

OMRON launches precise and flexible 3D Time-of-Flight Sensor Module

Hoofddorp, Netherlands, Thursday, 8 October 2020 – OMRON Electronic Components Europe has unveiled a new precision time of flight ranging sensor that delivers a convenient, modular solution offering positioning, autonomous-guidance, and proximity sensing for a wide range of applications. Sensor ranges entire field of view at up to 20 fps for mobile guidance and moving-object detection.

Commenting, Gabriele Fulco, European Product Marketing Manager Sensors at OMRON said, "Our new sensor is a "mechanical eye" that is capable of accurately and easily detecting the surrounding environment, which will contribute to the more widespread use of autonomous robots as well as the automation of various other machinery and equipment. OMRON's new B5L can be fitted to moving objects such as autonomous mobile robots, to provide real-time contextual information such as guidance, collision avoidance, and cliff detection. Alternatively, located in a fixed position, the sensor can accurately detect moving objects in the field of view. It is thus suited to use in automated packaging equipment, security systems, intruder detection, and patient-monitoring and elderly-care systems."

The OMRON B5L 3D TOF (Time-of-Flight) Sensor Module operates on the proven time-of-flight principle. It calculates distances to objects in real time by measuring the round-trip time for near-infrared radiation from the module's emitter to be reflected from objects in the field of view and return to the receiver. The B5L Series features unique optical design technology for the stable measurement of three-dimensional distance information across a wide area even in sub-optimal conditions such as under sunlight. Running at up to 20 frames per second, its specifications are optimized for long periods of continuous operation to allow it to be used as an embedded sensor in various instruments.

The 103mm x 43mm module comes fitted with a 24V DC power connector and Micro-USB communication port, offering easy integration and flexibility for embedded-systems designers. Featuring a 940nm near-infrared emitter and 240 x 320 pixel receiving array, the sensor gives ranging information for the entire field of view and measures the absolute distance to objects from 0.5m to 4m. The module offers $\pm 2\%$ precision (at a detection distance of 2m). Built-in temperature compensation simplifies its integration in autonomous robots and other equipment used in a variety of environments by eliminating the need for the design of separate compensation processing.

With a wide viewing angle and 0°C to 50°C operating-temperature range, the B5L-A2S-U01-010 can be used in numerous indoor application scenarios.

The B5L-A2S-U01-010 is in production now and available directly from OMRON Electronic Components Europe or through its network of European distributors.

About Omron

Omron Electronic Components Europe is a leader in electromechanical PCB relays, as well as a leading supplier of components such as micro switches, MOSFET relays, DIP switches, photomicrosensors and connectors. Omron has a strong portfolio of innovative technologies including MEMS based pressure, flow

and thermal measurement sensors, human face and gesture recognition modules, vibration and tilt sensors.

Omron Electronic Components Europe strongly supports its customers in Western and Eastern Europe, Russia and the CIS through 8 regional offices, a network of local offices and partnerships with specialist, local, regional and global distributors.

Omron Electronic Components Europe is a subsidiary of the Omron Corporation, recognised worldwide as a leader of high quality, high technology electrical and electronic control equipment and component products.

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