

# CAN-connectable AI-based sensor

*CiA member Sick has launched an AI-based sensor. The Visionary AI-Assist is suitable for indoor and outdoor vehicles. It can detect people and 3D objects. The product helps to avoid collisions and reduces downtime.*

The CAN-connectable device combines high-resolution 2D- and 3D-image processing with an AI (artificial intelligence) chip. It can detect people and small objects, and can determine their distance from the sensor, even in difficult conditions, said the German supplier. The sensor systems do not need remote access to AI computer farms.

By reducing false alarms, enhancing visibility, and distinguishing between people and objects, the product improves on-site safety and productivity. The CAN CC (classic) interface enables an integration into in-vehicle networks. The J1939 application layer is supported. By means of this CAN interface, the sensor system can also be retrofitted to existing equipment.

The Visionary AI-Assist sensor solution is designed for the outdoor automation industry and can be used as an on-site safety assistant for navigation support, operator assistance, collision avoidance, and area surveillance. It detects multiple people in a scene to remove dangerous blind spots, reduce operator stress levels, and keep productivity high. The vendor has combined its decades of experience in sensor technology together with extensive knowledge of the outdoor machinery sector and machine intelligence in a single device.

The AI software has been trained using thousands of examples. In addition to people detection the Visionary AI-Assist can detect small objects and monitor surroundings to warn and assist in critical situations. The area in which people and objects are detected can be customized, and alert distances and auto-stop commands can be pre-programmed to adapt to a variety of use cases.



*Figure 1: The Visionary AI-Assist sensor system is intended for large, automated, or frequently maneuvering machines, such as construction and agriculture machinery, production lines, stationary installations, logistics, and bulk materials handling (Source: Sick)*



*Figure 2: The Visionary AI-Assist sensor system uses embedded AI software to detect people and 3D objects (Source: Sick)*

The Visionary AI-Assist combines the Visionary-B Two 3D stereo camera and AI-Assist intelligent software for simultaneous distance measurement, object detection, and environmental perception. The AI capabilities mean the device can classify people, enabling assessment of hazards and selective warnings, while the stereo-camera provides an area surveillance color overview. All data acquisition, processing, and output runs on a single device with no need for additional hardware.

The field of view of the camera is adjustable (130° x 105° up to a scanning range of 16 m, or 90° x 60° up to scanning range of 37 m). Set-up and commissioning can be done via a web browser. With a wide voltage range, operating temperatures from -40 °C to +55 °C, IP67- respectively IP69k-rated enclosure, and high shock/vibration resistance, the product suits even harsh environments, explained the company.

Luke Pearson from Sick said, “If you can detect people and their distance from an outdoor vehicle, you can protect them. The Visionary AI-Assist expands our portfolio of mobile machine solutions with a dedicated robust device featuring integrated intelligence to protect people. It is the next evolution of people detection, intelligently and simultaneously sensing people, objects, and distance. CAN integration and its rugged design make the Visionary AI-Assist the ideal choice to enhance safety, productivity, and peace of mind in mobile outdoor applications.”

Founded in 1946 by Dr.-Ing. e. h. Erwin Sick and headquartered in Waldkirch/Breisgau (Germany), the company is specialized in sensor-based products. It is present around the globe with 63 subsidiaries and holdings as well as numerous agencies. The CiA member has more than 10000 employees worldwide generated a group revenue of 2,1 billion Euro in the 2024 fiscal year.

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