Enclosures

Chameleon XS for RealSense cameras

AutoVimation has expanded its Chameleon XS enclosure series for the Intel RealSense depth camera family, adding an enclosure for the D455 camera. The 500g aluminium enclosure provides reliable IP66/67 ingress protection, allowing the depth cameras to be employed in unmanned aerial vehicles, outdoor vision applications and challenging industrial environments.

The outer dimensions are 150 x 64 x 34mm. The enclosure ensures shade-free images thanks to the special arrangement of the windows, made of anti-reflective BK7 glass. To compensate for thermal expansion and vibrations, cameras are fitted to the housing openings with special seals instead of being glued. Under normal conditions, cooling is not required because the camera is connected with a solid aluminium adapter and a double-layer thermal film for heat coupling with the enclosure.

A cable gland with an extra-large sealing inlay enables tool-free entry of standard cables with USB-C plugs.
www.autovimation.com

Lenses

Telecentric lenses

Optotune and Opto Engineering have released eight telecentric lenses. These offer a magnification range from 0.24x to 3.5x, and are suitable for the 2/3-inch camera sensor format.

Each lens features an Optotune focus tunable lens embedded into the Opto Engineering lens design to enable focus changes in milliseconds. This design offers a fully-integrated solution for industrial vision systems – industrial microscopy and industrial inspection.

The telecentric lenses offer fast and reliable focusing, enhanced depth-of-field and high image quality, all in a robust and compact form factor. They also offer camera orientation independence, low distortion, high image resolution, repeatable focus and no vignetting.
www.optotune.com; www.opto-e.com

Frame grabbers

BitBox starter kit

BitFlow now offers a starter kit version of its BitBox device, providing designers with a means to control up to 36 strobes, solenoids, actuators and other accessories in high-density I/O applications. BitBox is also able to acquire data input from equipment ranging from photodetectors to triggers.

The BitBox kit (IOB-ISO-C144-Kit) has 36 inputs and 36 outputs in a compact, DIN-rail mounted form factor that supports TTL, LVDS, open collector, opto-isolated and 24V signalling. All transmitters and receivers are in the BitBox on the DIN rail, in close proximity to other equipment. This configuration isolates noisy, high-voltage signals generated by a PC, keeping those signals away from the system where they could cause data drops, video problems, malfunctions and random network errors. A 15-wire cable runs between the BitBox and frame grabber; maximum cable length is 10m.

BitBox contains 12-pin connector blocks that can be added or removed, but will still lock securely. Blocks are grouped by signal type and have snap-in connectors.
www.bitflow.com

Complete vision systems

EviXscan 3D scanner

Evatronix has launched the EviXscan 3D precision scanner. The scanner is an optical measuring device operating with a blue LED light source. It is equipped with two fast 8.9-megapixel cameras, and is able to measure at 6µm accuracy and 3µm repeatability. The scans record 1,200 points per square millimetre, with a single scan collecting data from a volume of 120 x 60 x 45mm.

Scan acquisition time is in the order of several hundred milliseconds, thanks to the combination of high-speed cameras and the DLP light projection system.

The scanner is ideal for measuring elements of precision mechanics, such as micro rotors, small plastic elements made by injection moulding, objects manufactured on CNC

machines or by 3D printing. The device also gives precise 3D scans of sharp-edged tools or components. Measuring implants in prosthetics, as well as in jewellery and watch making, are also target areas.
www.evixscan3d.com

Micro-LED PL inspection

Hamamatsu Photonics has developed a system for high-speed inspection of micro-LEDs on wafers. It can detect abnormalities in the LED's external appearance, intensity and wavelength of light emission.

The system uses a photoluminescence measurement technique to characterise LEDs by analysing luminescence images. The Miny PL system is based on Hamamatsu image processing technology and a newly-developed imaging module. It gives fast pass/fail decisions, which helps increase product yield and R&D efficiency of micro-LEDs.
www.hamamatsu.com