additional sensors used in this application are radar detectors or door sensors, which make it possible to secure the automated door systems according to EN 16005. The sensor's mounting is adaptable to the installation conditions.

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Measurement principle (Source: Sensotek)

The TOF sensor provides a three-dimensional imaging with 500 pixel true distance measuring capabilities. It recognizes human beings based on shape and motion. The TOF technology is a technique based only on distance measuring. Color, temperature, installation height, moving background, lighting situations, mirrors, and reflection have no influence on the measured value. Captured data is processed inside the sensor. Further interfaces include digital I/Os and Ethernet. LEDs are used for operation function indication (OK, NOK, sabotage). At operating voltage of 24 V_{DC} the device consumes less than 100 mA. The system's dimensions are 115 mm x 100 mm x 45 mm.

The company is a sales partner of the Pepperl + Fuchs Group. It specializes in such application fields as door automation, elevators, escalators, access control, barriers, public transportation, as well as fire protection.

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