# SICK’s Next-Generation Ruler3000 Offers a Fastrack to Breakthrough 3D Vision Power

Waldkirch, Germany, May 2021. SICK has unveiled the first in a new generation of Ruler3000 3D streaming cameras, designed to offer a fast track for integrators to harness the unmatched speed and measurement precision of SICK’s high-definition 3D imaging technology. The SICK Ruler3000 sets a new standard for high-speed 3D image quality in an easy-to-integrate, pre-calibrated device.

The Ruler3000 combines SICK’s groundbreaking Ranger3 streaming camera with a Class 2 eye-safe laser, pre-selected optics and fixed geometries to enable much simpler configuration and commissioning. With industry-standard compliance giving comprehensive access to machine vision software tools, the Ruler3000 dramatically cuts time and complexity when integrating more demanding inspection, measurement and robot guidance tasks across a wide range of industries.

“With today’s demands for higher throughputs, more accurate quality control and flexible, batch-orientated production, the pressure is mounting to deliver more speed and accuracy from 3D machine vision systems,” says Sofia Nilsson, SICK 3D Streaming Cameras Product Manager.

“The SICK Ruler3000 is an exciting prospect for OEMs, system integrators and accomplished 3D vision end users. Because so much of the configuration and commissioning work is already done, you can rapidly shortcut to integrating a continuous stream of industry-standard data into higher level systems or robot controls. And, with accurate 3D, reflectance and scattered light measurements in one device, you can evaluate several aspects of the inspection simultaneously to achieve optimum control and measurement confidence.”

**Powerful Integrated Ranger3 Streaming Camera**

Powered by SICK’s highly sensitive CMOS sensor and innovative ROCC (Rapid On-Chip Calculation) technology, the Ruler3000’s integrated streaming camera scans reliably at rapid production speeds. It processes up to 15.4Gp/s to enable up to 7000 full-frame 3D profiles per second. The Ruler3000 extracts the true 3D shape of an object, regardless of its contrast or color, as well as simultaneously capturing greyscale and scattered light measurements, so image processing and measurement precision can be optimized.

The Ruler3000’s high light sensitivity enables accurate inspection of even very dark or highly-reflective materials, while its High Dynamic Range (HDR) function allows components with widely-differing light remissions such as tires and shiny metal assemblies to be captured successfully in a single scan.

**Outstanding Performance Whatever the Material**

The SICK Ruler3000’s outstanding performance on light, dark, reflective and contrasting surfaces, together with its guaranteed field of view, make it ideal for high-end inspection and precise localization duties, when mounted above a conveyor or on a robot arm. It is therefore likely to find diverse applications in industries including electronics, automotive components, consumer goods, food and beverage and pharmaceutical production.

**Simple and Versatile Integration Possibilities**

Integration is made even simpler by the user-friendly Stream Setup interface. The newly developed SICK GenIStream API facilitates integration for C# and C++ users. Full compatibility with industry standards such as GigEvision and GenICam, provides plug and play access to third party software such as HALCON and LabVIEW. In addition, developers have all the flexibility of SICK’s AppSpace software development platform with its wide range of image processing tools and application examples.

The highly accurate SICK Ruler3020 is the first release in the Ruler3000 product family. It delivers 3D profiles at up to 7kHz full format, or up to 46 kHz with a reduced region of interest. Measurements are output in millimeter values with a Z-resolution from 8-15µm and an X-resolution from 63-88µm, assuring very high definition to inspect even extremely dark or reflective surfaces, as well as to output precision data for accurate robot guidance. Accurate measurement values are assured down to 8 µm in height.

The guaranteed field of view concept of the SICK Ruler3020 ensures commissioning is easy. SICK plans to release more variants with differing fields of view during 2021.With a compact design, the IP65/67 SICK Ruler3020 can cope with harsh industrial environments without the need to design expensive protection in the machine.

Pictures:

SICK\_Ruler3000
Ruler3000 3D streaming cameras, designed to offer a fast track for integrators to harness the unmatched speed and measurement precision of SICK’s high-definition 3D imaging technology.

Ruler3020\_checks\_quality\_of\_electronics / Ruler3020\_facilitates\_robot\_inspection
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SICK is one of the world's leading industrial solution providers for sensor-based applications. Founded in 1946 by Dr. Erwin Sick and based in Waldkirch-im-Breisgau near Freiburg, the company is a technology and market leader present around the globe – with more than 50 subsidiaries and affiliates, as well as numerous agencies. In the 2019 fiscal year SICK employed more than 10,000 people worldwide and achieved Group sales of around EUR 1.8 billion. Further information on SICK is available on the Internet at [http://www.sick.com](http://www.sick.com/) or by phone at +49 (0)7681202-4183