VISION components®

3D Laser Profiler:
VC nano 3D-Z
with onboard data processing

The VC nano 3D-Z series combines laser triangulation with high power blue laser and direct analysis of the data in a rugged protective housing. An external PC is not necessary. With its powerful blue laser module, the sensor is extremely insensitive to ambient light up to 100,000 lux.

The combination of powerful FPGAs with a dual-core ARM processor make the VC nano 3D-Z the perfect basis for versatile triangulation applications with a favorable price/performance ratio. The profile sensors are available in different sizes for various measuring ranges.

✔ **Scan rate:** up to 2 kHz

✔ **Laser:** Class 2, wave length 450nm, 130mW, blue laser line

✔ **Processor:** high-end Xilinx Zynq SoC, combining dual-core ARM + FPGA

✔ **Interface:** 6x input, 4x output, at 400mA, 1Gbit Ethernet, Encoder Supply Voltage: 24V+/- 20%

✔ **Dimensions:** regular housing 140 x 83 x 37mm, appr. 400g

VISION components®

Models / working distances:

Model	Resolution X (µm)	Resolution Y (µm)	Working Distance (mm)	Horizontal M. Distance (mm)
VC nano 3D-Z regular 6/xx	60 - 210	10 - 90	50 - 325	70 - 265
VC nano 3D-Z regular 8/xx	50 - 120	10 - 40	50 - 240	50 - 150
VC nano 3D-Z regular 12/xx	40 - 60	10 - 20	80 - 155	40 - 65
VC nano 3D-Z large 6/xx	110 - 600	20 - 380	90 - 925	130 - 755
VC nano 3D-Z large 8/xx	80 - 360	10 - 190	50 - 240	50 - 150
VC nano 3D-Z large 12/xx	60 - 170	10 - 70	125 - 525	70 - 215
VC nano 3D-Z xlarge 6/xx	180 - 690	20 - 300	245 - 1050	225 - 870
VC nano 3D-Z xlarge 8/xx	140 - 510	20 - 230	175 - 1035	170 - 640
VC nano 3D-Z xlarge 12/xx	100 - 290	20 - 110	200 - 875	120 - 365
VC nano 3D-Z xxlarge 8/xx	220 - 640	30 - 220	465 - 1285	345 - 810
VC nano 3D-Z xxlarge 12/xx	170 - 470	30 - 180	410 - 1435	215 - 600

Please contact us for other models, also customized. We will find a solution that fits your requirements.

VC nano 3D-Z - Applications

- **Standard Tasks** such as profile and dimension measurement: width, thickness, height, angle.

- **Weld seam Inspection** position and width measurement, defect detection (i.e. pores/ pin holes, arches, dents). Advantage of the VC nano 3D-Z: parallel processing of 2D + 3D measurement.

- **Volume measurement:** for food portioning, Verifying specific weight or sorting for quality classification.

- **High-precision positioning of weld seam and adhesive beads,** tracking of gaps, lap joints, fillet welds etc. Effects such as warping or material and position tolerances are automatically adjusted.

- **3D scan of large objects:** automated handling of large production components, object recognition and correct positioning (e.g. for car body assembly).