



Ranger

Fast 3D measurement and MultiScan for advanced industrial solutions

SICK
Sensor Intelligence.



Technical data overview

Technology	3D line scanning / MultiScan / 3D line scanning / Multi-Scan / color (depending on type)
Scan/frame rate	1,000 3D profiles/s ... 35,000 3D profiles/s (depending on type)
Grayscale measurements	✓ / - (depending on type)
Color measurements	Red / Green / blue / monochrome (without IR content) / Red / Green / blue / monochrome (without IR content) / near infrared (approx. 750 nm ... 950 nm) (depending on type)
Scatter measurement	✓ / - (depending on type)
Enclosure rating	IP20
Configuration software	Ranger Studio
CameraLink	✓
Ethernet	✓, UDP/IP
Serial	✓, RS-422, Encoder

Product description

Ranger cameras offer high levels of flexibility and can be configured for a wide range of needs. With its fast 3D measurement speed, data quality, and flexible MultiScan functionality, it serves as a key image processing component in inspection systems worldwide. Ranger cameras extract the true 3D shape of an object, regardless of its contrast or color. It is used to measure object height and volume, to detect shape defects, and for quality grading and size sorting. With its unique MultiScan tool, a multitude of object features, such as contrast, gloss, and scatter can be measured at the same time! This enables reliable inspection results and more cost-efficient solutions since it only takes one Ranger to perform it all.

At a glance

- Fast 3D measurement at high speed and quality
- MultiScan function for simultaneously measuring the 3D shape, contrast, color, and scatter
- Sensor resolutions of up to 1,536 pixels in 3D and 3,072 pixels in grayscale and color
- High levels of flexibility in configuration, working distance, and field of view
- In-machine 3D calibration
- Gigabit Ethernet and CameraLink interfaces

Your benefits

- High-speed and high-resolution measurements allow you to increase production throughput, and still see fine details, thus ensuring production quality.
- Get accurate size and position measurements in 3D regardless of an object's height or color, ensuring reliable solutions
- High levels of flexibility in the field of view combined with the in-machine 3D calibration concept provides true millimeter dimensions
- Unique MultiScan technology enables one camera to do the work of many, reducing costs for integration, maintenance, and accessories, and creating cost-efficient solutions.
- The high level of flexibility and versatility of the Ranger makes it the ideal choice for challenging tasks

Ordering information

Other models and accessories → www.sick.com/Ranger

- **Sub product family:** Ranger C
- **3D profile resolution:** 512 px

Scatter resolution	Gray-scale resolution	Scan/frame rate	IR filter	Lens	Type	Part no.
512 px	512 px	30,000 3D profiles/s	No IR pass filter	C-mount	Ranger-C40412	1014218

- **Sub product family:** Ranger C
- **3D profile resolution:** 1,536 px
- **Scatter resolution:** 1,536 px
- **Scan/frame rate:** 30,000 3D profiles/s
- **Lens:** C-mount

Gray-scale resolution	IR filter	Type	Part no.
1,536 px	IR pass filter	Ranger-C50422	1014223
	No IR pass filter	Ranger-C50412	1014216
3,072 px	IR pass filter	Ranger-C55422	1014224
	No IR pass filter	Ranger-C55412	1014217

- **Sub product family:** Ranger D
- **3D profile resolution:** 512 px

Gray-scale resolution	Scan/frame rate	IR filter	Lens	Type	Part no.
512 px	1,000 3D profiles/s	No IR pass filter	C-mount	Ranger-D40213	1040383

- **Sub product family:** Ranger D
- **3D profile resolution:** 1,536 px

Gray-scale resolution	Scan/frame rate	IR filter	Lens	Type	Part no.
1,536 px	1,000 3D profiles/s	No IR pass filter	C-mount	Ranger-D50213	1040384

- **Sub product family:** Ranger E
- **3D profile resolution:** 1,536 px
- **Scatter resolution:** 1,536 px
- **Scan/frame rate:** 35,000 3D profiles/s
- **Lens:** C-mount

Gray-scale resolution	IR filter	Type	Part no.
1,536 px	IR pass filter	Ranger-E50424	1040381
	No IR pass filter	Ranger-E50410	1085082
3,072 px	IR pass filter	Ranger-E55424	1040382
	No IR pass filter	Ranger-E55414	1040380

- **Sub product family:** Ranger E
- **3D profile resolution:** 512 px

Scatter resolution	Gray-scale resolution	Scan/frame rate	IR filter	Lens	Type	Part no.
512 px	512 px	35,000 3D profiles/s	No IR pass filter	C-mount	Ranger-E40414	1040378

- **Sub product family:** ColorRanger E
- **3D profile resolution:** 512 px
- **Scatter resolution:** 512 px
- **Color resolution:** 3 x 512 px

Gray-scale resolution	Scan/frame rate	IR filter	Lens	Type	Part no.
512 px	35,000 3D profiles/s	No IR pass filter	C-mount	Ranger-E40434	1050266

- **Sub product family:** ColorRanger E
- **3D profile resolution:** 1,536 px
- **Scatter resolution:** 1,536 px
- **Scan/frame rate:** 35,000 3D profiles/s
- **Lens:** C-mount

Color resolution	Gray-scale resolution	IR filter	Type	Part no.
3 x 1,536 px	1,536 px	IR pass filter	Ranger-E50444	1050269
		No IR pass filter	Ranger-E50434	1050267
3 x 3,072 px	3,072 px	IR pass filter	Ranger-E55444	1050270
		No IR pass filter	Ranger-E55434	1050268

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