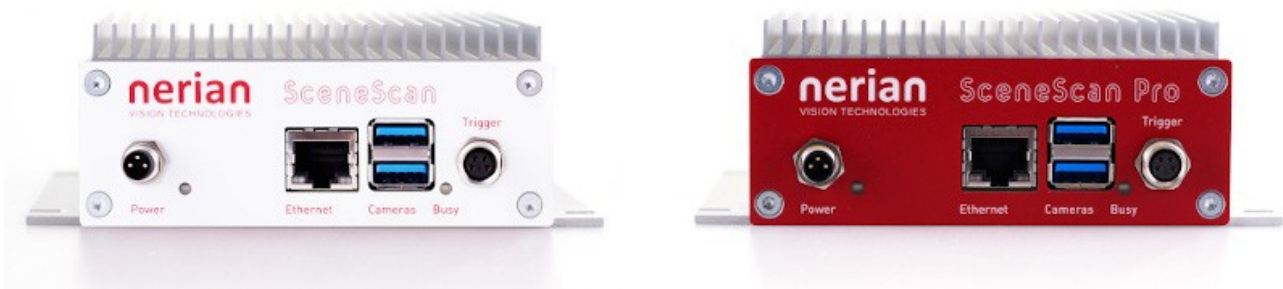


**Hardware Details at a Glance**

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

**Stereo Matching**

	<b>SceneScan</b>	<b>SceneScan Pro</b>
<b>Stereo algorithm</b>	Variation of Semi-Global Matching	
<b>Max. greyscale resolution</b>	800 x 800 pixels	1888 x 1888 pixels*
<b>Max. color resolution</b>	n/a	864 x 864 pixels*
<b>Supported pixel formats</b>	Mono8, Mono12, Mono12p, Mono12Packed	Mono8, Mono12, Mono12p, Mono12Packed, RGB8, BayerGR8, BayerGB8, BayerBG8
<b>Disparity range</b>	64 to 128 pixels (32 pixels increment)	96 bis 256 pixels (32 pixels increment)
<b>Frame rate</b>	Up to 45 fps	Up to 100 fps
<b>Sub-pixel resolution</b>	4 bits (1/16 pixel)	
<b>Post-processing</b>	Consistency check, uniqueness check, gap interpolation, noise reduction, speckle filtering	
<b>Latency (incl. image capture)</b>	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	1280 x 960	1600 x 1200
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	100 fps	65 fps	24 fps	15 fps
	256 pixels	70 fps	45 fps	15 fps	10 fps
SceneScan Pro color	224 pixels	45 fps	27 fps	9 fps	6 fps

### Image Rectification

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

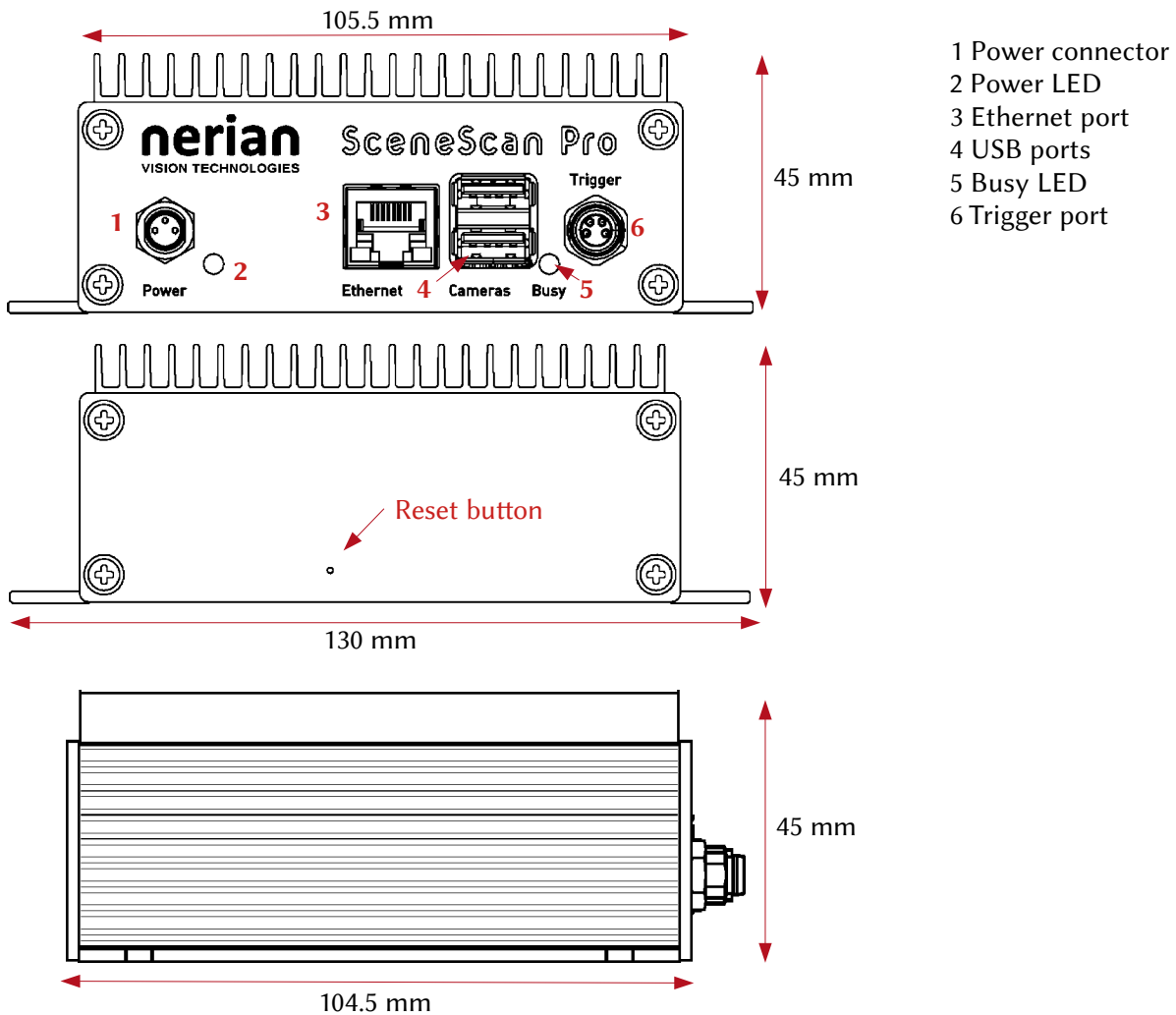
### Operation, Software etc.

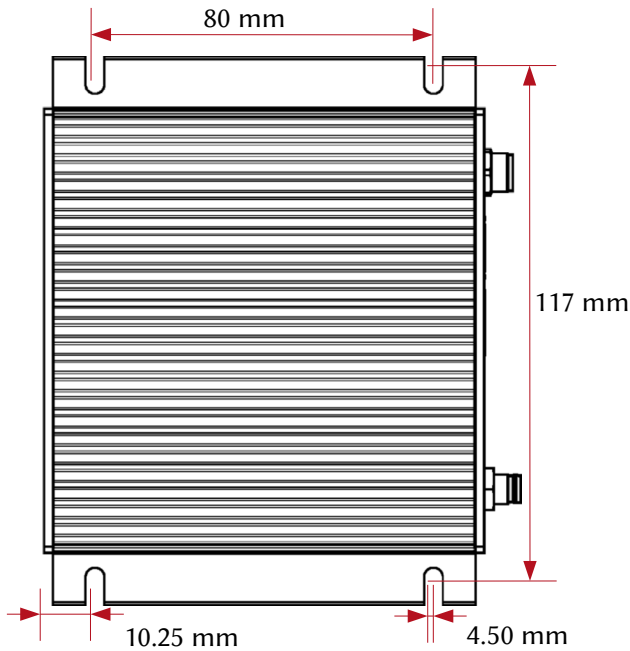
API and software	Own NVCom client application and C++ or Python API GenICam GenTL Producer <a href="#">ROS Node</a>
Compatibility	Windows, Linux x86 and ARM OpenCV, PCL, Matrox MIL, Halcon, etc.
Package includes	<ul style="list-style-type: none"> <li>• SceneScan/ SceneScan Pro processing system</li>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

**Physical Interfaces**

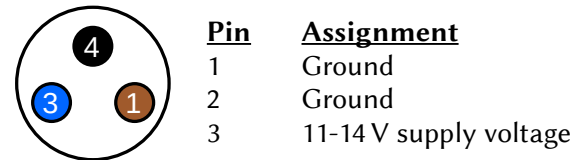
<b>Power connector</b>	11 – 14V DC, male 3 pin Binder 718/768 Power supply: max. output current of at least 2 A
<b>Power LED</b>	Indicates that the device is powered up and running.
<b>Ethernet port</b>	Port for connecting SceneScan to a client computer or other embedded system. Delivers processing results and provides access to the configuration interface.
<b>USB ports</b>	For connecting SceneScan to up to two USB cameras. Max. supply current of each port is 900 mA.
<b>Busy LED</b>	Indicates that the device is currently processing image data.
<b>Trigger port</b>	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
<b>Reset button</b>	Button for resetting the device configuration back to the default state.

**Technical Drawings and Dimensions**

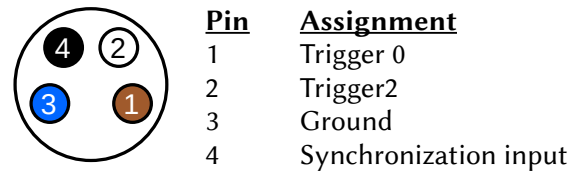




**Pin Assignment of Power Connector**



**Pin Assignment of Trigger Connector**

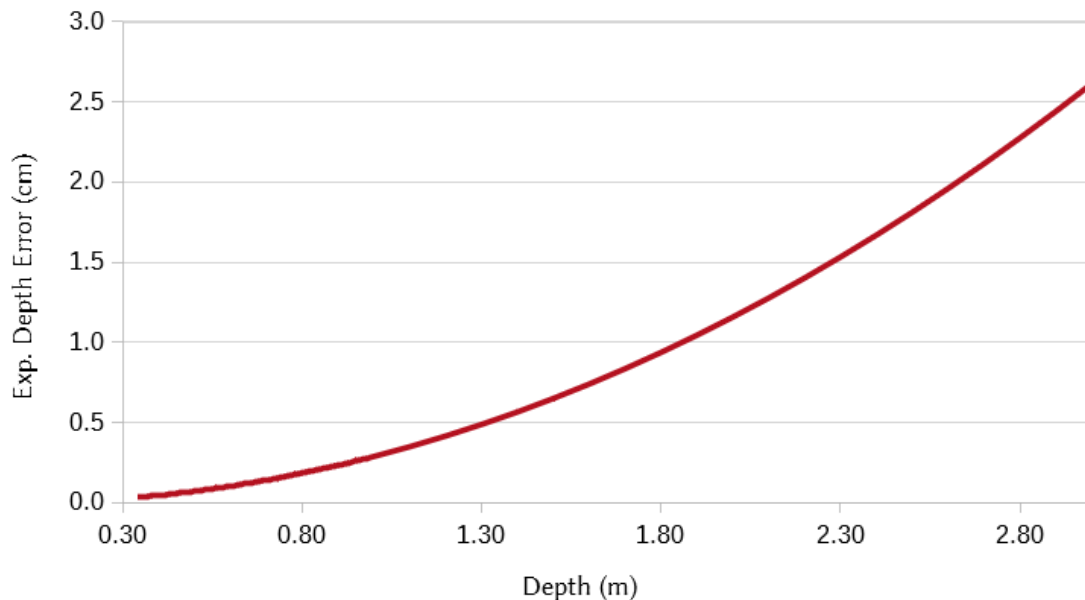


**Example of an Expected Depth Error Chart**

SceneScan Pro + Karmin3:

6 mm, resolution at 1024 x 768 pixels, 256 pixels disparity range, max. 33 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.