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DATA SHEET

Ranger-C50412

Ranger
3D machine vision

SICK Sensor Intelligence



3D MACHINE VISION

Ranger-C50412

ORDERING INFORMATION

Type	part no.
Ranger-C50412	1014216

Further device versions and accessories at www.sick.com/Ranger

DETAILED TECHNICAL DATA

FEATURES

Product category	Streaming, flexible
Example field of view	Free of choice by lens selection
Illumination	To be ordered separately as accessories
Data synchronization	Free running, encoder triggered, external triggering
Grayscale measurements	✓
Scatter measurement	✓
Spectral range	400 nm ... 950 nm
Description	Ranger C50 - 3D and MultiScan, up to 30 k profiles/second. CameraLink interface, 1,536 x 512 pixels.
Lens	C-mount
Optical format	1″

MECHANICS/ELECTRONICS

Connection type	Lemo 14-pin female connector (power, I/O) Mini D Ribbon, MDR, 26 pin female connector (CameraLink)
Supply voltage	12 V DC ... 24 V DC
Ripple	< 5 V_{pp}
Power consumption	8 W
Current consumption	1.25 A
Enclosure rating	IP20
Housing material	Aluminum
Housing color	Gray, varnished
Weight	390 g
Dimensions (L x W x H)	109 mm x 50 mm x 50 mm

PERFORMANCE

Bit depth	8 bit

Image sensor	CMOS
Sensor resolution	1,536 px x 512 px
Scan/frame rate	30,000 3D profiles/s
Sensor rows available for 3D	0 ... 511
3D profile resolution	1,536 px
Scatter resolution	1,536 px
Pixel size	9.5 µm x 9.5 µm
Pixel matrix fill factor	60 %
Maximum 3D height resolution	13 bits 1/16 pixels
Optical center (row, column)	(227, 768)
Gray-scale resolution	1,536 px
IR filter	No IR pass filter

INTERFACES

CameraLink	✓
Configuration software	Ranger Studio
Operating system	Windows XP Pro
Development environment	C++ (VS 2005/2008/2010) / C
Programming interface	iCon API
Digital input	5 x TTL
Digital output	1 x TTL
Encoder interface	5 V TTL
Maximum encoder frequency	2 MHz
External illumination	5 V TTL

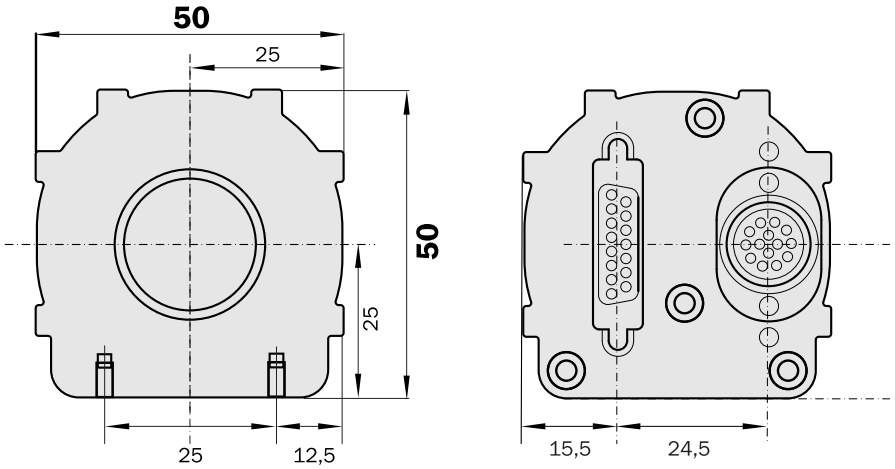
AMBIENT DATA

Shock load	15 g, 3 x 6 directions
Vibration load	5 g, 58 Hz ... 150 Hz
Ambient operating temperature	+5 °C ... +50 °C [1) 2)]
Storage temperature	–20 °C ... +70 °C [1)]

[1)] Non-condensing.

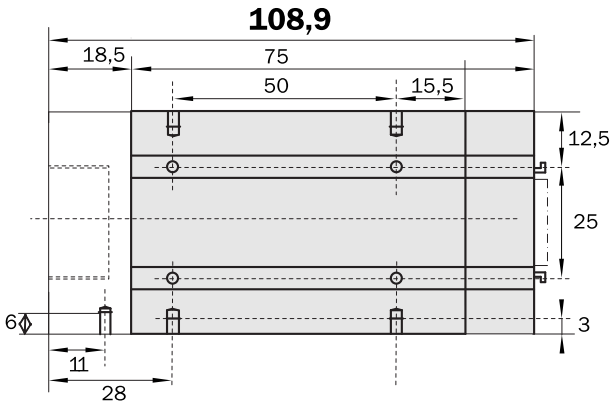
[2)] Camera housing temperature.

DIMENSIONAL DRAWING, FRONT / BACK VIEW



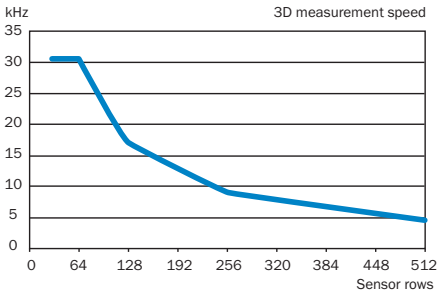
Dimensions in mm (inch)

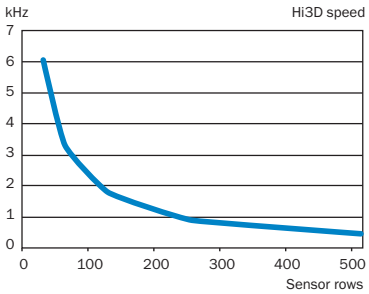
DIMENSIONAL DRAWING, VIEW FROM THE SIDE

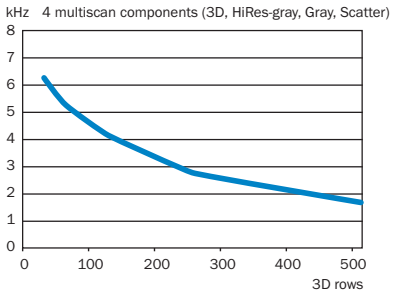


Dimensions in mm (inch)

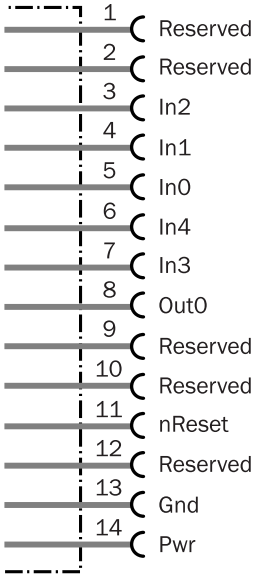
CHARACTERISTIC CURVE







CONNECTION DIAGRAM



Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1014216

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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