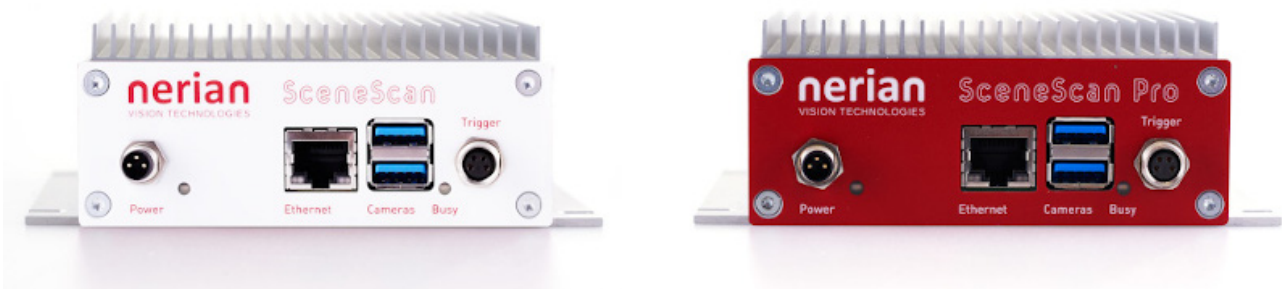


Hardware Details at a Glance

Power supply	11-4 V DC
Power consumption	Less than 10 W without supplying camera power Up to 20 W with supplying camera power
Dimensions	104.5 × 105.5 × 45 mm without mounting brackets 104.5 × 130 × 45 mm with mounting brackets
Weight	400 g
I/O	2x USB 3.0 host, Gigabit Ethernet, GPIO
Max. USB power	900 mA
Conformity	CE, FCC, RoHS

Stereo Matching

	SceneScan	SceneScan Pro
Stereo algorithm	Variation of Semi-Global Matching	
Max. greyscale resolution	800 x 800 pixels	1888 x 1888 pixels*
Max. color resolution	n/a	864 x 864 pixels*
Supported pixel formats	Mono8, Mono12, Mono12p, Mono12Packed	Mono8, Mono12, Mono12p, Mono12Packed, RGB8, BayerGR8, BayerGB8, BayerBG8
Disparity range	64 to 128 pixels (32 pixels increment)	96 bis 256 pixels (32 pixels increment)
Frame rate	Up to 45 fps	Up to 135 fps
Sub-pixel resolution	4 bits (1/16 pixel)	
Post-processing	Consistency check, uniqueness check, gap interpolation, noise reduction, speckle filtering	
Latency (incl. image capture)	The latency time depends on the chosen configuration. Typical: <i>time between two frames + exposure time + approx. 9 ms</i>	



* When using a disparity range of 128 pixels. A larger disparity range will lead to a smaller maximum image resolution

Achievable Frame Rates and Image Resolutions

Model	Disparity range	Image resolution			
		640 x 480	800 x 592	1024 x 768	2016 x 1536
SceneScan monochrome	64 pixels	45 fps	30 fps	n/a	n/a
	128 pixels	30 fps	20 fps	n/a	n/a
SceneScan Pro monochrome	128 pixels	135 fps	90 fps	55 fps	13 fps
	256 pixels	75 fps	53 fps	34 fps	7 fps
SceneScan Pro color	128 pixels	80 fps	53 fps	32 fps	8 fps
	256 pixels	72 fps	49 fps	32 fps	7 fps

Image Rectification

Horizontal displacement	-39 to +39 pixels
Vertical displacement	-39 to +39 pixels
Interpolation	Bilinear

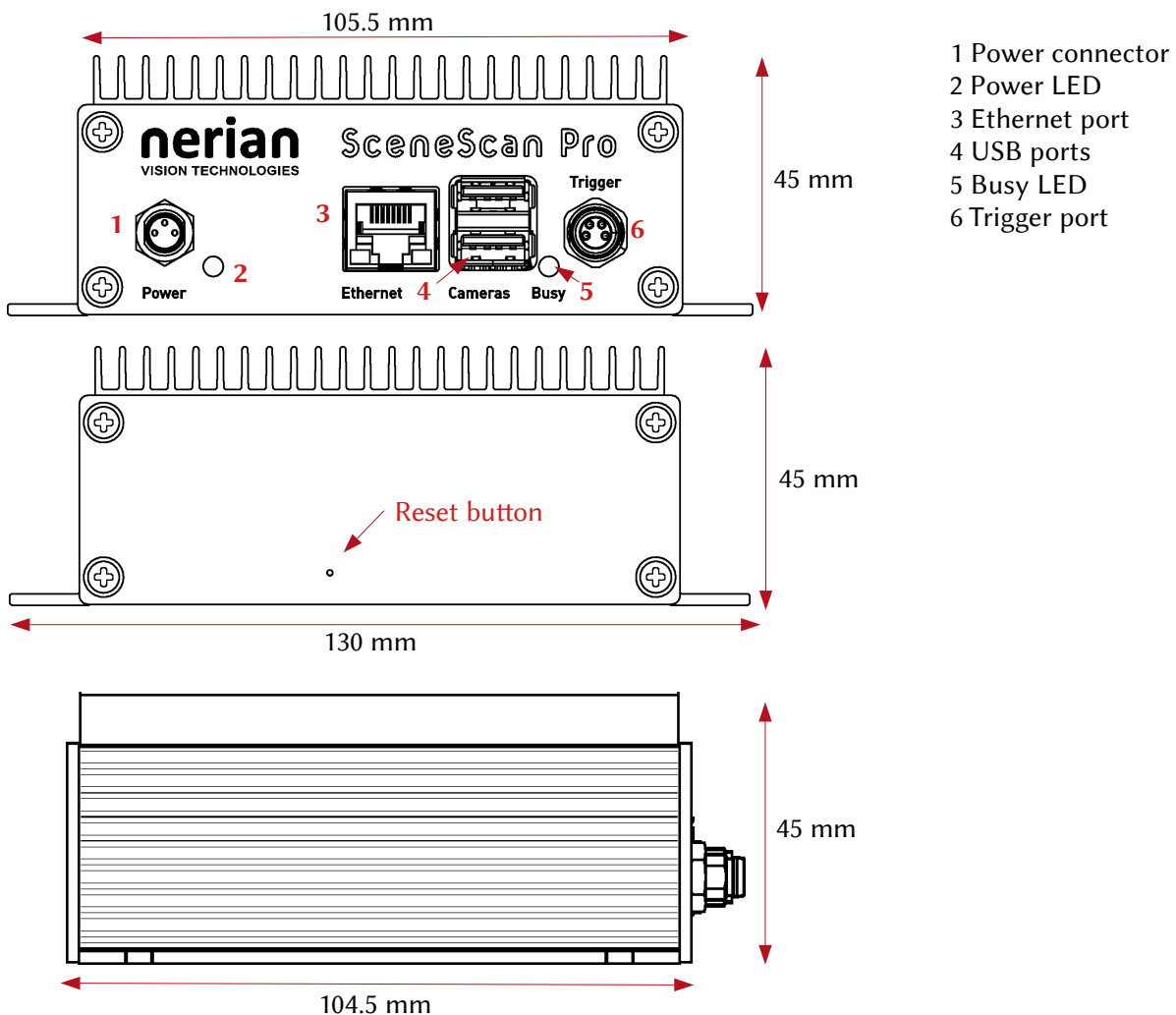
Operation, Software etc.

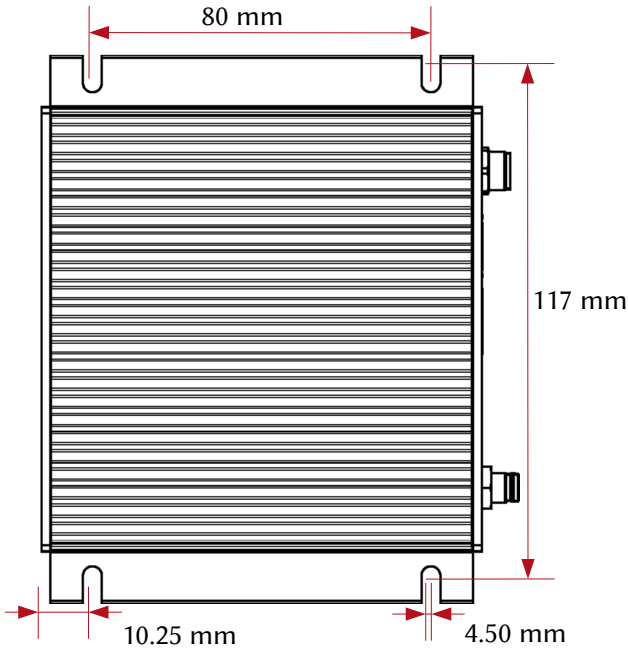
API and software	Own NVCom client application and C++ or Python API GenICam GenTL Producer ROS Node
Compatibility	Windows, Linux x86 and ARM OpenCV, PCL, Matrox MIL, Halcon, etc.
Package includes	<ul style="list-style-type: none"> • SceneScan/ SceneScan Pro processing system • 12 V DC power supply with interchangeable mains connectors for Europe, North America, UK and Australia • User manual • Calibration board • Ethernet cable, 3 m
Services	<ul style="list-style-type: none"> • 2 year warranty • 1 year product support • Support forum

Physical Interfaces

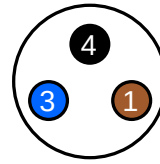
Power connector	11 – 14V DC, male 3 pin Binder 718/768 Power supply: max. output current of at least 2 A
Power LED	Indicates that the device is powered up and running.
Ethernet port	Port for connecting SceneScan to a client computer or other embedded system. Delivers processing results and provides access to the configuration interface.
USB ports	For connecting SceneScan to up to two USB cameras. Max. supply current of each port is 900 mA.
Busy LED	Indicates that the device is currently processing image data.
Trigger port	Provides a pulse signal for triggering both cameras. Also functions as an input for the time synchronization pulse. Up to +3.3 V pulse signal, female 4 pin Binder 718/768
Reset button	Button for resetting the device configuration back to the default state.

Technical Drawings and Dimensions



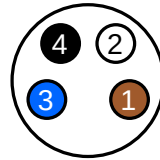


Pin Assignment of Power Connector



Pin	Assignment
1	Ground
2	Ground
3	11-14 V supply voltage

Pin Assignment of Trigger Connector



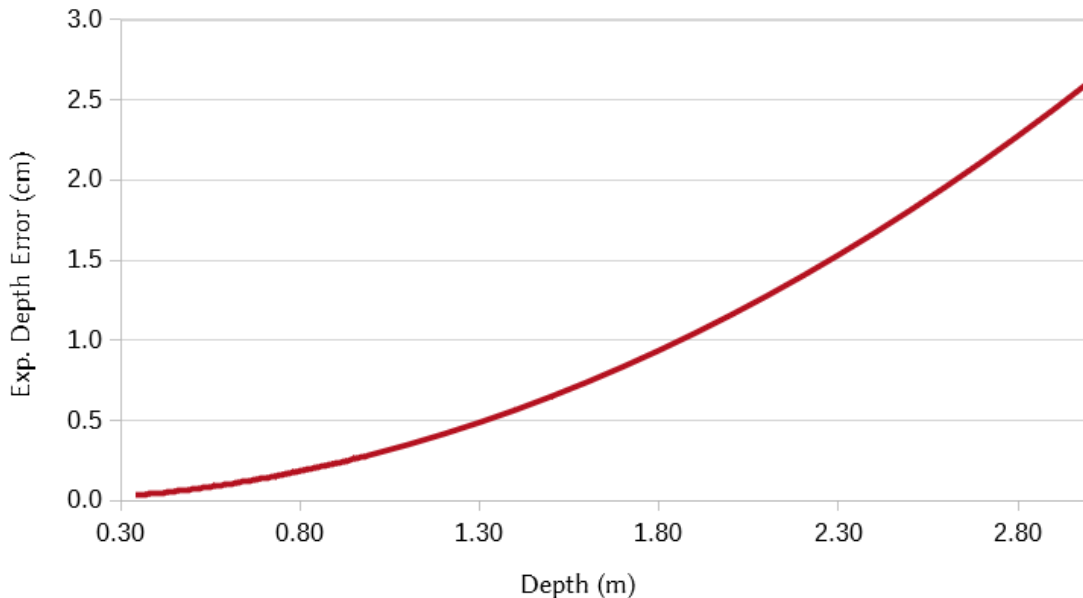
Pin	Assignment
1	Trigger 0
2	Trigger2
3	Ground
4	Synchronization input

Example of an Expected Depth Error Chart

SceneScan Pro + Karmin3:

6 mm, resolution at 1024 x 768 pixels, 256 pixels disparity range, max. 34 fps, FoV 61°

min. measuring distance 0.34 cm – configuration optimized for close range measurements



Depth (m)	Depth error (cm)	%
0.34	0.04	0.12%
0.5	0.07	0.14%
1	0.29	0.29%
2	1.16	0.58%

Expected depth error under optimal measurement conditions for selected configuration. Depth error always depends on camera setup.