



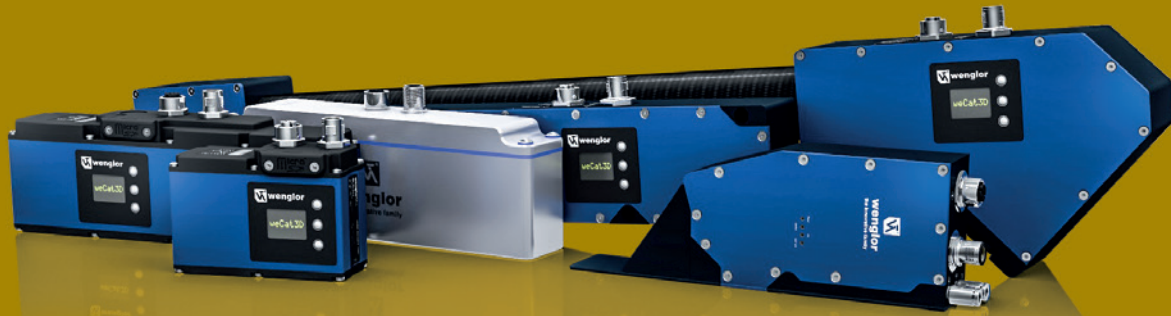
Inspired by Nature

weCat3D 2D/3D Profile Sensors

weCat3D 2D/3D Profile Sensors for Height Profiles

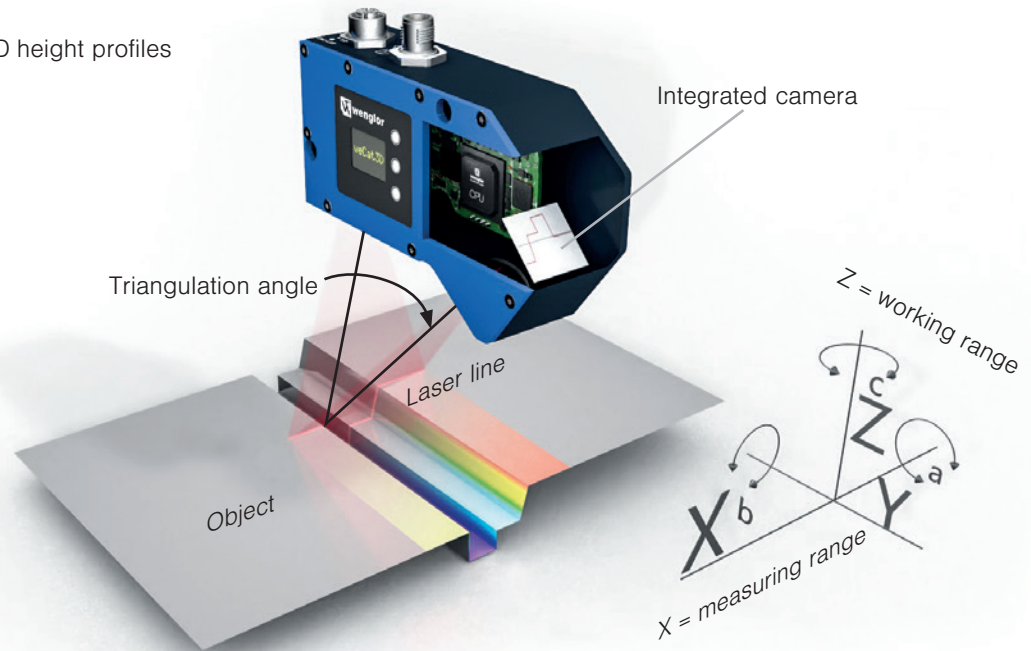
2D/3D profile sensors measure objects 360 degrees all the way around, precisely control the positions of robots and inspect surfaces accurate to the exact micrometer. The advantages of wenglor sensors: performance and diversity. This enables 2D/3D measurement tasks to be carried out precisely and efficiently.

Various model variants offer **high resolution in a compact housing design (MLSL)** and unbeatable **profile quality thanks to optimized high-quality optics (MLWL)**. There are also solutions for use in harsh **welding applications (MLZL)** and cleaning-intensive **washdown areas (M2SL)**.



Laser line with triangulation angle.

The functional principle for creating 2D height profiles and 3D point clouds.



Compact High Performance: MLSL

The compact **MLSL** profile sensors deliver good resolution at speeds of up to 4 kHz with height profiles of 1,280 points per profile. They are available in three different laser classes and two laser colors and are distinguished by their high resistance to ambient light.

	MLSL1xx	MLSL2xx
Measuring range x [mm]	27...280	200...1,350
Measuring range z [mm]	36...400	1,000...1,200
Resolution X [μm]	22...246	190...1,170
Resolution Z [μm]	3.3...160	40...990
Laser class	2M/3R	2M/3R/3B
Color	Red/blue	Red/blue



Maximum Performance: MLWL

The powerful **MLWL** profile sensors deliver very high resolution and measurement stability at high speeds of up to 6 kHz with high-quality height profiles of 2,048 points per profile. They are available in three different laser classes and two laser colors and are characterized by very high resistance to ambient light.



	MLWL1xx	MLWL2xx
Measuring range x [mm]	30...720	65...1,300
Measuring range z [mm]	60...800	180...1,500
Resolution X [μm]	17...361	36...1,095
Resolution Z [μm]	2...67	5.2...439
Laser class	2M/3R/3B	2M/3R/3B
Color	Red/blue	Red/blue

The Welding Experts: MLZL

The **MLZL** 2D/3D profile sensors from the weCat3D series are designed for fully automated weld seam tracking in robot cells, where the highest demands are placed on quality and precision. The sensor reliably detects the position of the joint to be welded via laser triangulation. The slim format enables flexible use.

	MLZL1x1
Measuring range x [mm]	30...62
Measuring range z [mm]	84
Resolution X [μ m]	32...64
Resolution Z [μ m]	8.3...32.5
Laser class	2M/3R/3B
Color	Red/blue



The Hygiene Professionals: M2SL

The weCat3D **M2SL** sensors in stainless steel housing stand for maximum performance and robustness in the washdown area. Thanks to stainless steel and ECOLAB/IP69K degree of protection, the sensors are ideal for use in the food industry.



	M2SLxxx
Measuring range x [mm]	200...1,350
Measuring range z [mm]	1,000...1,200
Resolution X [μ m]	190...1,170
Resolution Z [μ m]	40...990
Laser class	2M
Color	Red

Easy Integration with Maximum Flexibility: SDKs and GigE Vision

The GigE Vision interface and the open interface concept permit maximum degrees of freedom for integrating sensors and evaluating their data. The programming library can be integrated into C++, Python and other environments.

Measurement data generated by the 2D/3D profile sensors can be evaluated using third-party software, e.g. in UNBLINK3D, HALCON or EyeVision.

In order to assure simple system integration, wenglor offers a software development kit (SDK) for all weCat3D sensors, which can be downloaded free of charge. The software consists of:

- Programming library
- Programming examples

A small selection of our software partners



Powerful System or Smart All-in-one Solution

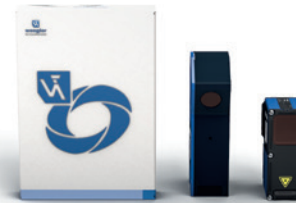
The uniVision image processing platform enables simple and intuitive implementation of high-performance applications with 2D/3D profile sensors. Profile recording and evaluation is carried out either by a combination of sensor and control unit or directly in the sensor.

Whether the system design consists of a 2D/3D profile sensor and control unit for high-performance and complex applications, or a smart 2D/3D profile sensor for simpler applications that provides profile recording and evaluation in the sensor – the uniVision all-in-one software enables comprehensive system solutions for every application.

uniVision for control units with 2D/3D profile sensors



uniVision for smart 2D/3D profile sensors





wenglor
the innovative family



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