



# Ranger3

Big 3D performance in a small package

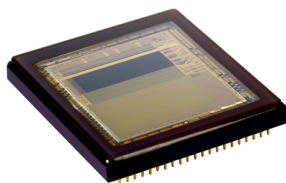
3D MACHINE VISION

**SICK**  
Sensor Intelligence.

Advantages



**Setting a new standard for high-speed 3D**



SICK CMOS 3D sensor.



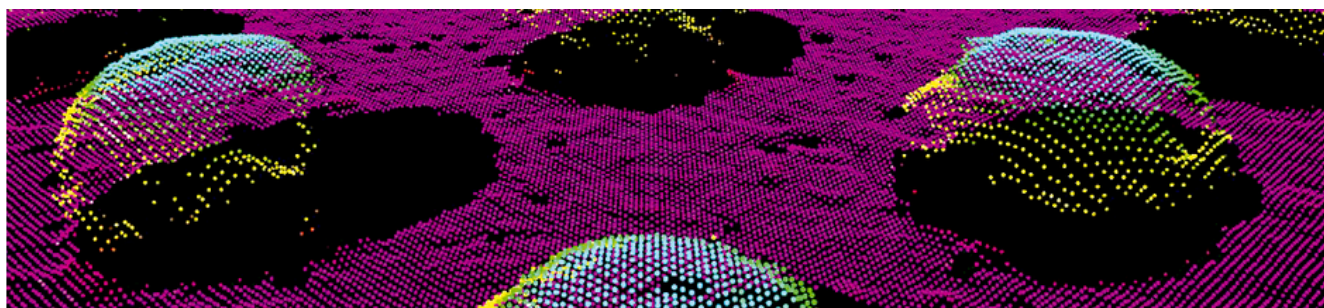
Faster and more precise shape, volume, and position measurements with 3D cameras from SICK.



Superior 3D performance with Rapid On-Chip Calculation technology (ROCC).

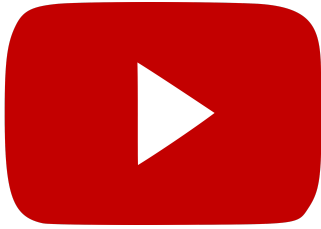


**“Ranger3 is an amazing product that shows how the quantum jump of technology can open new possibilities and markets to 3D vision”, says Jun-Young Lee, Managing Director at Novitec. Co. Ltd., South Korea.**

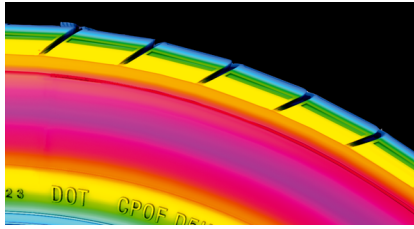


**Creating values in a wide range of industries**

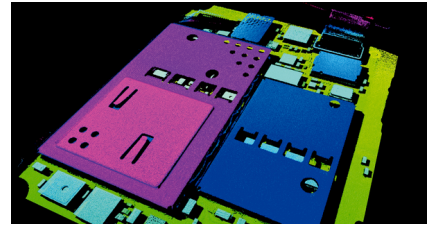
A third dimension in camera vision adds height and shape measurement data, which can be critical in many industrial applications. The SICK Ranger line has been used worldwide in electronics, wood, robot vision, plastic, rubber and food industries, among others. With Ranger3, there are even more opportunities for businesses to increase their performance in quality control and production throughput.



3D inspection, faster than a moving train – a reality with the Ranger3.



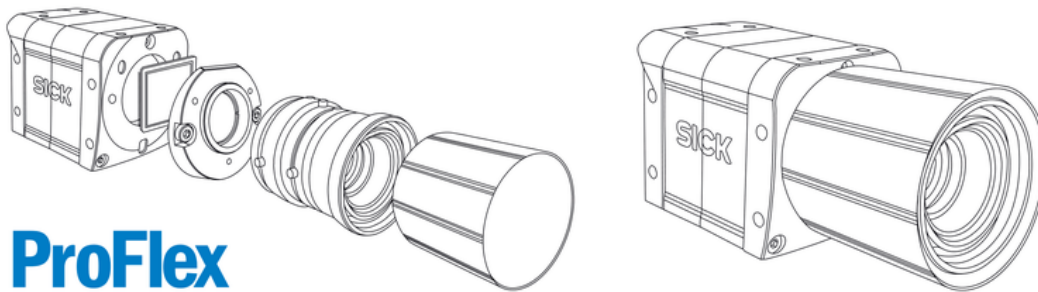
The high light sensitivity of the Ranger3 makes it possible to accurately and rapidly inspect very dark materials, such as tires.



Substantially increased throughput in electronics with the new 3D streaming camera from SICK.



**Ranger3 not only keeps up, it exceeds the pace – creating new opportunities for vision machine builders and vision system integrators in a wide range of industrial applications.**



**ProFlex**

### ProFlex – the clever lens and filter mounting system

The ProFlex concept features exchangeable modules including a wide range of lenses, a lens protective hood with protection class IP65 or IP67, replaceable threaded filters, and multiple Scheimpflug adapters. This allows Ranger3 to adjust and optimize the focal length for each specific setup to ensure that the entire object height is always perfectly in focus.



The ProFlex concept of Ranger3 makes it easy to install the compact camera and to adapt it for specific needs.



The Scheimpflug adapter puts the lens in an optimized angle, creating sharp images.



The protective hood provides IP65 or IP67 protection for demanding environments.



**The innovative SICK ProFlex concept is an intelligent solution for easy system installation.**

## SICK LifeTime Services

SICK's services increase machine and plant productivity, enhance the safety of people all over the world, provide a solid foundation for a sustainable business operation, and protect investment goods. In addition to its usual consulting services, SICK provides direct on-site support during the conceptual design and commissioning phases as well as during operation.

The range of services not only covers aspects like maintenance and inspection, but also includes performance checks as well as upgrades and retrofits. Modular or customized service contracts extend the service life of plants and therefore increase their availability. If faults occur or limit values are exceeded, these are detected at all times by the corresponding sensors and systems.



### **Consulting and design**

Application-specific advice on the product, its integration and the application itself.



### **commissioning and maintenance**

Application-optimized and sustainable – thanks to professional commissioning and maintenance by a trained SICK service technician.



### **service contracts**

Extended warranty, SICK Remote Service, 24-hour helpdesk, maintenance, availability guarantees and other modular components can be individually combined on request.





### Technical data overview

<b>Technology</b>	3D line scanning	
<b>Scan/frame rate</b>	1,500 3D profiles/s ... 46,000 3D profiles/s, in AOI, full format (depending on type)	
<b>Scatter measurement</b>	✓	
<b>Reflectance measurement</b>	✓	
<b>3D measurement</b>	✓	
<b>Light source</b>	Internal lighting	To be ordered separately as accessories
<b>Enclosure rating</b>	IP20, IP65, IP67	
<b>Configuration software</b>	Ranger3 Studio	
<b>Ethernet</b>	✓, UDP/IP	

### Product description

Highly accurate and with an unmatched measurement speed, the next generation Ranger3 streaming cameras can be configured for a wider range of needs. Powered by our unique 3D sensor tailored for demanding vision applications, Ranger3 will serve as a key component in inspection systems worldwide. The camera extracts the true 3D shape of an object, regardless of its contrast or color and as a result, improves quality for a multitude of products. Cost-effective integration is guaranteed through GigE Vision and GenICam compliance. Ranger3 offers big 3D performance in a small housing.



### At a glance

- CMOS sensor from SICK with ROCC technology for superior 3D performance
- Processing of up to 15.4 gigapixels/s.
- Full-format 3D profile at 7 kHz
- Sensor resolution: Up to 2,560 x 832 px
- GigE Vision and GenICam compliant
- 3D, reflective, and scattered light measurement in one device
- Industrial housing, optional IP65/67 enclosure rating

### Your benefits

- Unique CMOS sensor enables fast 3D measurement speed for increased throughput
- Reliable and accurate measurements on dark and bright surfaces enable flexible production - an enabler for Industry 4.0
- High light sensitivity allows 3D inspection without higher laser power
- Accurate shape, volume and position measurements for a wide range of objects improving product quality
- Standardized software integration with GigE Vision and GenICam
- Easy mechanical integration thanks to a compact housing, the ProFlex-Front, industrial connectors and 4Dpro accessories

### Fields of application

- Electronic component and PCB inspection
- Tire quality control
- High-speed railway and road surface inspection
- Dimensioning of tubes in the metal industry
- Packaging and in-line food quality control
- Quality inspection and classification in the wood and furniture industry

## Ordering information

Other models and accessories → [www.sick.com/Ranger3](http://www.sick.com/Ranger3)

- **Lens:** C-mount

Sub product family	Scan/frame rate	Type	Part no.
Ranger3-30	20,000 3D profiles/s, in AOI 1,500 3D profiles/s, full format	V3DR3-30NE31111	1109564
Ranger3-40	20,000 3D profiles/s, in AOI 2,500 3D profiles/s, full format	V3DR3-40NE31111	1105757
Ranger3-60	46,000 3D profiles/s, in AOI 7,000 3D profiles/s, full format	V3DR3-60NE31111	1091560

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)