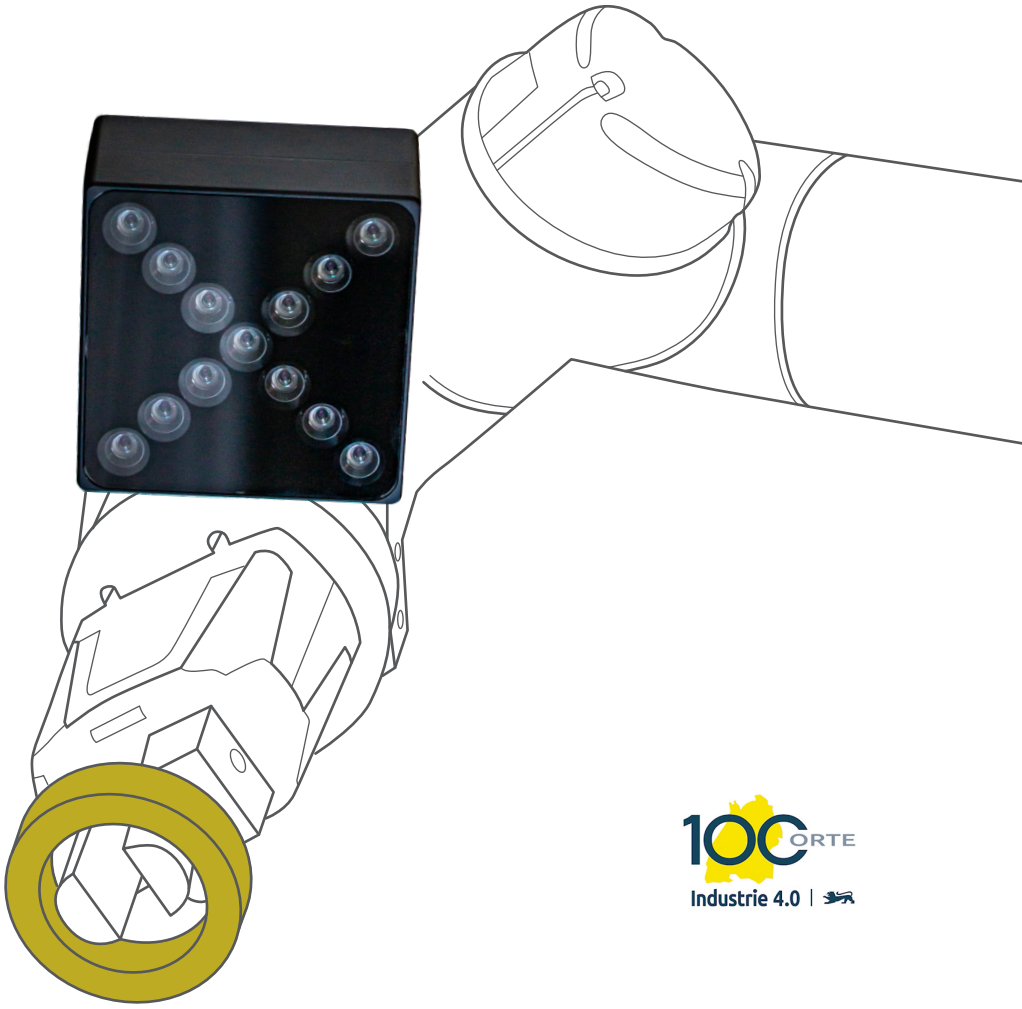
LumiScan^X

Data Sheet



HD Vision Systems develops sensors and software for optical measurement and reconstruction of objects and surfaces in regards to quality inspection and robot vision.

LumiScanX is more reliable and generates more precise depth values than comparable technologies – especially on shiny and metallic surfaces.

Special about the **LumiScan range of products** are their flexibility, their compactness and their independence of lighting conditions.

LumiScanX - the **innovation** for quality inspection and robot vision!

HD VISION
high dimensional vision systems

Light Field Sensors for Robots

System	
Resolution (depth map)	1.2 MP (1280x960)
Point-to-point distance at 1 m edge measurement	0.84 mm
Calibration accuracy	≤ 0.50 mm (at 1 m edge dimension of the measuring field)
Zeitliches Z-Rauschen	≤ 0.50 mm (at 1 m edge dimension of the measuring field)
Maximum frame rate	6 fps
Single Capture / Snapshot	1 ms
Acquisition time (object detection)	1 s
Recommended measuring distance	300 – 3000 mm
3D point throughput	7.2 Million points per second
camera-array	13 x 1.2 MPix, RGB or Monochrome, 12 Bit

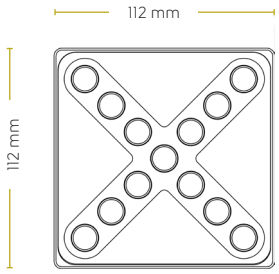
Options	
cables	Power / Data / Sync
Software modules	Various analysis modules
Integration	• OPC-UA • ProfiNet • Common image processing solutions such as Halcon and Matlab via GenTL • SDK, example code

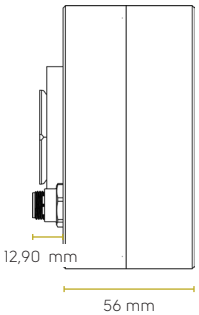
Interfaces	
Data	Gigabit Ethernet, 8-pin M12 socket
GPIO	24VDC, trigger I/O (opto-decoupled), 5-pin M12 connector
Power supply	24VDC or PoE (IEEE 802.3af)
Power consumption (typical)	5.5 Watt
Standards	GigE Vision, GenICam, GenTL
Operation modes	free-run, hardware trigger, software trigger

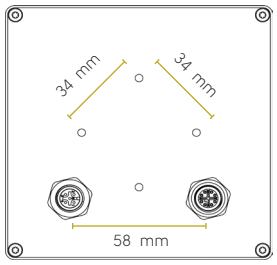
Casing	
Dimensions	112 x 112 x 56 mm
Weight	737 g
Protection	IP 54

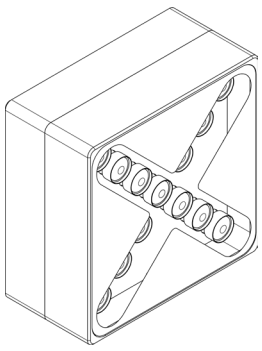
Add-Ons	
Lighting modules	Application-specific light sources and modules

Environmental Conditions	
Operating temperature	0°C – 55°C
Storage temperature	0°C – 65°C
Relative humidity (not condensating)	5% – 85%









Robot Control

Due to the robust detection and precise localisation of complex objects, LumiScanX enables the solution of diverse tasks in robot control. The dense point cloud enables collision-free approach and prioritisation of the objects to be grasped, which are recognised via CAD matching or reference model matching. Interfaces such as Profinet and OPC-UA facilitate integration.

Quality Inspection

When inspecting complex components and random samples, objects are compared with the CAD data and defects are detected. Our viewer shows the reference model in the measured, coloured point cloud. Deviations or surface defects are detected and classified with AI (Deep Learning). In applications such as incoming goods inspection or quality inspection, IO/NIO decisions are made fully automated.

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