roboception

rc_viscore - High-Resolution 3D Stereo Sensor

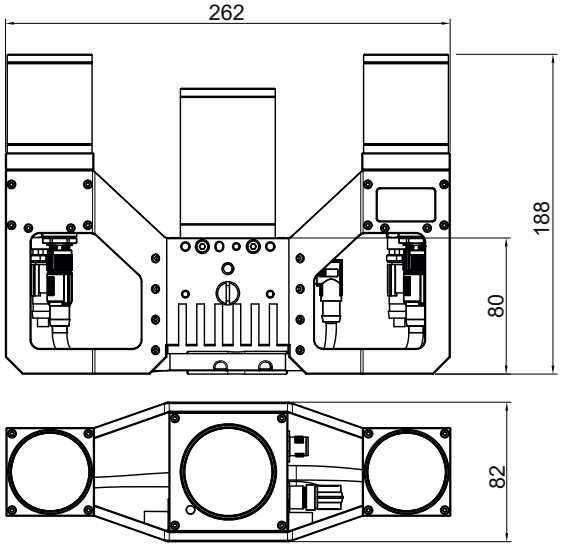
Technical Specifications 12MP ruggedized

The rc_viscore is a high-resolution IP54-protected 3D stereo sensor with an integrated rc_randomdot pattern projector. It provides 12MP camera images and – in combination with an rc_cube and rc_reason_stack or the off-board SGM®Producer – depth, confidence and error images. The integrated rc_randomdot projector allows for dense depth images even in weakly textured scenes and the high resolution permits the detection of small parts with high accuracy. The rc_viscore can be used with any rc_reason module and is fully GenICam compatible.

Model (Type)	**rc_viscore 210[m|c]-[12|16|25]-12M-H1-V**
Baseline	210 mm
Calibration	Factory-calibrated
Sensor type (global shutter)	Monochrome | Color
Resolution	4112 x 3008 Pixels
Pattern projection	Via integrated rc_randomdot projector
Wavelength	Visible
Depth image resolution, framerate and latency	4112 x 3008 pixel (Full), 3 Hz, 920 ms *) 2056 x 1504 pixel (High), 4.7 Hz, 450 ms *)
Connectors	M12, 8 Pin, A-coded (power, GPIO) and 2x M12, X-coded (GigE-network)
Dimensions	262 mm x 188 mm x 82 mm (W x L x H)
Weight	2.0 kg
Supply voltage, maximum power consumption	24 V (22 V - 26 V), 48 W
Storage/transport temperature	-20° C to 60° C
Operating temperature	0° C to 45° C
Relative humidity (non-condensing)	20 % to 80 %
Environment	Ruggedized optics for industrial use
Warm-up time	No warm-up time required after power-up
Cooling	Passive
Approvals	CE, IP 54, ROHS

*) Values shown correspond to an rc_cube i with RTX 2000 Pro Blackwell using 3.4 GB of GPU memory







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Focal length	12 mm	16 mm	25 mm	Working Distance (WD)
Field of view	Horizontal: 59° Vertical: 45°	Horizontal: 46° Vertical: 34°	Horizontal: 30° Vertical: 22°	
Workspace w x h [mm]	940 x 840 2090 x 1680 3250 x 2530 4400 x 3370	640 x 620 1490 x 1240 2340 x 1870 3200 x 2490	340 x 400 890 x 800 1440 x 1200 1990 x 1610	@ 1 m WD @ 2 m WD @ 3 m WD @ 4 m WD
Lateral resolution [mm]	0.3 | 0.6 0.6 | 1.2 0.9 | 1.8 1.2 | 2.4	0.3 | 0.5 0.5 | 0.9 0.7 | 1.3 0.9 | 1.8	0.2 | 0.3 0.3 | 0.6 0.5 | 0.9 0.6 | 1.1	@ 1 m WD @ 2 m WD @ 3 m WD @ 4 m WD
Depth resolution [mm]	0.1 | 0.2 0.4 | 0.7 0.8 | 1.6 1.4 | 2.8	0.1 | 0.2 0.3 | 0.6 0.6 | 1.2 1.1 | 2.1	0.1 | 0.1 0.2 | 0.4 0.4 | 0.8 0.7 | 1.3	@ 1 m WD @ 2 m WD @ 3 m WD @ 4 m WD
Average depth accuracy [mm]	0.4 | 0.7 1.4 | 2.8 3.1 | 6.2 5.6 | 11.1	0.3 | 0.6 1.1 | 2.1 2.4 | 4.7 4.2 | 8.3	0.2 | 0.4 0.7 | 1.3 1.5 | 3.0 2.6 | 5.2	@ 1 m WD @ 2 m WD @ 3 m WD @ 4 m WD
Depth range t [m]	0.15 | 0.48 0.51 | 1.47 1.01 | 2.41 1.62 | 3.38	0.11 | 0.48 0.40 | 1.34 0.82 | 2.26 1.34 | 3.21	0.07 | 0.40 0.28 | 1.13 0.59 | 1.99 0.98 | 2.89	@ 1 m WD @ 2 m WD @ 3 m WD @ 4 m WD

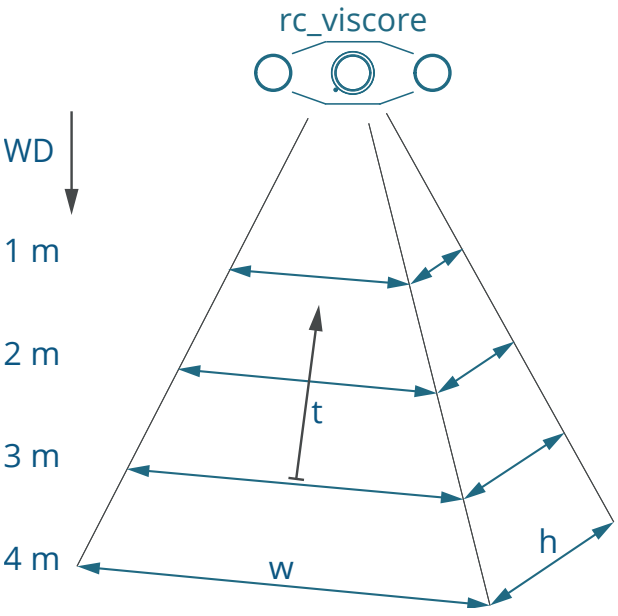
All values shown are for stereo matching using SGM and for [full | high] depth image quality.
Depth range: the height above the ground plane (or load carrier bottom) within which objects are detected, with the working distance set to the ground plane. Depth range depends on depth image quality, working distance and available GPU memory. It is much smaller at close distance than at far distance. Values shown correspond to an rc_cube i with RTX 2000 Pro Blackwell using 3.4 GB of GPU memory.

The scope of delivery of an rc_viscore includes a large CalibrationGrid, two 10 m Gigabit ethernet network cables and a 10 m power cable with an M12 connector and one open end, as well as the SGM®Producer software library (download), which is required for operating the rc_viscore with a computing resource other than the rc_cube IPC with rc_reason_stack.

rc_viscore 210[m|c]-[12|16|25]-12M-H1-V

Focal length: **12** mm, **16** mm or **25** mm

Camera: **m**onochrome or **c**olor



Find more information on
doc.rc-viscore.com

Enquiries via
info@roboception.de

Roboception GmbH
Kaflerstr. 2
81241 München
Deutschland

www.roboception.de
+ 49 (0) 89 889 50 79 -0