



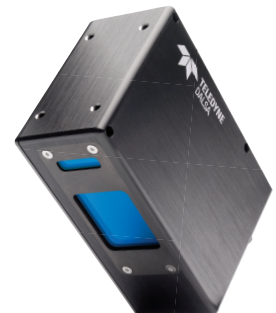
Z-Trak2 3D Profile Sensor Delivers up to 45K profiles/sec

Teledyne Imaging has introduced Z-Trak2, a new series of 3D profile sensors, delivering scan speeds of up to 45,000 profiles/second, enabling improved productivity in high-speed production environments.

For many years, 3D machine vision systems have had a reputation of not being fast enough to meet the requirements of inline inspection. Teledyne Imaging's new 3D profile sensors, the Z-Trak2 series, combines speed with a larger field-of-view, high-dynamic range imaging (HDR) and a 5-GigE interface to meet the challenges presented by today's inline 3D machine vision applications. Z-Trak2 works on the principle of proven triangulation, using a laser integrated into the housing, along with an image sensor equipped with 2,048 pixels per profile, aligned at known angles. In order to simplify

the integration of the 3D profile sensor into the users' systems, all Z-Trak2 models arrive factory-calibrated and ready for installation.

The new Z-Trak2 3D profile sensors from Teledyne Imaging enable use in high-speed production systems thanks to their high speed of up to 45,000 profiles/s.



Fast and Accurate

Within the Z-Trak2 family, the V series (1 GigE interface), delivers 10,000 profiles/second, while the S series models (5GigE) provide an even higher 45,000 profiles/s. These speeds are beneficial in numerous inline applications, improving overall productivity in instances where the reliable detection of dimensional deviations in the x, y and z axes are critical in determining product quality. The use of 1 GigE interfaces or, in the case of the Z-Trak2 S series, the option of using the faster 2.5 or even 5 GigE technology, ensures that large amounts of data are transferred to the associated processing units without delays. With the introduction of Z-Trak2, Teledyne Imaging has heralded a new era of 5GigE 3D profile sensors for high-speed inline 3D applications.

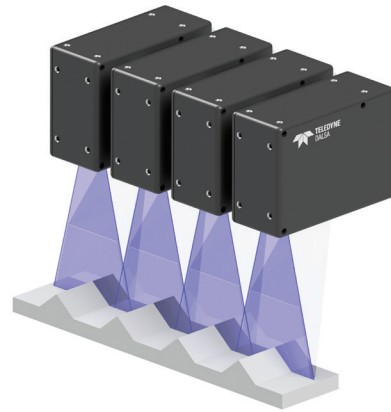
To deliver even more flexibility, Teledyne Imaging has graded the 3D profile sensors for working distances and measurement ranges (Z-range/depth of field). Both the Z-Trak2 S and V series are available in six models, with horizontal field-of view (FOV) from a minimum of 9 mm, to a maximum of 980 mm and covers depths of focus of 4, 15, 30, 100, 250 and 600 mm.

Z-Trak2 V-Series	Z-Trak2 S-Series
2K points/profile	Z-Trak2 S-Series
10K Profiles/sec	45K Profiles/sec
Range: 4 mm–600 mm	Range: 4 mm–600 mm
FOV: 9 mm–980 mm	FOV: 9 mm–980 mm
1GigE	5GigE

With height resolutions between 1 and 120 μm , even the smallest height deviations of inspected products can be measured – allowing for quick and reliable identification of defective products and their removal from the production process.

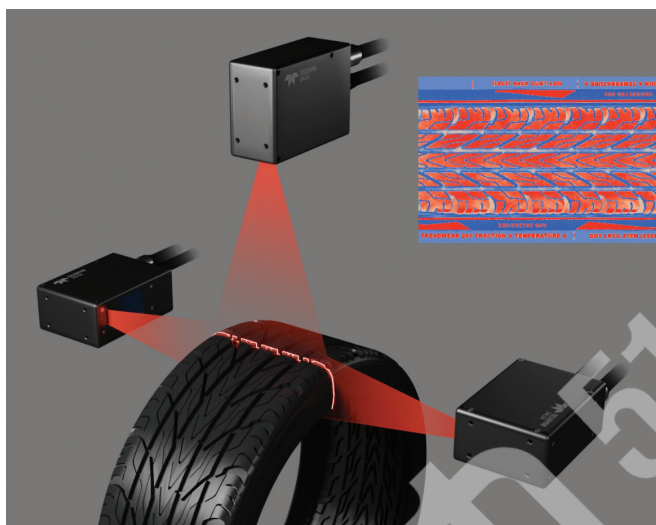
Development from a Single Source

Z-Trak2 models are built around an advanced 3D image sensor from Teledyne e2v, making the Teledyne Imaging Group the only manufacturer to have developed a laser profiler equipped with its own image sensors. In addition to Teledyne DALSA's Sherlock 8 and Sopera LT software, the Z-Trak series is compatible with off-the-shelf packages that support GeniCam version 3.0 and SFNC version 2.3 or higher that can take advantage of direct access to 3D output types and format. Those that don't support SFNC 2.3 can leverage 16-bit mono-



For applications in which the field of view of a single 3D profile sensor is not sufficient, several Z-Trak2 sensors can be combined and synchronized with one another.

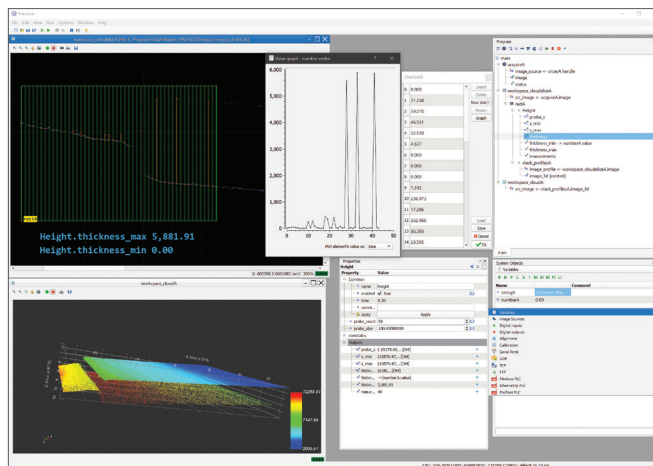
chrome output from the Z-Trak2 and Z-Trak LP1 3D profile sensors to enable faster integration. When it comes to software, all Z-Trak models include a free license to Teledyne DALSA's Sherlock 8. This graphical programming package enables easy implementation of vision automation tasks and communication with PLC and other devices on factory floor. Sherlock 8 supports PLC communication using Modbus, Profnet, Ethernet/IP, TCP, UDP, FTP etc. protocols. Runtime licenses for Sapera LT and Sapera Processing are also part of the Z-Trak2 software package free of charge. The use of in-house technology ensures the user receives an optimally aligned self-contained package that guarantees ease-of-use and lower cost.



3D inspection of car tires is a typical application for the use of the Z-Trak2 3D profile sensor.

Broad Field of Applications

In addition to its high speed and resolution, Z-Trak2 offers integrated HDR and reflection compensation algorithms to enable the processing of highly reflective surfaces in a single shot. In addition to eye-safe red lasers, Z-Trak2 is also equipped with a blue laser to help with the reflective properties of materials.



All Z-Trak models include a free license of Teledyne DALSA's Sherlock 8 - a graphical programming package allowing rapid application deployment.

For applications where the field of view of a single 3D profile sensor is insufficient, users can combine several Z-Trak2 profilers for a synchronized inspection or in cases where objects require 360° inspection. Examples of such applications include large panels of wood, metal or plastic, extrusions of various types with symmetrical or non-symmetrical features or for asymmetric features around extruded parts. Z-Trak2 accomplishes synchronization of multiple sensors in these topologies using a single I/O cable and off-the-shelf network switches. This not only simplifies cabling but also reduces cost.

Stand-alone Z-Trak2 systems are robust, feature a compact IP67 housing and are suitable for a wide variety of applications, including inline height measurement in numerous market segments including electronics and semiconductor production, robotics, automotive manufacturing and factory automation in general.

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Teledyne DALSA has its corporate offices in Waterloo, Canada
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